BOSTON COLLEGE

FIELD HOUSE

INSTITUTIONAL MASTER PLAN AMENDMENT/ DRAFT PROJECT IMPACT REPORT

SUBMITTED TO

Boston Redevelopment Authority d/b/a
Boston Planning & Development Agency
1 City Hall Square
Boston, Massachusetts

SUBMITTED BY

Boston College
140 Commonwealth Avenue
Chestnut Hill, Massachusetts

JANUARY 2017

Boston College Field House

Brighton, Massachusetts

SUBMITTED TO **Boston Redevelopment Authority d/b/a**
Boston Planning & Development Agency
1 City Hall Square
Boston, MA 02201

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Project Description

The Proponent, Trustees of Boston College ("Boston College" or the "University") is submitting this combined Institutional Master Plan (IMP) Amendment/Draft Project Impact Report (DPIR) in accordance with Article 80B, Large Project Review of the Boston Zoning Code (the "Code"). The purpose of this filing is to respond to the Scoping Determination issued by the Boston Planning & Development Agency (BPDA) on the proposed Field House to be built next to the parking garage on Shea Field within Boston College's Lower Campus in the Brighton neighborhood of Boston (the "Proposed Project", or "Proposed Institutional Project"). Refer to Figure 1.1 for the site location. Figure 1.2 shows the location of the Proposed Project within the context of the Lower Campus, which sits south of Commonwealth Avenue (the "Project Site").

As detailed in the initial submissions –the Project Notification Form (PNF) and IMP Notification Form (IMPNF) for Amendment both filed November 18, 2016—the Proposed Project is consistent with the institution's goals and objectives of its original 10-year IMP. The IMP was approved by the Boston Redevelopment Authority ("BRA") on June 10, 2009 and renewed in 2013 for a four-year period until June 10, 2017, in accordance with section 80D-8(1) of the Code. In May 2016, the University submitted an IMPNF for Amendment and Renewal for the Recreation Center, which further renewed the IMP until June 2021.

1.1 Proposed Project Purpose and Need

A key goal of Boston College's IMP (described further below) is to contribute to the intellectual, religious, ethical, and personal development of its students, enabling the institution to fulfill its commitment to become a contemporary model of student formation among American colleges and universities. Projects to support this goal include new academic buildings, residence halls, a new recreation center, and athletics fields and facilities.

Boston College is proposing to construct an indoor playing space, or Field House, for student athletes with a new Weight Room and accessory/support space. The Proposed Project will fulfill a critical need to accommodate indoor playing space for football, other varsity sports, club and intramural sports, and recreational activities.

Lack of a Field House negatively affects Boston College athletes more than peer institutions in the Atlantic Coast Conference (ACC) due to the University's Northeast location with a greater number of inclement weather days. At times, especially towards the end of the season, the football team travels to Gillette Stadium in Foxboro, MA (approximately 45 minutes away) to practice indoors. The Field House will also allow the football team to practice in loud, simulated game environment

without affecting classes and the surrounding neighborhood. It will also be used by other varsity sports, club and intramural sports, and for recreational activities.

The existing 5,124-square foot Weight Room located in the Yawkey Athletics Center (attached to Alumni Stadium) used by the football program is undersized in comparison to most peer institutions, which have a minimum of 10,000 square feet. Furthermore, the existing weight room has proven problematic due to the vibration and noise from weights dropping, which disturbs the meeting spaces and offices also within the facility. The new Weight Room will be in close proximity to conditioning drills and exercises conducted within the Field House or on the outdoor fields.

1.2 Institutional Master Plan Overview

In the spring of 2004, Boston College embarked on a comprehensive strategic planning initiative to assess its academic program and to set institutional goals for the next decade and beyond. A committee of 200 faculty, staff, and students engaged in a process that resulted in a strategic plan that outlined seven strategic directions in support of its mission for the future of Boston College. As part of this process, the University also conducted a design charrette to solicit input and feedback from the community. This document calls for Boston College to become a leader in liberal arts education, in student formation, in selected natural sciences, in Catholic intellectual life, and resolving urgent societal problems.

Upon the completion of the plan, Boston College developed a long-range campus master plan with six guiding principles:

1. **Create One Campus**—That the former Archdiocesan property become fully integrated with the Boston College campus, and that the 120-acre Chestnut Hill Campus, the 40-acre Newton Campus, and the 65-acre Brighton Campus each provide a notable setting that contributes to the learning environment and the life of the University.
2. **Develop Mixed Campus Uses**—That Boston College's campuses host a mix of academic, residential, and co-curricular facilities, and provide open space areas that foster a vibrant and engaged University community.
3. **Emulate the Character of the Middle Campus**—That the new facilities on the Lower Campus reflect the distinctive character of the Middle Campus with its combination of Gothic architecture, and linked quadrangles and walkways.
4. **Provide Appropriate Campus Density**—That campus development emulate the Middle Campus' proportion of open space to building dimensions, reflecting the Middle Campus height (four to five stories) and open-space pattern, while respecting the character of the surrounding community.
5. **Promote Student Formation**—That the Lower and Brighton Campuses develop undergraduate student housing reflecting the University's commitment to student formation that supports intellectual development and responsible student behavior in smaller living communities.

6. **Achieve Sustainability**—That development on each campus achieve higher levels of energy efficiency and champion the natural environment, and that sustainability goals be carefully considered with each project.

1.2.1 Status of the 10-Year Plan Projects

The 10-Year Plan called for the creation of 21st-century classrooms and laboratories, replacement of a 55-year-old student center and a 44-year-old recreational complex, the addition of much-needed playing fields and athletics facilities and bringing approximately 1,200 undergraduate students living off-campus into University housing. The following is a list of renovation and new construction projects that have been completed or are in progress in Boston and Newton:

Boston

1. Renovation of 129 Lake Street (formerly known as Bishop Peterson Hall) for administrative office space, completed in 2011.
2. Development of the Cadigan Alumni Center at 2121 Commonwealth Avenue (formerly known as the Chancery) for administrative offices for University Advancement, completed in 2012.
3. Renovation of 2101 Commonwealth Avenue (formerly known as the Cardinal's Residence) for a University Conference Center and the McMullen Museum of Art, completed in January of 2016.
4. Construction of Thomas More Apartments at 2150 Commonwealth Avenue consisting of 490 student beds and the University Health Center, completed in August 2016.
5. Development of Reservoir Apartments (formerly known as 2000 Commonwealth Avenue) consisting of 540-bed student residence hall, completed in August 2016.
6. Construction of the athletics fields on the Brighton Campus consisting of a baseball field with 1,000 seats, softball field with 300 seats, recreational field, and support building, to be completed in March 2018.
7. Construction of a new approximately 240,000-gross square foot recreation center to replace the existing Flynn Recreation Complex built in 1972, to be completed in spring of 2019.

Newton

1. Construction of Stokes Hall, a 183,000-square foot humanities building with classrooms and faculty offices, completed in 2012.
2. Renovation of St. Mary's Hall for the Jesuit Community residence and academic space for the University's Woods College of Advancing Studies, and the Communication and Computer Science departments, completed in 2015.

1.2.2 Consistency with the IMP

While a new Proposed Institutional Project, the Proposed Project is not a significant change to the IMP because it proposes to retain practice fields on portion of Shea Field and still allows for future construction of student housing. As stated in the IMP, the University planned for 550 beds of apartment-style housing on Shea Field. However, this housing would need to be reconfigured into two buildings, compared to the three buildings presented in the conceptual layout for the IMP. Therefore, an IMPNF for Amendment is being submitted by the Proponent to update the current 10-year IMP, to add the Proposed Project, and modify it with the new future student housing layout, as well as eliminating the 350-space addition to the Beacon Street Parking Garage.

The Shea Field location is the best site for the Field House because of its proximity to Alumni Stadium and the Yawkey Athletics Center. Although siting the Field House in this location will eliminate the previously planned expansion of the Beacon Street Parking Garage, the University continues to address future parking needs through a recent property acquisition at 300 Hammond Pond Parkway, 1.2 miles from the Chestnut Hill Campus, providing parking for approximately 350 vehicles with the potential for more.

As discussed in Section 2.1.2 of Chapter 2, *Regulatory Context and General Information*, changes to the IMP were addressed as part of the PNF and IMPNF for Amendment submitted on November 18, 2016.

1.2.3 Proposed Reconfiguration on the Student Housing

In keeping with the Jesuit educational philosophy of *cura personalis*, or care for the mind, body and soul, Boston College seeks to infuse residential life with purposeful and meaningful experiences that contribute to students' personal development, as well as to emphasize the importance of community building through its residence halls. This aspect of student formation is reflected in residential life staffing, programs, and community standards, and is enhanced by programs designed to enrich students' academic, social, and spiritual lives.

Current research in the field of student housing suggests that Boston College's plans to develop low-density residential communities not only will encourage respectful student behavior and constructive social activity, but also will more effectively support the University's commitment to student formation and personal development.

Figure 1.3a shows the Proposed Institutional Project without the future student housing component. While undergraduate housing for the Project Site has been reconfigured from the 2009 Institutional Master Plan, as shown in Figure 1.3b, it remains consistent with those IMP goals of height (5 to 6 stories), typology (apartment-style housing), and number of beds (550 beds). Additionally, the housing proposed for the Project Site embraces the student formation goals of the University by providing mid-rise density of 5 to 6 stories and the creation of two housing

communities to comprise approximately 550 students. These two housing communities provide the critical mass needed for student development and programming, and the buildings themselves will provide physical space for these programs through lounges, study space, contemplative space and other community space.

Landscape courtyards are a holistic part of the residential design (Figure 1.3b). In addition to supporting student programming, these courtyards offer outdoor space for passive and active recreation, and are oriented toward the east and south to take advantage of sunlight. These courtyards are part of a series of urban design measures recommended in the 2009 IMP. They provide a visual focus at the Beacon Street/Chestnut Hill Driveway gateway and tie into a perimeter landscape plan that forms a buffered setback from both streets. The housing courtyards will be augmented by a playfield to the west, and by another passive recreation space framed by the proposed Field House and housing that links the mixed-use development of Shea Field back to the campus. This visual link is enhanced by articulation of residence hall entries that will face west toward the Lower Campus, and by physical sidewalk connections to provide safe and beautiful pedestrian circulation to and from the Project Site.

1.3 Existing Site Conditions

1.3.1 Site Context

The Project Site is located at the intersection of Beacon Street and Chestnut Hill Driveway— a Massachusetts Department of Conservation and Recreation (DCR) roadway (Figure 1.2). Figure 1.4 shows the existing site conditions and adjacent uses, and Figure 1.5 presents photographs of the Project Site as it exists today. To the west of the Project Site sits the Beacon Street Parking Garage and Alumni Stadium. An internal access road abuts the Project Site to the north. Pine Tree Preserve, a wooded area owned by the Commonwealth of Massachusetts, is located on the other side of the access road. Chestnut Hill Driveway and the Chestnut Hill Reservoir are located to the east, and Beacon Street abuts the Project Site to the south. A residential area of Newton is located on the south side of Beacon Street across from the Project Site.

1.3.2 Existing On-Site Uses

The 8.1-acre (352,674 square feet) Project Site is currently used for varsity baseball and softball, football practice, club and intramural sports, and recreational activities. The Project Site currently consists of:

- A grass baseball field with a clay infield and associated dugouts and stands;
- A grass softball field with a clay infield and associated dugouts;
- A grass practice football field; and
- A crushed stone material storage area.

All three fields are drained with 4-inch perforated PVC pipes, which flow to the drainage main at the southern extent of the Project Site.

Two easements for the Massachusetts Water Resource Authority (MWRA) run through the Project Site (Figure 1.4). The more westerly MWRA easement is 40 feet wide. This easement allows for access and maintenance of the existing MWRA-owned 48-inch concrete pipe (Shaft 7 Pipeline), which is located approximately in the center line of the easement. The top of this pipe is approximately 4.5 to 5 feet deep from existing grade. Shaft 7 Pipeline helps supply the MWRA Southern High and Southern Extra High Systems, which include the following communities: Boston (areas affected most by this line are the Lake Street and Cleveland Circle areas), Brookline, Dedham, Canton, Milton, Norwood, Stoughton, Quincy, and Watertown. The more easterly MWRA easement is 50 feet wide. This easement allows for construction, access and maintenance of a future MWRA-owned pipe. Currently, there is no pipe in this easement area on the Project Site.

This area also includes the Cochituate Aqueduct Linear District (BOS.LY, NWT.AS / #64500254 TRA)—a historic resource listed in the National and State Registers of Historic Places. Also inventoried/listed as a historic resource is the Sudbury Aqueduct Linear District (BOS.SK, NWT.AQ/ NR #89002293), which extends under Beacon Street at the south end of the campus. A portion of the aqueduct pipe runs through the southwest corner of the Project Site (Figure 1.4).

During six to seven annual Boston College home football games and commencement at Alumni Stadium, the Project Site can accommodate parking for up to 300 vehicles.

1.4 Project Description

As shown in Figure 1.6, outdoor practice facilities/fields were shown as part of the 10-Year Plan. As shown in Figure 1.7, the Proposed Project will provide indoor playing space for the student athletes at Boston College similar to peer schools.

1.4.1 Proposed Development Program

The approximately 115,700-gross square foot Field House will house athletic functions as well as the support spaces that are necessary to support the indoor practice function for the football program, other varsity sports, club and intramural sports, and recreational activities. Table 1-1 below presents the proposed development program for the Proposed Project.

Table 1-1 Proposed Development Program

Use	Size (Square Feet)
Synthetic Turf Field Surface	86,700
Weight Room[1]	11,625
Lobby/Lounge	2,220
Building Circulation/Envelope	2,120
Total Building Area, per zoning	**102,665 GFA[2]**
Mechanical/Storage	13,035
Overall Total	**115,700 GSF[3]**

1 Includes restrooms, athletic support areas, and offices.
2 Represents Gross Floor Area bases on the Code definition, which excludes building space for mechanical, basement accessory use, general storage, etc.
3 Represents Gross Square Feet, which includes all building spaces.

The Field House will house a synthetic turf surface large enough to support a full-size football field with a 20-foot run-off space on all sides. The building footprint will be approximately 102, 665 square feet. Additionally, the Field House will include a new approximately 11,000-square foot Weight Room, which will replace the existing undersized 5,100-square foot weight room in the Yawkey Athletics Center allowing the football program to have a dedicated space similar to facilities at peer schools. Other spaces include various athletic support uses, such as strength and conditioning coaches' offices, a first aid room, a hydration space, restrooms and a large storage room. A welcoming lobby will be located at the main entrance of the Field House. The existing baseball and softball fields will be relocated as part of the Brighton Fields project recently approved by the BRA Board, d/b/a Boston Planning & Development Agency ("BPDA") Board.

1.4.2 Building Design

The exterior design will aim to fit in with the surrounding context of Alumni Stadium and the Yawkey Athletics Center with the use of brick, stone, and precast concrete. As described further in Chapter 3, *Urban Design*, the exterior design may incorporate a combination of punched windows and curtainwall. The main Field House mass proposes a curved metal roof form approximately 75 feet above grade at its highest point. The Weight Room will have a flat roof with a total height of approximately 25 feet. Refer to Chapter 3 for detailed plans, such as building floor plans, elevations, sections and view perspectives.

1.4.3 Site Improvements

The Proposed Project includes landscaping, streetscape, and pedestrian access improvements, which are illustrated in Figure 1.7. Refer to Section 3.3 of Chapter 3, *Urban Design*, for further details about these improvements.

Field House Stormwater Runoff Storage Tanks

As part of the Project, Boston College is proposing to store up to 2.8 million gallons of stormwater in underground concrete storage tanks beneath a portion of the Field House. During normal storm events the tanks will capture runoff from the Project Site. During significant storm events, particularly when a ¼-inch of rain falls in less than 30 minutes, pipes will direct stormwater that currently ponds at the surface at Alumni Stadium and the Beacon Street Parking Garage to the new underground tanks. The tanks are designed to handle flooding from a 25-Year storm event.

The underground storage tank system provides the following benefits to the University and surrounding community:

- Protects both personal and campus property from excessive surface flooding in some locations.
- Protects stormwater from surface contamination by liquids and particles, such as oils, greases, mulch, trash, and fecal matter.
- Reduces peak flow from the campus by allowing stormwater to be held back and released into the system slower than the existing surface flooding condition. Due to a high ground water elevation the system is unable to infiltrate the stored runoff into the groundwater table.
- Lowers the head pressure from the campus by approximately four (4) feet by moving the surface flooding to underground tanks reducing pressure on the overall Boston Water and Sewer Commission (BWSC) system, which may help alleviate downstream flooding.

1.4.4 Vehicular Access and Parking

The Proposed Project will continue to allow for limited vehicle access through the service gate off Chestnut Hill Driveway, as shown on Figure 1.7. The existing service driveway to the north of the Project Site, as shown on Figure 1.4, will be maintained for use by emergency and service/maintenance vehicles via two paved access ways onto the Project Site. One access way will be to the northwest of the proposed building and the other to the northeast (Figure 1.7). Building service and loading will take place at the entry level on the north side of the Proposed Project.

No on-site vehicle parking will be provided. ADA-accessible parking spaces for the Proposed Project will be provided adjacent to the Project Site on ground level of the existing Beacon Street Garage (Figure 1.7). Visitors to the Proposed Project will continue to park within the existing Beacon Street Parking Garage. Parking for six to seven annual home football games and Commencement at Alumni Stadium will be maintained on the reconfigured outdoor practice field proposed east of the Field House.

1.4.5 Sustainable Development Approach

Boston College is committed to developing projects that are sustainably designed and energy efficient with interior environments that are healthy for residents, employees, and visitors. The University uses the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) rating system as a tool to ensure sustainable projects. Consistent with the IMP, the Proposed Project will incorporate sustainable design and construction principles and practices that align with a LEED Silver certified project under the LEED for New Construction v2009 rating system. In accordance with Article 37 of the Code relative to the City's Green Building policies and procedures, PNF Chapter 3, *Sustainability/Green Building and Climate Change Resiliency* demonstrated the Proposed Project is "certifiable" under the new LEEDv4 rating system (required for projects submitted for Article 80 Large Project Review on or after November 1, 2016).

1.4.6 Project Schedule and Cost

Construction of the Proposed Project is anticipated to commence in May 2017 and be completed in August 2018. The total project cost is estimated to be $50 million.

1.5 Public Benefits

1.5.1 Overview of Boston College's Public Benefits

Boston College has a proud history and special relationship with the City of Boston, enriching and contributing to the City's vibrancy through its academic, cultural and recreational resources, community partnerships, and volunteer and service learning programs. The University's contributions to the City reflect its mission as an institution of higher learning and its Jesuit, Catholic tradition of educating students to be men and women in service to others. The IMP, approved by the BRA and Zoning Commission in 2009, highlighted the University's positive economic impact on the City and region and included information on many of the educational and community programs that benefit City of Boston residents. Additionally, in August of 2014, the University entered in to a Cooperation Agreement with the City of Boston that included a commitment to additional public benefits to be implemented over the duration of the ten-year IMP. Appendix A includes the 2009 IMP's Chapter 12, *Economic Development* and Chapter 13, *Community Benefits and Service Programs*, as well as the *Boston College Community Benefits Report-2015 & 2016*.

Payments for Municipal Services/PILOT

In addition to the many programs and services offered to the community, Boston College has longstanding agreements concerning payments for municipal services with both Boston and Newton. The University entered in to such an agreement with the City of Boston in 1994 and has been making annual payments under the agreement since that time. Boston College will meet with the Assessing Department to discuss the City of Boston PILOT Program, per the recommendation in the Assessing Department comment letter dated December 23, 2016.

1.5.2 Project Benefits

The benefits specific to the Proposed Project are as follows:

Institutional Planning

- Supports the Strategic Plan direction by providing high-quality and modernized recreational opportunities on campus to support the existing and planned expansion of undergraduate student housing.
- Provides an appropriately designed facility that fulfills a need for indoor athletics space on campus that is similar to peer schools.
- Locates the Field House adjacent to other major athletics facilities on campus and provides connections back to these facilities.
- Provides for additional space for practice and conditioning sessions for the football program, other varsity sports, club and intramural sports, and recreational activities.
- Reduces wear and tear/maintenance (i.e., re-sodding) of Shea Field.
- Locates athletics uses in close proximity to the existing varsity team locker rooms, training and weight rooms, and coaches' offices.

Urban Design/Public Realm

- Preserves the architectural vernacular by providing an exterior materials palette in keeping with Lower Campus.
- Improves aesthetics of Shea Field as the location of the new Field House will partially block the view of the Beacon Street Parking Garage.
- Enhances pedestrian circulation along the northern edge of the Project Site.
- Provides views and visual links to Chestnut Hill Reservoir; large overhead doors within the Field House will create new vantage points to the Reservoir and Pine Tree Preserve.
- Enhances the Project's western edge adjacent to the existing parking garage by concealing the pedestrian ramp. New landscaping at the Field House entrance approach will enhance this edge as well.
- Enhances the Beacon Street southern edge by replacing the existing trees with new trees as well as providing a new sidewalk in keeping with current campus-wide design standards.

Transportation

- Results in no net new vehicle trips to Lower Campus since building users are the same as the existing fields and surrounding athletics facilities, including Alumni Stadium and the Yawkey Athletics Center, and are already travelling to and from the vicinity of the Project Site.
- Strengthens and improves the internal pedestrian connections, circulation, and experiences, as well as those along the public ways of Chestnut Hill Driveway and Beacon Street.

- Includes bicycle accommodations in accordance with the *City of Boston Bicycle Parking Guidelines*.
- Utilizes an existing service driveway and gate access of Chestnut Hill Driveway for limited vehicle access (i.e., emergency and maintenance).
- Benefits from the diverse range of Transportation Demand Management initiatives aimed at reducing single occupancy vehicle trips to the Chestnut Hill Campus.

Environmental/Sustainability

- Incorporates an on-site stormwater management system designed to collect runoff from proposed paved surfaces and roof area and route it through subsurface infiltration systems to filter/treat and reduce the peak rate of runoff from the Project Site. This system will be designed in compliance with Boston Water and Sewer Commission (BWSC) standards and the 2008 MassDEP Stormwater Management Policy and Standards.

  The stormwater management system will meet these standards except for the following:

  - Due to a high groundwater table and MWRA waterline easements at the Project Site, the Proposed Project will seek to reduce the required distance between the bottom of the infiltration system and the high groundwater table from two feet to one foot.
- Captures and filters site runoff prior to discharging to subsurface infiltration systems, which are designed to infiltrate one inch of runoff, in accordance with BWSC regulations.
- Captures up to 2.8 million-gallon of stormwater in concrete storage tanks under a portion of the Field House to address campus- and area-wide flooding. Pipes will direct stormwater during significant storm events, which currently floods the surface of Alumni Stadium and Beacon Street Parking Garage, to the underground tanks. These tanks are designed to handle flooding from up to a 25-year storm event.
- Reduces noise and light impacts associated with outdoor practices and recreational activities on the community, and increases hours for usage without disturbing the neighborhood and classes.
- Shields building mechanical equipment and service/loading activities so that increased noise levels to nearby sensitive receptor locations are expected to be negligible.
- Replaces existing play field lights with new fixtures that reduce light spill off-site.
- Results in negligible localized air quality impacts, including no significant production of CO, associated with vehicle traffic to/from the Project Site as no net new vehicle trips are expected to be generated as a direct result of the Proposed Project.
- Creates an energy-efficient and environmentally-friendly building designed to target LEEDv3 (2009) Silver certification and the Article 37 requirement of certifiable under LEEDv4.

- Reduces water usage through installation of low-flow and low-consumption plumbing fixtures, in compliance with Article 37 of the Code.
- Supports Boston's Greenhouse Gas (GHG) emissions reduction goals by achieving an energy use savings of approximately 14.7 percent, which equates to approximately 12.7 percent reduction in stationary source GHG emissions compared to the Base Case.
- Considers potential impacts associated with predicted increased frequency and intensity of precipitation events by raising the grade at the first floor level.

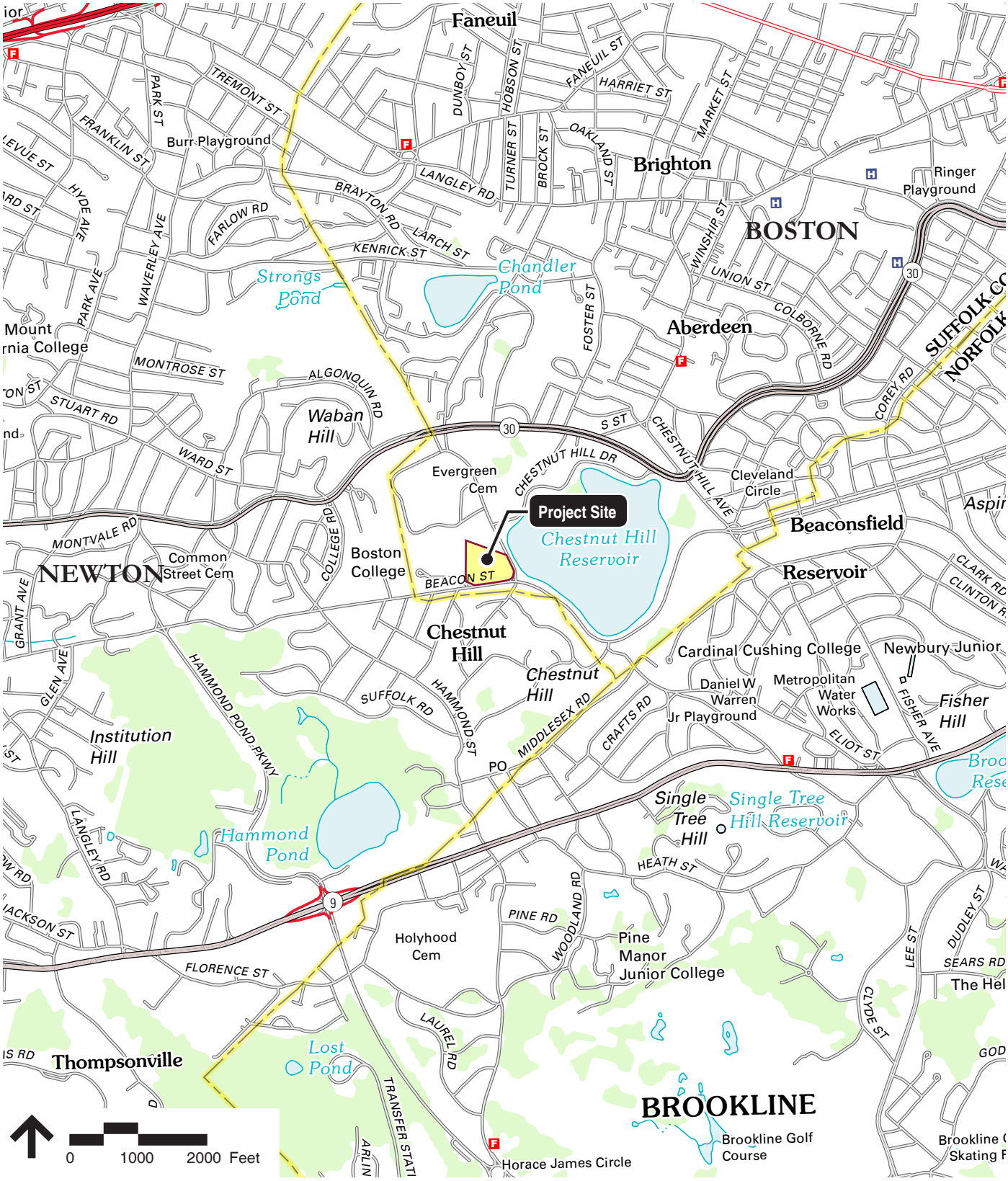
Community & Economic Benefits

- Provides for additional space for practice and conditioning sessions for summer programs and camps.
- Generates a Development Impact Project (DIP)/Linkage payment to the City of Boston Neighborhood Housing and Job Trusts estimated at $1,028,000.
- Provides approximately 208 construction-related jobs in all trades.
- Implements the Boston Residents Job Policy to meet employment goals. Under that policy, a goal of 50 percent of the construction jobs will be intended for Boston residents, 25 percent for minorities, and 10 percent for women during the approximately 14-month construction period.
- Maintains the University's strong contribution to the growth of the local and regional economies. Boston College is a major employer in the City of Boston and has an estimated economic impact of $1.3 billion annually.[1]

1.6 Community Outreach

The University is committed to continuing its public outreach with the Allston-Brighton Boston College Community Task Force (the "Task Force") and the community-at-large. The Task Force is comprised of representatives from various community and civic organizations in Allston and Brighton. At the Task Force meeting held on October 25, 2016, the University provided an overview and update on construction and renovation projects completed since the approval of the IMP in 2009, as well as ongoing projects, and a preliminary presentation on the new Field House. A second Task Force meeting was held during the public review period for the PNF on November 29, 2016.

[1] According to the 2009 IMP.

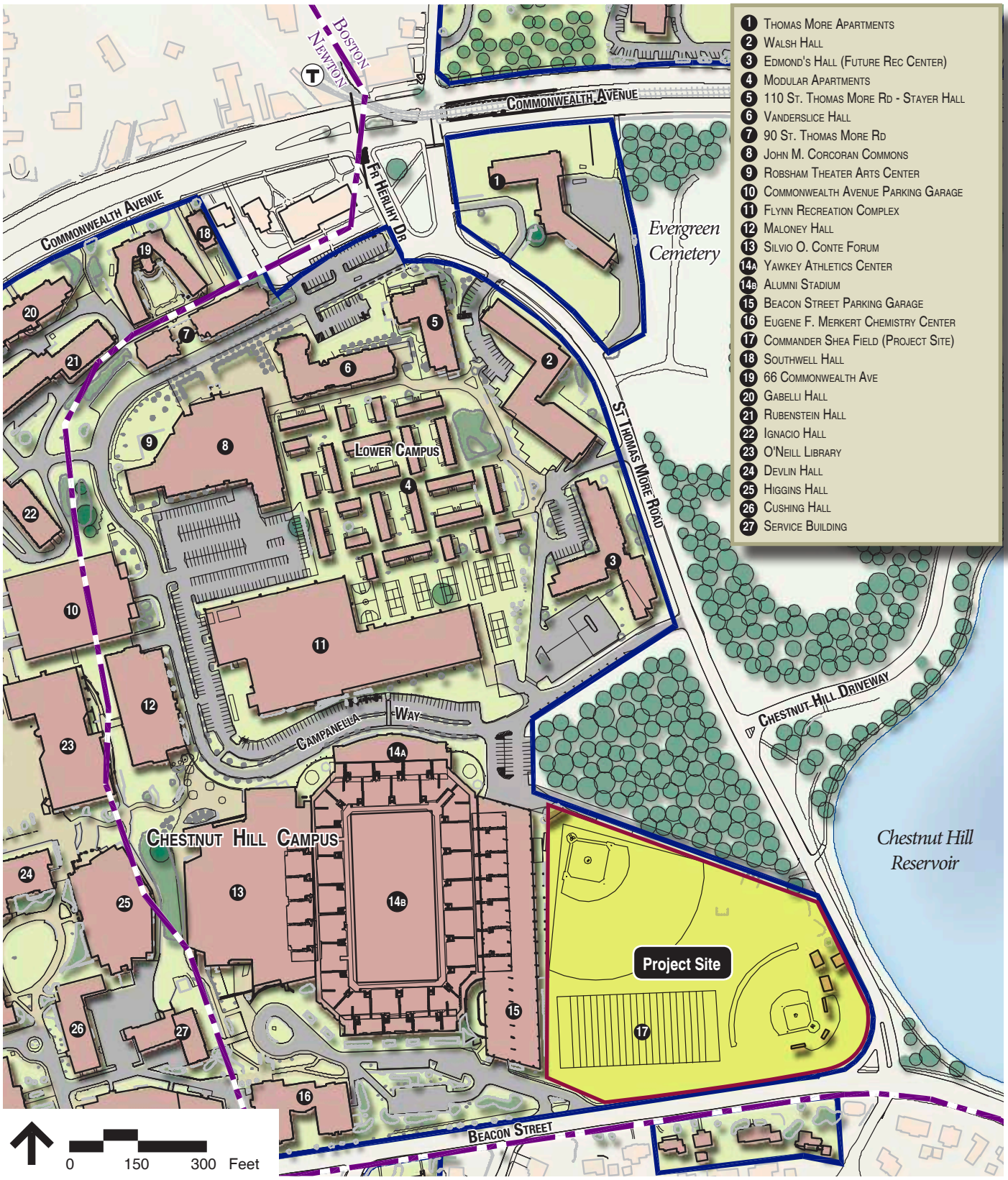


Source: MassGIS 2014 USGS Newton Quad

Figure 1.1

Site Location Map

Boston College Field House
Brighton, Massachusetts



Municipal Boundary

Campus Boundary

Figure 1.2

Project Context

Boston College Field House
Brighton, Massachusetts

Figure 1.3.a

Amended IMP for Field House

Boston College Field House
Brighton, Massachusetts

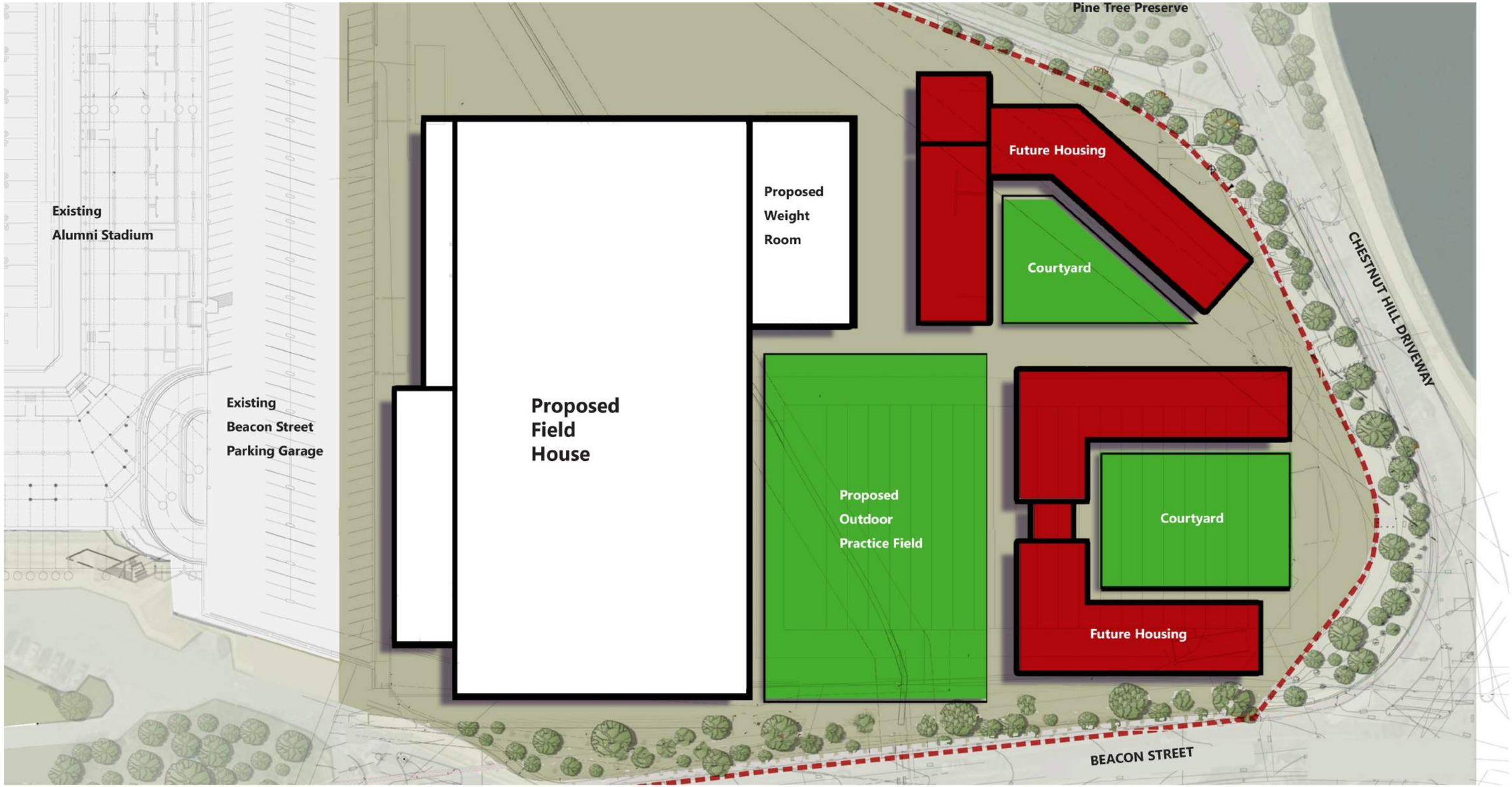


Figure 1.3b

Amended IMP for Field House with Modified Future Housing

Boston College Field House
Brighton, Massachusetts

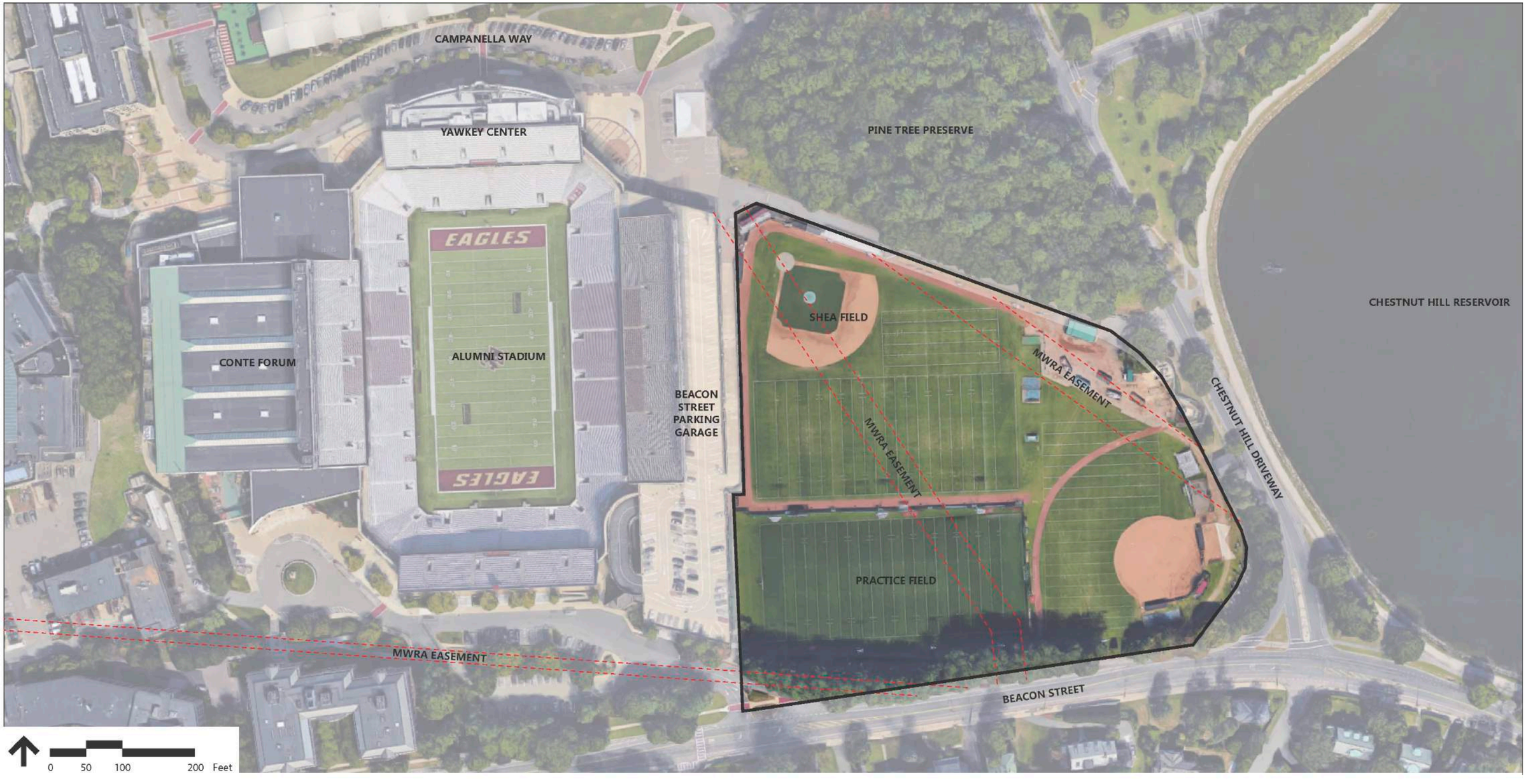


Figure 1.4
Existing Site Conditions Plan

Boston College Field House
Brighton, Massachusetts

View of Beacon Street Parking Garage, Practice Field and Shea Field, east elevation from Pine Tree Preserve, facing SW

