BOSTON COLLEGE

2101 Commonwealth Avenue

Application for Small Project Review

SUBMITTED TO

Boston Redevelopment Authority
Boston, Massachusetts

SUBMITTED BY

Boston College
140 Commonwealth Avenue
Chestnut Hill, Massachusetts

April 11, 2014

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CHAPTER 1: PROJECT SUMMARY

1.1 PROJECT IDENTIFICATION

Project Name: Boston College 2101 Commonwealth Avenue, McMullen Museum and University Conference Space

Address/Location: 2101 Commonwealth Avenue, Brighton, Massachusetts

Parcel #2205267010

1.2 PROJECT DESCRIPTION

Boston College (the "University") is proposing to renovate 2101 Commonwealth Avenue, formerly known as the Cardinal's Residence, and build a new addition to the building. The McMullen Museum and University Conference Space (the "Project") will house existing meeting space and the McMullen Museum, which will be relocated from Devlin Hall at 140 Commonwealth Avenue on the University's Chestnut Hill Campus. 2101 Commonwealth Avenue is part of the University's Brighton Campus, and was purchased from the Archdiocese of Boston in 2004. (See Figure 1-1, Locus Map and Figure 1-2 Aerial View of Existing Site.) The Brighton Campus is adjacent to several residential neighborhoods, including the Lake Street, Greycliff Road, and Glenmont Road areas. The existing building was originally designed as the residence for the Cardinal and has been in use as meeting space since it was acquired by the University. The Project is a separate, stand-alone project, although it is a component of other building renovations and new construction projects on the Brighton Campus that are part of the approved 2009 Institutional Master Plan (the "IMP").

The existing building was constructed in 1927 and has undergone a number of interior renovations since its construction. The building is approximately 23,000 gsf and consists of three above-ground floors and a basement level. The height of the existing building is approximately 44.5 feet tall. The building is set back approximately 140 feet from Commonwealth Avenue and vehicular access is from a driveway off of Commonwealth Avenue. The building is set on a sloped, landscaped site with a formal lawn on the Commonwealth Avenue (south) side that is enclosed with trees and hedging.

When completed, the Project will provide renovated meeting rooms on the first floor of the existing building. A museum gallery will occupy the majority of the second floor of the building. The third floor will include two smaller gallery spaces and other support space for the museum. The basement of the building will include support uses, including mechanical space, art storage, and a catering kitchen.

The new addition will provide a glass entrance and circulation area for the museum that will be fully accessible. Designed in a minimalist style, it will not mimic the historic architecture but will complement it by drawing inspiration from the existing building's proportions and composition. It will be highly transparent so as to reveal the activity inside and provide generous natural light.

Transportation access for the building's visitors and staff will be managed in accordance with the University's overall parking and transportation plan, which includes a campus shuttle serving the Brighton Campus with a stop at the Library lot area near 2101 Commonwealth Avenue. Sufficient parking is available to meet anticipated demand in the existing Gym and Library lots in addition to surface parking spaces along the 2101 Commonwealth Avenue driveway.

For the foreseeable future, meeting functions currently housed in 2101 Commonwealth Avenue are expected to continue to operate generally in the same capacity once the Project is completed. The meeting space will be available for use seven days per week. Meetings, functions, and lectures will likely take place several times per week and will have approximately 50-100 attendees. Special events which may include use of the lawn, are likely to take place several times per year and may draw between 300 and 500 attendees.

The museum will remain operational in Devlin Hall until the new location is complete. Once the museum moves to its new location at 2101 Commonwealth Avenue, it will continue to operate in a similar capacity with respect to visitation and activity. Anticipated museum hours on Monday through Friday will be from 10 am to 5 pm. On Saturday and Sunday the hours will be from noon to 5 pm. The museum will be closed in the summer. Visitation to the museum is anticipated to be greater on weekends than on weekdays; approximately 50 visitors are anticipated per weekday and approximately 100-135 visitors on weekend days.

1.3 PROJECT BENEFITS

- Provides