View of Beacon Street Garage and Shea Field, east elevation from Pine Tree Preserve, facing W

View of Beacon Street Parking Garage, Practice Field and Shea Field, east elevation from Beacon Street, facing NW

View of Shea Field and Practice Field from Beacon Street Parking Garage, facing NE

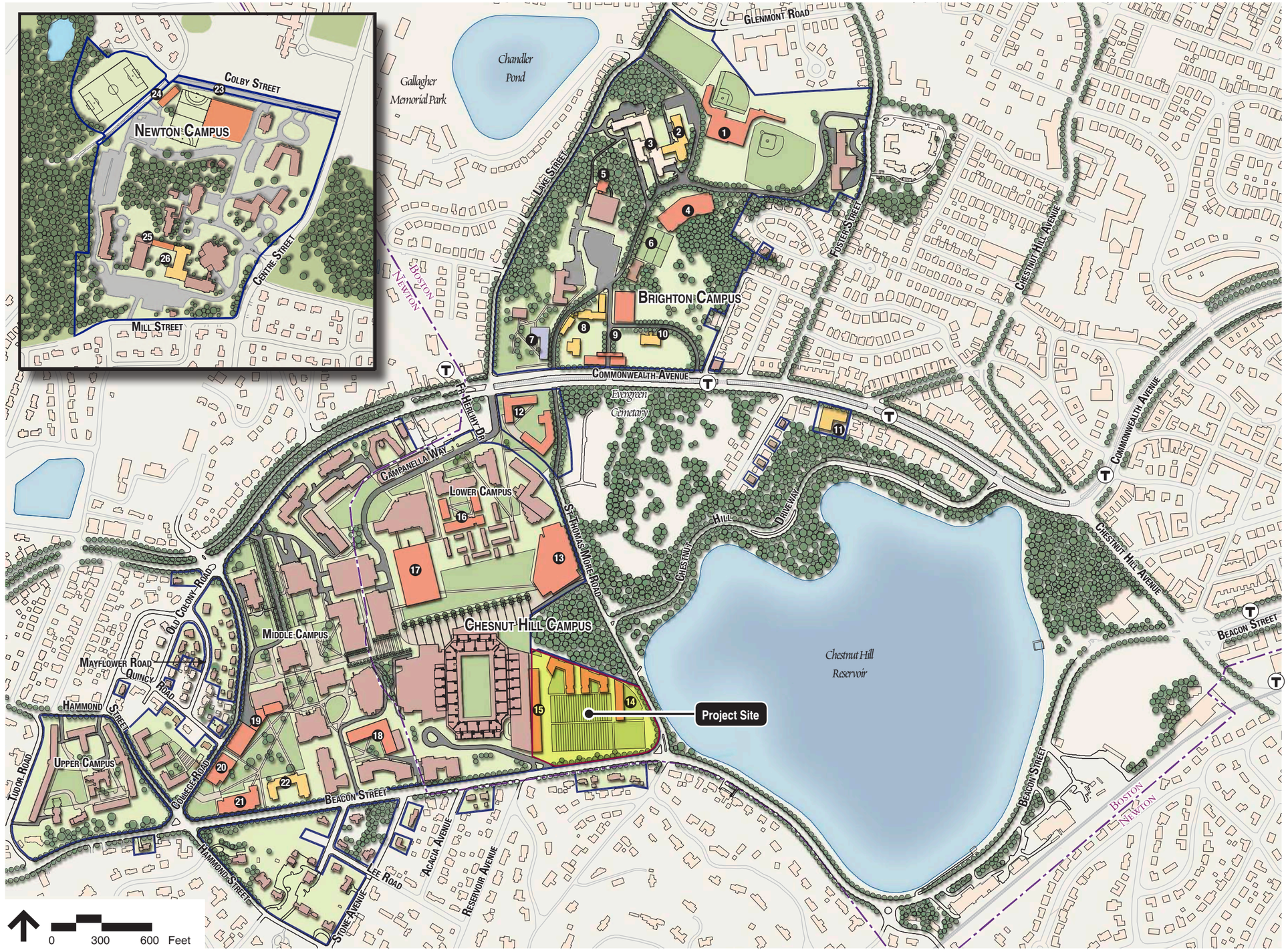
View of Shea Field and Pine Tree Preserve from Practice Field, facing N

View of Practice Field and Beacon Street from Shea Field, facing S

Figure 1.5

Photographs of Existing Site Conditions

Boston College Field House
Brighton, Massachusetts



Proposed Institutional Projects
Boston Properties

1. Brighton Athletics Center
2. Bishop Peterson Hall
3. St. John's Hall
4. Parking Garage
5. Library Storage
6. Tennis Courts
8. Chancery/Creagh Library Renovation
9. Fine Arts District
10. Cardinal's Residence Renovation
11. Undergraduate Housing
12. Undergraduate Housing
13. Recreation Center
14. Undergraduate Housing
15. Beacon Street Garage Addition
16. Undergraduate Housing
17. University Center

Project Under Advisement*
Boston Property

7. Undergraduate Housing

Proposed Projects
Newton Properties

18. Integrated Science Center
19. Stokes Commons
20. Academic Building
21. Academic Building
22. Carney Hall Renovation
23. Surface Parking
24. Recreation/Athletics Building
25. Smith Wing Replacement
26. Stuart Hall Renovation

*Project taken under advisement by BRA Board for further consideration by the Authority. Not under consideration by the Zoning Commission at this time.

Figure 1.6

Boston College Ten-Year Plan Institutional Projects, as approved in 2009 IMP

Boston College Field House
Brighton, Massachusetts

Figure 1.7
Proposed Site Plan

Boston College Field House
Brighton, Massachusetts

2

Regulatory Context and General Information

The following chapter summarizes the local planning and regulatory controls, anticipated permits and approvals applicable to the Proposed Project. It also describes agency meetings held to date and planned, as well as presents the project team.

2.1 Regulatory Context

This section describes how the Proposed Project is consistent with the City of Boston zoning requirements and ordinances as well as any state review requirements, as applicable.

2.1.1 Conformance with Zoning

The Proposed Project falls within the Allston-Brighton Neighborhood District zoning (Map No. 7A-7D) governed by Article 51 of the Code and Boston College IMP subdistrict (Subdistrict Type Institutional). Boston College intends to construct the Proposed Project as an IMP Proposed Project following amendment of the IMP and issuance of Certificate of Consistency (pursuant to Section 80D-10 of the Zoning Code) and Compliance (pursuant to Section 80B-6 of the Zoning Code). Therefore, the Proposed Project will be deemed to comply with the underlying zoning as provided in Section 80D-11 of the Code.

Uses and Size

The Field House will serve many athletics uses for football, other varsity sports, club and intramural sports, and recreational activities. While the Proposed Project does not preclude construction of 550 student beds on Shea Field, the housing would be reconfigured from three to two buildings, as described in detail under Section 1.2.3 in Chapter 1, *Project Description*. Also described in the previous PNF and IMPNF for Amendment is the elimination of the previously proposed 350-space parking addition to the Beacon Street Parking Garage. There are no additional parking spaces or loading docks proposed for this Project.

The Proposed Project footprint is approximately 102,665 gross floor area and the Project Site is approximately 357,216 square feet resulting in a Floor Area Ratio, or FAR, of 0.29. The future proposed undergraduate student housing footprint would be approximately 42,209 square feet, resulting in a total FAR for the Shea Field site of 0.41.

Building Height

Under the Massachusetts State Building Code, building height is calculated as the measurement from average grade plane to the average of the highest roof surface. Sloped roofs are measured to the mid-point of the roof per the building code height definition. Based on this definition, the building height will be 60 feet high and, therefore, is not considered a high-rise structure.

Setbacks

The Proposed Project will provide the following setbacks:

- Southern Setback: 48.4 feet
- Eastern Setback: 284.6 feet
- Northern Setback: 82.5 feet
- Western Setback: >500 feet

2.1.2 Article 80 – Development Review and Approval

Project Notification Form

The Proposed Project exceeds the threshold of 50,000 square feet of development, and requires Large Project Review by the BPDA pursuant to Article 80B, Large Project Review of the Code. The Proponent submitted the PNF on November 18, 2016 to initiate review of the Proposed Project. The PNF presented details about the Proposed Project and providing a detailed project description and supporting plans, including preliminary information on sustainability and resiliency, in accordance with Boston Zoning Code Article, 37 Green Buildings, (Article 37), and the Climate Change Preparedness and Resiliency Policy (Resiliency Policy), respectively. Following a 30-day public review period, the BPDA issued a Scoping Determination (a copy of which is provided in Chapter 5, *Response to Comments*), which outlines the additional information required as part of this IMP Amendment/DPIR.

Institutional Master Plan Amendment

The Field House, as the Proposed Institutional Project, was not included in the original 10-year IMP approved in 2009 and last renewed in May 2016. While the Field House does not preclude planned construction of student housing (550 beds) on the Project Site, as previously contemplated by the approved IMP, the housing would be reconfigured from three to two buildings. And, the Proposed Institutional Projects would be modified to no longer include the 350-space parking addition to the Beacon Street Parking Garage. The University recently acquired property at 300 Hammond Pond Parkway, 1.2 miles from the Chestnut Hill Campus, with parking for approximately 350 vehicles, which will help address future parking needs. These changes were addressed more fully as part of the IMPNF for Amendment—submitted simultaneously with the PNF on November 18, 2016. This IMP Amendment/DPIR seeks to amend the Boston College IMP to incorporate the Field

House, and to amend the Shea Field housing and eliminate the addition to the Beacon Street Parking Garage.

Development Impact Project

The Proposed Project is a Development Impact Project (DIP) within the meaning of Section 80B-7 (Development Impact Project Exactions). Based on a preliminary estimate, approximately $1,028,000 million will be provided to the City as a result of the Proposed Project.

2.1.3 Article 37 – Green Buildings

The Proposed Project must conform to Article 37, Green Buildings, of the Code. Article 37 requires all projects over 50,000 gross square feet to meet LEED certification standards by either certifying the project or demonstrating that the project would meet the minimum requirements to achieve a LEED Certified level (all LEED Pre-requisites and at least 40 points on the LEED project checklist) without registering the project with the USGBC ("LEED certifiable"). With the LEED version 4, or v4, rating system effective as of October 31, 2016, the BPDA requires initial Article 80 Large Project Review submissions on or after November 1st to demonstrate LEED certifiable using LEEDv4. As demonstrated in Chapter 3, *Sustainability/Green Building and Climate Change Resiliency* of the previously submitted PNF, the Proposed Project is anticipated to achieve LEED Certified level meeting the requirements of Article 37.

2.1.4 Boston Civic Design Commission Review

The Proposed Project was presented to the Boston Civic Design Commission (BCDC) on January 3, 2017. The project team intends to meet with the BCDC Design Committee during the month of January.

2.1.5 Massachusetts Environmental Policy Act

The Proposed Project requires an 8(m) Permit from the MWRA, as well as approvals related to temporary construction activities, including a Temporary Construction Site Dewatering Permit from MWRA and Construction and Access Permit from DCR. However, the Proposed Project does not require review under the Massachusetts Environmental Policy Act (MEPA) because it does not meet or exceed any of the MEPA Review Thresholds, per 301 CMR 11.03.

2.1.6 Massachusetts Water Resources Authority

The location of the Proposed Project is above regional water delivery infrastructure, controlled by the Massachusetts Water Resource Authority (MWRA). The Proponent met with technical staff of the MWRA to brief them on the Proposed Project and seek technical and ongoing guidance on construction near the water infrastructure. The MWRA holds easements in the proposed construction area. The MWRA has statutory powers to grant a permit for construction and activities within the

easement. The Proposed Project will straddle an easement. The Proponent has submitted an 8(m) permit application for the project construction to the MWRA on December 21, 2016.

2.1.7 Massachusetts Historical Commission

The Proponent will submit a Project Notification Form (PNF) to the Massachusetts Historical Commission (MHC) for review under Chapter 9, Section 26-27, as amended by Chapter 254 of the Acts of 1988.

2.2 Anticipated Permits and Approvals

Table 2-1 below presents a list of federal, state, and local permits and approvals anticipated for the Proposed Project.

Table 2-1 Anticipated Project Permits and Approvals

Agency/Department	Permit/Approval/Action
Federal	
U.S. Environmental Protection Agency	NPDES Construction Stormwater General Permit
Commonwealth of Massachusetts	
Massachusetts Department of Conservation and Recreation	Construction and Access Permit
Massachusetts Water Resources Authority	8(m) Permit
	MWRA Temporary Construction Site Dewatering Permit
Massachusetts Historical Commission	Determination of No Adverse Effect
Massachusetts Department of Environmental Protection, Division of Air Quality Control	Construction Notice
City of Boston	
Boston Planning and Development Agency	Article 80B, Large Project Review
	IMPNF for Amendment
	Article 37 – Green Buildings Review
	Cooperation and other Article 80 Agreements
	Certificate of Consistency with IMP
Boston Civic Design Commission	Schematic Design Review/Recommendation
Boston Transportation Department	Transportation Access Plan Agreement
	Construction Management Plan
Boston Water and Sewer Commission	Site Plan Review and Approval
	Excavation/Retention Permit
Boston Inspectional Services Department	Foundation and Building Permit
	Certificates of Occupancy
Boston Fire Department	Asbestos Permit (if required)
	Flammable Storage Permit/License
	Asbestos Removal Notification (if required)

NPDES National Pollutant Discharge Elimination System
IMP Institutional Master Plan
IMPNF Institutional Master Plan Notification Form

2.2.1 Agency Outreach and Coordination

The Proponent has begun outreach and coordination efforts with departments and agencies at the City of Boston, Commonwealth of Massachusetts Department of Conservation and Recreation (DCR) and the MWRA. Several meetings were held in August and September of 2016 with the MWRA to introduce the Proposed Project and discuss design and construction issues related to two existing MWRA easements on the Project Site. The Proponent anticipates meeting with DCR to brief the Commissioner and staff in advance of applying for a Construction Access Permit for the Proposed Project.

On September 14, 2016, the Proponent met with staff from Boston's Inspectional Services Department and Fire Department to review and discuss potential building

code and fire access issues. The University met with BPDA staff on October 28, 2016 to review the Proposed Project, as well as discuss the Article 80 process and amendment of the IMP.

2.3 Project Team

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3

Urban Design

As required by the Scoping Determination, this chapter describes the neighborhood context, design concept, and characteristics of the Proposed Project. It also discusses the public realm improvements, including landscaping and pedestrian access and circulation, for the Proposed Project. Project plans and renderings are provided, as required by the Scoping Determination. Some plans were required at a scale too large to include in this report and, therefore, are shown as placeholder figures to be provided to the BPDA Urban Design Department under a separate cover.

3.1 Neighborhood Context

The Project Site is located Brighton at the intersection of Beacon Street and Chestnut Hill Driveway (Figure 1.2). The Project Site is abutted by the Beacon Street Parking Garage and Alumni Stadium to the west, an internal access road and Pine Tree Preserve owned by the Commonwealth of Massachusetts to the north, Chestnut Hill Driveway and the Chestnut Hill Reservoir to the east, and Beacon Street and a residential neighborhood of the City of Newton to the south (Figure 1.4/Figure 3.1). Figures 3.2a through 3.2f present photographs of the Project Site and surround area.

The Proposed Project, as shown in the site plan presented in Figure 3.3a, will improve the aesthetics of Shea Field as the location of the new Field House will partially block the view of the Beacon Street Parking Garage. In addition, it will provide views and visual links to Chestnut Hill Reservoir; large overhead doors within the Field House will create new vantage points to the Reservoir and Pine Tree Preserve. The Proposed Project's western edge adjacent to the existing parking garage will be enhanced by concealing most but not all of the pedestrian/vehicle ramp. New landscaping at the Field House entrance approach will enhance this edge as well. The Beacon Street southern edge will be enhanced by replacing the existing trees with new oak trees as well as providing a new sidewalk in keeping with current campus-wide design standards. Figure 3.3b presents the site section.

3.2 Building Design Concept & Development

The development of the Field House was based on the goal of providing a large span, indoor playing space for the student athletes at Boston College. The program was developed based on meeting this goal along with providing the appropriate spaces to support the playing surface as a successful indoor playing area similar to their peer schools.

Figures 3.4a and 3.4b illustrate the various project design alternatives. The design team studied several different roof forms for spanning the large, open playing field surface while striving to achieve program height requirements and remaining under high-rise height limits. These limitations played a role in the current proposed roof

form presented. In addition, the team continues to study solid wall to glazed proportion to find the ideal ratio for both exterior design and interior function. The team is focusing on elements that can continue to strengthen the connection between all three masses that make up the facility. In addition, the large roof form and overall mass of the Field House is being considered in relationship to the experience along Beacon Street. The team acknowledges the large scale of the facility and is continuing to strive to make this facility feel appropriate to the pedestrian user while providing the large span playing surface needed.

The Proposed Project will be a significant addition to the football and recreation sports programs on campus. It will fulfill a critical need for space to accommodate indoor play for these programs that will benefit many students. The main Field House volume will be approximately 75 feet above grade and, as shown in Figure 3.5, will be entirely turf surface large enough to support a full size football field with run-off space. The Weight Room is approximately 25 feet in height and will allow the football program to have a dedicated space for the athletes that is equivalent to facilities at their peer schools. The facility is also planned to have a welcoming lobby in addition to other spaces that will support the various athletic uses such as a first aid room, a hydration space, restrooms and large storage rooms. Figure 3.6 shows the roof level plan.

3.2.1 Height and Massing

Under the Massachusetts State Building Code, building height is calculated as the measurement from average grade plane to the average of the highest roof surface. Sloped roofs are measured to the mid-point of the roof per the building code height definition. Based on this definition, the building height is 60 feet, which is not considered a high-rise structure.

The mass of the building is based on being able to practice multiple sports, which required certain clear heights to avoid conflicts with the structure. To ease the overall visual impact of the building, a vaulted roof form was chosen to lower the perceived cornice line along the long façade. The soft curve of the roof allows the overall building height to stay as low as possible further diminishing the full mass of the building.

As shown in the massing model in Figure 3.7 and building section in Figure 3.9, connected to the main massing of the structure is the smaller structure, which includes the new Weight Room. This building's mass has been tuned to be proportionally sympathetic with the Field House mass. Likewise, the support spaces along the West have been kept minimal in height in order to conceal these program spaces and mechanical support.

3.2.2 Signage and Lighting

The exterior pathways surrounding the Field House will be minimally lit with light poles and LED fixtures standard to the campus to provide wayfinding lighting for occupants. The entry walk will be lit to accent the main entrance. At this time, there

are no other design elements that will be featured or specifically lit on the Field House. The Project scope will include replacing existing exterior light poles and fixtures that currently provide lighting at the playing field to the east of the facility. The new poles will have LED fixtures that will be more energy efficient as well as have a better cut off to improve the light spill onto adjacent spaces.

It is anticipated that the Proposed Project will have exterior signage to reflect the name of the facility as well as potential donors, however, BC and the design team have not explored what those options will be at this time.

3.2.3 Characters and Exterior Materials

The overall design of the Proposed Project will strive to preserve the architectural vernacular by providing an exterior materials palette in keeping with Lower Campus. The exterior design proposes to fit in with the surrounding context of Alumni Stadium and Yawkey Center with the use of brick, stone, and precast concrete. The exterior design will incorporate a combination of punched windows and curtainwall that introduce both diffused daylight and views to the exterior playfields and reservoir beyond.

3.2.4 Views

Perspective views of the Project from major vantage points as well as aerial and bird's eye views are presented in Figures 3.11 through 3.14. Additional views can be made available if requested.

3.3 Public Realm Improvements

Landscape Improvements

The Proposed Project has a number of associated landscape improvements on each side of the proposed structure (Figure 1.7). The north side of the building facing the campus is proposed to be the primary entry with a generous 20-foot wide walkway and a paved terrace with a seating area just outside the front doors. The proposed walkway will be framed by hedges, perennial, and annual plantings, and a row of deciduous trees. Access to the storage area under the adjacent parking garage ramp is maintained through several openings in the hedge. The remaining area to the north is a large open lawn and a paved area to accommodate occasional vehicular access, as well as provide access to the underground pipe that lies within the MWRA easement. Columnar trees will be planted in front of the building framing the central overhead doors to the Field House. The outdoor practice field and plantings to the east will be visible from the Weight Room interior. A paved walkway along the eastern edge of the building will provide access for maintenance and emergency response. On the southern edge of the Project Site along Beacon Street, new trees will be planted to match the existing plantings. To the west, a paved concrete access way will be provided between the Field House and Beacon Street Parking Garage to accommodate building users and small service/maintenance vehicles.

Pedestrian Circulation Improvements

As shown in Figure 3.3a, the Proposed Project has been designed to include various points for pedestrian access. The main entrance to the Field House is provided in the northwest corner of the building accessed by a 20-foot-wide paved walkway with landscaping on either side. The Weight Room entrance is provided in the northeast corner of the building accessed by a 6-foot-wide paved walkway that runs along the northern face connecting to the main entryway. Additionally, a 10-foot-wide paved walkway will be provided along the western edge between the Field House and Beacon Street Parking Garage to accommodate building users. A 6-foot-wide paved pathway providing access for maintenance and emergency response will wrap around the southern and eastern edges of the Field House. This pathway will also be accessible by pedestrians.

A secured connection from the Field House to Alumni Stadium is proposed for building users at the bottom level of the Beacon Street Parking Garage, which is approximately three (3) feet below the Field House finish floor level. A new exterior stair with accessible ramp will be constructed in the areaway between the garage and the Field House.

Portions of the existing Beacon Street public sidewalk will be replaced with a more generous concrete sidewalk (to increase to 10 feet along the Field House from the existing 6-foot-wide existing sidewalk). All other existing sidewalks around the Project Site will be left as is.

This figure will be submitted under seperate cover due to large format size.

Source Info

Figure 3.1

Site Survey

Boston College Field House
Brighton, Massachusetts

View of Beacon Street Parking Garage, Practice Field and Shea Field, east elevation from Pine Tree Preserve, facing SW

Figure 3.2a

Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

View of Beacon Street Garage and Shea Field, east elevation from Pine Tree Preserve, facing W

Figure 3.2b

Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

View of Beacon Street Parking Garage, Practice Field and Shea Field, east elevation from Beacon Street, facing NW

Figure 3.2c

Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

View of Shea Field and Practice Field from Beacon Street Parking Garage, facing NE

Figure 3.2d

Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

View of Shea Field and Pine Tree Preserve from Practice Field, facing N

Figure 3.2e

Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

View of Practice Field and Beacon Street from Shea Field, facing S

Figure 3.2f

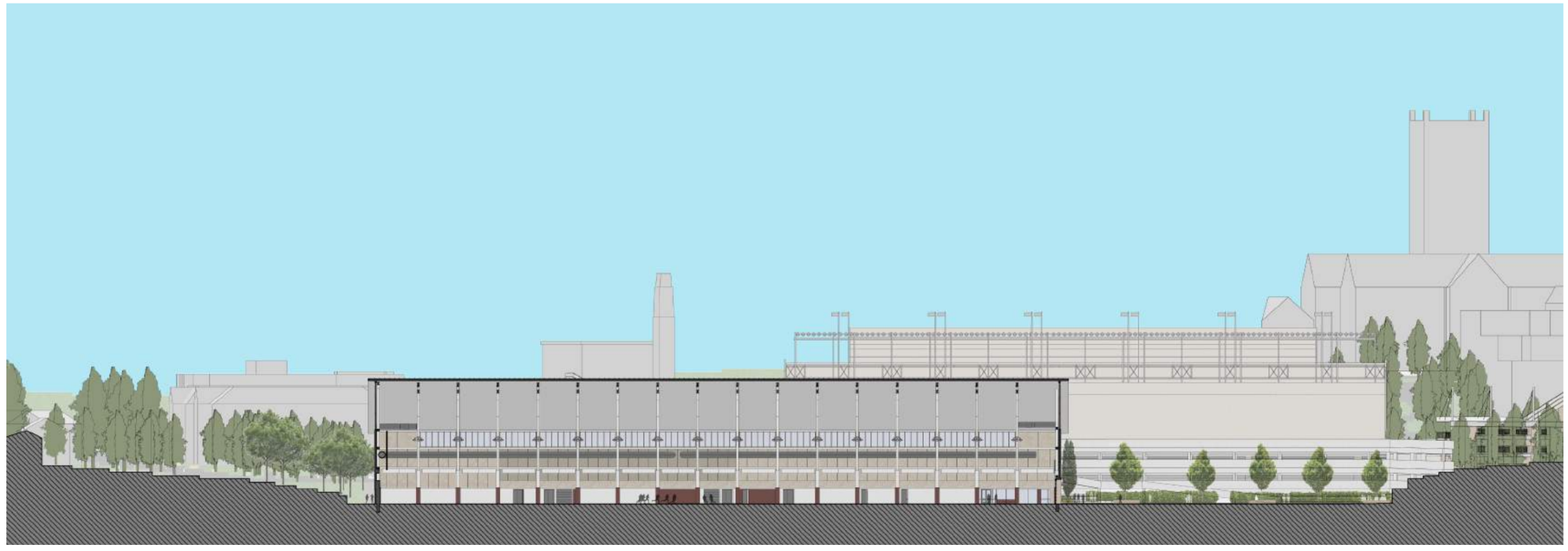
Site Photographs of Existing Conditions

Boston College Field House
Brighton, Massachusetts

Figure 3.3a
Site Plan

Boston College Field House
Brighton, Massachusetts

East-West Site Section



North-South Site Section

Figure 3.3b

Site Sections

0 50 100 Feet

Boston College Field House
Brighton, Massachusetts

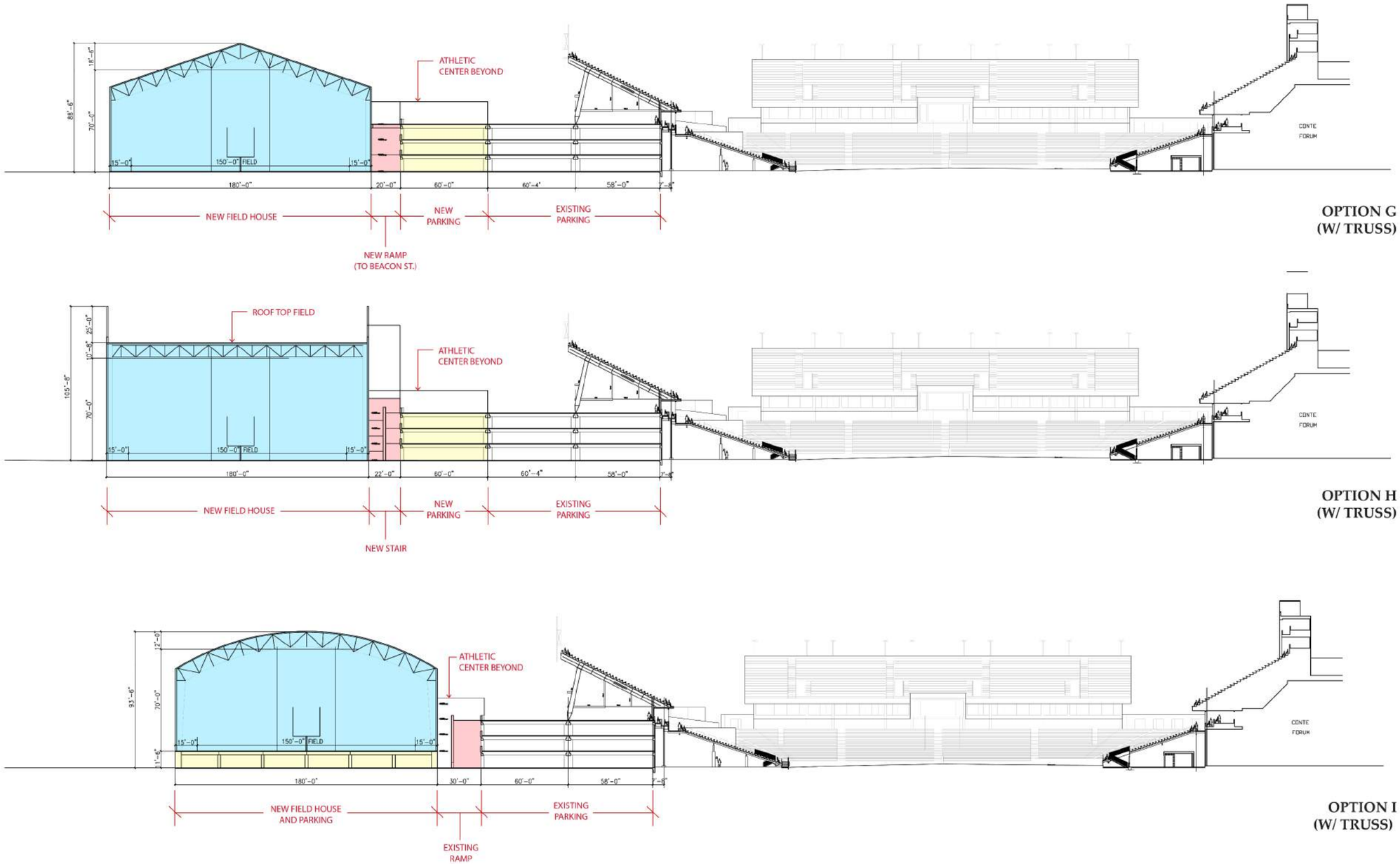
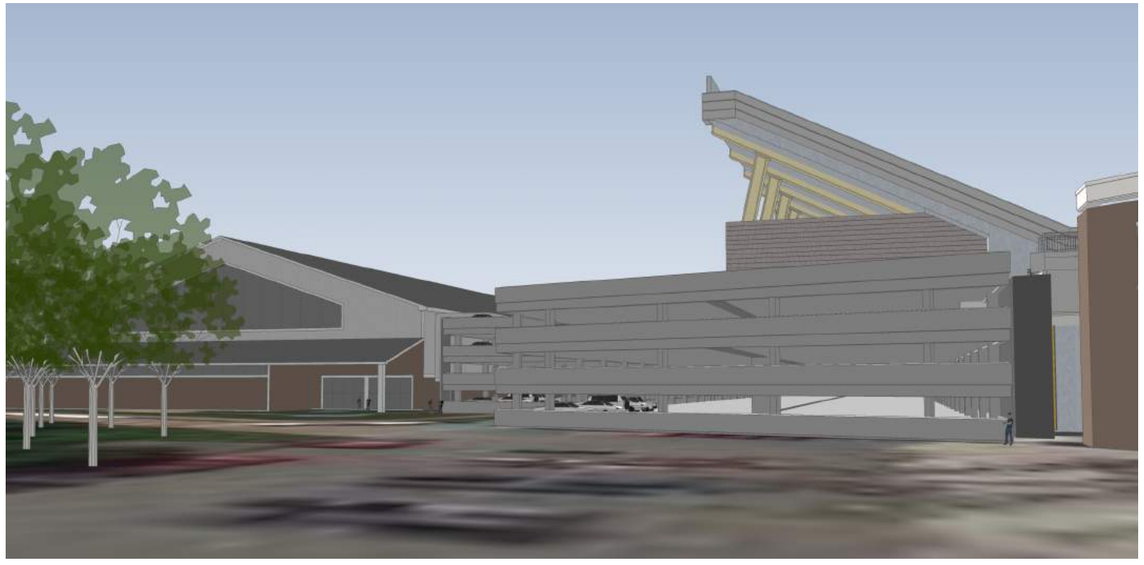
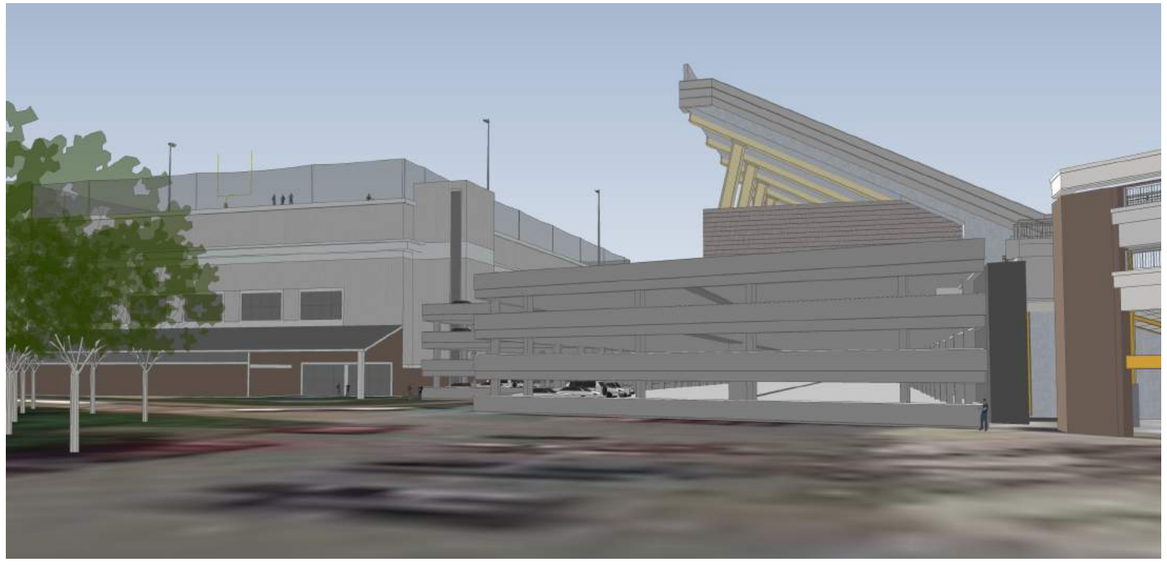


Figure 3.4a
Project Alternatives

Boston College Field House
Brighton, Massachusetts



Option G - View Looking Southeast



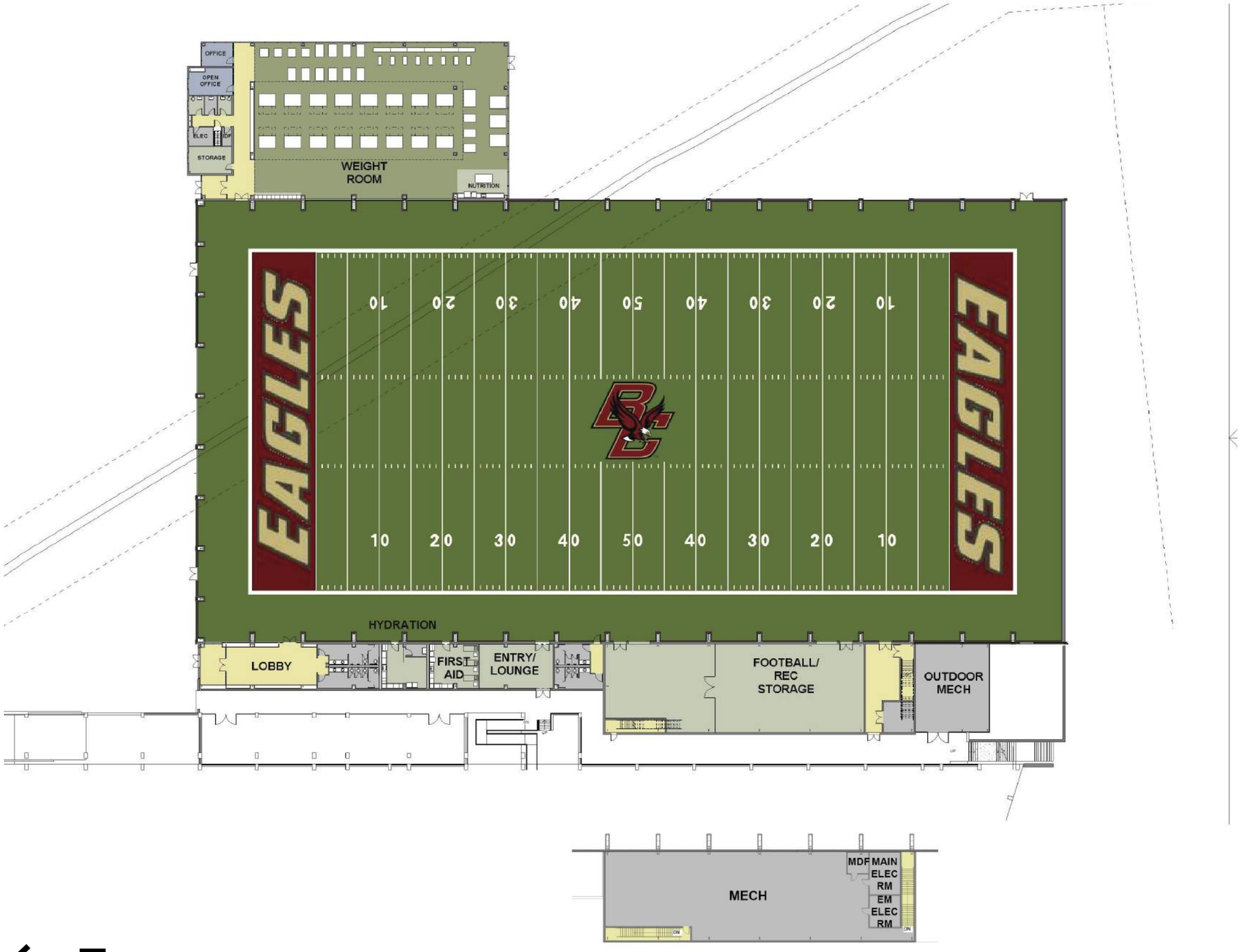
Option H - View Looking Southeast

Option I - View Looking North from Beacon Street

Option I - View Looking West from Chestnut Hill Driveway

Figure 3.4b
Project Alternatives

Boston College Field House
Brighton, Massachusetts



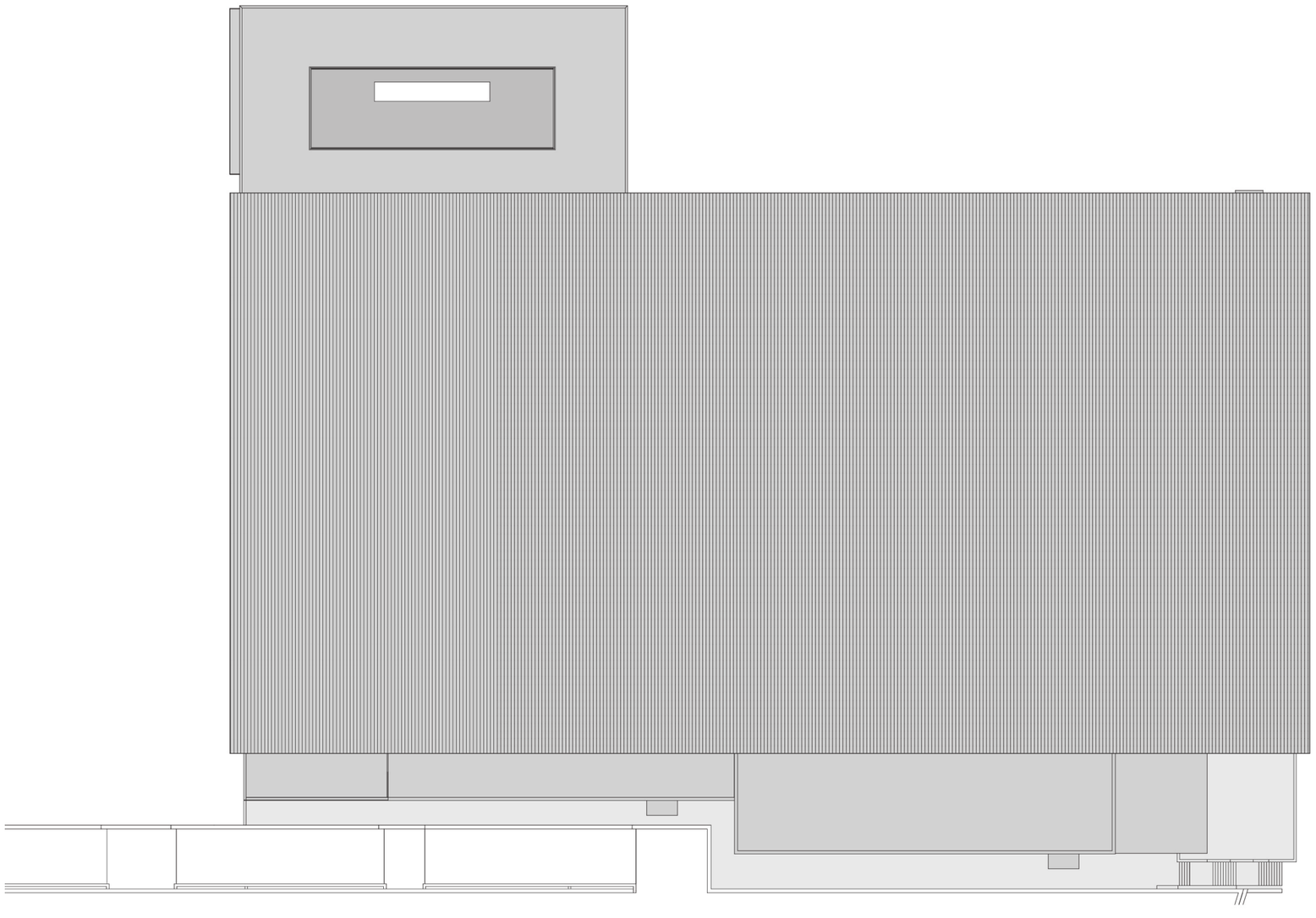
Note: This figure will be re-submitted under seperate cover at larger scale per Scoping request.

Figure 3.5

Overall First Floor Plan (Above)

Partial Second Floor Plan (Below)

Boston College Field House
Brighton, Massachusetts



0 25 50 Feet

Note: This figure will be re-submitted under seperate cover at larger scale per Scoping request.

Figure 3.6

Roof Plan

Boston College Field House
Brighton, Massachusetts

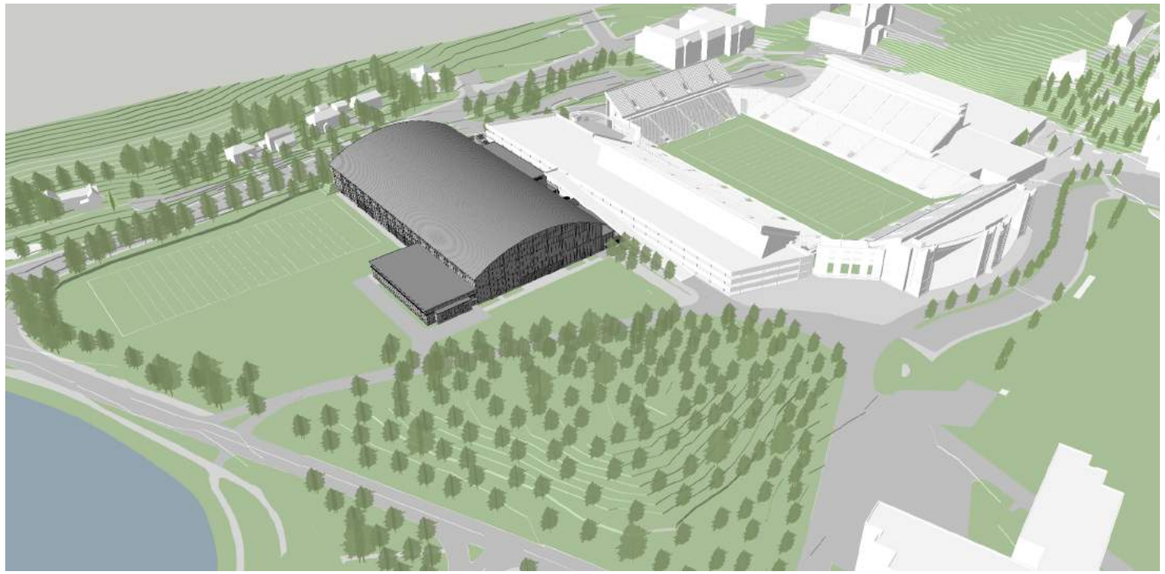


Figure 3.7

Massing Model

Boston College Field House
Brighton, Massachusetts

This figure will be submitted under seperate cover due to large format size.

Source Info

Figure 3.8a

Exterior Elevations

Boston College Field House
Brighton, Massachusetts

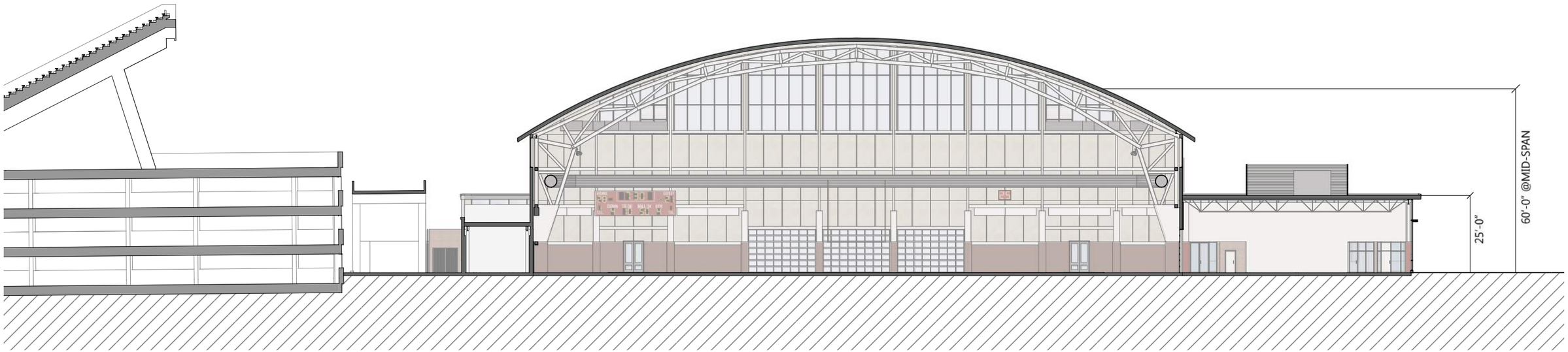
This figure will be submitted under seperate cover due to large format size.

Source Info

Figure 3.8b

Exterior Elevations

Boston College Field House
Brighton, Massachusetts



Note: This figure will be re-submitted under seperate cover at larger scale per Scoping request.

Figure 3.9

Building Section

0 15 30 Feet

Boston College Field House
Brighton, Massachusetts

This figure will be submitted under seperate cover due to large format size.

Figure 3.10

Site Sections

Boston College Field House
Brighton, Massachusetts

Existing Conditions (No-Build Conditions) - Looking Southwest from Pine Tree Preserve

Proposed Project (Build Conditions) - Looking Southwest from Pine Tree Preserve

Existing Conditions (No-Build Conditions) - Looking Northwest from Practice Field

Proposed Project (Build Conditions) - Looking Northwest from Practice Field

Figure 3.11a

Existing & Proposed View Perspectives

Boston College Field House
Brighton, Massachusetts

Existing Conditions (No-Build Conditions) - Looking Northwest from Practice Field

Proposed Project (Build Conditions) - Looking Northwest from Practice Field

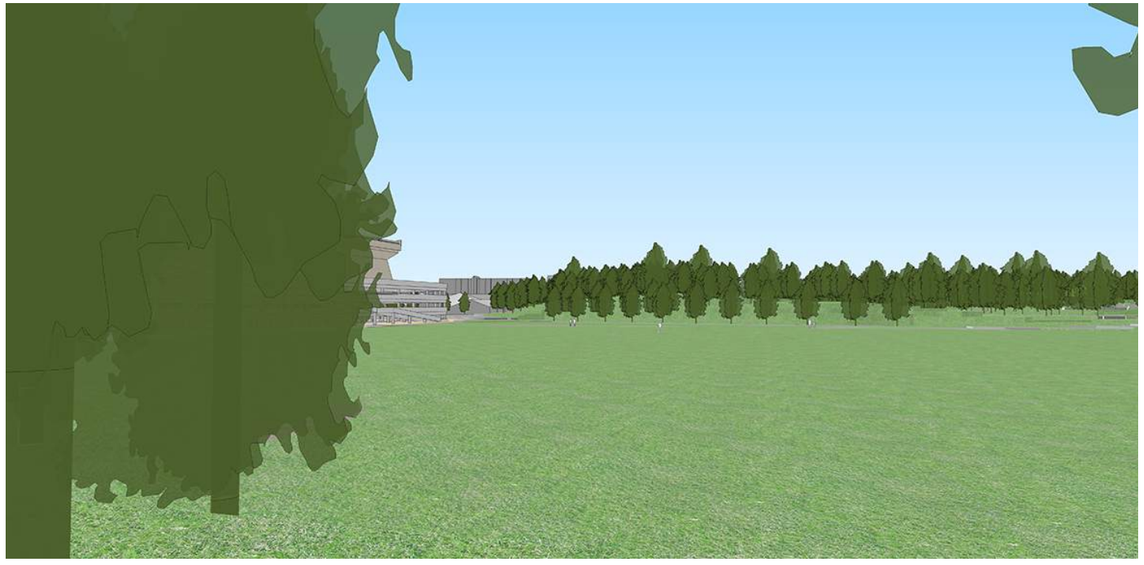
Existing Conditions (No-Build Conditions) - Looking East from Beacon Street

Proposed Project (Build Conditions) - Looking East from Beacon Street

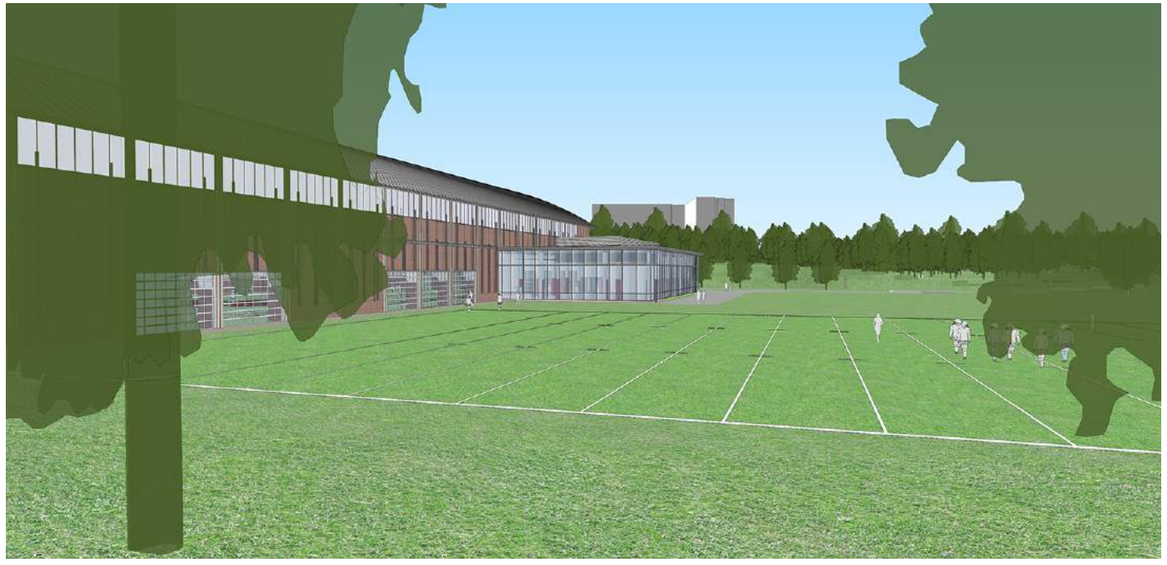
Figure 3.11b

Existing & Proposed View Perspectives

Boston College Field House
Brighton, Massachusetts



Existing Conditions (No-Build Conditions) - Looking North from Beacon Street

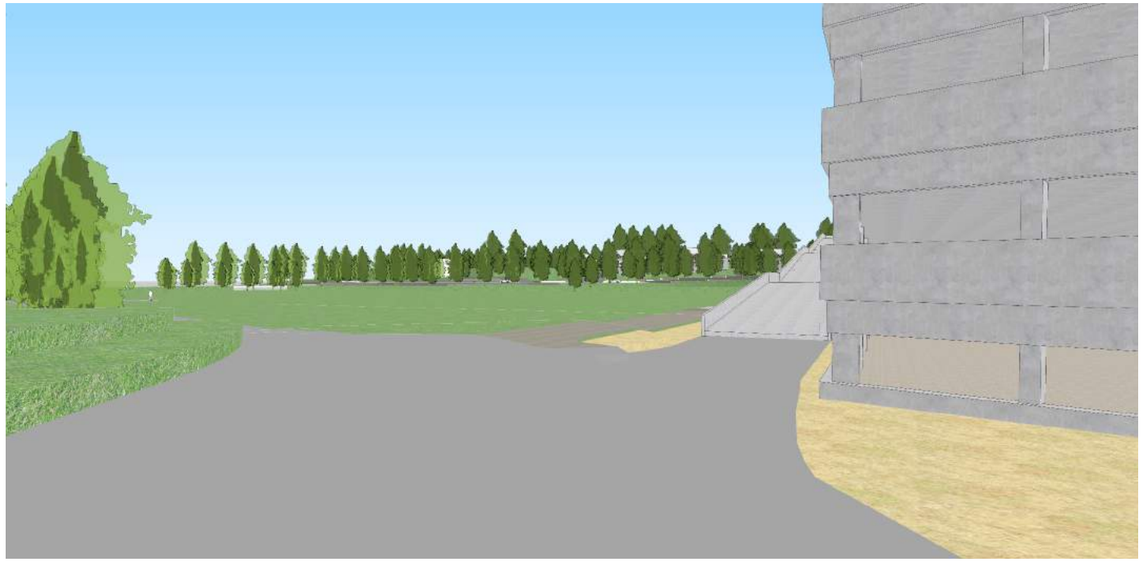


Proposed Project (Build Conditions) - Looking North from Beacon Street

Figure 3.11c

Existing & Proposed View Perspectives

Boston College Field House
Brighton, Massachusetts



Existing Conditions (No-Build Conditions) - Looking Southeast

Proposed Project (Build Conditions) - Looking Southeast

Existing Conditions (No-Build Conditions) - Looking West from Chestnut Hill Driveway

Proposed Project (Build Conditions) - Looking West from Chestnut Hill Driveway

Figure 3.12

Existing & Proposed Long-Range Views

0 25 50 Feet

Boston College Field House
Brighton, Massachusetts

Existing Conditions (No-Build Conditions)

Proposed Project (Build Condition)

0 25 50 Feet

Figure 3.13

Existing & Proposed Bird's Eye View

Boston College Field House
Brighton, Massachusetts

Existing Conditions (No-Build Conditions)

Proposed Project (Build Condition)

Figure 3.14

Existing & Proposed Aerial View

Boston College Field House
Brighton, Massachusetts

This figure will be submitted under seperate cover due to large format size.

Source Info

Figure 3.15

Site Plan

Boston College Field House
Brighton, Massachusetts

4

Environmental Protection

This chapter presents information on the environmental conditions and potential impacts as a result of the Proposed Project. The following sections identify impacts and discuss mitigation measures that have been or will be taken through design and management to avoid and/or minimize adverse effects.

In compliance with the Scoping Determination, this chapter addresses the following environmental impacts categories:

- Shadow
- Nighttime Lighting
- Solid and Hazardous Waste
- Construction
- Noise

4.1 Shadow

4.1.1 Methodology

A shadow study was prepared for the Project to evaluate the potential shadow impact of the Project in the vicinity of the proposed building. The study identifies potential shadow impacts for existing and built conditions on March 21st, June 21st, September 21st, and December 21st at morning (9:00 AM), midday (12:00 Noon) and afternoon (3:00 PM). Early evening (6:00 PM) shadow studies were done for the summer and fall as requested. The results of the shadow analysis are graphically illustrated in Figures 4.1a through 4.1d.

4.1.2 Shadow Impact Analysis

September 21

At 9AM, the new building's shadow is cast in a northwesterly direction. The main entrances to the Field House and Weight Room are impacted by shadow as well as the alleyway between the existing Beacon Street Garage and the new Field House. No new shadows are cast on the adjacent structures. The entire exterior practice field remains completely in sunlight.

At 12PM, shadow is cast directly north, casting a shadow at the main entrances to the Field House and Weight Room. There are no neighboring buildings impacted by this shadow. The entire exterior practice field remains completely in sunlight.

At 3PM, the building's shadow is cast to the northeast onto the playing field. No new shadows are cast on the adjacent buildings. The shadow projection also places the overhead door locations along the east in shadow.

At 6PM, long shadows are cast to the east leaving the playing field entirely in shadow, which was a condition prior to the Field House proposal. Shadows from the adjacent Alumni Stadium and Beacon Street Parking Garage are cast onto the Field House. A portion of the new building's shadow will be cast over Chestnut Hill Driveway and the Chestnut Hill Reservoir.

December 21

At 9AM, long shadows extend in a northwesterly direction placing much of the adjacent ramp at the Beacon Street garage in shadow as well as the alleyway between the Beacon Street Parking Garage and the Field House. The shadow also extends to cover a portion of the access road to the north of the site.

At 12PM, the building's shadow casts to the north extending to cover a portion of the access road in shadow. There are no neighboring buildings impacted by this shadow. The entire exterior practice field remains completely in sunlight.

At 3PM, long shadows are cast to the northeast casting shadow over a portion of Pine Tree Preserve and the access road. A majority of the playing field to the east will also be in shadow. No new shadows are cast on adjacent structures.

March 21

At 9AM, the new building's shadow is cast in a northwesterly direction. The main entrances to the Field House and Weight Room are impacted by shadow as well as the alleyway between the existing Beacon Street Parking Garage and the new Field House. No new shadows are cast on the adjacent structures. The entire exterior practice field remains completely in sunlight.

At 12PM, shadow is cast directly north, casting a shadow at the main entrances to the Field House and Weight Room. There are no neighboring buildings impacted by this shadow. The alleyway between the Beacon Street Parking Garage and the Field House remains in sunlight. The entire exterior practice field remains completely in sunlight.

At 3PM, the building's shadow is cast to the northeast onto a portion of the playing field and the main entrances. No new shadows are cast on the adjacent buildings. The shadow projection also places the overhead door locations along the east in shadow.

June 21

At 9AM, the building casts a short shadow northwest that puts the alleyway between the Beacon Street garage and the Field House completely in shadow. There are no neighboring buildings impacted by this shadow. The remainder of the Project site remains in sunlight.

At 12PM, shadow is cast from the building directly north casting a shadow at the main entrances to the Field House and Weight Room. The alleyway between the garage and the Field House remains in sunlight. There are no neighboring buildings impacted by this shadow. The entire exterior practice field remains completely in sunlight.

At 3PM, the building's shadow is cast to the east onto a portion of the playing field. No new shadows are cast on the adjacent buildings. The shadow projection also places the overhead door locations along the east in shadow as well as the access road to the east of the Weight Room.

At 6PM, shadows are cast to the south east leaving a portion of the playing field in shadow. Shadows from the adjacent Alumni Stadium and Beacon Street Parking Garage are cast onto the Field House.

4.1.3 Proposed Mitigation Measures

The design and massing of the building is well suited to minimize shadow impacts on surrounding sites. The location of the Proposed Project in relation to the existing Beacon Street Parking Garage and Alumni Stadium allows the new building to avoid a majority of the shadow cast by these adjacent structures and take advantage of natural daylighting. The Weight Room was sited to the east of the main Field House mass in order to take advantage of the shadow cast by the larger mass and provide shading at times, contributing to conservation of energy loads. Lastly, the orientation of the exterior practice field allows less of the field area to be cast in shadow.

4.2 Solid and Hazardous Wastes

The Project Site was previously a reservoir, which was filled and is currently utilized by the University as athletic fields. A summary of existing soil conditions conducted by McPhail Associates in October 2016 is provided in Appendix B.

4.2.1 Waste Reduction and Recycling Measures

The University has undertaken a number of measures to reduce waste through recycling and reuse, specifically through single-stream recycling and student-led initiatives. For new development, the University has a goal of recycling or diverting at least 75 percent of construction and demolition materials associated with construction/major renovation projects from landfills, which aligns with LEED criteria. Contractors are encouraged to find ways to target a 90 to 95 percent recycling/diversion rate. During operations, the University implements a permanent recycling plan appropriate to the needs of the facility, aiming for recycling of at least 50 percent of non-construction waste. The dining halls provide "to go" container reduction education and implement organic waste composting, which resulted in the collection of 311 tons of waste in the Fiscal Year 2016.

4.3 Noise

The Proposed Project is expected to result in net positive noise conditions. The Project Site is currently used for varsity baseball and softball, football practice, club and intramural sports, and recreational activities. Currently, an estimated 25 baseball games and 16 softball games are held per season, which use loudspeakers to announce games. These games will be relocated to new fields on the Brighton Campus scheduled for completion in March 2018. Also, the football team currently practices on the outdoor field and occasionally holds crowd-simulated practices with loud speakers. With the enclosure of the practice field, the Proposed Project would mitigate this noise impact.

The Proposed Project will have limited building mechanical equipment so that noise associated with such equipment would be negligible. Furthermore, the limited service/loading activities are located on the northeast corner of the Project Site along the internal access road so that any noise from such activities would be shielded by the Field House structure to those nearby sensitive receptor locations along Beacon Street.

4.4 Nighttime Lighting

The exterior pathways surrounding the Field House will be minimally lit with the BC standard light pole and LED fixtures to provide wayfinding lighting for occupants. The entry walk will be lit to accent the main entrance and concealed lighting within the canopy will light the main egress doors at the Field House and Weight Room. The Project scope will include replacing existing exterior light poles and fixtures that currently provide lighting at the playing field to the east of the facility. The new poles will have LED fixtures that will be more energy efficient as well as have a better cut off to improve the light spill onto adjacent spaces. Refer to Figure 1.7 for the location of the new poles.

The facility will operate from 5AM to 1AM. The majority of the interior of the Field House facility will be lit with energy efficient LED lighting. The playing surface will feature large fixtures affixed to the steel truss system and will have dimming capabilities in order to mitigate and provide proper light levels based on the specific use. The Weight Room will also have LED fixtures lighting the program spaces. All of these fixtures will have occupancy and daylight sensors to control light levels.

The majority of the building glazing at the Field House facades will be translucent panels which will minimize and mitigate light spill to the exterior. The large overhead doors will have clear vision glazing and will spill light to the exterior paving, contributing to wayfinding light levels.

4.5 Construction Impacts

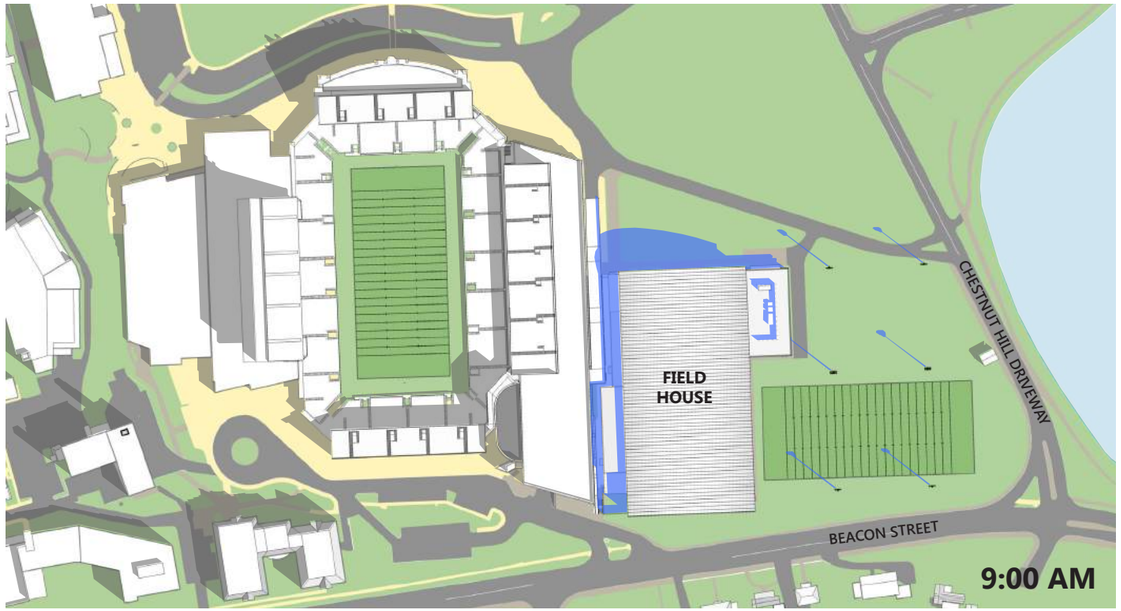
Construction is anticipated to last approximately 15 months (from May 2017 to August 2018). Construction-related impacts associated with the Proposed Project

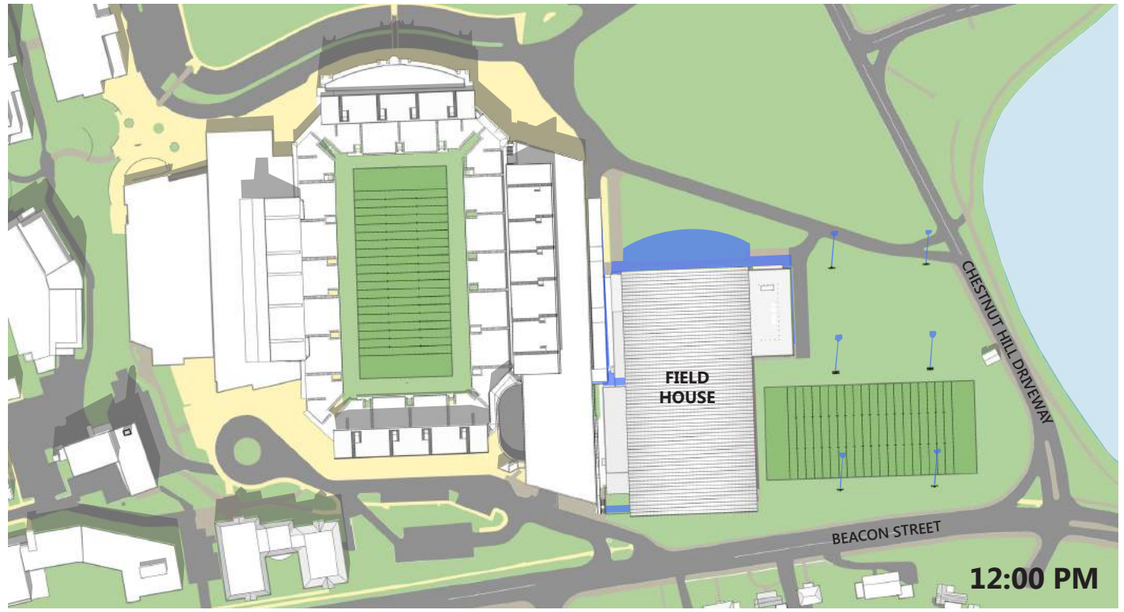
are temporary in nature and typically related to truck traffic, air (dust), noise, stormwater runoff, solid waste and vibration.

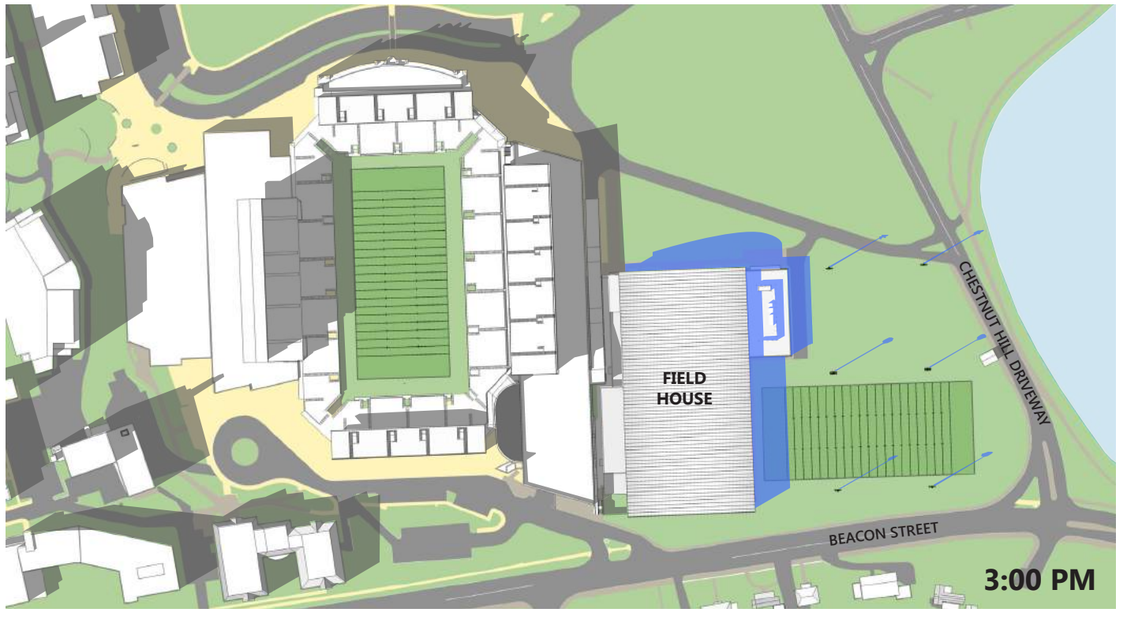
As the design of the Proposed Project progresses, the Construction Manager (CM) will prepare a Construction Management Plan (CMP), in compliance with the City of Boston's Construction Management Program, to address sub-phases and reflect the input of the regulatory authorities having jurisdiction over such plans, including the Boston Fire Department (BFD), the Boston Transportation Department (BTD), and the Department of Conservation and Recreation (DCR).

The following elements will be incorporated in the CMP, which are subject to refinement and modification as the design of the Proposed Project progresses:

- Detailed construction schedule, including hours of construction activity.
- Construction methodology, including foundation construction, amount and method of excavation required, disposal of the excavate, description of foundation support, maintenance of groundwater levels, and measures to prevent any adverse effects or damage to adjacent structures and infrastructure.
- Identification of best management practices to control erosion and to prevent the discharge of sediments and contaminated groundwater or stormwater runoff into the City's drainage system during the construction period.
- Development of a Construction Waste Management Plan (CWMP) for the processing and recycling of construction waste.
- Measures to protect public safety, such as barrier, protected walkways, and signage.
- Identification of location of construction staging areas and construction worker parking.
- Measures to encourage carpooling and/or public transportation use by construction workers.
- Access routes for construction trucks and anticipated volume of construction truck traffic.
- Potential dust and pollutant emissions and mitigation measures to control these emissions.
- Potential noise generation and mitigation measures to minimize increase in noise levels.
- Measures to make construction fencing as attractive as possible to ensure the visual character of the streetscape.







Existing Shadow

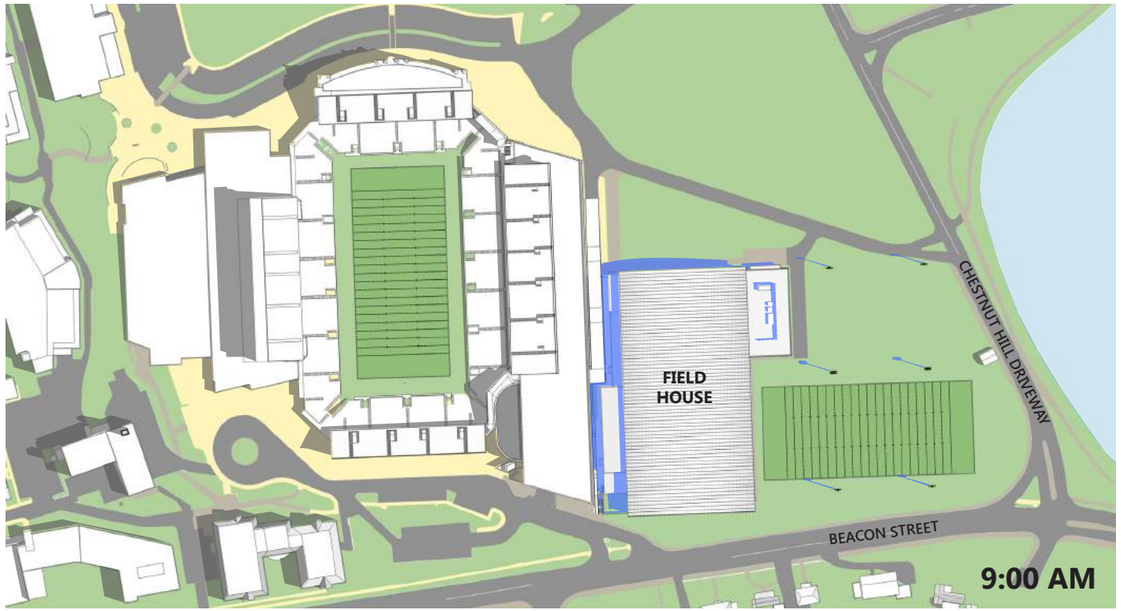
Net New Shadow

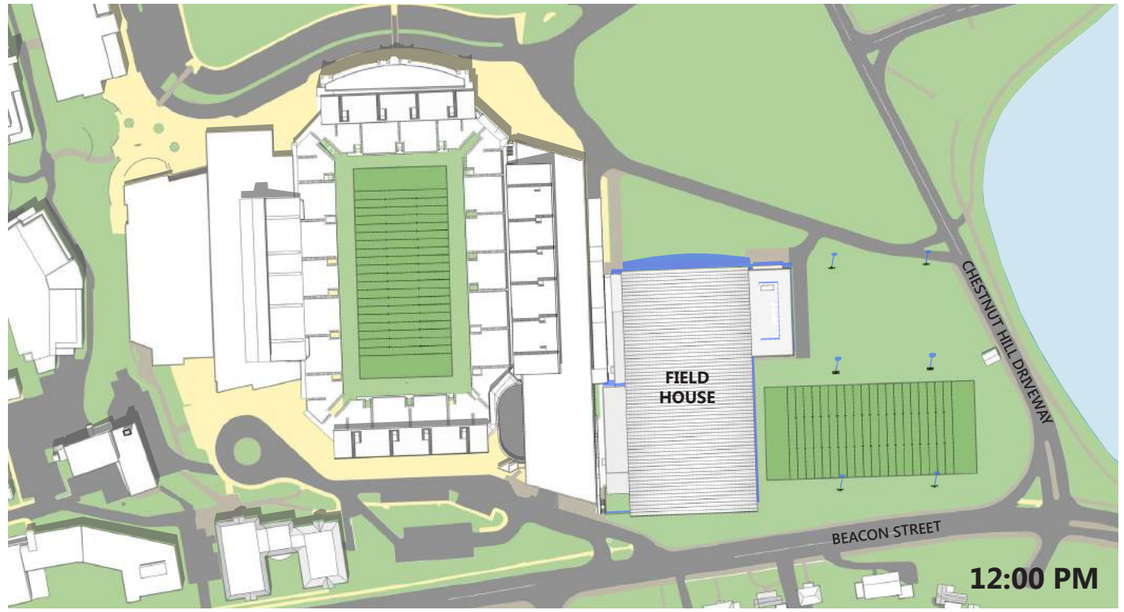
N

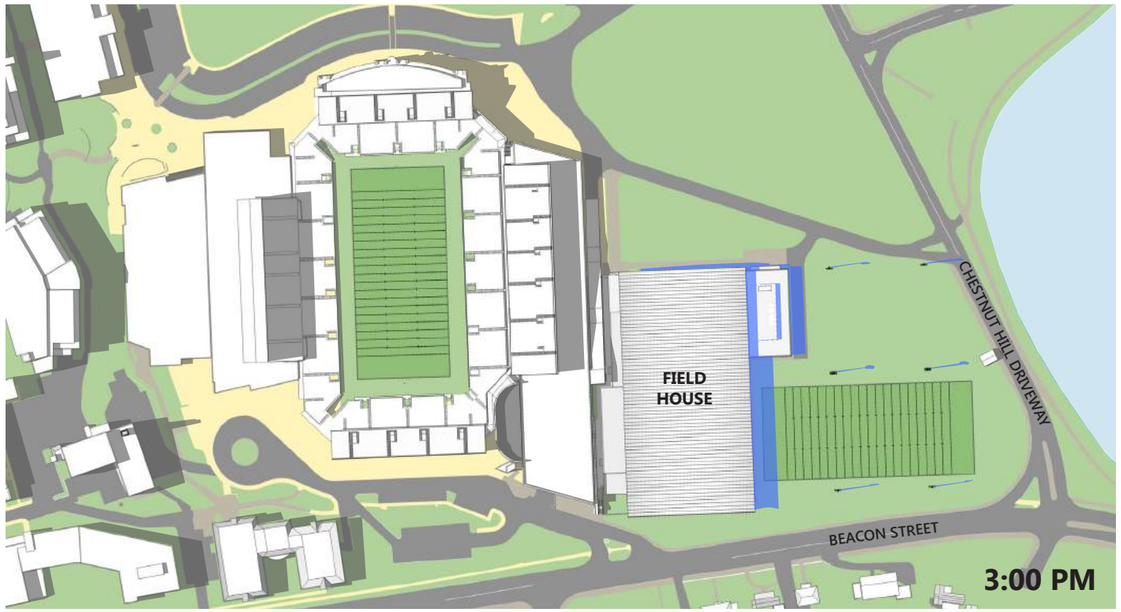
Figure 4.1a

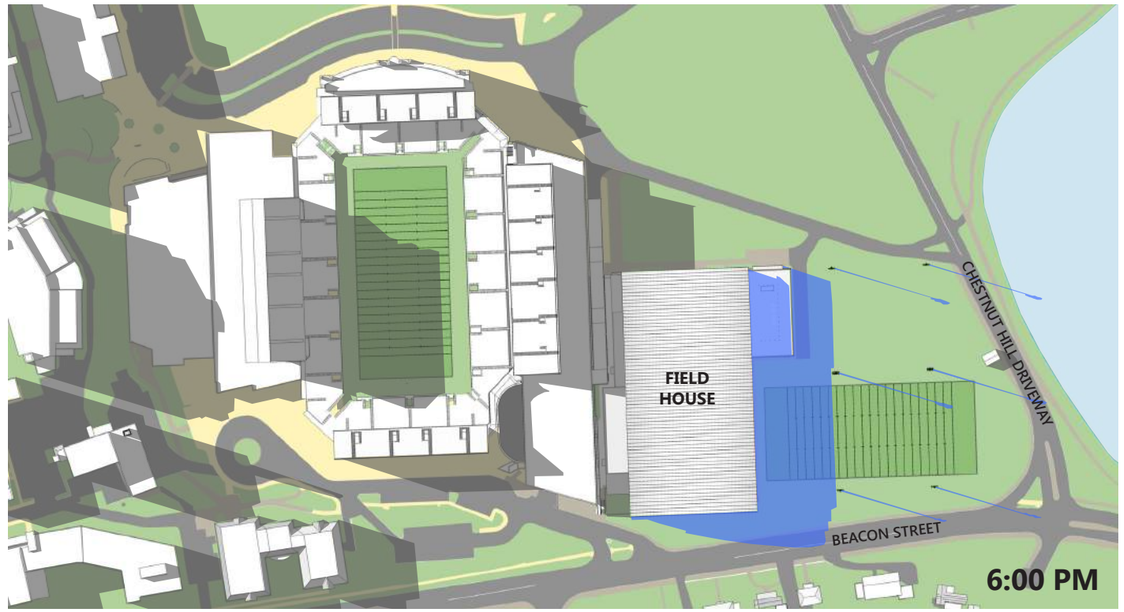
Shadow Impacts - March 21

Boston College Field House
Brighton, Massachusetts









Existing Shadow

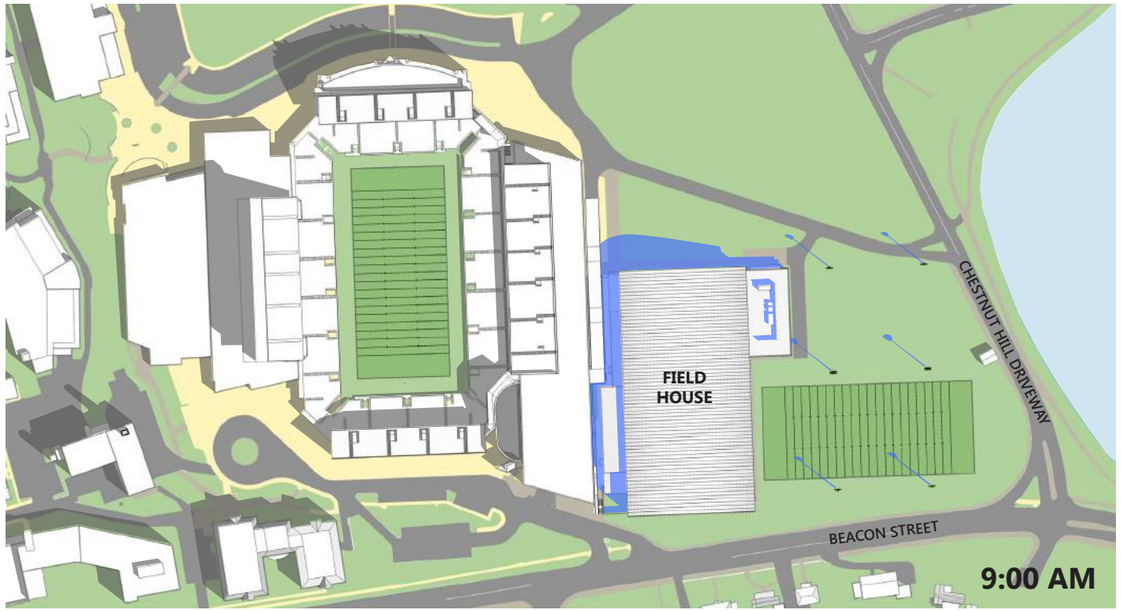
Net New Shadow

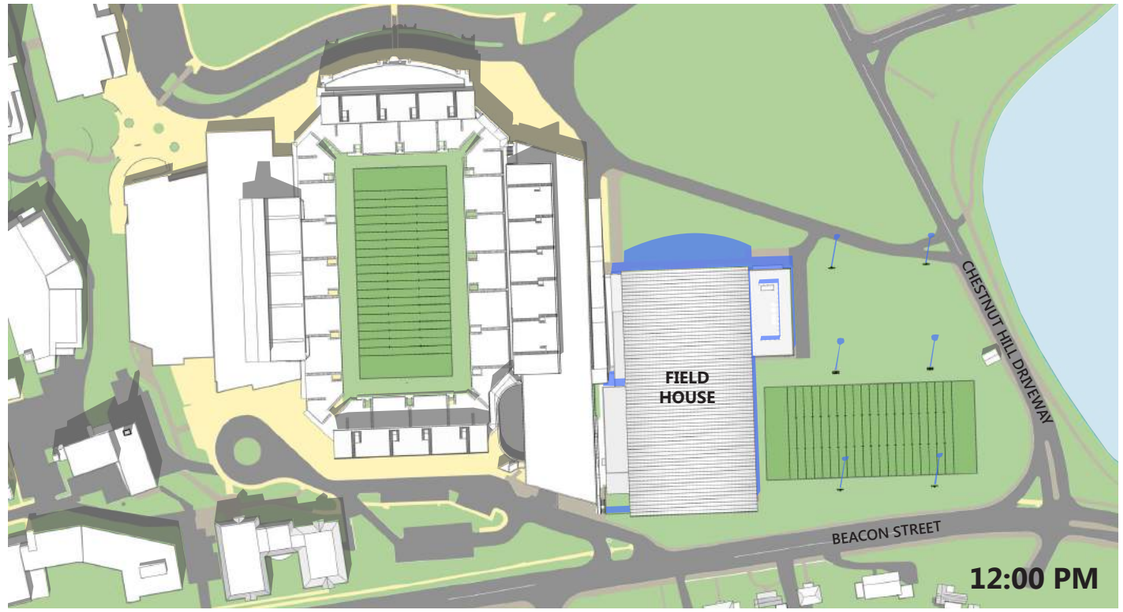
N

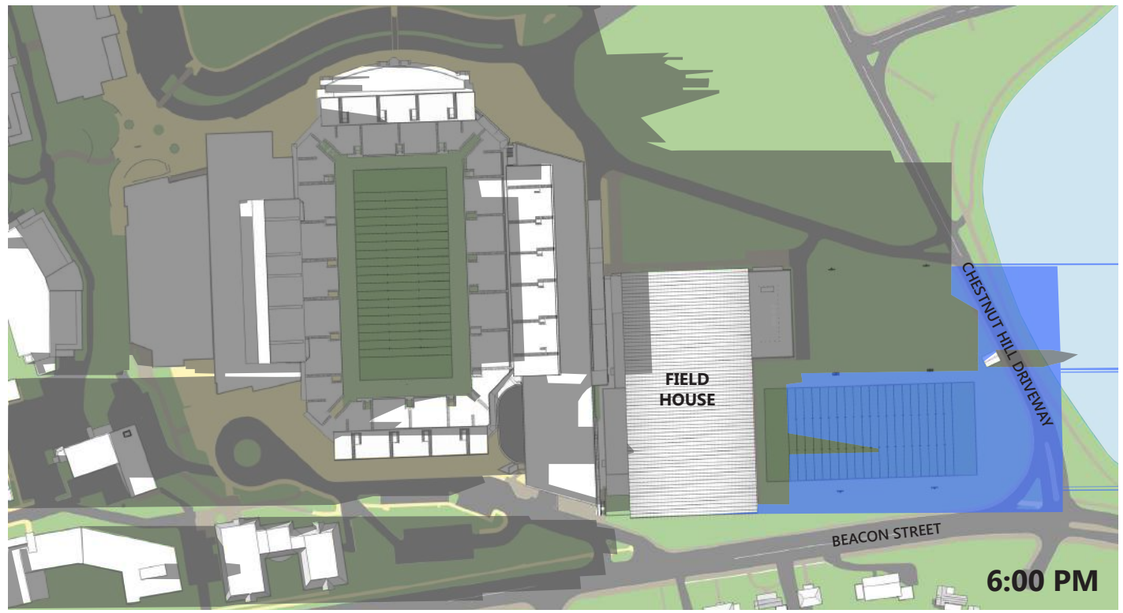
Figure 4.1b

Shadow Impact - June 21

Boston College Field House
Brighton, Massachusetts







Existing Shadow

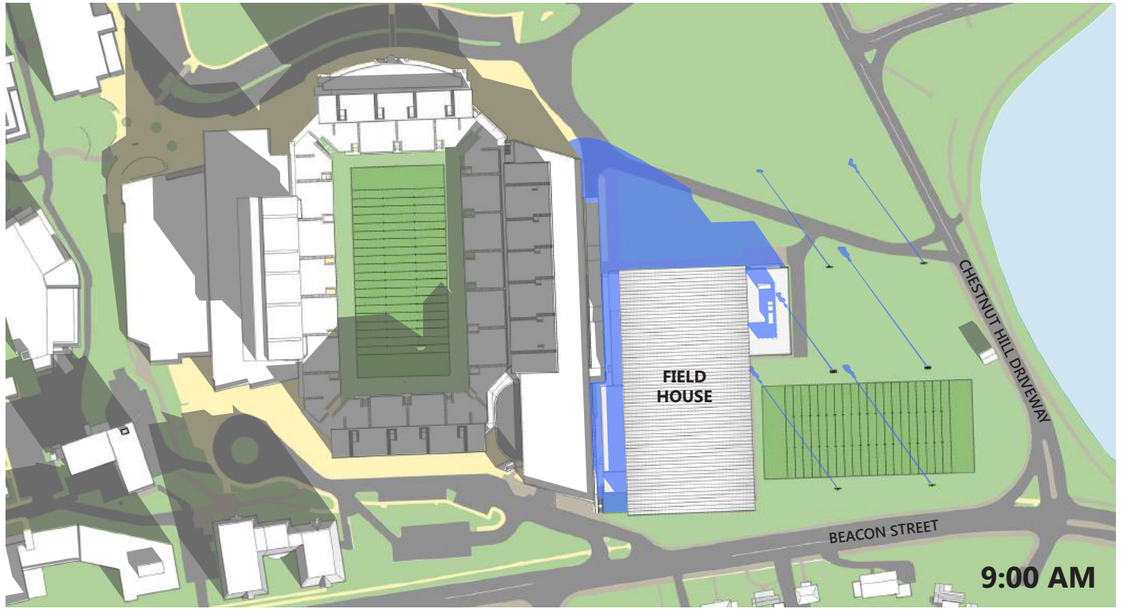
Net New Shadow

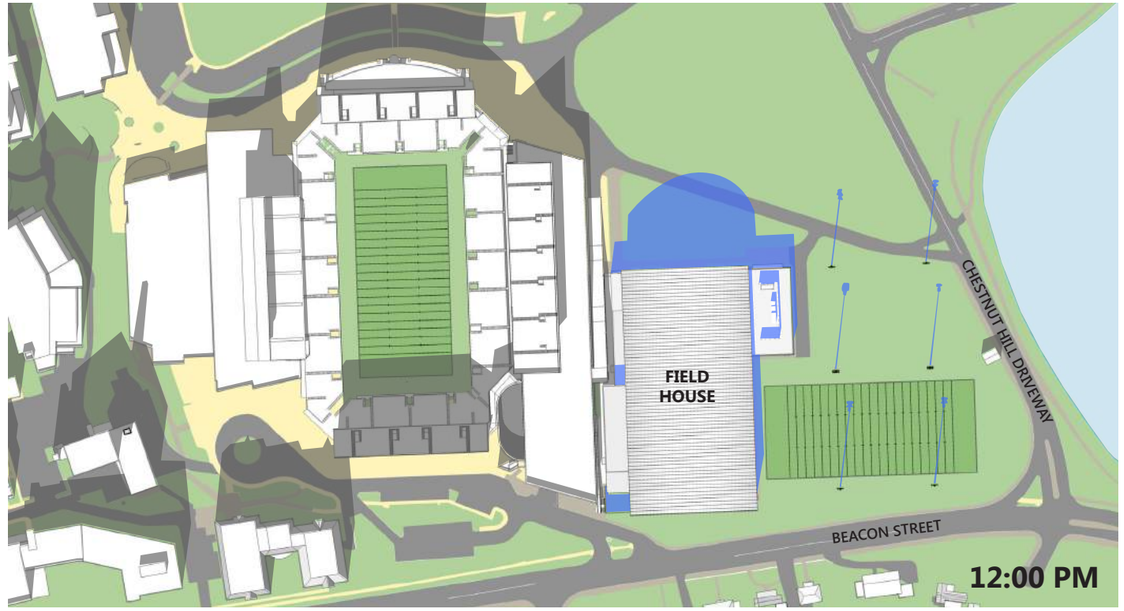
N

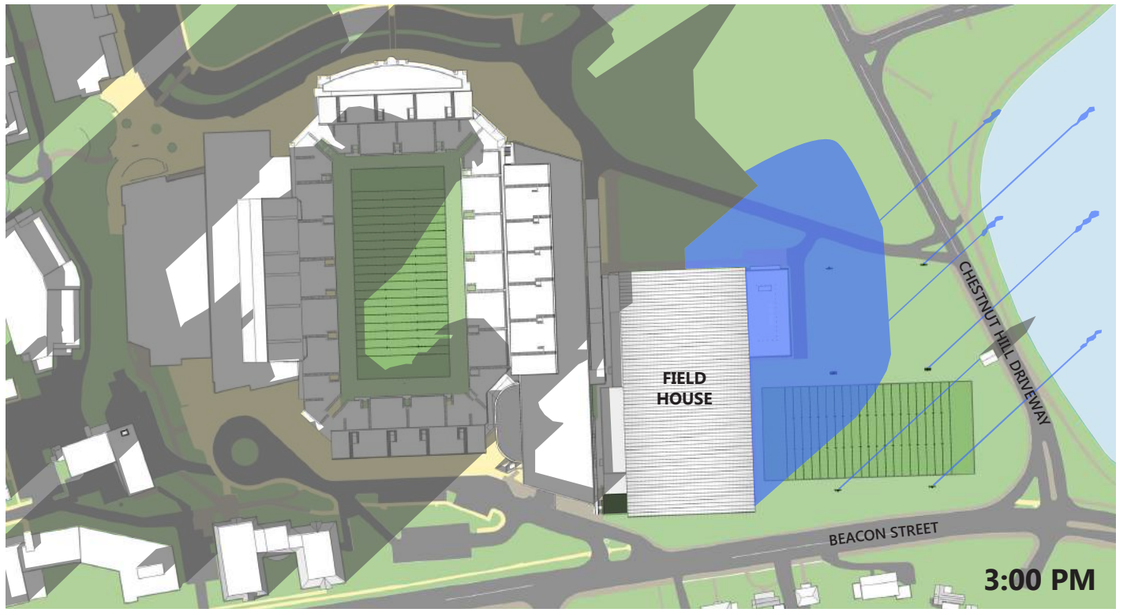
Figure 4.1c

Shadow Impact - September 21

Boston College Field House
Brighton, Massachusetts







Existing Shadow

Net New Shadow

N

Figure 4.1d

Shadow Impacts - December 21

Boston College Field House
Brighton, Massachusetts

5

Responses to Comments

This chapter presents responses to the BPDA Scoping of Determination and all public comments received on the PNF and IMPNF for Amendment. A copy of the Scoping of Determination and each comment letter received by the BPDA during the public review period of the PNF and IMNPF for Amendment are included in this chapter. Each letter is assigned a number, as listed in Table 5-1. Where appropriate, reference is made to corresponding section of the IMP Amendment/DPIR.

Table 5-1 PNF and IMPNF for Amendment Comment Letters

Letter No.	Commenter	Affiliation	Date Received (2016)
Scoping Determination	Gerald Autler	Boston Planning and Development Agency (BPDA)	December 23
1	John P. Sullivan	Boston Water and Sewer Commission	December 15
2	Benjamin Elliott	Resident	November 29
3	Bruce Kline	RNA, B.C. Task Force	December 12
4	Matthew K. Englander	City of Boston Assessing Department	December 23

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Scoping of Determination: Boston Planning and Development Agency

Comment SD1:

Pursuant to Article 80D, the IMP Amendment should provide the following information for the Proposed Institutional Project:

- *Site location and approximate building footprint.*
- *Uses (specifying the principal subuses of each land area, building, or structure, such as classroom, laboratory, parking facility).*
- *Square feet of gross floor area.*
- *Square feet of gross floor area eliminated from existing buildings through demolition of existing facilities.*
- *Floor area ratio.*
- *Building height in stories and feet, including mechanical penthouses.*
- *Parking areas or facilities to be provided in connection with Proposed Projects;*
- *Any applicable urban renewal plans, land disposition agreements, or the like.*
- *Current zoning of site.*
- *Total project cost estimates.*
- *Estimated development impact payments.*
- *Approximate timetable for development of proposed institutional project, with the estimated month and year of construction start and construction completion for each.*

Response:

Refer to Section 1.4 in Chapter 1, *Project Description*, for more details regarding the proposed development program for the Proposed Project. As described in Chapter 1, no parking areas or facilities are included in the Proposed Project.

Refer to Section 1.4.6 for the estimated total project costs and schedule.

Section 2.1.2 of Chapter 2, Regulatory Context and General Information, present the estimated Development Impact Project Exactions.

Comment SD2:

Pursuant to Article 80B, the DPIR should provide the following information:

- *Development Team*

- *Names of developer(s), including description of development entity(ies), attorney, project consultants and architects.*
- *Business address, telephone number, fax number and e-mail, where available, for each.*
- *Designated contact for each.*

Response:

Please refer to Section 2.3 in Chapter 2, *Regulatory Context and General Information*, for a list of contact information of all development team members.

Comment SD3:

The Filing should review Boston College's plans for providing additional undergraduate student housing, with particular focus on plans for student housing on Shea Field. The Filing should provide detail on the proposed reconfiguration of the student housing approved for that site in the Institutional Master Plan.

Response:

Please refer to Section 1.2.3 in Chapter 1, *Project Description,* for more details.

Comment SD4:

Given the location of the Proposed Project above major regional water delivery infrastructure, the Filing should clearly outline the regulatory process followed to date with the Massachusetts Water Resources Authority ("MWRA") and the details and timeline of any future regulatory review by the MWRA.

Response:

Please refer to Section 2.1.6 in Chapter 2, *Regulatory Context and General Information*, for more details.

Comment SD5:

BPDA Urban Design staff have provided feedback on the proposed design, in particular the relationship between the weight room and the rest of the Field House project. Boston College should continue to explore design options through ongoing urban design review with BPDA staff, and the Filing should describe proposed approaches to the design of this element.

Response:

Please refer to Section 3.2 in Chapter 3, *Urban Design,* for the Proposed Project's building design concept and development.

Comment SD6:

In preparing the DPIR, Boston College shall provide the proposed design of any signage and lighting anticipated for the exterior of the building. Boston College will be required to perform design review with the BPDA Urban Design Department on any current and future plans for signage and lighting.

Response:

Please refer to Section 3.2.2 in Chapter 3, *Urban Design*, for the proposed signage and lighting design.

Comment SD7:

The DPIR shall present views of the Proposed Project from locations to be determined through consultation with the BPDA's Urban Design Department.

Response:

Please refer to Section 3.2.4 in Chapter 3, *Urban Design,* for the additional view perspectives that compare existing and proposed conditions.

Comment SD8:

The DPIR should describe the design of the Proposed Project in relationship to the surrounding urban context, including adjacent buildings, streets, and plazas.

Response:

Please refer to Section 3.1 in Chapter 3, *Urban Design,* for project design in relationship to the surrounding context.

Comment SD9:

The following urban design materials for the Proposed Project's schematic design must be submitted for the DPIR. Materials must be at the required scale and in a printed form that is reproducible, as well as in electronic file form:

- *A written description of program elements and space allocation for each element.*
- *Black and white 8"x10" photographs of the site and neighborhood.*
- *Plans and sections for the area surrounding the project at an appropriate scale (1"=100' or larger) showing relationships of the Proposed Project to the surrounding area and district regarding massing, building height, open space, major topographic features, pedestrian and vehicular circulation, and land use.*
- *Sketches and diagrams of alternative proposals to clarify design issues and massing options.*

- *Eye-level perspectives showing the proposal in the context of the surrounding area; views should display a particular emphasis, on important viewing areas such as key intersections, accessways, or public parks/attractions. Long-ranged (distanced) views of the Proposed Project must also be studied to assess the impact on the skyline or other view lines. At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) both the build and no-build conditions. The BPDA must approve the view locations before analysis is begun. View studies should be cognizant of light and shadow, massing and bulk.*
- *Aerial views of the project in perspective or isometric form.*
- *A site plan at 1 "= 16' or larger showing:*
    - *Relationships of proposed and existing adjacent buildings and open spaces.*
    - *Open spaces defined by buildings on adjacent parcels and across streets.*
    - *Location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features.*
    - *Accessible pedestrian, vehicular, and service access and flow through the parcel and to adjacent areas.*
    - *Phasing possibilities clearly indicating the scheme for completing the improvements.*
    - *Construction limits.*
- *Site sections at 1"=16' or larger showing relationships to adjacent buildings and spaces.*
- *A massing model at 1"=40' showing all buildings in the area and a study model at 1"=16' showing facade design.*
- *Drawings at an appropriate scale (e.g., 1"=8') describing architectural massing, facade design, and proposed materials including:*
    - *Site plans before and after construction.*
    - *Elevations in the context of the surrounding area.*
    - *Sections showing organization of functions and spaces.*
    - *Building plans showing ground floor and typical upper floor.*
- *A site survey at 1"=40' showing nearby structures, utilities and bench marks.*
- *A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development.*
- *Electronic files describing the site and Proposed Project at Representation Levels one and two ("Streetscape" and "Massing") as described in the document Boston "Smart Model": CAD & 3D Model Standard Guidelines.*

- *The schedule for submittal of Design Development materials.*

Response:

The required figures and plans are provided in Chapter 3, *Urban Design*. Some plans were required at a scale too large to include in this report and, therefore, are shown as placeholder figures to be provided to the BPDA Urban Design Department under a separate cover.

The Project Team anticipates submitting the Design Development materials to BPDA Staff Architect during winter of 2017.

Comment SD10:

The Proponent shall be required to conduct a shadow analysis for the hours 9:00 a.m., 12:00 noon, and 3:00 p.m. for the vernal equinox (March 20), summer solstice (June 21), autumnal equinox (September 23), and winter solstice (December 22) and 6:00 p.m. during the summer and autumn.

Response:

Refer to Section 4.1 in Chapter 4, *Environmental Protection,* for the shadow impact study.

Comment SD11:

The shadow impact analysis must show the incremental effects of the Proposed Project on existing and proposed public open spaces and pedestrian areas including, but not limited to, sidewalks and pedestrian walkways adjacent to and in the vicinity of the Proposed Project and parks, plazas and other open space areas. The analysis must clearly label all streets, vehicular paths, public open spaces, and pedestrian areas adjacent to and in the vicinity of the Proposed Project area.

Response:

Refer to Figures 4.1a through 4.1d for the net new shadow created by the Proposed Project.

Comment SD12:

The DPIR should propose mitigation measures to minimize or avoid any adverse shadow impact.

Response:

Please refer to Section 4.1.3 in Chapter 4, *Environmental Protection,* for a discussion of measures that reduce shadow associated with the Proposed Project.

Comment SD13:

The presence of any contaminated soil or groundwater and any underground storage tanks at the project site shall be evaluated and remediation measures to ensure their safe removal and disposal shall be described. Any assessment of site conditions pursuant to the requirements of M.G.L. Chapter 21E that has been or will be prepared for the site shall be included in the DPIR (reports may be included in an appendix but shall be summarized in detail, with appropriate tables and figures, within the main text). Materials in the building to be demolished should be characterized and measures to mitigate impacts during demolition should be identified.

Response:

Appendix B provides a summary of existing soil conditions conducted by McPhail Associates in October 2016.

Comment SD14:

The DPIR shall quantify and describe the generation, storage, and disposal of all solid wastes from the construction and operation of the Proposed Project. The DPIR shall identify the specific nature of any hazardous wastes that may be generated and their quantities and shall describe the management and disposal of these wastes. In addition, measures to promote the reduction of waste generation and recycling, particularly for paper, glass, plastics, metals, and other recyclable products, and compliance with the City's recycling program, shall be described in the DPIR.

Response:

See Response to Comment SD13.

Comment SD15:

The DPIR should include a narrative description of the positive and negative noise impacts of the Proposed Project and associated changes in land uses in the area of the Proposed Project.

Response:

Refer to Section 4.3 in Chapter 4, *Environmental Protection*, for a discussion of positive and negative noise impacts associated with the Proposed Project.

Comment SD16:

The DPIR should explain, in text or graphics as appropriate:

- *The type of exterior lighting to be used on each façade or other portion of the building and the elements of the design that mitigate nighttime lighting impacts of the building on surrounding areas.*

Response:

Please refer to Section 3.2.2 in Chapter 3, *Urban Design* and Section 4.4 in Chapter 4, *Environmental Protection,* for a description of proposed exterior lighting.

Comment SD17:

[The DPIR should explain, in text or graphics as appropriate:]

- *The DPIR should specify the type of interior lighting (i.e. fluorescent vs. incandescent, recessed or not) to be used in each portion of the building and, in the case of the common areas and non-residential portions of the program, the hours that the lighting will be on. The DPIR should also discuss the measures being taken to minimize the impact of interior lighting on the surrounding areas.*

Response:

Refer to Section 4.4 in Chapter 4, *Environmental Protection,* for a description of the proposed interior lighting.

Comment SD18:

A construction impact analysis shall include a description and evaluation of the following elements. These may be incorporated into the Construction Management Plan in lieu of the DPIR if desired.

- *Measures to protect the public safety.*
- *Potential dust and pollutant emissions and mitigation measures to control these emissions.*
- *Potential noise generation and mitigation measures to minimize increase in noise levels.*
- *Location of construction staging areas and construction worker parking; measures to encourage carpooling and/or public transportation use by construction workers.*
- *Construction schedule, including hours of construction activity.*
- *Access routes for construction trucks and anticipated volume of construction truck traffic.*
- *Construction methodology (including foundation construction), amount and method of excavation required, disposal of the excavate, description of foundation support, maintenance of groundwater levels, and measures to prevent any adverse effects or damage to adjacent structures and infrastructure.*
- *Measures to make construction fencing as attractive as possible to ensure the visual character of the streetscape.*

- *Identification of best management practices to control erosion and to prevent the discharge of sediments and contaminated groundwater or stormwater runoff into the City's drainage system during the construction period.*
- *Impact of project construction on rodent populations and description of the proposed rodent control program, including frequency of application and compliance with applicable City and State regulatory requirements.*

Response:

Refer to Section 4.7 in Chapter 4, *Environmental Protection,* for a discussion of construction impacts and the development of a CMP.

Comment SD19:

The IMP should describe Boston College's public benefits to the City of Boston and its residents.

Response:

Refer to Section 1.5 in Chapter 1, *Project Description,* for details regarding the University's public benefits to the City and its residents, as well as benefits specific to the Proposed Project.

Comment SD20:

Boston College should initiate a meeting with the Assessing Department to discuss the PILOT program.

Response:

Refer to Section 1.5.1 in Chapter 1, *Project Description,* for a description of how BC contributes to the PILOT program currently. The University will meet with the Assessing Department to discuss the City of Boston PILOT Program, per the recommendation in the Assessing Department comment letter dated December 23, 2016.

December 23, 2016

Thomas Keady
Vice President for Governmental & Community Affairs, Boston College
140 Commonwealth Avenue
Chestnut Hill, MA 02467

Re: **Scoping Determination for proposed IMP Amendment and Field House project**

Dear Mr. Keady:

Please find enclosed the Scoping Determination for the Institutional Master Plan Amendment and Field House Project. The Scoping Determination describes information required by the Boston Planning and Development Agency in response to the Institutional Master Plan Project Notification Form and Project Notification Form, which were submitted on November 18, 2016. Additional information may be required during the course of the review of the proposals.

If you have any questions regarding the Scoping Determination or the review process, please contact me at (617) 918-4438.

Sincerely,

Gerald Autler

CC: Brian Golden, BPDA
Sara Myerson, BPDA
Jonathan Greeley, BPDA
Warren O'Reilly, Mayor's Office of Neighborhood Services

BOSTON PLANNING AND DEVELOPMENT AGENCY

SCOPING DETERMINATION

FOR

BOSTON COLLEGE FOURTH INSTITUTIONAL MASTER PLAN AMENDMENT

AND

FIELD HOUSE PROJECT

On November 18, 2016, Boston College ("BC") submitted to the Boston Redevelopment Authority d/b/a Boston Planning and Development Agency ("BPDA") an Institutional Master Plan Notification Form ("IMPNF") pursuant to Article 80D of the Boston Zoning Code ("Code") for the purpose of amending the Boston College Institutional Master Plan. The IMPNF proposes a new project, the Field House ("Proposed Project"), for which a Project Notification Form ("PNF") was also submitted pursuant to Article 80B of the Code.

Copies of the IMPNF and PNF were made available to the public in both electric and hard copy format. A scoping session was held on December 9, 2016 with public agencies. The proposed amendment and Proposed Project were presented and discussed at community meetings on October 25 and November 29. The comment deadline was December 19, 2016. Comment letters are included in the Appendix

The BPDA will review the proposed IMP Amendment and Proposed Project pursuant to Sections 80B and 80D of the Code. As part of the BPDA's Article 80 Review, Boston College is required to prepare and submit to the BPDA a proposed IMP Amendment pursuant to Section 80D and a Draft Project Impact Report ("DPIR") pursuant to Section 80B. The document must set forth in sufficient detail the planning framework of the institution and the cumulative impacts of the Proposed Project to allow the BPDA to make a determination about the merits of the proposed IMP Amendment and Proposed Project. At other points during the public review of the IMP Amendment and Proposed Project, the BPDA and other City agencies may require additional information to assist in the review.

Boston College will be responsible for preparing and publishing in one or more newspapers of general circulation in the City of Boston a Public Notice of the submission of the IMP Amendment and DPIR to the BPDA as required by Section 80A-2. This Notice shall be published within five (5) days after the receipt of the filings.

SUBMISSION REQUIREMENTS

FOR

BOSTON COLLEGE FOURTH INSTITUTIONAL MASTER PLAN AMENDMENT

AND

FIELD HOUSE PROJECT

The Scope requests information required by the BPDA for its review of the proposed Boston College Fourth Institutional Master Plan Amendment ("IMP Amendment") in connection with the following:

1. Approval of the Boston College Fourth IMP Amendment pursuant to Article 80D and other applicable sections of the Boston Zoning Code.

2. Recommendation to the Zoning Board for approval of the Boston College Fourth IMP Amendment

The Scope also requests information required by the BPDA for its review of the Proposed Project in connection with the following:

1. Certification of Compliance and approval of the Proposed Project pursuant to Article 80, Section 80B of the Code.

2. Certification of Consistency with the DFCI Institutional Master Plan pursuant to Article 80, Section 80D-10 of the Code.

The Boston College Fourth IMP Amendment and Draft Project Impact Report may be combined into a single document of appropriate dimensions and in presentation materials which support the review and discussion of the IMP Amendment and Proposed Project at public meetings. Ten (10) hard copies of the full report should be submitted to the BPDA, in addition to an electronic version in .pdf format. The report should contain all submission materials reduced to size 8-1/2"x11", except where otherwise specified, and should be printed on both sides of the page. A copy of this Scoping Determination must be included in the report submitted for review. Hard copies of the document should be available for distribution to the Boston College Task Force, community groups, and other interested parties in support of the public review process.

There will be a 60-day public comment period on the IMP Amendment/DPIR, subsequent to which the BPDA Board will consider the proposed IMP Amendment and Proposed Project. The BPDA Board may elect to authorize the Director to issue an Adequacy Determination for the IMP Amendment and the BPDA will issue a Preliminary Adequacy Determination ("PAD") for the Proposed Project that indicates the additional steps necessary for Boston College to satisfy the requirements of the Scoping Determination and all applicable sections of Article 80 of the Code. If the BPDA finds that the DPIR adequately describes the Proposed Project's impacts and, if appropriate, proposes satisfactory measures to mitigate, limit or minimize such impacts, the PAD will announce such a determination and that the requirements for the filing and review of a Final Project Impact Report are waived pursuant to Section 80B-5.4(c)(iv) of the Code. Before reaching said findings, the BPDA shall hold a public hearing pursuant to Article 80 of the Code. Sections 80B-6 and 80D-10 require the Director of the BPDA to issue a Certification of Compliance and a Certification of Consistency, respectively, before the Commissioner of Inspectional Services can issue any building permit for the Proposed Project.

The IMP Amendment and DPIR ("Filing") should include the following elements.

1. PROPOSED INSTITUTIONAL PROJECT

Pursuant to Article 80D, the IMP Amendment should provide the following information for the Proposed Institutional Project:

- Site location and approximate building footprint.
- Uses (specifying the principal subuses of each land area, building, or structure, such as classroom, laboratory, parking facility).
- Square feet of gross floor area.
- Square feet of gross floor area eliminated from existing buildings through demolition of existing facilities.
- Floor area ratio.
- Building height in stories and feet, including mechanical penthouses.
- Parking areas or facilities to be provided in connection with Proposed Projects;
- Any applicable urban renewal plans, land disposition agreements, or the like.
- Current zoning of site.
- Total project cost estimates.
- Estimated development impact payments.
- Approximate timetable for development of proposed institutional project, with the estimated month and year of construction start and construction completion for each.

2. PROJECT TEAM

Pursuant to Article 80B, the DPIR should provide the following information:

- Development Team
    - Names of developer(s), including description of development entity(ies), attorney, project consultants and architects.
    - Business address, telephone number, fax number and e-mail, where available, for each.
    - Designated contact for each.

3. STUDENT HOUSING

The Filing should review Boston College's plans for providing additional undergraduate student housing, with particular focus on plans for student housing on Shea Field. The Filing should provide detail on the proposed reconfiguration of the student housing approved for that site in the Institutional Master Plan.

4. WATER INFRASTRUCTURE

Given the location of the Proposed Project above major regional water delivery infrastructure, the Filing should clearly outline the regulatory process followed to date with the Massachusetts Water Resources Authority ("MWRA") and the details and timeline of any future regulatory review by the MWRA.

5. URBAN DESIGN

BPDA Urban Design staff have provided feedback on the proposed design, in particular the relationship between the weight room and the rest of the Field House project. Boston College should continue to explore design options through ongoing urban design review with BPDA staff, and the Filing should describe proposed approaches to the design of this element.

Boston College will be expected to undertake design review on the Proposed Project in accordance with standard BPDA procedure. In addition, the Boston Civic Design Commission (BCDC) will review the Proposed Project. The DPIR should also respond to the following elements.

- **Signage and Lighting.** In preparing the DPIR, Boston College shall provide the proposed design of any signage and lighting anticipated for the exterior of the building.

Boston College will be required to perform design review with the BPDA Urban Design Department on any current and future plans for signage and lighting.

- **Views.** The DPIR shall present views of the Proposed Project from locations to be determined through consultation with the BPDA's Urban Design Department.
- **Relationship to Surrounding Context.** The DPIR should describe the design of the Proposed Project in relationship to the surrounding urban context, including adjacent buildings, streets, and plazas.
- **Design Submission Requirements.** The following urban design materials for the Proposed Project's schematic design must be submitted for the DPIR. Materials must be at the required scale and in a printed form that is reproducible, as well as in electronic file form:

    - A written description of program elements and space allocation for each element.
    - Black and white 8"x10" photographs of the site and neighborhood.
    - Plans and sections for the area surrounding the project at an appropriate scale (1"=100' or larger) showing relationships of the Proposed Project to the surrounding area and district regarding massing, building height, open space, major topographic features, pedestrian and vehicular circulation, and land use.
    - Sketches and diagrams of alternative proposals to clarify design issues and massing options.
    - Eye-level perspectives showing the proposal in the context of the surrounding area; views should display a particular emphasis, on important viewing areas such as key intersections, accessways, or public parks/attractions. Long-ranged (distanced) views of the Proposed Project must also be studied to assess the impact on the skyline or other view lines. At least one bird's-eye perspective should also be included. All perspectives should show (in separate comparative sketches) both the build and no-build conditions. The BPDA must approve the view locations before analysis is begun. View studies should be cognizant of light and shadow, massing and bulk.
    - Aerial views of the project in perspective or isometric form.
    - A site plan at 1 "= 16' or larger showing:

        - Relationships of proposed and existing adjacent buildings and open spaces.
        - Open spaces defined by buildings on adjacent parcels and across streets.
        - Location of pedestrian ways, driveways, parking, service areas, streets, and major landscape features.
        - Accessible pedestrian, vehicular, and service access and flow through the parcel and to adjacent areas.
        - Phasing possibilities clearly indicating the scheme for completing the improvements.
        - Construction limits.

- Site sections at 1"=16' or larger showing relationships to adjacent buildings and spaces.
- A massing model at 1"=40' showing all buildings in the area and a study model at 1"=16' showing facade design.
- Drawings at an appropriate scale (e.g., 1"=8') describing architectural massing, facade design, and proposed materials including:

    - Site plans before and after construction.
    - Elevations in the context of the surrounding area.
    - Sections showing organization of functions and spaces.
    - Building plans showing ground floor and typical upper floor.

- A site survey at 1"=40' showing nearby structures, utilities and bench marks.
- A written and/or graphic description of the building materials and its texture, color, and general fenestration patterns is required for the proposed development.
- Electronic files describing the site and Proposed Project at Representation Levels one and two ("Streetscape" and "Massing") as described in the document Boston "Smart Model": CAD & 3D Model Standard Guidelines.
- The schedule for submittal of Design Development materials.

6. ENVIRONMENTAL PROTECTION COMPONENT

The DPIR shall contain an Environmental Protection Component as outlined below.

- **Shadow.** The Proponent shall be required to conduct a shadow analysis for the hours of 9:00 a.m., 12:00 noon, 3:00 p.m. for the vernal equinox (March 20), summer solstice (June 21), autumnal equinox (September 23), and winter solstice (December 22) and 6:00 p.m. in the summer and the fall.

  The shadow impact analysis must show the incremental effects of the Proposed Project on existing and proposed public open spaces and pedestrian areas including, but not limited to, sidewalks and pedestrian walkways adjacent to and in the vicinity of the Proposed Project and parks, plazas and other open space areas. The analysis must clearly label all streets, vehicular paths, public open spaces, and pedestrian areas adjacent to and in the vicinity of the Proposed Project area.

  The DPIR should propose mitigation measures to minimize or avoid any adverse shadow impact.

- **Solid and Hazardous Wastes.** The presence of any contaminated soil or groundwater and any underground storage tanks at the project site shall be evaluated and remediation measures to ensure their safe removal and disposal shall be described.

Any assessment of site conditions pursuant to the requirements of M.G.L. Chapter 21E that has been or will be prepared for the site shall be included in the DPIR (reports may be included in an appendix but shall be summarized in detail, with appropriate tables and figures, within the main text). Materials in the building to be demolished should be characterized and measures to mitigate impacts during demolition should be identified.

The DPIR shall quantify and describe the generation, storage, and disposal of all solid wastes from the construction and operation of the Proposed Project. The DPIR shall identify the specific nature of any hazardous wastes that may be generated and their quantities and shall describe the management and disposal of these wastes. In addition, measures to promote the reduction of waste generation and recycling, particularly for paper, glass, plastics, metals, and other recyclable products, and compliance with the City's recycling program, shall be described in the DPIR.

- **Noise.** The DPIR should include a narrative description of the positive and negative noise impacts of the Proposed Project and associated changes in land uses in the area of the Proposed Project.

- **Nighttime Lighting.** The DPIR should explain, in text or graphics as appropriate:

  - The type of exterior lighting to be used on each façade or other portion of the building and the elements of the design that mitigate nighttime lighting impacts of the building on surrounding areas.
  - The DPIR should specify the type of interior lighting (i.e. fluorescent vs. incandescent, recessed or not) to be used in each portion of the building and, in the case of the common areas and non-residential portions of the program, the hours that the lighting will be on. The DPIR should also discuss the measures being taken to minimize the impact of interior lighting on the surrounding areas.

- **Construction Impacts.** A construction impact analysis shall include a description and evaluation of the following elements. These may be incorporated into the Construction Management Plan in lieu of the DPIR if desired.

  - Measures to protect the public safety.
  - Potential dust and pollutant emissions and mitigation measures to control these emissions.
  - Potential noise generation and mitigation measures to minimize increase in noise levels.
  - Location of construction staging areas and construction worker parking; measures to encourage carpooling and/or public transportation use by construction workers.
  - Construction schedule, including hours of construction activity.
  - Access routes for construction trucks and anticipated volume of construction truck traffic.

- Construction methodology (including foundation construction), amount and method of excavation required, disposal of the excavate, description of foundation support, maintenance of groundwater levels, and measures to prevent any adverse effects or damage to adjacent structures and infrastructure.
- Measures to make construction fencing as attractive as possible to ensure the visual character of the streetscape.
- Identification of best management practices to control erosion and to prevent the discharge of sediments and contaminated groundwater or stormwater runoff into the City's drainage system during the construction period.
- Impact of project construction on rodent populations and description of the proposed rodent control program, including frequency of application and compliance with applicable City and State regulatory requirements.

7. OTHER

- **Public Notice.** Boston College will be responsible for preparing and publishing in one or more newspapers of general circulation in the City of Boston a Public Notice of the submission of the IMP Amendment to the BPDA as required by Section 80A-2 of the Code. This Notice shall be published within five (5) days after the receipt of the IMP Amendment by the BPDA. In accordance with Article 80, public comments on the IMP Amendment shall be transmitted to the BPDA within sixty (60) days of the publication of this Notice. A sample form of the Public Notice is attached as Appendix 3. Following publication of the Public Notice, Boston College shall submit to the BPDA a copy of the published Notice together with the date of publication.
- **Public Benefits.** The IMP should describe Boston College's public benefits to the City of Boston and its residents.
- **PILOT Payments.** Boston College should initiate a meeting with the Assessing Department to discuss the PILOT program.

Letter 1: Boston Water and Sewer Commission

Comment 1.1:

Prior to the demolition of the buildings, if there are any water, sewer and storm drain connections to the buildings, they must be cut and capped at the main pipe in accordance with the Commission's requirements. The Developers, Boston College must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

Response:

No buildings will be demolished as part of the Propose Project. Some storm drain connections from the fields will be demolished. These drains will be cut and capped in accordance with the Commission's requirements. The University will apply for the Demolition Permit from the Inspectional Services Department.

Comment 1.2:

All new or relocated water mains, sewers and storm drains must be designed and constructed at Boston College's. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections, as well as back flow prevention devices in the facilities that will require inspection.

Response:

All new and relocated water mains, sewer and storm drains will be designed and constructed in conformance with the Commission's design standards, Water Distribution and System and Sewer Use Regulations and Requirements for Site Plans. The site plans will include locations of new, relocated and existing water mains, sewer and drains which serve the site, proposed service connections and backflow prevention devices in the facilities that will require inspections.

Comment 1.3:

The Commission… will require proponent to develop a consistent inflow reduction plan if the proposed project exceeds the 15,000 gpd threshold. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

Response:

The Proposed Project will not exceed the 15,000 gpd threshold. Therefore, no inflow reduction plan is required.

Comment 1.4:

The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/,

Response:

The University will develop a maintenance plan for the proposed green infrastructure, which will be included in the Long Term Operations and Maintenance Plan of the Stormwater Report.

Comment 1.5:

If groundwater contaminated with petroleum products, for example, is encountered, Boston College will be required to apply for a RGP [Remediation General Permit] to cover these discharges.

Response:

If groundwater contaminated with petroleum products are encountered Boston College will apply for a RGP to cover these discharges.

Comment 1.6:

With the site plan, Boston College must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Response:

The University will include a detailed capacity analysis for the water, sewer, and storm drain systems serving the project site, as well as an analysis of impacts the proposed project will have on the Commission's water, sewer, and storm drainage systems. The storm drainage analysis will be included in the Stormwater Report.

Comment 1.7:

Boston College should also provide the methodology used to estimate water demand for the proposed project.

Response:

Plumbing fixtures will be based on ultra-low flow technology consisting of dual-flush water closets (1.6/1.1 GPF), 0.125 GPF urinals and 0.5 GPM for 9-second cycle lavatories. There will be no single pass water cooled mechanical equipment.

Comment 1.8:

…Boston College should consider outdoor landscaping which requires minimal use of water to maintain. If Boston College plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

Response:

The University will provide some outdoor landscaping which requires minimal use of water to maintain. The University will install in-ground sprinklers systems to maintain the lawn needed for the high performance use of the fields. Timers, soil moisture indicators and rainfall sensors will be installed in the sprinkler systems. The use of sensor-operated faucets and toilets in common areas of the building will be considered.

Comment 1.9:

Boston College is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. Boston College should contact the Commission's Meter Department for information on and obtain a Hydrant Permit.

Response:

The University will obtain a Hydrant Permit for use of any hydrants during the construction phase. Boston College will coordinate with the Commission's Meter Department.

Comment 1.10:

For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, Boston College should contact the Commission's Meter Department.

Response:

The University will coordinate with the Commission's Meter Department regarding the installation of the MTUs.

Comment 1.11:

Boston College will be required to submit with the site plan a phosphorus reduction plan for the proposed development. As stated in the PNF, Boston College is continuing its effort to improve existing stormwater infrastructure on the campus. As stated in the PNF, Boston College is proposing to store up to 2.8 million gallons of stormwater in

underground concrete storage tanks. The tanks will be designed to handling flooding from a 25-yearstorm event.

The site plan should indicate how storm drainage from roof drains will be handled. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

Response:

The University will submit with the site plan a Stormwater Report, which will identify the phosphorous reduction plan. The site plan will indicate how storm drainage from roof drains will be handled. No stormwater will be discharged to a sanitary sewer system.

Comment 1.12:

In conjunction with the Site Plan and the General Service Application the Boston College will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

- *Identify best management practices for controlling erosion and for preventing the discharge of sediment and contaminated groundwater or storm water runoff to the Commission's drainage system when the construction is underway.*
- *Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.*
- *Provide a stormwater management plan in compliance with the DEP standards mentioned above. The plan should include a description of the measures to control pollutants after construction is completed.*

Response:

The University will submit a Stormwater Pollution Prevention Plan. The plan will be part of the Stormwater Report's Long Term Operation and Maintenance Plan and Construction Period Pollution Prevention Plan/Erosion and Sedimentation Control Plan. The plan will be incompliance with the DEP standards mentioned above.

Comment 1.13:

Boston College is advised that the discharge of any dewatering drainage requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, the proponent will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

Response:

The University will acquire a Drainage Discharge Permit from the Commission for any dewatering drainage, if necessary. Based on the consistency of the soil, as described in the geotechnical report, only local dewatering with a sump pump will be necessary.

If the drainage is contaminated with petroleum products, the college will obtain a Remediation General Permit from the EPA for discharge.

Comment 1.14:

Sanitary sewage must be kept separate from storm water and separate sanitary sewer and storm drain service connections must be provided. The Commission requires separate stormwater and sanitary sewer service connections.

Response:

Sanitary sewage will be kept separate from storm drain. Separate sanitary sewer and storm drain service connection will be provided. The existing garage, which has an internal combined sewer system will be separated and the separated sewer and storm drain will be treated according to the City and State regulations. Separate stormwater and sanitary sewer service connections will be made from the new building.

Comment 1.15:

The Commission requests that Boston College install a permanent casting stating "Don't Dump: Drains to Charles River" next to any catch basin created or modified as part of this project. Boston College should contact the Commission's Operations Division for information regarding the purchase of the castings.

Response:

The University will install a permanent casting stating “Don’t Dump: Drains to Charles River” next any catch basin as part of the Proposed Project.

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Boston Water and
Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

December 15, 2015

Mr. Gerald Autler, AICP
Senior Project Manager/Planner
Boston Planning and Development Agency
Boston City Hall
One City Hall Square
Boston, MA 02201

Re: Boston College Field House
Project Notification Form

Dear Mr. Autler:

The Boston Water and Sewer Commission (Commission) has reviewed the Project Notification Form (PNF) for Boston College's Field House project. This letter provides the Commission's comments on the PNF.

The proposed project is located on the Boston College campus on an 8.1 acre site at the intersection of Beacon Street and Chestnut Hill Driveway. To the west of the project site is the Beacon Street Parking Garage and Alumni Stadium. The Chestnut Hill Reservoir is located to the east.

The project consists of building an approximately 115,700 gross square foot Field House that will house athletic functions to include indoor practice functions for the football program, other varsity sports and intramural sports and recreational activities. The facility will include a weight room, lobby, offices, a first aid room, hydration space, restrooms and a large storage room. The facility will be located in an area that is currently used for varsity baseball and softball, football practice, club and intramural sports, and recreational activities. The main Field House will consist of a curved metal roof form approximately 75 feet above grade at its highest point. The weight room component will have a flat roof with a total height of approximately 25 feet.

For water service, the site is served by a private 6-inch high service main located between the proposed site and Alumni Stadium. There is also a private 10-inch high service main in a private road located to the north of the proposed facility.

For sewer and storm drainage service, the site is served by a private 36x40-inch storm drain that connects to a 40x44-inch Commission owned drain on Beacon Street. The site is also served by a 12-inch sanitary sewer on Beacon Street and a private 10-inch sanitary sewer just north of the proposed facility.

The PNF does not provide an estimate of how much water will be required or how much wastewater will be generated from the proposed facility.

The Commission has the following comments regarding the PNF.

General

1. There are several small structures on the proposed site. Prior to demolition of the buildings, if there are any water, sewer and storm drain connections to the buildings, they must be cut and capped at the main pipe in accordance with the Commission's requirements. The Developers, Boston College must then complete a Termination Verification Approval Form for a Demolition Permit, available from the Commission and submit the completed form to the City of Boston's Inspectional Services Department before a demolition permit will be issued.

2. All new or relocated water mains, sewers and storm drains must be designed and constructed at Boston College's. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use Regulations, and Requirements for Site Plans. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections, as well as back flow prevention devices in the facilities that will require inspection.

3. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority and its member communities, are implementing a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/ inflow (I/I)) in the system. In April of 2014, the Massachusetts DEP promulgated new regulations regarding wastewater. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these new regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of infiltration and inflow (I/I) for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added. The Commission supports the policy, and will require proponent to develop a consistent inflow reduction plan if the proposed project exceeds the 15,000 gpd threshold. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

4. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. The PNF does include a number of landscape improvements on each side of the proposed structure that includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

5. Boston College should be aware that the US Environmental Protection Agency issued a draft Remediation General Permit (RGP) for Groundwater Remediation, Contaminated Construction Dewatering, and Miscellaneous Surface Water Discharges. If groundwater contaminated with petroleum products, for example, is encountered, Boston College will be required to apply for a RGP to cover these discharges.

6. It is Boston College's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, Boston College must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Water

1. Boston College must provide separate estimates of peak and continuous maximum water demand for the project with the site plan. Estimates should be based on full-site build-out of the proposed project. Boston College should also provide the methodology used to estimate water demand for the proposed project.

2. As stated in the PNF, Boston College will explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. In particular, Boston College should consider outdoor landscaping which requires minimal use of water to maintain. If Boston College plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

3. Boston College is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. Boston College should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

4. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit (MTU) and connect the device to the meter. For information regarding the installation of MTUs, Boston Colleges should contact the Commission's Meter Department.

Sewage / Drainage

1. A Total Maximum Daily Load (TMDL) for Nutrients has been established for the Lower Charles River Watershed by the Massachusetts Department of Environmental Protection (MassDEP). In order to achieve the reductions in Phosphorus loading required by the TMDL, phosphorus concentrations in the lower Charles River from Boston must be reduced by 64%. To accomplish the necessary reductions in phosphorus, the Commission is requiring developers in the lower Charles River watershed to infiltrate stormwater discharging from impervious areas in compliance with MassDEP. Boston College will be required to submit with the site plan a phosphorus reduction plan for the proposed development. As stated in the PNF, Boston College is continuing its effort to improve existing stormwater infrastructure on the campus. As stated in the PNF, Boston College is proposing to store up to 2.8 million gallons of stormwater in underground concrete storage tanks. The tanks will be designed to handling flooding from a 25-year storm event.

   The site plan should indicate how storm drainage from roof drains will be handled. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

   In conjunction with the Site Plan and the General Service Application the Boston College will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

   - Identify best management practices for controlling erosion and for preventing the discharge of sediment and contaminated groundwater or stormwater runoff to the Commission's drainage system when the construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.

   - Provide a stormwater management plan in compliance with the DEP standards mentioned above. The plan should include a description of the measures to control pollutants after construction is completed.

2. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. Boston College is advised that the discharge of any dewatering drainage requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, the proponent will be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

3. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires separate stormwater and sanitary sewer service connections.

4. The Commission requests that Boston College install a permanent casting stating "Don't Dump: Drains to Charles River" next to any catch basin created or modified as part of this project. Boston College should contact the Commission's Operations Division for information regarding the purchase of the castings.

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/cj

c: T Keady, Boston College
L. DeVoe, VHB
K. Pedersen, BRA
M. Zlody, BED
P. Larocque, BWSC

Letter 2: Benjamin Elliott

Comment 2.1:

This is a tremendous opportunity for the city. Already the leader in many other areas, Boston can emerge as the center of college sports in New England through investment in the Boston College football team.

Response:

Comment noted.

Comment 2.2:

In order to establish itself as a peer program with teams in the ACC and other Power 5 conferences, Boston College needs an indoor practice facility. With such a facility, the University will be in a position to attract higher caliber players and compete against premier teams.

Response:

Comment noted.

Comment 2.3:

This project will allow the university to showcase its academic virtues to a wider audience.

Response:

Comment noted.

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DeVoe, Lauren

From: Gerald Autler <gerald.autler@boston.gov>
Sent: Tuesday, December 20, 2016 12:36 PM
To: DeVoe, Lauren; Jeanne Levesque
Subject: Field House Comment #3 [Filed 20 Dec 2016 13:46]

Gerald Autler, AICP
Senior Project Manager/Planner
617.918.4438 (t) | 617.248.1937 (f)

Boston Planning & Development Agency (BPDA)
One City Hall Square | Boston, MA 02201
bostonplans.org

---------- Forwarded message ----------
From: <no-reply@boston.gov>
Date: Tue, Nov 29, 2016 at 5:52 PM
Subject: Project Comment Submission: Boston College Field House
To: BRAWebContent@cityofboston.gov, gerald.autler@boston.gov

CommentsSubmissionFormID: 1385

Form inserted: 11/29/2016 5:51:50 PM

Form updated: 11/29/2016 5:51:50 PM

Document Name: Boston College Field House

Document Name Path: /Development/Development Projects/Boston College Field House

Origin Page Url: /projects/development-projects/boston-college-field-house

First Name: Benjamin

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City: Boston

State: MA

Phone: (555) 555-5555

Zip: 02118

Comments: This project represents a tremendous opportunity for the city of Boston. College football receives equal attention nationally as does the NFL and in certain parts of the country, the attention paid to college football exceeds many professional sports. The Northeast is a marked exception to the national fervor for college football. The nearest Power 5 football teams are Syracuse University and Penn State. Boston College is the only Power 5 football team in New England. This is a tremendous opportunity for the city. Already the leader in many other areas, Boston can emerge as the center of college sports in New England through investment in the Boston College football team. At present there is a vacuum in New England as no single team has enjoyed sustained success on a national level. Boston College, as the only New England school in a Power 5 conference, is the only team that can fill that void. Certainly the area has many talented college basketball teams, but college football drives revenue, conference alignments and the college sports landscape more than any other sport. In order to establish itself as a peer program with teams in the ACC and other Power 5 conferences, Boston College needs an indoor practice facility. With such a facility, the University will be in a position to attract higher caliber players and compete against premier teams. These potential players will visit other schools that have already invested in premier facilities for their football programs. This project is about keeping pace with the schools that compete in this space. Not only would a competitive football team showcase Boston around the country in the same manner that the city's other sports teams do, but a competitive team makes attending a road game in Boston more enticing to fans of opposing teams. Such opposing fans infuse city with added tourism revenue. Boston College has done something unique in college sports: it has attained great success while staying true to its core academic principles. This project will allow the university to showcase its academic virtues a to a wider audience.

PMContact: gerald.autler@boston.gov

Letter 3: Bruce Kline

Comment 3.1:

The project as it is currently proposed will be constructed over a major water delivery system from the adjacent reservoir. This has caused concern from the community even though we have been assured that there will be no problem from the construction. Further study of the impact on the water mains would be desirable.

Response:

The University has met with technical staff of the MWRA to brief them on the Proposed Project, as well as seek technical and ongoing guidance on construction near the water infrastructure. Please refer to Section 2.1.6 in Chapter 2, *Regulatory Context and General Information,* for further details.

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DeVoe, Lauren

From: Gerald Autler <gerald.autler@boston.gov>
Sent: Tuesday, December 20, 2016 12:36 PM
To: Jeanne Levesque; DeVoe, Lauren
Subject: Field House Comment #2 [Filed 20 Dec 2016 13:46]

Gerald Autler, AICP
Senior Project Manager/Planner
617.918.4438 (t) | 617.248.1937 (f)

Boston Planning & Development Agency (BPDA)
One City Hall Square | Boston, MA 02201
bostonplans.org

---------- Forwarded message ----------
From: <no-reply@boston.gov>
Date: Mon, Dec 12, 2016 at 4:28 PM
Subject: Project Comment Submission: Boston College Field House
To: BRAWebContent@cityofboston.gov, gerald.autler@boston.gov

CommentsSubmissionFormID: 1407

Form inserted: 12/12/2016 4:27:17 PM

Form updated: 12/12/2016 4:27:17 PM

Document Name: Boston College Field House

Document Name Path: /Development/Development Projects/Boston College Field House

Origin Page Url: /projects/development-projects/boston-college-field-house?utm_source=Neighborhoods&utm_campaign=99036a6d25-Boston_College_Field+House_12_19_2016&utm_medium=email&utm_term=0_bccda74844-99036a6d25-128644265

First Name: Bruce

Last Name: Kline

Organization: RNA , B.C. Task Force

Email: bklineloma@gmail.com

Street Address: 12 Radnor Rd.

Address Line 2:

City: Brighton

State: MA

Phone: (617) 787-3257

Zip: 02135

Comments: The project as it is currently proposed will be constructed over a major water delivery system from the adjacent reservoir. This has caused concern from the community even though we have been assured that there will be no problem from the construction. Further study of the impact on the water mains would be desirable.

PMContact: gerald.autler@boston.gov

Letter 4: City of Boston Assessing Department

Comment 4.1:

This project does have Payment-in-Lieu-of-Tax ("PILOT") implications as the expansion of BC's campus is expected to increase the College's consumption of City services, increasing the tax burden on Boston taxpayers to fund City services for all property owners. The most troubling aspect of the City's current PILOT partnership with BC is the College's acknowledgement that they do not intend to participate at the level that is requested in the City's PILOT Program, a sentiment that was overtly expressed at this session.

Response:

Section 1.5.1 in Chapter 1, *Project Description,* provides an overview of Boston College's contributions to the City of Boston and local community. In addition to the many programs and services offered to the community, Boston College has longstanding agreements concerning payments for municipal services with both Boston and Newton. The University entered in to such an agreement with the City of Boston in 1994 and has been making annual payments under the agreement since that time.

Comment 4.2:

The City would like to meet with Boston College to discuss their PILOT commitment with a goal of improving the PILOT partnership with this institution.

Response:

Refer to Section 1.5.1 in Chapter 1, *Project Description,* for a description of how BC contributes to the PILOT program currently. The University will meet with the Assessing Department to discuss the City of Boston PILOT Program, per the recommendation in the Assessing Department comment letter dated December 23, 2016.

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Assessing Department

Martin J. Walsh, Mayor

TO: Gerald Autler, Senior Project Manager
FROM: Matthew K. Englander, Director of Tax Policy & Communications
DATE: December 23, 2016
RE: Boston College Scoping Session Comments – Master Plan Amendment

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On December 2, 2016, I attended the scoping session at the Boston Planning & Development Agency ("BPDA") to review Boston College's ("BC") amendment to their 2009 Master Plan. The session focused on the most significant project in the amendment: a new athletic field house to be constructed adjacent to Alumni Stadium and the Chestnut Hill Reservoir.

This project does have Payment-in-Lieu-of-Tax ("PILOT") implications as the expansion of BC's campus is expected to increase the College's consumption of City services, increasing the tax burden on Boston taxpayers to fund City services for all property owners. The most troubling aspect of the City's current PILOT partnership with BC is the College's acknowledgement that they do not intend to participate at the level that is requested in the City's PILOT Program, a sentiment that was overtly expressed at this session.

Given the PILOT sentiment expressed at the scoping session – unwillingness to contribute at the City's requested level and indignation over the City's attempts to engage on this topic – coupled with the College's PILOT contribution history that is not in line with their tax-exempt property ownership, the City has reasons to be concerned about this project and future BC expansion In Boston.

Boston College PILOT Background:

BC was very clear in explaining that the College does not intend to contribute an annual PILOT in the amount calculated according to the City's PILOT guidelines, which is 25% of what an institution might expect to pay in real estate taxes if their tax-exempt property were taxable. Instead, BC contributes an annual PILOT consistent with the PILOT agreement the school entered into with the City in 1994, when the College's campus and tax-exempt land holdings were quite different than they were over 20 years ago, as well as community benefits. BC's Fiscal Year 2016 PILOT ($331,479) fell short of the City's request by $1.4 million.

PILOTs are an important source of revenue for a City that is heavily reliant on property taxes to maintain essential City service levels (e.g. police protection, fire protection, snow removal). Many of the City's major nonprofit institutions contribute a PILOT at the City's requested amount. The value of BC's tax-exempt

property places them among the highest of all major educational institutions in Boston behind only Boston University, Harvard University, and Northeastern, and yet BC's PILOT consistently falls well short of these institutions' contributions to the PILOT Program.

Recommendation:

The City would like to meet with Boston College to discuss their PILOT commitment with a goal of improving the PILOT partnership with this institution. BC needs to be a leader in this program, and to do so the partnership will need to be clarified and improved. We look forward to working with BC on improving this important partnership with the City.

APPENDIX A: Community Benefits

2009 IMP Chapter 12: Economic Development

2009 IMP Chapter 13: Community Benefits and Service Programs

Boston College Community Benefits Report 2015 & 2016

Chapter 12

Economic Development

Introduction

As a research university with 14,500 students, 3,500 faculty and staff, and an annual budget of $710 million, Boston College's estimated regional economic impact is more than $1.3 billion annually. The University's students, employees and 87,000 annual visitors are primary purchasers who generate significant sales revenue to local businesses. In this Institutional Master Plan, Boston College proposes to spend $1 billion in construction and renovation projects over the next decade, creating both permanent and temporary jobs, as well as additional revenue and benefits for the cities of Boston and Newton and their residents.

This chapter provides an overview of Boston College's impact on the Boston economy and the numerous financial benefits it provides. The University represents a significant component of the higher education employment cluster in the region. As a result, it greatly enhances the expanding creative economy of Boston and the region; generates new employment opportunities for construction trades and for individuals through its Boston resident and affirmative action policies; contributes directly to City of Boston finances through payroll taxes, voluntary payment for municipal services, and development impact project payments; and offers small business development opportunities to the local community.

Boston College Economic Impact

Boston College contributes to state, local and national economies in a range of different ways, including the creation of jobs related to University construction projects, ongoing research or summer programs, training and education that result in enhanced skills for its workforce, and through a broad array of educational, social and research-related services to local, national and international communities.

In early 2008, Boston College completed an economic impact report that highlights the University's impact on the local and national economy. The report focused on ways in which funds derived from outside sources – such as tuition from out-of-state and international students or federal support for research – is spent across the economy, generating jobs and income for local residents.

National Impact of Boston College

In addition to the ways in which Boston College contributes to the local and state economies, the economic impact report conducted by the University also focused on the national economy to assess the institution's total impact. The following summarizes Boston College's economic impact by expenditure type:

Budget (excluding payroll)

Non-payroll spending by Boston College on goods and services, utilities and construction generates $804 million in direct, indirect and induced impacts nationally. In other words, for every one dollar the University spends directly, another $2.00 is generated in indirect and induced impacts. In employment, for every one job created by Boston College's direct spending, another is created through indirect and induced spending impacts.

Faculty and Staff Payroll

In 2006-07, Boston College's payroll was nearly $237 million in salaries alone. Fringe benefits represented another $74 million in expenditures. Combining staff and faculty payroll expenditures, Boston College generates approximately $492 million in direct, indirect and induced outputs and nearly 3,500 jobs nationally. This means that for every dollar of spending by a Boston College staff or faculty member, an additional $1.40 is generated through indirect and induced spending.

Spending by Students

Approximately 14,500 students attend Boston College. Spending by out-of-region students, especially those who live on campus, can be tied directly to their attendance at the University. The combined annual impacts of graduate, undergraduate, on-campus, off-campus and commuter student spending in local businesses over 11 months is estimated to be $133 million.

Visitors

Boston College events, such as Commencement, arts and cultural offerings and activities for prospective students and alumni, attract an estimated 87,714 visitors to the area on a regular basis. Each visitor who comes to the city spends money in local establishments, which contributes to the generation of jobs and labor income.

Spending by overnight visitors to Boston College created nearly $16 million in impact for the national economy. For every $1.00 spent by overnight visitors, an additional $1.73 is generated through indirect and induced spending.

Total Impacts

Table 12-1 below presents the aggregate impact of all Boston College-affiliated spending—budget, payroll and visitors—on the national economy, totaling more than $1.3 billion.

Table 12-1 Boston College Total Economic Impact (2006)

Dollars generated in national economy	± $1,332,062,686
Employment (number of jobs)	± 11,771
Labor income	± $477,457,963

Source: The Economic Impact of Boston College, The Hanover Research Council, 2008

Each dollar spent by or because of Boston College, whether on construction, utilities and purchasing, payroll, or through visitor expenditures, adds another $1.73 to the economy. In all, these dollars generate approximately 12,000 jobs in the national economy, as the establishments patronized by Boston College, its employees, visitors and suppliers are able to hire and pay more workers. Of the total dollar spending amount, nearly $477 million goes directly to self-employed and wage-employed workers as "labor income."

Economic Impact of Purchasing Expenditures

The economic impact report also calculated the discrete impact of Boston College's purchasing expenditures on the national economy. As Table 12-2 shows, purchases of goods and services—excluding utilities and construction—generated over $643 million in total direct, indirect and induced outputs. With a multiplier of 2.97, this means that a direct expenditure of $1 on goods and services added $1.97 to the economy through indirect and induced spending. Combining total direct, indirect and induced impacts, purchasing alone led to the creation of approximately 6,400 new jobs.

Table 12-2 2006 Purchasing

	Output	Employment	Labor Income
Total Direct	$216,666,672	3,312.6	$125,772,808
Total Indirect	$143,121,977	1,017.1	$43,266,663
Total Induced	$283,491,707	2,074.2	$87,439,996
Total	**$643,280,356**	**6,403.9**	**$256,479,467**
Implied Multiplier	2.97	1.93	

Source: The Economic Impact of Boston College, The Hanover Research Council, 2008

Local Economic Impacts of Boston College

Boston College provides significant economic benefits to the City of Boston, City of Newton and the region. This section provides a summary of the economic impact of the University within Middlesex and Suffolk counties.

Purchasing

The economic impact report calculated the impact of purchasing expenditures in the local area, defined as Middlesex and Suffolk Counties. As Table 12-3 shows, purchases of goods and services alone, excluding utilities and construction, generated more than $40 million in total direct, indirect and induced outputs. With a multiplier of 1.64, for every $1.00 spent directly by Boston College on goods and services, an additional $0.64 was generated through indirect and induced spending. Combining total direct, indirect and induced impacts, purchasing in the local area led to the creation of roughly 450 new jobs.

Table 12-3 2006 Local Purchasing

	Output	Employment	Labor Income
Total Direct	$24,700,000	342.8	$15,172,898
Total Indirect	$7,203,459	45.4	$2,396,241
Total Induced	$8,555,447	61.3	$3,066,969
Total	**$40,458,906**	**449.5**	**$20,636,108**
Implied Multiplier	1.64	1.3	

Source: The Economic Impact of Boston College, The Hanover Research Council, 2008

IMP Proposed Future Projects

The economic impact report conducted by the University calculated the future impact of the 10-year Boston College Institutional Master Plan on the local area, defined as Middlesex and Suffolk Counties. As shown in Table 12-4, the total impact of the construction is estimated to be $1.57 billion, producing an estimated 12,243 jobs and $737 million in labor income.

Table 12-4 IMP Proposed Future Projects Expenditure, Middlesex-Suffolk County Area Impact

	Output	Employment	Labor Income
Total Direct	$990,316,672	8,103.5	$507,534,752
Total Indirect	$253,141,655	1,774.7	$111,137,079
Total Induced	$330,032,788	2,364.4	$118,313,797
Total	**$1,573,491,115**	**12,242.6**	**$736,985,628**
Implied Multiplier	1.59	1.51	

Source: The Economic Impact of Boston College, The Hanover Research Council, 2008

Creative Economy

Boston College recognizes the economic, social and cultural impact of the creative economy on the overall health of the campus, city and region. The University continues to make strides toward incorporating creative industries into its economic development strategy.

The Boston Redevelopment Authority (BRA) defines the Creative Economy "as those activities which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation." According to industry sources, activities within the creative economy include those related to the following areas:

- Applied arts
- Advertising
- Performing arts: music, theater and dance
- Publishing and printing
- Broadcasting
- Sound recording and music publishing
- Film, video and photography
- Heritage

In May 2005, Mayor Menino launched the CREATE BOSTON program at the BRA to help businesses rooted in creativity achieve their full potential for success.

Boston College is uniquely positioned to enhance the creative economy through the investments in campus resources and new campus projects proposed within the Institutional Master Plan.

As an institution of higher learning, Boston College provides numerous educational opportunities in various creative sector industries. The education of thousands of young people with critical thinking and analytical skills is a vital service in the support of Boston's creative economy. But the University must be understood in a broader context as a driving and shaper of the creative economy's agenda. The University is a community not only of teachers, researchers and scientists, but of poets, novelists, essayists, historians, editors and playwrights, as well as musicians, actors, singers, photographers and videographers. Through their study and expression, these craftspeople bring together the multiple media forms so crucial not just to the creative economy, but to the hundreds of businesses that rely on new knowledge. Boston College fosters this community through investment and support, as well as through programs that bring creative professionals into contact with its students, faculty and the general public.

Writers Among Us

Boston College faculty and staff author and edit dozens of books each year, from poetry and prose to non-fiction works of history and management science. These authors, the lifeblood

of a free society as well as the region's creative economy, lend their scholarship to Boston and the world. The University celebrates its authors through Writers Among Us, which recognizes their scholarship and creativity. Special events offer the University community, the public, and the media opportunities to meet and speak with novelists, poets, historians and essayists among professors, staff and alumni of Boston College. Recently, Writers Among Us has recognized works including:

- *The New Feminized Majority: How Democrats Can Change America with Women's Values* (Paradigm, 2008) by Katherine Adam '07 and Prof. Charles Derber
- *The Faithful: A History of Catholics in America* (Belknap, 2008) by Prof. James O'Toole
- *An Anthology of Jewish-Russian Literature: Two Centuries of Dual Identity in Prose and Poetry* (M.E. Sharpe, 2007), edited by Prof. Maxim D. Shrayer
- *Spelling Love with an X: A Mother, a Son, and the Gene That Binds Them* (Beacon Press, 2007), Associate Dean Clare Dunsford's memoir about raising her son afflicted with fragile X syndrome
- *The Athens of America: Boston, 1825–1845* (University of Massachusetts Press, 2006), the 16th book by University Historian and Prof. Thomas H. O'Connor
- *Take Heart: Catholic Writers on Hope in Our Time* (Crossroads Publishing, 2007), edited by Ben Birnbaum, editor of *Boston College Magazine*
- *Deaths and Transfigurations: New Poems* (Paraclete Press, 2005), a collaboration between poet and Prof. Paul Mariani and National Book Award-winning illustrator Barry Moser
- *Return to Greatness: How America Lost Its Sense of Purpose and What It Needs to Do to Recover It* (Princeton University Press, 2005), by Prof. Alan Wolfe, director of the Boisi Center for Religion and American Public Life
- *The Tree-Sitter* (W. W. Norton, 2006) the latest novel by BC English Prof. Suzanne Matson.
- *Coming Up Short: The Challenge of 401(k) Plans* (Brookings Institution Press, 2004), co-authored by Prof. Alicia Munnell, the director of the Center for Retirement Research

Linden Lane Press

This year, Boston College announced the creation of Linden Lane Press, which will produce a range of books on the history of Boston College as the University approaches its 150th anniversary in 2013. Focusing on works of substantial interest to the Boston College community, the first three volumes will include a brief history of Boston College written by University Historian Thomas H. O'Connor, and a book called *Founding Fathers,* which profiles the first six BC presidents.

Master Class: Alumni in Residence

Master Class: Alumni in Residence is a homecoming for alumni authors, filmmakers and actors, who return to campus to share their insights with the campus community and the public. A sampling of returning alumni includes:

- Barbara Delinsky, '69, best-selling author, most recently of *The Secret Between Us* (Doubleday, 2008).
- Robert Cording, PhD '77, twice a fellow in poetry from the National Endowment for the Arts and the author of five books, including last year's collection *Common Life* (Cavan Kerry Press, 2006).
- Todd DePastino, '88, author of the biography of a World War II-era cartoonist *Bill Mauldin: A Life Up Front* (WW Norton & Co., 2008).
- Craig Finn, '93, songwriter and lead singer of the band The Hold Steady.

Boston College Arts Council

Artistic and cultural pursuits are fundamental to a dynamic university environment.

In keeping with its Jesuit educational tradition, which has always included a high interest in and regard for the arts, Boston College celebrates a rich tradition of the arts on campus, with diverse cultural opportunities — including concerts, exhibitions, lectures and theater performances — to enrich both mind and spirit.

The goals of the University's Arts Council are to make the experience of art available and meaningful to students, support and encourage further development of the arts, integrate them more fully into the life of the BC community, and showcase campus talent and events to a wide external audience.

Composed of Boston College faculty and administrators, the Arts Council represents all of the academic departments in the arts as well as student organizations, the BC Alumni Association, and the Dean of the College of Arts and Sciences. The Council meets each month to discuss the "state of the arts," current Arts Council projects and issues facing students and faculty at Boston College. These meetings foster collaboration among the arts departments and have inspired many new projects.

Major Cultural Facilities

McMullen Museum of Art

The McMullen Museum of Art at Boston College organizes and presents innovative, multidisciplinary exhibitions that receive national and international recognition, attracting

audiences from the Boston area and beyond. Stephen Kinzer of the *New York Times* has written that the McMullen is in the vanguard of museums creating exhibitions that "reach far beyond traditional art history," providing political, historical and cultural context for works on view. In the coming years, the McMullen Museum plans to enhance its tradition of playing a major role in the cultural and intellectual life of the University, the visiting public, as well as the international community of scholars and art enthusiasts.

The McMullen Museum's core mission is to cultivate learning, celebrate artistic excellence, explore the visual traditions of diverse cultures and inspire faculty and student research based on the visual arts. The McMullen offers exhibition-related programs, including musical and theatrical performances, films, gallery talks, symposia, lectures, readings, and receptions that draw students, faculty, alumni and friends together for stimulating dialogue. Students and faculty at the University have access to the McMullen's extensive permanent collection, which dates back to the nineteenth century and continues to grow through gifts and acquisitions. Recent additions to the collection include works by Amedeo Modigliani, Frank Stella, Françoise Gilot and John LaFarge. Since 2003-2004, the Museum has averaged more than 18,000 visitors a year.

E. Paul Robsham, Jr. Theater Arts Center

The Robsham Theater Arts Center (RTAC) is the first permanent home designed for theater production at Boston College. Built in 1981, the facility houses a 591-seat main theater, a large lobby and exhibit space, a black box studio theater, a green room, scenery and costume shops, dressing rooms, a design classroom, box office, and faculty and staff offices.

The main theater is a traditional proscenium house with limited thrust capabilities. It seats 591 and is fully handicapped accessible. Designed specifically for educational theater, it includes a completely equipped stage house with fly gallery, an orchestra pit for some 20 musicians, adequate wing and backstage space, and state-of-the-art lighting and sound systems.

The building also includes a flexible black box Bonn Studio Theater that seats 150 to 200. The Bonn Studio is used for Theater Department workshop productions, as well as a laboratory for dance and theater classes. The Theater Department is in residence at the RTAC, as are the Robsham Dance and Theatre Company and the Boston Liturgical Dance Ensemble.

The RTAC and the Theater Department combine their efforts under an artistic organization known as the University Theater. The University presents four faculty-directed and two student-directed productions each academic year.

The Robsham Theater Arts Center assists the University community in the presentation of the performing arts. The RTAC is a department in the Division of Student Affairs and a partner with the Theater Department for the production of dramatic arts programming for the benefit of the University community and as an educational experience for students majoring in theater at Boston College.

Brighton Dance Studio

The Brighton Dance Studio opened for its first use on Tuesday, September 4, 2007. The studio includes a basketball court-sized dance space, ballet barres, mirrors and a sound system. It is located at 2115 Commonwealth Avenue, on the Brighton Campus, less than a ten minute walk from the Robsham Theater Arts Center.

The Brighton Dance Studio was created by renovating the former gymnasium of St. John's Seminary (formerly known as the Brighton Gym). The project was initiated and managed by the Arts Space Task Force, a committee of administrators that has sought to address some of the space needs of arts programs and organizations on campus.

Cultural Events

Throughout the year, Boston College is alive with diverse cultural offerings, many of which are open to the public. Offerings include musical performances by the University Chorale, BC bOp! and a wide range of other singing and instrumental groups, exhibits at the Burns Library, specialized film and documentary screenings and the University's celebrated Lowell Humanities Series, which has been a venue for some of the most preeminent writers, artists and thinkers of the past 50 years.

Other examples of cultural offerings include:

Boston College Arts Festival

Every April for the past 10 years, Boston College has sponsored a celebration of the arts which is free and open to the public. More than 13,000 people attended the 2007 Festival that showcased the artistic achievements in the performing, visual and literary arts of 1,100 Boston College students. The festival features instrumental, vocal and dance performances, art

exhibitions and demonstrations, film exhibitions, literary readings, an afternoon of art activities designed for children, and a Mass for the arts.

Neighborhood Night at the Theater

In conjunction with the Arts Festival, the Office of Governmental and Community Affairs invites 100 neighborhood residents to attend opening night of the student Spring theatrical production at Robsham Theater. Prior to the production, the University hosts a reception where residents and members of the Boston College community can converse and enjoy light refreshments.

Irish Institute at Boston College

Since its founding in 1997, the Irish Institute at Boston College has hosted more than 100 programs and numerous special events open to the public. Working under the auspices of the Center for Irish Programs, the Irish Institute makes use of cross-campus and local resources to facilitate rewarding personal, corporate and professional exchanges with the goal of promoting a lasting peace in Ireland. To this end, the Irish Institute often hosts officials and policymakers from Ireland and Northern Ireland and offers professional development programs in areas such as government, business and education.

"Pops on the Heights"

For the past 15 years, the Boston Pops Orchestra has performed at Boston College in a scholarship fundraising gala known as "Pops on the Heights." As part of this event, the University extends an invitation to 100 neighbors to enjoy dinner and the performance. Last year's event, featuring renowned conductor John Williams, raised a record $2 million in funds. Since the inception of the program, 522 scholarships have been awarded to needy students.

New Creative Economy Initiatives

Throughout the 10-year duration of the Institutional Master Plan, the University anticipates investing in new cultural facilities and improving space dedicated to the fine arts. In addition, the University will consider potential partnerships with the City of Boston, through such programs as CREATE BOSTON, to enable the unique cultural assets and opportunities of Boston College to advance the creative economy business sectors.

Brighton Campus Fine Arts District

A Fine Arts District is planned on Commonwealth Avenue between the former Cardinal's Residence and former Creagh Library. It would contain the following:

- An approximately 55,000 sf Fine Arts/Museum complex of linked buildings of four to five stories and a height of 60 feet.
- An approximately 30,000 sf auditorium with 1,200 seats, primarily for University use.

This Fine Arts District will enhance the University's time-honored Jesuit commitment to the arts and provide an invaluable resource to students, faculty and the local community.

Corporate Leadership and Civic Engagement

Boston College plays an active role in supporting the local business communities in Boston and Newton, the leading industries of Massachusetts and global management leaders by offering University research and technical assistance through academic centers, expert faculty and student service projects. These efforts reach the for-profit, non-profit and government sectors, bringing best practices to managers and policy makers that stress fiduciary responsibility, social justice and corporate citizenship. In addition, staff members from Boston College's Office of Governmental and Community Affairs serve as active board members of the following business organizations: The Allston and Brighton Main Streets Programs, the Allston and Brighton Boards of Trade and the Newton-Needham Chamber of Commerce.

Carroll School Office of Government and Corporate Affairs

As part of the Carroll School of Management (CSOM), the Office promotes the concept of bridging the world of theory and the real world of practice through interaction with the corporate and political communities. It works in partnership with the Boston College Chief Executives' Club of Boston, the nation's top-rated CEO Club, and coordinates the Boston College Citizen Seminar Series, which was established in 1954 to bring together leaders from academia, business, government, labor and private non-profits for the purpose of discussing and debating some of the pressing issues facing the City of Boston and the region in which it is located.

The Center for Asset Management

The Center for Asset Management (CSOM affiliate) brings together faculty with the asset management community from Boston and around the world to refine and disseminate best practices in investment finance.

The Center for Corporate Citizenship

For more than 20 years, The Center for Corporate Citizenship (CSOM affiliate) has provided research, executive education and conferences on corporate social responsibility. The center has nearly 350 corporate members, representing more than 2,200 subsidiaries and individual companies worldwide. More than 4,000 professionals at member companies rely on the center's services, publications and products.

The Winston Center for Leadership and Ethics

The Winston Center was established by the Carroll School in 2006 with the dual mission of conducting compelling research of interest and use to scholars and business leaders, as well as offering programs that engage scholars, executives and students in an exploration of leadership and ethics in business and society. It sponsors a substantial program of research, seminars, guest speakers and experts-in-residence.

The Boston College Business Institute

Founded in 1972, the Boston College Business Institute (CSOM affiliate) provides consulting and business development services to a wide array of firms, ranging from start-ups to existing companies. Clients include entrepreneurs, research laboratories, publicly traded corporations and nearly every type of business in between.

Services are offered in the areas of:

- General Business Planning
- Consulting
- Financial and Strategic Analysis
- Product Development and Launch
- Project Management
- International Market Entry and Consulting
- Research

The Center for Work & Family

Since its founding in 1990, the Boston College Center for Work & Family (CSOM affiliate) has been a national leader in helping organizations create effective workplaces that support and develop healthy and productive employees. The Center provides a bridge linking the academic community to leaders in employment settings who are committed to promoting workforce effectiveness.

Leadership for Change

Leadership for Change, a leadership development certificate program of the Winston Center, serves several levels of management and different sectors of business and society, recruiting cohorts that are diverse by race, ethnicity, culture, age and gender. These young professionals, executives and non-profit administrators come to campus for leadership development training, mentoring and discussions about the interplay between responsibility, accountability and profitability.

Church Management and Administration

The professional management of resources has never been more important for all communities of faith. Boston College is training a new generation of ministers and administrators who will bring the best of private and public-sector practices to their fiduciary responsibilities, which are so critical to supporting ministry work. In 2005-2006, the Institute of Religious Education and Pastoral Ministry (IREPM) and the Carroll School of Management (CSOM) developed the dual degree program in Pastoral Ministry and Business Administration for students interested in careers in the management and administration of churches and church-related organizations and corporations such as dioceses, hospital systems and social service agencies. Understanding competent and ethical management as a ministry to the church and related organizations, the program reflects the University's mission to educate individuals to serve with excellence in their fields and to work for social and economic justice.

MBA Consulting Project

Each year, local and international companies receive hundreds of hours of pro-bono consulting services from the students and faculty of the Carroll School of Management's MBA program. The two-fold program provides companies with top-level consulting services to develop business plans, financial proposals and business development strategies, while MBA students receive real-world experience working with entrepreneurs, chief executives and other corporate leaders. All services are supervised by faculty from the Carroll School and receive legal and technical support from faculty and students from Boston College Law School. These annual projects have served local businesses across all industry sectors, in addition to cultivating start-up companies conceived by Boston College students.

Employment Opportunities and Programs

Boston College currently employs more than 650 Boston residents . Through specialized outreach programs, job fairs, career forums, e-mail and newspaper advertising, Boston College makes every effort to recruit qualified Boston residents for employment opportunities (see Tables 12-5 and 12-6).

Table 12-5 Full-time Faculty and Staff: 2007-2008

	Staff	Faculty	Total
Residing in Boston	**455**	**92**	**547**
Allston	31	6	37
Brighton	141	39	180
Other Boston neighborhoods	283	47	330
Residing outside Boston	**1,789**	**622**	**2,411**
TOTAL	**2,244**	**714**	**2,958**

Table 12-6 Part-time Faculty and Staff: 2007-2008

	Staff	Faculty	Total
Residing in Boston	**39**	**65**	**104**
Allston	1	3	4
Brighton	14	18	32
Other Boston neighborhoods	24	44	68
Residing outside Boston	**193**	**541**	**734**
TOTAL	**232**	**606**	**838**

Detailed information regarding open positions is available on Boston College's employment website www.bc.edu/bcjobs and links to this site are located on the home pages of the Boston College Neighborhood Center and the Office of Governmental and Community Affairs. In addition, Boston College is a member of the Higher Education Recruitment Consortium (HERC), the largest higher education job board in New England, www.newenglandherc.org. Here Boston residents can learn about open faculty and staff positions at Boston College, as well as at more than 60 higher education institutions across the state.

Boston College is proud of its commitment to maintaining its in-house dining, custodial and bookstore services, which are commonly contracted out at other institutions. All of these employees receive full benefits, including tuition remission, health and dental insurance and competitive wages. Additionally, Boston College sponsors an in-house temporary pool for office clerical positions, placing approximately 40 temporary employees throughout the University at any one time. Many of these employees utilize the temporary pool to transition into regular office clerical positions at Boston College.

Boston Residents Construction Employment Standards

Boston College is committed to participating in the Boston Residents Construction Employment plan as set forth in the Mayor's Executive Order of July, 1985 and adopted by the Boston Redevelopment Authority on July 26, 1985. Specifically, the Executive Order requires that the proposed Construction Employment plan shall ensure that, on a craft-by-craft basis, for construction employment for IMP projects the following Boston Residents Construction Employment Standards are met:

- At least 50 percent of the total employee worker hours in each trade shall be by bona-fide Boston residents.
- At least 25 percent of the total employee worker hours in each trade shall be by minorities.
- At least 10 percent of the total employee worker hours in each trade shall be by women.

For the purpose of Construction Employee Plan, employees shall include persons filling apprenticeship and on-the-job training positions.

Outreach Programs

Boston College Supported Employment Program

This program is committed to offering employment opportunities to individuals with disabilities and supporting them in an integrated work environment. The program currently supports 24 developmentally delayed adults with various secondary disabilities, 12 of whom are Boston residents. A number of individuals have been referred from the Center Club of Boston, an organization that provides training and assistance in their job search. Participants range in age from 22 to 62 with varying degrees of skills and independence. These workers hold jobs in the following departments: Dining Services, Bookstore, Off-Campus Housing Office, Human Resources, Center for Corporate Citizenship, Graduate School of Social Work and the BC Libraries.

Private Industry Council (PIC) Summer Jobs Program

This program provides students from 14 Boston Public high schools with summer employment opportunities at various businesses, colleges and universities, and non-profit agencies in Boston with a goal of integrating education with future employment objectives. Boston College has been a leading employer in the PIC Summer Program since 1985, training and employing 25-30 students in various offices and departments across campus. Placements include: Athletics, Governmental and Community Affairs, Human Resources, the Lynch School of Education, the

Campus School, the Boston College Police Department, Transportation and Parking and the Bookstore. In addition to providing the students with valuable work experience, the program offers MCAS tutorial classes and college admissions information.

Dining Services Programs

Boston College Dining Services has historically provided a wide range of job opportunities for Boston residents. Table 12-7 shows that of 258 full-time employees, 100 of them are Boston residents.

Table 12-7 Dining Service Employees in Boston

Residing in Boston	Total #	Race				Years at Boston College (Ranges)
		Hispanic	White	Black	Asian	
Allston	8	6	1	0	1	6.2 to 14.1
Boston	16	4	3	4	5	0.4 to 20.5
Brighton	24	6	14	1	3	0.5 to 33.1
Dorchester	11	2	0	9	0	0.2 to 11.3
E. Boston	4	4	0	0	0	3.5 to 9.2
Hyde Park	10	4	2	3	1	2.1 to 20
Mattapan	3	0	0	3	0	9.1 to 14.3
Roslindale	12	9	0	1	2	1.1 to 26.5
Roxbury	5	3	0	1	1	0.2 to 8.5
West Roxbury	7	0	7	0	0	0.5 to 28.9
Total Number	**100**	**38**	**27**	**22**	**13**	

Dining Services actively recruits high school students and senior citizens through the following programs:

School-to-Career High School Program

Through this unique program, Boston College Dining Services cultivates relationships with high schools in Boston, Newton and the greater Boston area that operate culinary or hospitality programs. The program provides high school students interested in a career in the food service industry with part-time on-campus jobs, tours, training, and valuable career advice and mentoring from the Boston College management team. These students gain valuable work experience and hold positions ranging from food preparation to cashier, catering and service operations. A number of these students have transitioned to become full-time employees at the University. Boston College currently partners with the Madison Park Hotel and Hospitality School in Boston, the Learning Preparatory School in Newton and Blue Hills Technical High School. In addition, the University has established a collaborative

relationship with Newbury College by providing its culinary students with opportunities to apply their classroom learning in various hospitality venues on campus.

Senior Citizen Program

In an effort to provide senior citizens in the community with employment opportunities following retirement, Boston College Dining Services actively recruits and employs senior citizens on a part-time basis from September through June. The program currently employs 10 individuals and works with area councils on aging and the Boston College Neighborhood Center, which refer interested individuals to the program.

Affirmative Action Plan

Boston College is committed to the principles of affirmative action, non-discrimination, and equal employment opportunity. Its Affirmative Action Plan outlines specific and result-oriented strategies and initiatives designed to achieve a more diversified workforce and specifically to enhance the inclusion and representation of people of color (African Americans, Hispanics, Asians/Pacific Islanders and American Indians/Alaskan Natives), women (including women of color) and persons with disabilities. For the past ten years, the University has participated and will continue to participate in recruitment initiatives and events to further its Affirmative Action Plan including:

- El Mundo & Latino Professional Network Career Fair
- Association of Latino Professionals in Finance and Accounting
- Boston College Dining Services Job Fair, advertising in the Boston Herald
- Urban Job Fairs
- Workforce Career Fair (Patriot Ledger)
- Black/Hispanic MBA Job Fair at MIT
- Veterans Career Fair Fenway Park
- Career Place "Higher Ed Career Fair" Woburn
- NAACP Executive Diversity Job Fair Boston
- Baystate Banner Career Fair Boston
- Newbury College Job Fair Boston
- NSHMBA (Hispanic MBA) Boston Chapter
- Spanish Yellow Pages for Boston

Sponsored Research

In 2007, Boston College generated $52 million in sponsored research programs and enhanced its commitment to resolve urgent societal problems through its academic research efforts. Some of these efforts, recognized both nationally and internationally, include advancements in treatments for brain cancer and epilepsy, applications for solar power and optical computing, and educational methods that promote children's math, science and

reading literacy. Specialized academic institutes are engaged in research projects that explore the relationship between religion and society, aging and work, the balance between work and family, methods to ensure retirement security, and ways to improve the delivery of medical and social services for the poor, disabled and elderly.

The Boston College Office of Sponsored Programs (OSP) provides service to members of the Boston College community involved in the application for and administration of sponsored projects, to support the University's goal to increase the level of such funding, and to protect the University's interest in complying with the project requirements to which Boston College and sponsors may agree.

Boston College has a duty to make new technologies and innovations available to the public for the public good. While a private university, Boston College recognizes the importance of university research to innovation and subsequent economic development. An example of a prominent University spin-off company is GMZ Energy, an efficiency-boosting material maker that recently announced a groundbreaking new thermoelectric material. Thermoelectric materials allow the direct conversion of heat to electricity or the movement of heat from one part of the material to another when electricity is applied. GMZ's breakthrough, a technology licensed from the Massachusetts Institute of Technology and Boston College, is the discovery of materials that can be cheaply manufactured, easily integrated into existing designs, and are more efficient than other thermoelectric materials. This breakthrough could both expand the existing thermoelectrics market and put GMZ in a leading position within it.

While Boston College had nearly $52 million in research expenditures in FY2007, the hard sciences (biology, chemistry, physics) received only 18 percent of that amount, reflecting the University's traditional role as a teaching institution. These hard science departments are where the vast majority of patentable inventions are created. As the University continues to invest in its facilities and develop the sciences through its new integrated sciences center, it is anticipated that increases in the number and types of patentable inventions will occur, leading to additional opportunities to license innovations for existing companies, and to form new companies.

Boston College has received more than 130 invention disclosures since 1982 and expended more than $1.8 million in filing and prosecuting patents. The University currently has five active licenses. The University is also exploring ways in which "non-traditional" assets, such as course software, evaluations, and databases might be transferred to established companies or be developed into spin-off companies.

Payments to the City of Boston

This section describes the direct payments made to the City of Boston on behalf of Boston College.

Payroll Taxes

In FY 2007, Boston College made annual payroll tax payments of $10,560,000 to the Commonwealth of Massachusetts and $31,960,000 to the Federal government.

Voluntary Payments for Municipal Services

Boston College makes voluntary payments for municipal payments to its host cities of Boston and Newton.

The University has made voluntary payments to the City of Boston since 1994, contributing approximately $2.6 million in funding to date. In FY2007, Boston College's annual contribution to the City of Boston totaled $261,396.

Since 1985, the University has made an annual $100,000 payment to the City of Newton, in tandem with annual payments to seven community-based organizations to support their educational, cultural, historic, civic or recreational missions. The organizations include: The Foundation for Racial Ethnic and Religious Harmony, Jackson Homestead, Newton Boys and Girls Club, Newton Child Care Commission, Newton Schools Foundation, Newton Pride and the West Suburban YMCA. In FY2007, Boston College's annual contribution to the City of Newton and the organizations totaled $118,508.

Development Impact Project (DIP) Contributions

Section 80B-7 of the Boston Zoning Code imposes an obligation on developers of so-called Development Impact Projects (or DIPs) to make payments to the City for use in affordable housing and job creation projects. DIPs are defined as projects that require zoning relief (such as Institutional Master Plan approval) and involve construction or substantial rehabilitation of more than 100,000 sf of space to be occupied by certain uses, including college and university uses, (but excluding student housing and accessory parking). By its terms, Article 80 requires a "housing contribution grant" and a "jobs contribution grant" (commonly known as "linkage payments") currently totaling $9.44 per square foot on the gross floor area of a DIP in excess of 100,000 sf. The housing contribution payment ($7.87 per applicable square foot) is payable over seven years, and may be paid "in-kind" by the building or sponsoring of affordable housing. The jobs contribution grant is calculated at $1.57 per applicable square foot and is payable over two years.

Previous Linkage Payments

Since 2001 Boston College has provided DIP contributions to the City of Boston for two campus projects. The DIP contributions for 21 Campanella Way and the Yawkey Athletic Center consist of jobs exaction and housing exaction payments. As shown in Table 12-9, Boston College has completed the two installments of jobs exaction payments for both projects but continues to contribute towards housing exaction commitments.

Table 12-9 Development Impact Project (DIP) Contributions

Campus Project	Date of Building Permit / Date of Certificate of Occupancy	Total Jobs Exaction Amount (Number of Annual Installments)	Total Housing Exaction Amount (Number of Annual Installments)	Total
21 Campanella Way	March 2001 / November 2002	$39,372 (2 installments)	$196,860 (12 installments)	**$236,232**
Yawkey Athletic Center	February 2004 / March 2005	$63,517 (2 installments)	$317,585 (12 installments)	**$381,102**
TOTAL		$102,889	$514,445	**$617,334**

Future Linkage Payments

Future linkage payments attributable to Boston College proposed development will depend on such factors as the actual square footage of the proposed institutional projects, the level of rehabilitation of existing buildings slated for re-use, the timing of construction, and the opportunities that may be presented for the University to be involved directly in affordable housing creation. Nevertheless, such payments can be expected to be of a significant benefit to the City. For example, linkage payments attributable to the University Center proposal alone may total in excess of $1.5 million.

Chapter 13

Community Benefits and Service Programs

Introduction

Located in Boston and Newton, Boston College enjoys a special relationship with its host communities, enriching the vibrancy of these cities through its academic and financial resources, cultural and recreational offerings, community partnerships and volunteer service programs. Boston College's contributions to both cities reflect its mission as an institution of higher learning and its Jesuit tradition of forming students to be men and women in service to others.

As an active neighbor, Boston College is committed to making University resources available to residents of Allston-Brighton and Newton through the formal programs and partnerships described in this chapter, through the many campus activities and events open to local residents, and through the time, talents and energies of Boston College student, faculty and staff volunteers. Thanks to a culture of volunteerism where community service is encouraged, supported and valued, recent survey results indicate that Boston College students volunteer more than 444,000 hours of community service throughout the year, and that University employees volunteer an average of 4.8 hours a week, exceeding both the national and state averages of 2.5 and 1.9 hours per week. The University estimates that Boston College undergraduates provide $3.5 million in service to the community and that faculty provide an additional $1.5 million in annual volunteer service.

This chapter provides an overview of Boston College's community benefits programs offered in the following areas:

- Educational Partnerships and Scholarships
- Community Development Assistance

- Volunteer Service Programs
- Cultural Resources
- Athletic and Recreational Programs

Educational Partnerships and Scholarship Aid

Through the dedicated efforts of the Lynch School of Education, Boston College is invested in a number of ongoing partnerships with the Boston Public Schools (BPS) and Catholic schools. These partnership programs address educational research, teacher induction and training, student teacher placements, curriculum development, professional development consultation and community and parental engagement. Over the years, hundreds of Boston College students have volunteered in public, private and parochial schools in Boston, Newton and throughout the Greater Boston area.

This section provides an overview of a number of innovative programs offered by the Lynch School of Education and other departments at the University. Additionally, the section describes the financial aid commitment of Boston College to students from Boston, and specifically from Allston-Brighton, to assist them in attending the University.

Scholarship Aid

Boston College is committed to providing funds to meet the full-demonstrated need of every student applying for financial aid. In support of this commitment, Boston College grants institutional scholarships that come from a variety of sources, including 500 named scholarships. Table 13-1 provides a breakdown of the institutional aid received by students from Allston-Brighton and Boston.

Allston/Brighton Scholarship Program

The Allston/Brighton Boston College Scholarship Program provides 10 academically talented students from Allston/Brighton with scholarships to attend Boston College. To be eligible for the award, the students must be permanent residents of Allston/Brighton for a minimum of four years and be accepted for freshman admission. In the event that ten Allston/Brighton students do not meet the requirements, the scholarships are awarded to students from other Boston neighborhoods. Students must also complete the Boston College financial application process and have an institutionally determined need greater than $10,000 to be considered.

For the academic year 2007-2008, seven scholarships were awarded to Allston/Brighton students and three to students in other Boston neighborhoods. The ten full tuition scholarships represent an annual commitment of approximately $351,500 per year, or a four-year commitment of more than $1.4 million in scholarship assistance.

Table 13-1 Educational Aid to the Allston/Brighton Community and Boston

2006-2007	Allston-Brighton	Boston
Number of undergraduates	122	356
Number receiving any aid	94	273
Dollar amount of aid	$2,361,567	$8,352,469
Average aid amount	$25,123	$30,595
Number receiving any grant	78	239
Dollar amount of grants	$1,858,163	$6,343,758
Average grant amount	$23,823	$26,543
Number receiving BC grant	74	232
Dollar amount of BC grants	$1,654,847	$5,303,907
Average BC grant amount	$22,363	$22,862

Educational Partnerships

Step Up Initiative

In conjunction with Boston, Harvard, Northeastern and Tufts universities, Boston College is collaborating in a new partnership to bring a comprehensive set of learning support services to 10 Boston Public Schools. Through the Step Up Initiative, BC's Lynch School of Education is paired and working closely with the Winthrop Elementary School and the Russell Elementary School located in Dorchester. Major areas that have been identified by the Superintendent of Schools, and where Boston College will be offering its resources, include professional development and instructional support in English language learning, cultural competency, and training principals and teacher leaders on the use of data and their implications for evaluation and assessment.

Boston Connects

Boston Connects is a unique school-community-university partnership linking fourteen Boston Public Elementary Schools in Cluster 5 and Cluster 2, the YMCA of Greater Boston and Boston College with other community partners to coordinate school and community support programs serving more than 4,500 students and their families. In January, the Lynch School of Education announced a $9.2 million extension of funding through grants from the New Balance Foundation, Strategic Grants Partners and the Charles Hayden Foundation. The Boston Connects partnership is committed to the principle that academic success in urban schools requires integrated and comprehensive student and family support both to address the non-academic barriers to learning and to promote healthy development. To this end, Boston Connects is working toward building systemic change within these

elementary schools and surrounding neighborhoods by connecting individual students and families with effective in-school student support and well-developed community agency resources. Through Boston Connects, students and their families are able to gain access to better health care and nutritional information programs, educational resources, after-school care and other prevention programs.

College Bound

Established by Boston College in 1987, College Bound is a program for culturally and racially diverse students from the Boston Public Schools that focuses on increasing their access to and retention in four-year institutions of higher education. College Bound is currently affiliated with Brighton High School and the West Roxbury Education Complex. Students from both the Lynch School of Education and the College of Arts and Sciences work with high school youths to refine their academic skills and supplement their high school programs with Saturday enrichment classes both on the BC campus and in their communities. The program also fosters leadership skills and parental engagement, and provides career advisement, college application assistance and financial aid guidance.

Options through Education

The Options Through Education Transitional Summer Program (OTE) is a six-week pre-collegiate enrichment program designed for educationally and financially disadvantaged students who are highly motivated potential achievers. OTE gives these students a leg up on the sometimes daunting transition to college life. It familiarizes participants with Boston College's academic and administrative resources, strengthens their scholastic skills and acquaints them with the campus and surrounding community. The program has been recognized by the Education Testing Service as a national model and boasts a 91 percent retention rate for its students during their collegiate careers and a 94.5 percent graduation rate for its AHANA (African-American, Hispanic, Asian, and Native American) participants during the past four years.

YMCA Black Achievers College Fair

For the past 12 years, Boston College has hosted the YMCA Black Achievers College Fair at the Flynn Recreation Complex. This event introduces 3,000 African-American high school seniors to the educational opportunities at area universities, including Boston College, historically black colleges and universities, and military academies. College admissions representatives, as well as representatives from organizations that assist students with college planning, test preparation and scholarship assistance, are on hand to provide guidance and answer questions.

Private Industry Council (PIC) Summer Jobs Program

This program provides students from 14 Boston Public High Schools with summer employment opportunities at various businesses, colleges and universities and non-profit

agencies in Boston, with a goal of integrating education with future employment objectives. Boston College has participated in the PIC Summer Program since 1985, employing 25 to 30 students in various offices and departments across campus such as Athletics, Governmental and Community Affairs, Human Resources, the Lynch School of Education and the Bookstore. In addition to providing the students with valuable work experience, the program offers MCAS tutorial classes and college admission information.

Let's Get Ready Program

Starting in fall, 2006, Boston College partnered with the *Let's Get Ready* program to offer SAT and college preparatory services to 45 high school juniors and seniors from Allston-Brighton, to enhance their abilities to successfully apply to college and to increase the number of qualified applicants for the Allston-Brighton Scholarship Program. To date, participants have achieved an average SAT score increase of 140 points, and enrollment has increased to 58 students. Program participants meet two evenings a week at Another Course to College (ACC) in Brighton, where 18 to 20 Boston College students serve as coaches for the writing, verbal and math sections of the SAT. The program's more than 40 hours of free SAT tutoring and 15 hours of preparation for the college search process have made success on the SAT and college admittance attainable goals. This successful Boston College program is viewed as a model for other *Let's Get Ready* sites in Massachusetts.

MACC – Massachusetts Campus Compact Tutoring Program

The Boston College-Massachusetts Campus Compact Tutoring Program is a group of 75 undergraduate students who volunteer at a Boston public school or the West End House Boys & Girls Club. Tutors assist at the schools at least one day a week and participate in weekly training sessions on the BC campus.

Read Aloud Program

The Read Aloud Program is a partnership among the faculty and staff of Boston College, the Boston Public Schools and Boston Partners in Education. The program's nearly 70 volunteers are assigned to read to students once a month at three local Brighton elementary schools: the Mary Lyon, the James Garfield and St. Columbkille School. The volunteers read from specially chosen books that are appropriate for the age level, interest and curriculum of the pupils. Volunteers also lead book discussions, question and answer sessions, or general conversations in the classroom.

Donovan Urban Teaching Scholars Program

The Donovan Urban Teaching Scholars program is an intensive one-year master's degree program in teacher preparation. Each year, the program recruits and supports a diverse cohort of up to 30 graduate students, and provides them with an academically challenging education specifically responsive to the concerns and needs of urban students, families, schools and communities. Both pre-practicum and practicum placements for the Donovan Urban Teaching Scholars occur in the following Boston Public Schools: Jackson Mann, Boston International High School, Mary Lyon, Brighton High School and West Roxbury Education Complex. A number of Donovan alumni are currently teaching in BPS.

Teachers for a New Era

Boston College's University-wide commitment to teacher education is strengthened by participation in the Carnegie Corporation's Teachers for a New Era (TNE) initiative. As one of 11 TNE institutions preparing, assessing and supporting future teachers, Boston College improves teacher preparation and P-12 pupil learning through continued collaboration among Education and Arts & Sciences faculty and Boston-area school-based professionals. Boston College's extensive liberal arts core curriculum and social justice vision enhance opportunities available to teacher candidates and practicing teachers.

Demonstrating its commitment to the Boston Public Schools, a significant number of Lynch School of Education students are placed in Boston Public Schools for both pre-practicum and practicum placements as reflected in Table 13-2. Based on the quality of this experience and job performance, many graduates are hired by BPS as indicated in Table 13-3.

Table 13-2 Boston College Lynch School of Education Students Placed in Boston Public Schools for Pre-Practicum and Practicum

Field	Date	Boston Public Schools	Non Boston Public Schools	Total	Percent in Boston Public Schools
Teacher Education	2006-2007	93	210	303	31%
Education Administration	2006-2007	4	5	9	44%
School Counseling	2006-2007	1		1	100%

Table 13-3 Boston College Boston Public School Hire Report

Year	BC BPS New Hires	Total BPS New Hires	Percent BC BPS New Hires
2006-2007	58	544	10.7%

Center for Catholic Education

As the top-ranked Catholic school of education, BC's Lynch School has a long tradition of concern for Catholic education at all levels. Uniquely poised to lead the charge of building new models of sustainability for Catholic schools across the country, Boston College's Center for Catholic Education brings under one banner various initiatives related to Catholic education. One such successful local initiative is the St. Columbkille School Partnership described below.

St. Columbkille School Partnership

In 2006, Boston College, the Archdiocese of Boston and St. Columbkille Parish established a ground-breaking partnership to preserve and strengthen Catholic, parish-based education for the children and parents of Allston-Brighton. This unique collaboration, the first between a Catholic university and a parochial school in the United States, draws on the rich resources of the Lynch School of Education, best practices in American elementary education, and the guidance of Catholic educational, social and religious principles. In its first year, the partnership implemented a new early childhood curriculum, offered teacher training and professional development programs (including 100 percent scholarship for teachers or faculty seeking a master's degree from the Lynch School of Education), completed much-needed renovations to the physical plant, and examined both the financial and management structure of the school. In total, Boston College has invested more than $1 million in St. Columbkille School since 2006.

St. Columbkille Summer Camp

Since 2003, Boston College and St. Columbkille School have joined forces to offer a summer day camp for local children. Open to 120 campers from ages 3 to 14 residing mainly in Allston-Brighton, the camp operates nine one-week sessions on the BC campus. In addition to classroom learning, activities include specialized on-campus informational tours of the BC bookstore, admissions, police department, museum and library, use of computer labs, the pool and other athletic facilities, a karate clinic, events with student athletes, reading enrichment provided by the Storymobile and field trips to area resources such as the science museum, zoo and the aquarium.

Urban Catholic Teacher Corps

The Urban Catholic Teachers Corps (UCTC) is a two-year service program for teachers who wish to gain experience teaching in urban Catholic schools in the Boston area, while living in community with other aspiring teachers. Now in its 10th year, UCTC offers professional experience and spiritual development to young teachers interested in Catholic education, while providing the Archdiocese of Boston with a source of trained educators committed to urban Catholic schools.

Community Development Assistance

Boston College participates in numerous community development activities and programs designed to strengthen the physical, social and economic conditions of its neighboring communities. The following community development initiatives illustrate the University's commitment to improving the quality of life beyond its campus borders.

Allston-Brighton/Boston College Community Fund

Created in 1995 by Boston College and Mayor Thomas M. Menino, the mission of the Fund is to provide grant support to Allston-Brighton community groups or non-profit organizations for projects that enhance the community through civic engagement, beautification initiatives, youth enrichment or educational programs. The Fund Committee is composed of community residents, representatives from the City of Boston and Boston College. The Fund awards individual grants of up to $3,000 (recently increased from $2,500) in two cycles during the fall and spring of each year and one $25,000 biennial beautification grant (see Tables 13-4 and 13-5).

Table 13-4 Spring 2007 Community Fund Awards

Organization	Grant Amount
Addiction Treatment Center of New England	$3,000
Boston Connects	$3,000
Brighton High School	$3,000
Caritas Good Samaritan Hospice	$3,000
Children's Organic Garden Science Project with the Conservatory Lab Charter School	$900
The Fishing Academy, Inc	$3,000
Holy Resurrection Orthodox Church, Open Door Ministry	$3,000
Mt. Saint Joseph Academy	$2,600
St. Columbkille School	$3,000
The Winship Elementary School Parent Council	$1,860
TOTAL	**$26,360**

Table 13-5 Spring 2007 $25,000 Biennial Award

Organization	Grant Amount
West End House Boys and Girls Club of Allston-Brighton	$25,000

This past year the Fund conducted a special grant cycle, awarding a total of $175,000 in three categories: Civic Engagement, Community Beautification, and Youth Enrichment (see Table 13-6). With the addition of the three special grants, the Fund awarded more than $225,000 to Allston-Brighton initiatives during the past year and will soon surpass the $1 million mark in total grants since its inception.

Table 13-6 Special Grant Awards

Organization	Grant Amount
Beautification Project Grant: Allston Village Main Streets, "Allston Village Beautification"	$50,000
Youth Enrichment Project Grant: YMCA of Greater Boston (Oak Square), "Oak Square Community Teen Center"	$50,000
Civic Engagement Project Grant: Brighton-Allston 200, Inc. "The Brighton-Allston Bicentennial"	$75,000
TOTAL	**$175,000**

Boston College Neighborhood Center

The Boston College Neighborhood Center, located on Washington Street in the heart of Brighton Center, is now in its 12th year of linking University resources to services to the Allston-Brighton community. The Center's programs include:

Tutoring and Mentoring Programs

Boston College students volunteer to tutor more than 100 local children in a variety of programs and settings: one-on-one at the Neighborhood Center, on the Boston College campus, and in after-school programs. The one-on-one tutoring program matches BC students with Allston-Brighton students ranging from elementary school through high school. BC students participate in after-school tutoring programs at the Jackson Mann School, St. Columbkille School, the Commonwealth Tenants Association After-School Program, and the Read Boston Program, a children's literacy campaign operating at the Hamilton and the Baldwin Elementary Schools. In addition, BC students are mentoring young girls in the third, fourth and fifth grades at the Hamilton, Winship and Garfield Elementary Schools via the BC chapter of the Strong Women, Strong Girls Program. The

program's mission is to empower young girls and build positive self-esteem and skills for life-long success.

English as a Second Language (ESL)

Boston College students volunteer to teach English to local residents at the Neighborhood Center and five other sites in Allston/Brighton: the Allston/Brighton Community Development Corporation, Insight, the Joseph Smith Community Health Center, Covenant House and the Commonwealth Tenants Association. This program has helped hundreds of immigrants to learn English and has helped hundreds more experience the joys of reading.

Food for Families

The Boston College Office of Governmental and Community Affairs, the Alumni Association and the Neighborhood Center collaborate with the Commonwealth Tenants Association and the Boston Food Bank to feed needy families at the housing development. On the second Wednesday of each month, BC student athletes and other volunteers work in conjunction with the Commonwealth Tenants Association to bag and distribute groceries from the Food Bank. Through this effort, 225 bags are distributed to families and the elderly each month.

HEAR – Helping Educate for Academic/ Athletic Responsibility

Boston College student athletes and their coaches visit every Allston-Brighton public and parochial elementary and middle school at least once throughout the year. During their interactions, student athletes speak to the class about the value of academics and the importance of teamwork in everyday life. In addition to visiting schools, the HEAR program also makes regular visits to patients at the Franciscan Children's Hospital and Boston Children's Hospital. The assistant director of the Neighborhood Center works with the schools to match their needs with BC resources and provides youth tickets to BC athletic events.

Service Days

Service Days offer opportunities for students to give back to the surrounding communities of Allston and Brighton by volunteering their time to assist neighborhood organizations with various projects. Teams of students help with park beautification, painting projects at churches, schools and public housing developments, city-wide clean up efforts such as Boston Shines, assisting elderly and disabled neighbors, flower planting, graffiti removal, nursing home visits and youth mentoring. In recent years, service projects were performed at the Oak Square YMCA, Irish Immigration Center, Brighton Main Streets, St. Columbkille School, all three local libraries and at the Commonwealth and Faneuil Gardens Housing Developments.

Veronica Smith Senior Center

Boston College partners with the Veronica Smith Senior Center to provide health screening for seniors. It also provides programs such as the Men's Club at BC, which features events and lectures, and organizes a dance for the seniors featuring the vocal and musical talent of BC students. A tour of the Boston College campus and lunch are offered to 30 seniors each spring.

Volunteer Service Programs

Boston College emphasizes volunteerism as a vital part of a student's education and personal formation. The number of student volunteers in the Allston/Brighton community alone is estimated at more than 1,000 per week and their effect is significant. For example, a former executive director at the West End House Boys and Girls Club stated that the community service work the organization received saved the Club between $100,000 and $125,000 each year. Three of Boston College's most notable volunteer service programs, PULSE, 4Boston and the Appalachia Volunteers, are mentioned below in addition to a sampling of other programs involving both students and employees.

PULSE

Boston College's PULSE program is a national model for service learning that integrates academics with a service internship at one of 51 community service placements in the Greater Boston area. The 400 students involved in the program volunteer between eight and twelve hours each week during the academic year at a variety of non-profit organizations. On any given day, PULSE students are coordinating volunteers for Project Bread's Walk for Hunger, serving breakfast to homeless men at the Pine Street Inn, or providing tutoring and mentoring services at three Brighton organizations: Crittendon Hastings House, Commonwealth Tenants Association and the Parent's Center at Saltonstall House.

4Boston

Boston College's 4Boston program, comprising more than 300 undergraduate students, is a major volunteer initiative that services 18 community agencies in the City of Boston. Named for the four hours each student provides on a weekly basis, the 10-week program operates during the fall and spring semesters. Each placement is made up of a team of 20 students and over the course of one year alone 4Boston volunteers average more than 80,000 service hours. Placements in Brighton include the Commonwealth Tenants Association After-School Program, the Jackson/Mann Adult Education Program and the Franciscan Children's Hospital Residential Assessment Program.

Appalachia Volunteers

Since its founding in 1978, the Boston College Appalachia Volunteers program has provided hope and assistance to marginalized and impoverished communities located in the Appalachian region of the United States. Starting with 12 students, the BC program has grown to more than 650 volunteers operating in 36 different locations within Appalachia, making it the largest Spring Break service organization in the United States. In order to gain valuable experience working with different facets of the community, volunteers participate in local service opportunities during the academic year leading up to their Spring Break service trip. This past fall a total of 175 students participated in community service activities at the Oak Square YMCA, the Brighton and Oak Square Libraries, Brighton Main Streets/Boston Shines Clean-Up, the Veronica Smith Senior Center and the Faneuil Gardens Housing complex.

American Red Cross Club of Boston College

The American Red Cross of Boston College (ARCBC) is a student organization that works in conjunction with the American Red Cross of Massachusetts Bay Chapter. The ARCBC sponsors five blood drives each year, offers CPR and first aid training, assists with food distribution for the needy in Boston, and provides immediate disaster relief to the surrounding community.

Campus School Volunteers

The Campus School Volunteers of Boston College (CSVBC) are a group of undergraduates established to work with and advocate for the students with complex health needs, many of whom are from the Greater Boston area, who attend BC's Campus School for the multiply disabled. The group was established in 1996, and has become one of the largest student volunteer groups on campus. The Campus School Volunteers work both directly with the students in classroom settings, as well as outside the school organizing fund raisers and promoting awareness.

Circle K Club of Boston College

Circle K is a service organization dedicated to community and campus involvement in and around the Boston College area. A majority of the service projects are aimed at improving the general well being of the residents of Allston-Brighton. Boston College students participate in activities ranging from a literacy project at the Hamilton and Baldwin Schools, to working in the soup kitchens at Brighton Congregational Church, to initiating a bicycle and helmet safety program at local elementary schools.

Cleansweep

Now in its 15th year at BC, Cleansweep student, employee and alumni volunteers collect household items, clothing, food and appliances donated by students at the close of each academic year. These items are then distributed for re-use to hundreds of non-profit organizations, community agencies, churches and schools in Boston and other local communities. Not only does this program embody BC's mission of service to others, but it helps the environment by reducing waste and promoting recycling.

Dance Marathon

Each spring, Boston College students gather to dance the night away and raise funds for Brighton's Franciscan Hospital for Children. Through donations from friends and family along with sponsorships from local businesses, the event raised a record $165,000 in 2007, and since its establishment in 2003, the Dance Marathon has contributed more than $350,000 to the hospital.

Grads Give Back Day

Each year the Law Student and Graduate Student Associations of Boston College plan a day of community service called "Grads Give Back Day." This year, more than 100 graduate students volunteered at placements on campus and throughout Boston. The service opportunities ranged from conducting on-campus food and clothing drives, hosting a social for children attending the Campus School, clean-up of the jogging and pedestrian pathways at the Chestnut Hill Reservoir, visiting residents at the Brighton House Rehabilitation and Nursing Center and assisting with a spring clean-up of the grounds and facilities at the Franklin Park Zoo.

Cultural Resources

Boston College's McMullen Museum of Art

Boston College's McMullen Museum of Art serves as a dynamic educational resource for all of New England, as well as the national and the international communities. The Museum displays its notable permanent collection and mounts exhibitions of scholarly importance from all periods and cultures of the history of art. The Museum is free and open to the public. Private group tours are also available by request and the Museum's docents can tailor their presentations to the group's age level and interests. Museum personnel may also be able to provide additional texts or facilitate contact with a BC faculty member with expertise in a specific area of interest.

Boston College Arts Festival

For the past ten years in April, Boston College has sponsored a celebration of the arts which is free and open to the public. More than 13,000 people attended the 2007 Festival that showcased the artistic achievements in the performing, visual and literary arts of 1,000 Boston College students, faculty and administrators. The festival features instrumental, vocal and dance performances, art exhibitions and demonstrations, film screenings, literary readings, an afternoon of art activities designed for children, and a Mass for the arts.

Humanities Series

For fifty years, the Humanities Series has enriched the intellectual, cultural and spiritual lives of Boston College students, faculty and staff, as well as the general public, by offering a remarkable range of speakers, artists and performers. Over the years, the University has been host to an amazing range of talent, including twenty-two of the Library of Congress's Poet Laureate Consultants and four Nobel Prize winners in literature, nearly all of whom appeared in free events open to the neighboring community.

Neighborhood Night at the Theater

In conjunction with the Arts Festival, the Office of Governmental and Community Affairs invites 100 neighborhood residents to attend opening night of the student Spring theatrical production at Robsham Theater. Prior to the production, the University hosts a reception where residents and members of the BC community can converse and enjoy light refreshments.

Irish Institute at Boston College

Since its founding in 1997, the Irish Institute at Boston College has hosted more than 100 programs and numerous special events open to the public. Working under the auspices of the Center for Irish Programs, the Irish Institute makes use of cross-campus and local resources to facilitate rewarding personal, corporate and professional exchanges with the goal of promoting a lasting peace in Ireland. The Irish Institute often hosts officials and policymakers from Ireland and Northern Ireland and offers professional development programs in areas such as government, business, and education.

"Pops on the Heights"

For the past 15 years, the Boston Pops Orchestra has performed at Boston College in a scholarship fundraising gala known as "Pops on the Heights." As part of this event, the University extends an invitation to 100 neighbors to enjoy dinner and the performance. Last year's event featured renowned conductor John Williams and the event raised a record $2 million in funds. Since the inception of the program, 522 scholarships have been awarded to needy students.

Sports and Recreational Programs

Boston College Athletic Tickets

In conjunction with the Athletic Department, the Office of Governmental and Community Affairs reserves 50 tickets per game for residents of Allston-Brighton to attend on-campus football, basketball and hockey games. Tickets are obtained on a first-come, first-served basis by contacting the Office. Table 13-7 indicates the value of the tickets distributed last year.

Table 13-7 Sports Tickets Provided to Allston-Brighton Residents

Sport	Number of tickets per home game	Cost to Boston College per home game
Football	50 tickets at $37 each for 7 games	$12,950
Basketball	50 tickets at $20 each for 14 games	$14,000
Hockey	50 tickets at $20 each for 19 games	$19,000
Annual Total		**$45,950**

Flynn Recreation Complex Summer Program

Boston College opens the Flynn Recreation Complex to 30 residents of Allston -Brighton per day, weekdays during the summer. Residents register with the Office of Governmental and Community Affairs and contact the office to use the swimming pool and fitness equipment in the facility. This extremely popular program runs from early June through late August.

Mayor's Cup Hockey Tournament

Each October, Boston College donates ice time to the City of Boston for the Mayor's Cup Hockey Tournament. This tournament provides youngsters of all ages from neighborhoods throughout Boston with the opportunity to compete at the squirt, peewee and bantam hockey levels on the home ice of the 2008 NCAA Men's Hockey National Champions.

Allston-Brighton Youth Hockey

Boston College supports the Allston-Brighton Youth Hockey program by donating ice time in Conte Forum on an annual basis.

Boston College Spring Football Game

Each spring, the University hosts an inter-squad football match at Alumni Stadium that is free and open to the community. In addition to the game, the University hosts a carnival in the Flynn Recreation Complex with games, activities and refreshments for families to enjoy.

Kid's Karate Exhibition

For the last 16 years, BC has partnered with Kid's Karate, a premier youth karate program, to host an annual exhibition in the Power Gym at Conte Forum. More than 4,800 local children from Boston and Newton have benefited from the program which builds self-esteem, mental and physical confidence, and mutual respect among the children.

Jimmy Fund Charity Events

Boston College opens the Flynn Recreation Complex to the Hoops for Hope, 3-on-3 basketball tournament, which raises money to support cancer research. Last September, the Jimmy Fund utilized BC athletic and parking facilities to accommodate 400-600 walkers and served as the official start the Jimmy Fund 5-Mile Walk.

Community Rowing Boathouse

Boston College is participating in the development of the Community Rowing Boathouse now under construction at 100 Nonantum Road in Boston on land leased from the Commonwealth of Massachusetts. As a "Contributing Organization," the University has committed to a substantial payment towards construction costs and annual payments for on-going operating expenses in exchange for the use of boat storage racks in the facility by its crew team.

BOSTON COLLEGE
COMMUNITY BENEFITS REPORT
2015 & 2016

COOPERATION AGREEMENT WITH
THE CITY OF BOSTON

Submitted to Boston Redevelopment Authority

SUMMARY

Boston College has a proud history and special relationship with Boston, enriching and contributing to the City's vibrancy through its academic, cultural and recreational resources, community partnerships and volunteer and service learning programs. The University's contributions to the city, reflect its mission as an institution of higher learning and its Jesuit tradition of forming students to be men and women in service to others.

In August of 2014, the University entered in to a Cooperation Agreement with the City of Boston that included a commitment to public benefits to be implemented over the duration of the ten-year Institutional Master Plan approved in 2009. This following report highlights the University's ongoing progress in implementing a number of the community benefits listed in the Cooperation Agreement.

NEIGHBORHOOD IMPROVEMENT FUND

In conjunction with the City and the Boston College Allston Brighton Community Task Force (Task Force), the University established the Neighborhood Improvement Fund (NIF) in the amount of $2,564,000 with the goal of providing grants to finance projects that enhance the public realm when public sources of funding may be inadequate or unavailable. The NIF established two categories: small grants ($10,000 to $25,000) and large grants (over $25,000 up to $100,000).

In 2015, Boston College awarded $446,138 in NIF grants to six (6) Allston-Brighton organizations and their fiscal agents listed below, funding community projects to support youth, veterans, small businesses, public safety, recreational open space and bicycle transportation.

- Allston Brighton Veterans/Brighton Marine Health Center/City of Boston Veteran's Services Department-$90,000
- Boston Police Department-District 14-$40,00
- Boston Bikes/Hubway/Boston Transportation Department-$95,600
- Brighton Main Streets, Inc.-$100,000
- Friends of Chestnut Hill Reservation/Department of Conservation & Recreation-$25,000
- Friends of McKinney Park/Boston Parks & Recreation Department-$95,538

Following a review of recommended projects put forth by the Task Force to Boston College and the City, the Boston Redevelopment Authority approved

the grants at a meeting on September 17, 2015. Father Leahy and Mayor Walsh presented checks to the recipients at a grant ceremony on January 15, 2016 at Boston College. The 2016 NIF grant applications were released on June 3, 2016 and applications are due to the Boston College Neighborhood Center by 5 p.m. on August 10, 2016.

UNDERGRADUATE SCHOLARSHIPS

Boston College annually awards fifteen (15) full-tuition scholarships to qualified Boston residents (with a priority to Allston-Brighton residents). Recipients must be admitted as full-time undergraduates to the Boston College first-year class through the standard admission process, must have resided in Boston continuously for four years at a minimum prior to matriculation and must be from families demonstrating need in excess of $15,000 pursuant to uniform financial aid criteria. Students must also maintain good academic standing for the scholarship to renew.

Academic Year 2014-2015

Recipients by neighborhood: Allston-3, Brighton-3, Back Bay-1, Dorchester-5, Hyde Park -3
Total Aid Awarded to First-Year Students: $699,575
Total Aid Awarded for Academic Year: $2,119,539

Academic Year 2015-2016

Recipients by neighborhood: Allston-2, Brighton-2, Chinatown-2, Dorchester-3, East Boston-1, Hyde Park-1, Roslindale-1, Roxbury-2, South End-1
Total Aid Awarded to First-Year Students: $728,100
Total Aid Awarded for Academic Year: $2,402,730

WOODS COLLEGE OF ADVANCING STUDIES (WCAS) BOSTON SCHOLARSHIP

The Woods College of Advancing Studies annually awards up to a maximum of five tuition-only undergraduate scholarships per year to residents of Boston (with a priority to Allston-Brighton residents). The scholarship is administered by the Woods College of Advancing Studies in collaboration with the Office of Governmental & Community Affairs. Recipients of the scholarship must meet the requirements for admission to the WCAS and have demonstrated financial need. WCAS Boston Scholarship recipients may enroll in a degree or non-degree program. Non-degree students are awarded

the scholarship on a case by case basis and at the sole discretion of Boston College. Recipients must maintain good academic standing as defined by the WCAS for the scholarship to renew.

Academic Year 2014-2015

Recipients by neighborhood: Brighton-4, Dorchester-1
Total Aid Awarded for All Students: $20,560

Academic Year 2015-2016

Recipients by neighborhood: Brighton-3, Allston-1, Dorchester-1
Total Aid Awarded for All Students: $34,264

BOSTON COLLEGE NEIGHBORHOOD CENTER (BCNC)

In August of 2013, the Boston College Neighborhood Center relocated from 425 Washington Street to 480 Washington Street in Brighton. The new location provides enhanced and accessible space for community programming and meetings, as well a parking. Since the move, the BCNC in conjunction with the BC Human Resources Department, hosted five (5) on-site informational workshops focused on finding employment at Boston College and in higher education generally.

Workshops were held on November 14, 2013, May6, 2014, October 29, 2014, May 13, 2015, and May 25, 2016. Topics ranged from how to conduct a higher education job search, to how to get a job in the Boston College "Temp Pool" to drafting attention-getting resumes and cover letters, as well as advice on utilizing LinkedIn and other social media in a job search. On average 6 to 8 Boston residents, many from Allston-Brighton, attended the workshops. As a direct result of this outreach, four residents found jobs in the BC Temp Pool and two residents (one from Brighton) were hired for full-time, benefits eligible positions at the University.

BOSTON COLLEGE COMMUNITY FUND

Created in 1995, by Boston College and late Mayor Thomas Menino, the fund's mission is to provide grants to Allston-Brighton community groups and non-profit organizations that will enhance the community through civic engagement, beautification initiatives, youth enrichment and educational programs. A fund committee, responsible for grant review and approval, is composed of community residents and representatives from Boston College

and the City of Boston. The Office of Governmental & Community Affairs and the Boston College Neighborhood Center support the outreach and administration of the fund. Two grant cycles are offered in the fall and spring of each year and eligible organizations are invited to apply for $3,000 project grants, as well as a $25,000 beautification grant offered on a biennial basis.

Fall 2014-$3,000 Project Grants

Total Grant Award: $33,921
Twelve (12) funded organizations: Allston Board of Trade, Brighton Board of Trade, Allston Brighton Little League, Jewish Community Housing for the Elderly, Franciscan Hospital for Children, Boston Police Department, The Charles River Conservancy, The Literacy Connection-Sisters of St. Joseph of Boston, The Boston Minstrels, Horace Mann School for the Deaf-Basketball Program, Scan Works at Horace Mann School for the Deaf and West End Boys & Girls Club.

Spring 2015-$3,000 Project Grants

Total Grant Award: $34,095
Thirteen (13) funded organizations: Addiction Treatment Center of New England, Action for Boston Community Development, Inc. (ABCD), Granada House, The Fishing Academy, Inc., West End House Girls Camp, Allston-Brighton Substance Abuse Task Force, Boston Police Activities League (PAL), Boston Arts & Tourism, West End House Camp, Read Boston, Jackson/Mann Community Center After School Program & Pre-School Program, Oak Square YMCA and Allston Village Main Streets.

Fall 2015-$3,000 Project Grants

Total Grant Award: $39,837
Fourteen (14) funded organizations: Allston Board of Trade, Brighton Board of Trade, Allston Brighton Little League, Allston Brighton Youth Hockey, Boston Police Department, Brazilian Women's Group, Charles River Conservancy, Family Nurturing Center of MA-Allston Brighton Diaper Pantry, Holy Resurrection Orthodox Church-Open Door Soup Kitchen, Mary Lyon K-8 School, Road to the Right Track, The Literacy Connection-Sisters of St. Joseph of Boston, West End Boys & Girls Club and the Winship School Parent Council.

$25,000 Beautification Grant

The $25,000 beautification grant was not awarded in 2015. The committee did not receive any applications that met the eligibility and funding criteria, so the grant was held over.

Spring 2016-$3,000 Project Grants

Total Grant Award: $35,950
Thirteen (13) funded organizations: Action for Boston Community Development (ABCD), Allston Brighton Substance Abuse Task Force, The Boston Minstrels, Boston Police Activities League (PAL), Brighton Allston Improvement Association (BAIA), Common Wheels Bicycle Collective, Crittenton Women's Union, The Fishing Academy, Inc., Franciscan Children's Hospital, Oak Square YMCA, ReadBoston, West End House Camp, Inc. and the West End House Girls Camp.

ANNUAL JOB FAIRS/COMMUNITY HIRING EVENT

Boston College conducts community job fairs or hiring events generally twice a year focused on employment opportunities in Dining Services, Custodial Services, Building Trades, Public Safety & Security and the Temp Pool.

A community hiring event was held on December 3, 2014 resulting in two hires in the Temp Pool. Similar community hiring events were held on July 8, 2015, December 2, 2015 and January 21, 2016 resulting in a total of 24 Boston resident hires. Of the 24 Boston residents, 7 reside in Brighton. An additional job fair is planned for July of 2016.

CONSTRUCTION EMPLOYMENT

The University is currently in discussion with the Building Pathways Program to identify eligible Allston-Brighton candidates for their upcoming training program. The University is committed to the Boston Resident Jobs Policy and the hiring of union Boston residents, minorities and women on major construction projects. BC, our general contractors and subcontractors have made best faith efforts to meet the ordinance goals of 50% Residents, 25% Minorities and 10% Women. Results for the recently completed 2150 Commonwealth Avenue Residence Hall and 2000 Commonwealth Avenue Residence Hall projects are consistent with reporting from other Boston projects during what has been an extremely active city-wide construction cycle. BC Results: Residents-20-25%, Minorities-30-37% and Women: 3-4%.

NEIGHBORHOOD EMPLOYMENT

During the 2015-2016 academic year, Boston College employed 358 residents from the neighborhoods of Allston and Brighton. Boston College employed 664 residents from other neighborhoods in the City of Boston.

"WALK TO WORK" MORTGAGE ASSISTANCE PROGRAM

Representatives from the President's Office, Financial VP & Treasurer's Office, VP for Governmental Relations & Community Affairs and the General Counsel are currently working on the details related to the announcement and implementation of this program.

FIRST-TIME HOMEBUYER ASSISTANCE PROGRAM

Representatives from the Office of Governmental & Community Affairs met with Department of Neighborhood Development to request assistance in identifying providers offering established first-time home buyer education programs. The University plans to work with these organizations to find qualified Allston or Brighton residents who have successfully completed the home-buyer program and have met the saving threshold of $5,000 toward a home purchase.

ST. COLUMBKILLE PARTNERSHIP SCHOOL

Starting in 2006, Boston College formed a unique partnership with St. Columbkille School and the Archdiocese of Boston, to create a school that provides students with a superior Pre-K to 8 education, grounded in Catholic values. The University is committed to the partnership and continues to support the school in various ways: offering free master's degrees for all teachers who are admitted to the Lynch School of Education (generally 4 candidates per year), providing the City Connects Program to coordinate and deliver services to students and parents, providing student athlete volunteers and Read Aloud employee volunteers, academic advice and program support, and financial contributions for facilities and other expenses as needed.

OUTREACH/PROGRAMS/PARTNERSHIPS WITH BOSTON PUBLIC SCHOOLS

Through the work of the dedicated faculty, staff and students at the Lynch School of Education, the University supported the Boston Public Schools (BPS) in 2015 and 2016 via the following programs:

- City Connects-Since 2001, City Connects and the BPS have collaborated to deliver a systematic, high-impact and cost-effective approach to addressing the out-of-school factors that limit a student's

ability to learn. City Connects operates programs with a full-time coordinator(s) in 21 Boston Public Schools, including the Jackson/Mann K-8 and the Gardner Pilot Academy in Allston and the Edison K-8 and Winship Elementary School in Brighton. BC raises 60% of all funds for the City Connects coordinators salaries and benefits, as well as operational costs for the program.

- College Bound-A pre-collegiate enrichment program offered to a diverse group of 50 to 60 students from three Boston Public High Schools: Brighton High School, West Roxbury Academy and the Urban Science Academy The curriculum focuses on Social Justice and STEM education, encouraging students to become change agents in their schools and local communities.
- Donovan Urban Teaching Scholars Program-An intensive one-year master's degree program in teacher preparation that places up to 30 graduate students in Boston Public Schools. The program is designed specifically to be responsive to the concerns and needs of urban students and families. Pre-practicum and practicum scholars can be found in the Jackson/Mann K-8 and Brighton High School and a number of Donovan alumni are currently teaching in the Boston Public Schools.

MAYOR'S SUMMER EMPLOYMENT PROGRAM-PRIVATE INDUSTRY COUNCIL (PIC)

As a participant in and supporter of the PIC program since 1998, Boston College offers employment opportunities for up to 25 Boston high school students, with a focus on students attending schools located in Brighton such as Brighton High, Boston Green Academy and Another Course to College. Students gain valuable job experience and administrative skills working in various offices and departments across campus such as the Office of Governmental & Community Affairs, IT, Accounts Payable, Human Resources, Lynch School of Education, Learning to Learn, Student Affairs, Bookstore, Office of Parking & Transportation, Connell School of Nursing and Alumni Relations. In the summer of 2015, BC employed 19 students and expended approximately $41,700 in student salaries for a seven (7) week program. Summer of 2016, BC will employ 20 students and expend approximately $39,600 for a six (6) week program.

COMMUNITY ASSISTANCE PROGRAM

Under the direction of the Office of Governmental and Community Affairs, a full-time employee, the Boston College Off-Campus Student Community Liaison, works in conjunction with Office of Student Affairs, the Boston College Police, the Boston Police-District 14, neighbors and other community-based organizations to prevent, respond to and reduce the

number of off-campus noise and student behavior complaints in the neighborhoods surrounding Boston College. The model-program has successfully reduced complaints by almost 50% from 23 in academic year 2014-2015 to 12 in academic year 2015-2016.

APPENDIX B: Hazardous Materials

Preliminary Chemical Analysis of Soil Memorandum

Memorandum

Date:	October 5, 2016
Recipient:	Boston College Mr. Thomas Runyon
Sender:	John A. Erikson, Peter J. Dechaves L.S.P.
Project:	Boston College Practice Facility; Chestnut Hill, Massachusetts
Project No:	5661.9.01
Subject:	Preliminary Chemical Analysis of Soil

The following summarizes the results of preliminary chemical testing that was performed on fill material that is anticipated to be generated during construction of the Boston College Indoor Practice Facility project located on the Boston College campus in Chestnut Hill, Massachusetts. Enclosed is a data table that summarizes the results of the soil testing. The purpose of this memorandum is to provide preliminary information for pricing purposes. Additional chemical testing for off-site disposal will be required as part of the project construction phase.

Background

The proposed indoor practice facility is to be located on the existing Boston College property know as Shea Field which is bounded by Beacon Street to the south, Chestnut Hill Driveway to the east, a wooded park area to the north and the Boston College Beacon Street Garage to the west. A series of playing fields currently occupy the site including football, softball and baseball fields.

The proposed indoor practice facility is planned to be located within the southwest corner of Shea Field, adjacent to the southern portion of the Beacon Street Garage. The main practice facility structure will be a high-span (45 to 60 feet in height), industrial-type building occupying a footprint of approximately 200 by 400 feet. A weight room building with a plan area of about 90-foot by 150-foot is planned to extend from the northeast corner of the structure. A series of support rooms will be located between the indoor practice facility and the Beacon Street Garage. It is understood that the proposed building foundations will be designed to span over the MWRA easement.

As part of the proposed construction, an underground water storage system is planned to be located below the portion of the practice field located southwest of the MWRA easement. The water storage system is planned to consist of a series of interconnected reinforced concrete chambers. The plan limits of the water storage chambers will be off-set from the perimeter of the practice field walls to avoid conflict with the proposed foundations. The chambers will have a clear height of 8-foot 4-inches and will be supported on a reinforced concrete slab.

Memorandum

Preliminary Site Characterization

As part of our recent, supplemental subsurface exploration program that was completed on May 5 through 10, 2016, representative samples of the fill material were obtained from borings located across the site. The borings were generally performed within areas where a 6-inch to 1.5-foot thickness of topsoil was encountered. Underlying the topsoil, the borings encountered a granular fill material. Refer to our Final Geotechnical Engineering Report dated September 9, 2016 for the approximate locations of the borings and boring logs.

Based upon the subsurface conditions encountered in the above referenced borings, a total of two (2) composite samples of the fill material were analyzed for the presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total RCRA-8 metals, total petroleum hydrocarbons (TPHs), polychlorinated biphenyls (PCBs), specific conductance, pH, flashpoint and reactivity. The results of laboratory test data are summarized in **Table 2**. Additionally, the laboratory report is included for reference.

The results of chemical testing did not detect concentrations in excess of the applicable RCS-1 reporting thresholds established in 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP). Based upon these results, the soil represented by the analyzed samples of fill is anticipated to be suitable for disposal at a like site or "similar soils" facility. However, based on our experience with disposal of urban fill material at similar sites, it is anticipated that portions of the fill material across the site will be regulated for off-site disposal. For budgeting purposes, it is recommended that a contingency be included for disposing of up to half of the site fill material at a regulated facility (which is anticipated to vary from an un-lined landfill to an out of state, non-hazardous facility).

It should be noted, that the analysis of several VOCs in the attached laboratory testing were performed utilizing detection limits in excess of the applicable RCS-1 reporting thresholds. As such (and as previously stated) additional testing will be required for disposal and to confirm that the concentrations of VOCs in the soil do not exceed the RCS-1 reporting thresholds for these compounds.

We trust that the above is sufficient for your present requirements. Should you have any questions, please do not hesitate to call us.

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TABLE 2
Analytical Testing Summary

Boston College Practice Facility
Project No. 5661.2.01

LOCATION	RCS-1 14	B2016-5 FILL 1-8'	B2016-5 S-2 6-8'	B2016-8 FILL 1-7'	B2016-8 S-1 1-3'
SAMPLING DATE		5/10/2016	5/10/2016	5/9/2016	5/9/2016
LAB SAMPLE ID		L1614665-01	L1614665-02	L1614665-03	L1614665-04
SAMPLE TYPE					
SAMPLE DEPTH (ft.)					
General Chemistry					
Specific Conductance (umhos/cm)		37	-	13	-
Solids, Total (%)		81.5	81.5	82.1	82.1
pH (H) (SU)		7.5	-	7.1	-
Cyanide, Reactive (mg/kg)		ND(5)	-	ND(5)	-
Sulfide, Reactive (mg/kg)		ND(5)	-	ND(5)	-
Ignitability		NI	-	NI	-
MCP Polychlorinated Biphenyls (mg/kg)					
SUM		ND(0.02)	-	ND(0.01985)	
MCP Semivolatile Organics (mg/kg)					
Fluoranthene	1000	0.22	-	ND(0.06)	-
Benzo(b)fluoranthene	7	0.12	-	ND(0.06)	-
Phenanthrene	10	0.13	-	ND(0.06)	-
Pyrene	1000	0.22	-	ND(0.06)	-
SUM		0.69	-	-	
MCP Total Metals (mg/kg)					
Arsenic, Total	20	3.8	-	3.8	-
Barium, Total	1000	31	-	25	-
Cadmium, Total	70	ND(0.235)	-	ND(0.24)	-
Chromium, Total	100	11	-	14	-
Lead, Total	200	32	-	27	-
Mercury, Total	20	0.155	-	0.119	-
Selenium, Total	400	ND(1.15)	-	ND(1.2)	-
Silver, Total	100	ND(0.235)	-	ND(0.24)	-
MCP Volatile Organics by 5035 High (mg/kg)					
Methylene chloride	0.1	-	**ND(0.55)**	-	**ND(0.6)**
1,2-Dichloropropane	0.1	-	**ND(0.2)**	-	**ND(0.21)**
Dibromochloromethane	0.005	-	**ND(0.055)**	-	**ND(0.06)**
trans-1,3-Dichloropropene	0.01	-	**ND(0.055)**	-	**ND(0.06)**
cis-1,3-Dichloropropene	0.01	-	**ND(0.055)**	-	**ND(0.06)**
1,3-Dichloropropene, Total	0.01	-	**ND(0.055)**	-	**ND(0.06)**
Bromoform	0.1	-	**ND(0.225)**	-	**ND(0.24)**
1,1,2,2-Tetrachloroethane	0.005	-	**ND(0.055)**	-	**ND(0.06)**
Methyl tert butyl ether	0.1	-	**ND(0.115)**	-	**ND(0.12)**
Methyl isobutyl ketone	0.4	-	**ND(0.55)**	-	**ND(0.6)**
1,2-Dibromoethane	0.1	-	**ND(0.225)**	-	**ND(0.24)**
1,4-Dioxane	0.2	-	**ND(5.5)**	-	**ND(6)**
SUM		-	-	-	-
Petroleum Hydrocarbon Quantitation (mg/kg)					
TPH	1000	79.2	-	ND(20.05)	-
DISPOSAL CLASSIFICATION		<RCS-1*		<RCS-1*	

ND- Not Detected above laboratory detection limits in ( )
Bold- Exceeds applicable RCS-1 Standard

ANALYTICAL REPORT

Lab Number:	L1614665
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	BC PRACTICE FACILITY
Project Number:	5661.2.00
Report Date:	05/22/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1614665-01	B2016-5 FILL 1-8'	SOIL	BOSTON, MA	05/10/16 15:00	05/13/16
L1614665-02	B2016-5 S-2 6-8'	SOIL	BOSTON, MA	05/10/16 15:00	05/13/16
L1614665-03	B2016-8 FILL 1-7'	SOIL	BOSTON, MA	05/09/16 15:00	05/13/16
L1614665-04	B2016-8 S-1 1-3'	SOIL	BOSTON, MA	05/09/16 15:00	05/13/16

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	BC PRACTICE FACILITY	**Lab Number:**	L1614665
Project Number:	5661.2.00	**Report Date:**	05/22/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	BC PRACTICE FACILITY	**Lab Number:**	L1614665
Project Number:	5661.2.00	**Report Date:**	05/22/16

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

The samples submitted for Volatile Organics were received without raw soil for the Total Solids analysis. The Total Solids results from the corresponding composite samples were utilized in the dry weight calculation of the Volatile Organics data.

In reference to question H:

A Matrix Spike was not submitted for the analysis of Metals.

Volatile Organics

In reference to question G:

L1614665-02 and -04: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1614665-02 and -04, did not meet the method required minimum response factor on the lowest calibration standard for 4-methyl-2-pentanone (0.08461).

The continuing calibration standard, associated with L1614665-02 and -04, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 05/22/16

ORGANICS

VOLATILES

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-02
Client ID: B2016-5 S-2 6-8'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 05/18/16 11:03
Analyst: BN
Percent Solids: 82%

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	1100	--	1
1,1-Dichloroethane	ND		ug/kg	170	--	1
Chloroform	ND		ug/kg	170	--	1
Carbon tetrachloride	ND		ug/kg	110	--	1
1,2-Dichloropropane	ND		ug/kg	400	--	1
Dibromochloromethane	ND		ug/kg	110	--	1
1,1,2-Trichloroethane	ND		ug/kg	170	--	1
Tetrachloroethene	ND		ug/kg	110	--	1
Chlorobenzene	ND		ug/kg	110	--	1
Trichlorofluoromethane	ND		ug/kg	450	--	1
1,2-Dichloroethane	ND		ug/kg	110	--	1
1,1,1-Trichloroethane	ND		ug/kg	110	--	1
Bromodichloromethane	ND		ug/kg	110	--	1
trans-1,3-Dichloropropene	ND		ug/kg	110	--	1
cis-1,3-Dichloropropene	ND		ug/kg	110	--	1
1,3-Dichloropropene, Total	ND		ug/kg	110	--	1
1,1-Dichloropropene	ND		ug/kg	450	--	1
Bromoform	ND		ug/kg	450	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	110	--	1
Benzene	ND		ug/kg	110	--	1
Toluene	ND		ug/kg	170	--	1
Ethylbenzene	ND		ug/kg	110	--	1
Chloromethane	ND		ug/kg	450	--	1
Bromomethane	ND		ug/kg	230	--	1
Vinyl chloride	ND		ug/kg	230	--	1
Chloroethane	ND		ug/kg	230	--	1
1,1-Dichloroethene	ND		ug/kg	110	--	1
trans-1,2-Dichloroethene	ND		ug/kg	170	--	1
Trichloroethene	ND		ug/kg	110	--	1
1,2-Dichlorobenzene	ND		ug/kg	450	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-02 Date Collected: 05/10/16 15:00

Client ID: B2016-5 S-2 6-8' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	450	--	1
1,4-Dichlorobenzene	ND		ug/kg	450	--	1
Methyl tert butyl ether	ND		ug/kg	230	--	1
p/m-Xylene	ND		ug/kg	230	--	1
o-Xylene	ND		ug/kg	230	--	1
Xylenes, Total	ND		ug/kg	230	--	1
cis-1,2-Dichloroethene	ND		ug/kg	110	--	1
1,2-Dichloroethene, Total	ND		ug/kg	110	--	1
Dibromomethane	ND		ug/kg	450	--	1
1,2,3-Trichloropropane	ND		ug/kg	450	--	1
Styrene	ND		ug/kg	230	--	1
Dichlorodifluoromethane	ND		ug/kg	1100	--	1
Acetone	ND		ug/kg	4100	--	1
Carbon disulfide	ND		ug/kg	450	--	1
Methyl ethyl ketone	ND		ug/kg	1100	--	1
Methyl isobutyl ketone	ND		ug/kg	1100	--	1
2-Hexanone	ND		ug/kg	1100	--	1
Bromochloromethane	ND		ug/kg	450	--	1
Tetrahydrofuran	ND		ug/kg	450	--	1
2,2-Dichloropropane	ND		ug/kg	570	--	1
1,2-Dibromoethane	ND		ug/kg	450	--	1
1,3-Dichloropropane	ND		ug/kg	450	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	110	--	1
Bromobenzene	ND		ug/kg	570	--	1
n-Butylbenzene	ND		ug/kg	110	--	1
sec-Butylbenzene	ND		ug/kg	110	--	1
tert-Butylbenzene	ND		ug/kg	450	--	1
o-Chlorotoluene	ND		ug/kg	450	--	1
p-Chlorotoluene	ND		ug/kg	450	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	450	--	1
Hexachlorobutadiene	ND		ug/kg	450	--	1
Isopropylbenzene	ND		ug/kg	110	--	1
p-Isopropyltoluene	ND		ug/kg	110	--	1
Naphthalene	ND		ug/kg	450	--	1
n-Propylbenzene	ND		ug/kg	110	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	450	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	450	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	450	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	450	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-02 Date Collected: 05/10/16 15:00

Client ID: B2016-5 S-2 6-8' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	570	--	1
Diisopropyl Ether	ND		ug/kg	450	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	450	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	450	--	1
1,4-Dioxane	ND		ug/kg	11000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-04
Client ID: B2016-8 S-1 1-3'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8260C
Analytical Date: 05/18/16 11:30
Analyst: BN
Percent Solids: 82%

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	1200	--	1
1,1-Dichloroethane	ND		ug/kg	180	--	1
Chloroform	ND		ug/kg	180	--	1
Carbon tetrachloride	ND		ug/kg	120	--	1
1,2-Dichloropropane	ND		ug/kg	420	--	1
Dibromochloromethane	ND		ug/kg	120	--	1
1,1,2-Trichloroethane	ND		ug/kg	180	--	1
Tetrachloroethene	ND		ug/kg	120	--	1
Chlorobenzene	ND		ug/kg	120	--	1
Trichlorofluoromethane	ND		ug/kg	480	--	1
1,2-Dichloroethane	ND		ug/kg	120	--	1
1,1,1-Trichloroethane	ND		ug/kg	120	--	1
Bromodichloromethane	ND		ug/kg	120	--	1
trans-1,3-Dichloropropene	ND		ug/kg	120	--	1
cis-1,3-Dichloropropene	ND		ug/kg	120	--	1
1,3-Dichloropropene, Total	ND		ug/kg	120	--	1
1,1-Dichloropropene	ND		ug/kg	480	--	1
Bromoform	ND		ug/kg	480	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	120	--	1
Benzene	ND		ug/kg	120	--	1
Toluene	ND		ug/kg	180	--	1
Ethylbenzene	ND		ug/kg	120	--	1
Chloromethane	ND		ug/kg	480	--	1
Bromomethane	ND		ug/kg	240	--	1
Vinyl chloride	ND		ug/kg	240	--	1
Chloroethane	ND		ug/kg	240	--	1
1,1-Dichloroethene	ND		ug/kg	120	--	1
trans-1,2-Dichloroethene	ND		ug/kg	180	--	1
Trichloroethene	ND		ug/kg	120	--	1
1,2-Dichlorobenzene	ND		ug/kg	480	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-04 Date Collected: 05/09/16 15:00

Client ID: B2016-8 S-1 1-3' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	480	--	1
1,4-Dichlorobenzene	ND		ug/kg	480	--	1
Methyl tert butyl ether	ND		ug/kg	240	--	1
p/m-Xylene	ND		ug/kg	240	--	1
o-Xylene	ND		ug/kg	240	--	1
Xylenes, Total	ND		ug/kg	240	--	1
cis-1,2-Dichloroethene	ND		ug/kg	120	--	1
1,2-Dichloroethene, Total	ND		ug/kg	120	--	1
Dibromomethane	ND		ug/kg	480	--	1
1,2,3-Trichloropropane	ND		ug/kg	480	--	1
Styrene	ND		ug/kg	240	--	1
Dichlorodifluoromethane	ND		ug/kg	1200	--	1
Acetone	ND		ug/kg	4300	--	1
Carbon disulfide	ND		ug/kg	480	--	1
Methyl ethyl ketone	ND		ug/kg	1200	--	1
Methyl isobutyl ketone	ND		ug/kg	1200	--	1
2-Hexanone	ND		ug/kg	1200	--	1
Bromochloromethane	ND		ug/kg	480	--	1
Tetrahydrofuran	ND		ug/kg	480	--	1
2,2-Dichloropropane	ND		ug/kg	600	--	1
1,2-Dibromoethane	ND		ug/kg	480	--	1
1,3-Dichloropropane	ND		ug/kg	480	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	120	--	1
Bromobenzene	ND		ug/kg	600	--	1
n-Butylbenzene	ND		ug/kg	120	--	1
sec-Butylbenzene	ND		ug/kg	120	--	1
tert-Butylbenzene	ND		ug/kg	480	--	1
o-Chlorotoluene	ND		ug/kg	480	--	1
p-Chlorotoluene	ND		ug/kg	480	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	480	--	1
Hexachlorobutadiene	ND		ug/kg	480	--	1
Isopropylbenzene	ND		ug/kg	120	--	1
p-Isopropyltoluene	ND		ug/kg	120	--	1
Naphthalene	ND		ug/kg	480	--	1
n-Propylbenzene	ND		ug/kg	120	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	480	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	480	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	480	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	480	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-04 Date Collected: 05/09/16 15:00

Client ID: B2016-8 S-1 1-3' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics by 5035 High - Westborough Lab						
Diethyl ether	ND		ug/kg	600	--	1
Diisopropyl Ether	ND		ug/kg	480	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	480	--	1
Tertiary-Amyl Methyl Ether	ND		ug/kg	480	--	1
1,4-Dioxane	ND		ug/kg	12000	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 05/18/16 08:49
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02,04 Batch: WG895254-3					
Methylene chloride	ND		ug/kg	500	--
1,1-Dichloroethane	ND		ug/kg	75	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	180	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	75	--
Tetrachloroethene	ND		ug/kg	50	--
Chlorobenzene	ND		ug/kg	50	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	50	--
Bromodichloromethane	ND		ug/kg	50	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	50	--
1,3-Dichloropropene, Total	ND		ug/kg	50	--
1,1-Dichloropropene	ND		ug/kg	200	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	--
Benzene	ND		ug/kg	50	--
Toluene	ND		ug/kg	75	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	100	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--
Trichloroethene	ND		ug/kg	50	--

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 05/18/16 08:49
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02,04 Batch: WG895254-3					
1,2-Dichlorobenzene	ND		ug/kg	200	--
1,3-Dichlorobenzene	ND		ug/kg	200	--
1,4-Dichlorobenzene	ND		ug/kg	200	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	100	--
Xylenes, Total	ND		ug/kg	100	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	200	--
1,2,3-Trichloropropane	ND		ug/kg	200	--
Styrene	ND		ug/kg	100	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	1800	--
Carbon disulfide	ND		ug/kg	200	--
Methyl ethyl ketone	ND		ug/kg	500	--
Methyl isobutyl ketone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Bromochloromethane	ND		ug/kg	200	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	250	--
1,2-Dibromoethane	ND		ug/kg	200	--
1,3-Dichloropropane	ND		ug/kg	200	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	50	--
Bromobenzene	ND		ug/kg	250	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	200	--
o-Chlorotoluene	ND		ug/kg	200	--

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 05/18/16 08:49
Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02,04 Batch: WG895254-3					
p-Chlorotoluene	ND		ug/kg	200	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	200	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	200	--
1,2,4-Trichlorobenzene	ND		ug/kg	200	--
1,3,5-Trimethylbenzene	ND		ug/kg	200	--
1,2,4-Trimethylbenzene	ND		ug/kg	200	--
Diethyl ether	ND		ug/kg	250	--
Diisopropyl Ether	ND		ug/kg	200	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	200	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	200	--
1,4-Dioxane	ND		ug/kg	5000	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02,04 Batch: WG895254-1 WG895254-2								
Methylene chloride	82		84		70-130	2		20
1,1-Dichloroethane	82		81		70-130	1		20
Chloroform	95		94		70-130	1		20
Carbon tetrachloride	123		116		70-130	6		20
1,2-Dichloropropane	79		79		70-130	0		20
Dibromochloromethane	106		108		70-130	2		20
1,1,2-Trichloroethane	83		82		70-130	1		20
Tetrachloroethene	119		114		70-130	4		20
Chlorobenzene	97		97		70-130	0		20
Trichlorofluoromethane	111		105		70-130	6		20
1,2-Dichloroethane	95		94		70-130	1		20
1,1,1-Trichloroethane	114		110		70-130	4		20
Bromodichloromethane	94		94		70-130	0		20
trans-1,3-Dichloropropene	90		90		70-130	0		20
cis-1,3-Dichloropropene	87		88		70-130	1		20
1,1-Dichloropropene	95		90		70-130	5		20
Bromoform	104		104		70-130	0		20
1,1,2,2-Tetrachloroethane	81		82		70-130	1		20
Benzene	84		83		70-130	1		20
Toluene	92		91		70-130	1		20
Ethylbenzene	94		93		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02,04 Batch: WG895254-1 WG895254-2								
Chloromethane	114		112		70-130	2		20
Bromomethane	79		76		70-130	4		20
Vinyl chloride	108		104		70-130	4		20
Chloroethane	72		71		70-130	1		20
1,1-Dichloroethene	97		91		70-130	6		20
trans-1,2-Dichloroethene	94		93		70-130	1		20
Trichloroethene	101		97		70-130	4		20
1,2-Dichlorobenzene	102		101		70-130	1		20
1,3-Dichlorobenzene	106		103		70-130	3		20
1,4-Dichlorobenzene	105		104		70-130	1		20
Methyl tert butyl ether	86		88		70-130	2		20
p/m-Xylene	101		101		70-130	0		20
o-Xylene	99		98		70-130	1		20
cis-1,2-Dichloroethene	91		91		70-130	0		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	81		85		70-130	5		20
Styrene	95		96		70-130	1		20
Dichlorodifluoromethane	**221**	Q	**203**	Q	70-130	8		20
Acetone	84		83		70-130	1		20
Carbon disulfide	91		88		70-130	3		20
Methyl ethyl ketone	76		75		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02,04 Batch: WG895254-1 WG895254-2								
Methyl isobutyl ketone	70		72		70-130	3		20
2-Hexanone	72		76		70-130	5		20
Bromochloromethane	112		109		70-130	3		20
Tetrahydrofuran	76		76		70-130	0		20
2,2-Dichloropropane	106		100		70-130	6		20
1,2-Dibromoethane	97		99		70-130	2		20
1,3-Dichloropropane	82		85		70-130	4		20
1,1,1,2-Tetrachloroethane	113		114		70-130	1		20
Bromobenzene	107		106		70-130	1		20
n-Butylbenzene	94		90		70-130	4		20
sec-Butylbenzene	100		96		70-130	4		20
tert-Butylbenzene	113		108		70-130	5		20
o-Chlorotoluene	93		91		70-130	2		20
p-Chlorotoluene	94		93		70-130	1		20
1,2-Dibromo-3-chloropropane	103		106		70-130	3		20
Hexachlorobutadiene	**145**	Q	**137**	Q	70-130	6		20
Isopropylbenzene	100		96		70-130	4		20
p-Isopropyltoluene	110		106		70-130	4		20
Naphthalene	108		109		70-130	1		20
n-Propylbenzene	94		90		70-130	4		20
1,2,3-Trichlorobenzene	119		119		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02,04 Batch: WG895254-1 WG895254-2								
1,2,4-Trichlorobenzene	119		118		70-130	1		20
1,3,5-Trimethylbenzene	104		101		70-130	3		20
1,2,4-Trimethylbenzene	104		102		70-130	2		20
Diethyl ether	79		80		70-130	1		20
Diisopropyl Ether	73		73		70-130	0		20
Ethyl-Tert-Butyl-Ether	81		81		70-130	0		20
Tertiary-Amyl Methyl Ether	84		85		70-130	1		20
1,4-Dioxane	89		94		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		107		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	108		108		70-130

SEMIVOLATILES

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01
Client ID: B2016-5 FILL 1-8'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 05/21/16 05:10
Analyst: RP
Percent Solids: 82%

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 05/16/16 07:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	200	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	220		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	160	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	200	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	120		ug/kg	120	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01 Date Collected: 05/10/16 15:00

Client ID: B2016-5 FILL 1-8' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	130		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	220		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	240	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	200	--	1
2,4-Dichlorophenol	ND		ug/kg	180	--	1
2,4-Dimethylphenol	ND		ug/kg	200	--	1
2-Nitrophenol	ND		ug/kg	430	--	1
4-Nitrophenol	ND		ug/kg	280	--	1
2,4-Dinitrophenol	ND		ug/kg	960	--	1
Pentachlorophenol	ND		ug/kg	400	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	800	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	85		30-130
Phenol-d6	92		30-130
Nitrobenzene-d5	96		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	95		30-130
4-Terphenyl-d14	52		30-130

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8270D
Analytical Date: 05/21/16 05:35
Analyst: RP
Percent Solids: 82%

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 05/16/16 07:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/kg	160	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	--	1
Hexachlorobenzene	ND		ug/kg	120	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	--	1
2-Chloronaphthalene	ND		ug/kg	200	--	1
1,2-Dichlorobenzene	ND		ug/kg	200	--	1
1,3-Dichlorobenzene	ND		ug/kg	200	--	1
1,4-Dichlorobenzene	ND		ug/kg	200	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	--	1
2,4-Dinitrotoluene	ND		ug/kg	200	--	1
2,6-Dinitrotoluene	ND		ug/kg	200	--	1
Azobenzene	ND		ug/kg	200	--	1
Fluoranthene	ND		ug/kg	120	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	--	1
Hexachlorobutadiene	ND		ug/kg	200	--	1
Hexachloroethane	ND		ug/kg	160	--	1
Isophorone	ND		ug/kg	180	--	1
Naphthalene	ND		ug/kg	200	--	1
Nitrobenzene	ND		ug/kg	180	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	--	1
Butyl benzyl phthalate	ND		ug/kg	200	--	1
Di-n-butylphthalate	ND		ug/kg	200	--	1
Di-n-octylphthalate	ND		ug/kg	200	--	1
Diethyl phthalate	ND		ug/kg	200	--	1
Dimethyl phthalate	ND		ug/kg	200	--	1
Benzo(a)anthracene	ND		ug/kg	120	--	1
Benzo(a)pyrene	ND		ug/kg	160	--	1
Benzo(b)fluoranthene	ND		ug/kg	120	--	1

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03 Date Collected: 05/09/16 15:00

Client ID: B2016-8 FILL 1-7' Date Received: 05/13/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	ND		ug/kg	120	--	1
Chrysene	ND		ug/kg	120	--	1
Acenaphthylene	ND		ug/kg	160	--	1
Anthracene	ND		ug/kg	120	--	1
Benzo(ghi)perylene	ND		ug/kg	160	--	1
Fluorene	ND		ug/kg	200	--	1
Phenanthrene	ND		ug/kg	120	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	--	1
Pyrene	ND		ug/kg	120	--	1
Aniline	ND		ug/kg	240	--	1
4-Chloroaniline	ND		ug/kg	200	--	1
Dibenzofuran	ND		ug/kg	200	--	1
2-Methylnaphthalene	ND		ug/kg	240	--	1
Acetophenone	ND		ug/kg	200	--	1
2,4,6-Trichlorophenol	ND		ug/kg	120	--	1
2-Chlorophenol	ND		ug/kg	200	--	1
2,4-Dichlorophenol	ND		ug/kg	180	--	1
2,4-Dimethylphenol	ND		ug/kg	200	--	1
2-Nitrophenol	ND		ug/kg	440	--	1
4-Nitrophenol	ND		ug/kg	280	--	1
2,4-Dinitrophenol	ND		ug/kg	970	--	1
Pentachlorophenol	ND		ug/kg	400	--	1
Phenol	ND		ug/kg	200	--	1
2-Methylphenol	ND		ug/kg	200	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	--	1
2,4,5-Trichlorophenol	ND		ug/kg	200	--	1
Pyridine	ND		ug/kg	810	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		30-130
Phenol-d6	83		30-130
Nitrobenzene-d5	87		30-130
2-Fluorobiphenyl	59		30-130
2,4,6-Tribromophenol	90		30-130
4-Terphenyl-d14	50		30-130

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 05/20/16 20:31
Analyst: RP

Extraction Method: EPA 3546
Extraction Date: 05/16/16 07:33

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG894272-1					
Acenaphthene	ND		ug/kg	130	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	97	--
Bis(2-chloroethyl)ether	ND		ug/kg	140	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	97	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	--
Bis(2-chloroethoxy)methane	ND		ug/kg	170	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	140	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	140	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	97	--
Benzo(a)pyrene	ND		ug/kg	130	--

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 05/20/16 20:31
Analyst: RP

Extraction Method: EPA 3546
Extraction Date: 05/16/16 07:33

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG894272-1					
Benzo(b)fluoranthene	ND		ug/kg	97	--
Benzo(k)fluoranthene	ND		ug/kg	97	--
Chrysene	ND		ug/kg	97	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	97	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	97	--
Dibenzo(a,h)anthracene	ND		ug/kg	97	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	97	--
Aniline	ND		ug/kg	190	--
4-Chloroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	190	--
Acetophenone	ND		ug/kg	160	--
2,4,6-Trichlorophenol	ND		ug/kg	97	--
2-Chlorophenol	ND		ug/kg	160	--
2,4-Dichlorophenol	ND		ug/kg	140	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	770	--
Pentachlorophenol	ND		ug/kg	320	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Pyridine	ND		ug/kg	640	--

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 05/20/16 20:31
Analyst: RP

Extraction Method: EPA 3546
Extraction Date: 05/16/16 07:33

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG894272-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		30-130
Phenol-d6	75		30-130
Nitrobenzene-d5	76		30-130
2-Fluorobiphenyl	72		30-130
2,4,6-Tribromophenol	86		30-130
4-Terphenyl-d14	89		30-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG894272-2 WG894272-3								
Acenaphthene	85		84		40-140	1		30
1,2,4-Trichlorobenzene	80		79		40-140	1		30
Hexachlorobenzene	94		91		40-140	3		30
Bis(2-chloroethyl)ether	82		80		40-140	2		30
2-Chloronaphthalene	90		87		40-140	3		30
1,2-Dichlorobenzene	77		74		40-140	4		30
1,3-Dichlorobenzene	74		74		40-140	0		30
1,4-Dichlorobenzene	75		73		40-140	3		30
3,3'-Dichlorobenzidine	75		72		40-140	4		30
2,4-Dinitrotoluene	101		99		40-140	2		30
2,6-Dinitrotoluene	103		99		40-140	4		30
Azobenzene	100		98		40-140	2		30
Fluoranthene	95		90		40-140	5		30
4-Bromophenyl phenyl ether	92		91		40-140	1		30
Bis(2-chloroisopropyl)ether	98		94		40-140	4		30
Bis(2-chloroethoxy)methane	88		87		40-140	1		30
Hexachlorobutadiene	82		82		40-140	0		30
Hexachloroethane	80		80		40-140	0		30
Isophorone	94		93		40-140	1		30
Naphthalene	82		80		40-140	2		30
Nitrobenzene	89		88		40-140	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG894272-2 WG894272-3								
Bis(2-ethylhexyl)phthalate	102		98		40-140	4		30
Butyl benzyl phthalate	109		101		40-140	8		30
Di-n-butylphthalate	102		96		40-140	6		30
Di-n-octylphthalate	112		106		40-140	6		30
Diethyl phthalate	96		92		40-140	4		30
Dimethyl phthalate	92		89		40-140	3		30
Benzo(a)anthracene	90		87		40-140	3		30
Benzo(a)pyrene	98		96		40-140	2		30
Benzo(b)fluoranthene	89		90		40-140	1		30
Benzo(k)fluoranthene	92		87		40-140	6		30
Chrysene	87		86		40-140	1		30
Acenaphthylene	92		90		40-140	2		30
Anthracene	90		87		40-140	3		30
Benzo(ghi)perylene	100		97		40-140	3		30
Fluorene	90		88		40-140	2		30
Phenanthrene	87		84		40-140	4		30
Dibenzo(a,h)anthracene	96		95		40-140	1		30
Indeno(1,2,3-cd)pyrene	99		96		40-140	3		30
Pyrene	94		89		40-140	5		30
Aniline	59		58		40-140	2		30
4-Chloroaniline	70		71		40-140	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG894272-2 WG894272-3								
Dibenzofuran	87		86		40-140	1		30
2-Methylnaphthalene	85		84		40-140	1		30
Acetophenone	91		91		40-140	0		30
2,4,6-Trichlorophenol	95		92		30-130	3		30
2-Chlorophenol	86		84		30-130	2		30
2,4-Dichlorophenol	91		89		30-130	2		30
2,4-Dimethylphenol	99		96		30-130	3		30
2-Nitrophenol	92		89		30-130	3		30
4-Nitrophenol	126		119		30-130	6		30
2,4-Dinitrophenol	89		84		30-130	6		30
Pentachlorophenol	96		91		30-130	5		30
Phenol	87		85		30-130	2		30
2-Methylphenol	88		89		30-130	1		30
3-Methylphenol/4-Methylphenol	92		92		30-130	0		30
2,4,5-Trichlorophenol	96		97		30-130	1		30
Pyridine	67		66		30-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG894272-2 WG894272-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	82		80		30-130
Phenol-d6	90		88		30-130
Nitrobenzene-d5	93		90		30-130
2-Fluorobiphenyl	84		83		30-130
2,4,6-Tribromophenol	94		93		30-130
4-Terphenyl-d14	92		87		30-130

PETROLEUM HYDROCARBONS

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01
Client ID: B2016-5 FILL 1-8'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 05/18/16 10:45
Analyst: DG
Percent Solids: 82%

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 05/17/16 00:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	79200		ug/kg	40400	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	84		40-140

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 1,8015C(M)
Analytical Date: 05/18/16 08:02
Analyst: DG
Percent Solids: 82%

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 05/17/16 00:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	ND		ug/kg	40100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	88		40-140

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015C(M)
Analytical Date: 05/18/16 09:40
Analyst: DG

Extraction Method: EPA 3546
Extraction Date: 05/17/16 00:19

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01,03 Batch: WG894610-1					
TPH	ND		ug/kg	32300	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01,03 Batch: WG894610-2								
TPH	92		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	90				40-140

PCBS

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID:	L1614665-01	Date Collected:	05/10/16 15:00
Client ID:	B2016-5 FILL 1-8'	Date Received:	05/13/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	97,8082A	Extraction Date:	05/16/16 05:58
Analytical Date:	05/16/16 21:43	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	05/16/16
Percent Solids:	82%	Cleanup Method:	EPA 3660B
		Cleanup Date:	05/16/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.0	--	1	A
Aroclor 1221	ND		ug/kg	40.0	--	1	A
Aroclor 1232	ND		ug/kg	40.0	--	1	A
Aroclor 1242	ND		ug/kg	40.0	--	1	A
Aroclor 1248	ND		ug/kg	40.0	--	1	A
Aroclor 1254	ND		ug/kg	40.0	--	1	A
Aroclor 1260	ND		ug/kg	40.0	--	1	A
Aroclor 1262	ND		ug/kg	40.0	--	1	A
Aroclor 1268	ND		ug/kg	40.0	--	1	A
PCBs, Total	ND		ug/kg	40.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil
Analytical Method: 97,8082A
Analytical Date: 05/16/16 21:58
Analyst: JW
Percent Solids: 82%

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 05/16/16 05:58
Cleanup Method: EPA 3665A
Cleanup Date: 05/16/16
Cleanup Method: EPA 3660B
Cleanup Date: 05/16/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.7	--	1	A
Aroclor 1221	ND		ug/kg	39.7	--	1	A
Aroclor 1232	ND		ug/kg	39.7	--	1	A
Aroclor 1242	ND		ug/kg	39.7	--	1	A
Aroclor 1248	ND		ug/kg	39.7	--	1	A
Aroclor 1254	ND		ug/kg	39.7	--	1	A
Aroclor 1260	ND		ug/kg	39.7	--	1	A
Aroclor 1262	ND		ug/kg	39.7	--	1	A
Aroclor 1268	ND		ug/kg	39.7	--	1	A
PCBs, Total	ND		ug/kg	39.7	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	70		30-150	B

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 05/16/16 17:38
Analyst: JW

Extraction Method: EPA 3546
Extraction Date: 05/16/16 05:52
Cleanup Method: EPA 3665A
Cleanup Date: 05/16/16
Cleanup Method: EPA 3660B
Cleanup Date: 05/16/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01,03 Batch: WG894247-1						
Aroclor 1016	ND		ug/kg	31.4	--	A
Aroclor 1221	ND		ug/kg	31.4	--	A
Aroclor 1232	ND		ug/kg	31.4	--	A
Aroclor 1242	ND		ug/kg	31.4	--	A
Aroclor 1248	ND		ug/kg	31.4	--	A
Aroclor 1254	ND		ug/kg	31.4	--	A
Aroclor 1260	ND		ug/kg	31.4	--	A
Aroclor 1262	ND		ug/kg	31.4	--	A
Aroclor 1268	ND		ug/kg	31.4	--	A
PCBs, Total	ND		ug/kg	31.4	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		30-150	A
Decachlorobiphenyl	81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	97		30-150	B
Decachlorobiphenyl	91		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01,03 Batch: WG894247-2 WG894247-3									
Aroclor 1016	83		102		40-140	21		30	A
Aroclor 1260	65		75		40-140	14		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		115		30-150	A
Decachlorobiphenyl	76		87		30-150	A
2,4,5,6-Tetrachloro-m-xylene	102		117		30-150	B
Decachlorobiphenyl	95		88		30-150	B

METALS

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01
Client ID: B2016-5 FILL 1-8'
Sample Location: BOSTON, MA
Matrix: Soil
Percent Solids: 82%

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	3.8		mg/kg	0.47	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Barium, Total	31		mg/kg	0.47	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Cadmium, Total	ND		mg/kg	0.47	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Chromium, Total	11		mg/kg	0.47	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Lead, Total	32		mg/kg	2.3	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Mercury, Total	0.155		mg/kg	0.078	--	1	05/14/16 06:25	05/17/16 15:24	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.3	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS
Silver, Total	ND		mg/kg	0.47	--	1	05/14/16 10:50	05/16/16 23:11	EPA 3050B	97,6010C	PS

Project Name: BC PRACTICE FACILITY
Lab Number: L1614665
Project Number: 5661.2.00
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil
Percent Solids: 82%

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab											
Arsenic, Total	3.8		mg/kg	0.48	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Barium, Total	25		mg/kg	0.48	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Cadmium, Total	ND		mg/kg	0.48	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Chromium, Total	14		mg/kg	0.48	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Lead, Total	27		mg/kg	2.4	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Mercury, Total	0.119		mg/kg	0.080	--	1	05/14/16 06:25	05/17/16 15:26	EPA 7471B	97,7471B	BV
Selenium, Total	ND		mg/kg	2.4	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS
Silver, Total	ND		mg/kg	0.48	--	1	05/14/16 10:50	05/16/16 23:16	EPA 3050B	97,6010C	PS

Project Name: BC PRACTICE FACILITY **Lab Number:** L1614665

Project Number: 5661.2.00 **Report Date:** 05/22/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG893946-1										
Mercury, Total	ND		mg/kg	0.083	--	1	05/14/16 06:25	05/17/16 15:01	97,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG893956-1										
Arsenic, Total	ND		mg/kg	0.40	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Barium, Total	ND		mg/kg	0.40	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Cadmium, Total	ND		mg/kg	0.40	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Chromium, Total	ND		mg/kg	0.40	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Lead, Total	ND		mg/kg	2.0	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Selenium, Total	ND		mg/kg	2.0	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS
Silver, Total	ND		mg/kg	0.40	--	1	05/14/16 10:50	05/16/16 19:53	97,6010C	PS

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG893946-2 WG893946-3 SRM Lot Number: D088-540								
Mercury, Total	120		122		72-128	2		30
MCP Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG893956-2 WG893956-3 SRM Lot Number: D088-540								
Arsenic, Total	96		96		79-121	0		30
Barium, Total	83		88		83-117	6		30
Cadmium, Total	90		94		83-117	4		30
Chromium, Total	87		90		80-120	3		30
Lead, Total	85		89		81-117	5		30
Selenium, Total	97		97		78-122	0		30
Silver, Total	88		91		75-124	3		30

INORGANICS
&
MISCELLANEOUS

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01
Client ID: B2016-5 FILL 1-8'
Sample Location: BOSTON, MA
Matrix: Soil
Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Fine
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	05/17/16 13:48	1,1030	AB

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil
Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Test Material Information

Source of Material: Unknown
Description of Material: Non-Metallic - Damp Soil
Particle Size: Fine
Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	05/17/16 13:48	1,1030	AB

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-01
Client ID: B2016-5 FILL 1-8'
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance	37		umhos/cm	10	--	1	-	05/16/16 17:18	1,9050A	JC
Solids, Total	81.5		%	0.100	NA	1	-	05/14/16 00:05	121,2540G	VB
pH (H)	7.5		SU	-	NA	1	-	05/13/16 22:33	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:50	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:42	1,7.3	TL

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-02
Client ID: B2016-5 S-2 6-8'
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 05/10/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	05/14/16 00:05	121,2540G	VB

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-03
Client ID: B2016-8 FILL 1-7'
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Specific Conductance	13		umhos/cm	10	--	1	-	05/16/16 17:18	1,9050A	JC
Solids, Total	82.1		%	0.100	NA	1	-	05/14/16 00:05	121,2540G	VB
pH (H)	7.1		SU	-	NA	1	-	05/13/16 22:33	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:50	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:43	1,7.3	TL

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

SAMPLE RESULTS

Lab ID: L1614665-04
Client ID: B2016-8 S-1 1-3'
Sample Location: BOSTON, MA
Matrix: Soil

Date Collected: 05/09/16 15:00
Date Received: 05/13/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	05/14/16 00:05	121,2540G	VB

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00
Lab Number: L1614665
Report Date: 05/22/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG895008-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:46	1,7.3	TL
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG895010-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	05/17/16 22:35	05/18/16 00:39	1,7.3	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: BC PRACTICE FACILITY

Project Number: 5661.2.00

Lab Number: L1614665

Report Date: 05/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG893901-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG894501-1								
Specific Conductance	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG895008-2								
Cyanide, Reactive	49		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG895010-2								
Sulfide, Reactive	100		-		60-125	-		40

Project Name: BC PRACTICE FACILITY
Project Number: 5661.2.00

Lab Number: L1614665
Report Date: 05/22/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 05/13/2016 21:32

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1614665-01A	Glass 500ml/16oz unpreserved	A	N/A	3.1	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1614665-01B	Glass 100ml unpreserved split	A	N/A	3.1	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1614665-02A	Vial MeOH preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)
L1614665-02B	Vial water preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)
L1614665-02C	Vial water preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)
L1614665-03A	Glass 500ml/16oz unpreserved	A	N/A	3.1	Y	Absent	IGNIT-1030(14),MCP-8082-10(365),REACTS(14),MCP-8270-10(14),TS(7),PH-9045(1),MCP(),REACTCN(14),TPH-DRO-D(14),COND-9050(28)
L1614665-03B	Glass 100ml unpreserved split	A	N/A	3.1	Y	Absent	MCP-CR-6010T-10(180),MCP-AS-6010T-10(180),MCP-7471T-10(28),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-SE-6010T-10(180),MCP-BA-6010T-10(180),MCP-PB-6010T-10(180)
L1614665-04A	Vial MeOH preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)
L1614665-04B	Vial water preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)
L1614665-04C	Vial water preserved	A	N/A	3.1	Y	Absent	MCP-8260H-10(14)

*Values in parentheses indicate holding time in days

Project Name:	BC PRACTICE FACILITY	**Lab Number:**	L1614665
Project Number:	5661.2.00	**Report Date:**	05/22/16

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: Data Usability Report

Project Name:	BC PRACTICE FACILITY	**Lab Number:**	L1614665
Project Number:	5661.2.00	**Report Date:**	05/22/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	BC PRACTICE FACILITY	**Lab Number:**	L1614665
Project Number:	5661.2.00	**Report Date:**	05/22/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 5/13/16

ALPHA Job #: L1614665

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: BC Practice Facility
Project Location: Boston, MA
Project #: 5661.2.00
Project Manager: CME, Chris Erikson
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Ave, Cambridge, MA 02140
Phone: 617-868-1420
Email: cme@mcphailgeo.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program Criteria

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Additional Project Information:

ANALYSIS: VOC: ☒ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; SOIL DISPOSAL PACKAGE IV

SAMPLE INFO — Filtration: ☐ Field ☐ Lab to do; Preservation: ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC 8260	Soil Disposal Package IV	Sample Comments	TOTAL # BOTTLES
14665-01	B2016-5 FILL 1-8'	5/10/16	15:00	SOIL	AKH		X		1
02	B2016-5 S-2 6-8'	5/10/16	15:00	SOIL	AKH	X			3
03	B2016-8 FILL 1-7'	5/9/16	15:00	SOIL	AKH		X		1
04	B2016-8 S-1 1-3'	5/9/16	15:00	SOIL	AKH	X			3

	VOC 8260	Soil Disposal Package IV
Container Type	V	A
Preservative	F/O	A

Relinquished By:	Date/Time	Received By:	Date/Time
Alison K Hatch	09:00, 5/13/16	[signature]	5/13/16 1605
[signature]	5/13/16 1810	[signature]	5/13/16 1810

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

4A

VOLATILE ORGANICS METHOD BLANK SUMMARY

SAMPLE NO.
WG895254-3BLANK

Lab Name: Alpha Analytical Labs

SDG No.: L1614665

Lab File ID: 0518A06 Lab Sample ID: WG895254-3

Date Analyzed: 05/18/16 Time Analyzed: 08:49

Instrument ID: VOA100.I

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	WG895254-1LCS	WG895254-1	0518A02	05/18/16 07:01
02	WG895254-2LCSD	WG895254-2	0518A03	05/18/16 07:28
03	B2016-5 S-2 6-8'	L1614665-02	0518A11	05/18/16 11:03
04	B2016-8 S-1 1-3'	L1614665-04	0518A12	05/18/16 11:30

COMMENTS: _____

_____

FORM IV MCP-8260HLW-10 HIGH

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1614665

Instrument ID: Voa100.i Calibration Date: 18-MAY-2016 Time: 07:01

Lab File ID: 0518A02 Init. Calib. Date(s): 26-FEB-2 26-FEB-2

Sample No: 8260 CCAL Init. Calib. Times : 15:07 18:40

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.14845	.32799	.1	121	20	F
chloromethane	.22175	.25384	.1	14	20	
vinyl chloride	.22294	.24133	.1	8	20	
bromomethane	.2573	.20226	.1	-21	20	F
chloroethane	.20268	.14604	.1	-28	20	F
trichlorofluoromethane	.41766	.46531	.1	11	20	
ethyl ether	.16771	.1327	.05	-21	20	F
1,1,-dichloroethene	.22205	.21603	.1	-3	20	
carbon disulfide	.76396	.69711	.1	-9	20	
methylene chloride	.27062	.22201	.1	-18	20	
acetone	100	84.176	.1	-16	20	
trans-1,2-dichloroethene	.25668	.24196	.1	-6	20	
methyl tert butyl ether	.7628	.65804	.1	-14	20	
Diisopropyl Ether	.80498	.58785	.05	-27	20	F
1,1-dichloroethane	.4807	.39619	.2	-18	20	
Ethyl-Tert-Butyl-Ether	.81271	.65792	.05	-19	20	
cis-1,2-dichloroethene	.2846	.25943	.1	-9	20	
2,2-dichloropropane	.3626	.38529	.05	6	20	
bromochloromethane	.13238	.14837	.05	12	20	
chloroform	.47766	.45569	.2	-5	20	
carbontetrachloride	.3459	.42526	.1	23	20	F
tetrahydrofuran	.08098	.06157	.05	-24	20	F
1,1,1-trichloroethane	.37954	.4329	.1	14	20	
2-butanone	.12648	.09604	.1	-24	20	F
1,1-dichloropropene	.3241	.3075	.05	-5	20	
benzene	1.0246	.86592	.5	-15	20	
Tertiary-Amyl Methyl Ether	.73398	.61328	.05	-16	20	
1,2-dichloroethane	.36351	.34437	.1	-5	20	
trichloroethene	.26569	.26886	.2	1	20	
dibromomethane	.1652	.15176	.05	-8	20	
1,2-dichloropropane	.26236	.20696	.1	-21	20	F
bromodichloromethane	.36686	.34635	.2	-6	20	
1,4-dioxane	5000	4464	.05	-11	20	
cis-1,3-dichloropropene	.4193	.36631	.2	-13	20	
toluene	.77641	.71514	.4	-8	20	
4-methyl-2-pentanone	.10504	.07396	.1	-30	20	F
tetrachloroethene	.31347	.37426	.2	19	20	
trans-1,3-dichloropropene	.47308	.42338	.1	-11	20	

FORM VII MCP-8260H-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1614665

Instrument ID: Voa100.i Calibration Date: 18-MAY-2016 Time: 07:01

Lab File ID: 0518A02 Init. Calib. Date(s): 26-FEB-2 26-FEB-2

Sample No: 8260 CCAL Init. Calib. Times : 15:07 18:40

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
1,1,2-trichloroethane	.24829	.20629	.1	-17	20	
chlorodibromomethane	.34633	.36894	.1	7	20	
1,3-dichloropropane	.48521	.40041	.05	-17	20	
1,2-dibromoethane	.28184	.27386	.1	-3	20	
2-hexanone	.21485	.15511	.1	-28	20	F
chlorobenzene	.91992	.8883	.5	-3	20	
ethyl benzene	1.4607	1.3795	.1	-6	20	
1,1,1,2-tetrachloroethane	.32215	.36319	.05	13	20	
p/m xylene	.56745	.57334	.1	1	20	
o xylene	.5535	.54945	.3	-1	20	
styrene	.96632	.91723	.3	-5	20	
bromoform	.41956	.43619	.1	4	20	
isopropylbenzene	2.4547	2.4574	.1	0	20	
bromobenzene	.64598	.69178	.05	7	20	
n-propylbenzene	2.9771	2.7913	.05	-6	20	
1,1,2,2,-tetrachloroethane	.7084	.57626	.3	-19	20	
2-chlorotoluene	1.8410	1.7206	.05	-7	20	
1,3,5-trimethybenzene	2.109	2.1849	.05	4	20	
1,2,3-trichloropropane	.57218	.46317	.05	-19	20	
4-chorotoluene	1.8466	1.7446	.05	-6	20	
tert-butylbenzene	1.7344	1.9585	.05	13	20	
1,2,4-trimethylbenzene	2.1107	2.2067	.05	5	20	
sec-butylbenzene	2.7168	2.7178	.05	0	20	
p-isopropyltoluene	2.2975	2.5344	.05	10	20	
1,3-dichlorobenzene	1.2940	1.3705	.6	6	20	
1,4-dichlorobenzene	1.3076	1.3788	.5	5	20	
n-butylbenzene	2.2187	2.0949	.05	-6	20	
1,2-dichlorobenzene	1.2275	1.2505	.4	2	20	
1,2-dibromo-3-chloropropane	.11841	.1223	.05	3	20	
hexachlorobutadiene	.33314	.48315	.05	45	20	F
1,2,4-trichlorobenzene	.76499	.9114	.2	19	20	
naphthalene	2.0583	2.2266	.05	8	20	
1,2,3-trichlorobenzene	.73371	.8752	.05	19	20	
dibromofluoromethane	.26639	.28728	.05	8	30	
1,2-dichloroethane-d4	.28145	.29948	.05	6	30	
toluene-d8	1.1895	1.1832	.05	-1	30	
4-bromofluorobenzene	.83429	.81339	.05	-3	30	

FORM VII MCP-8260H-10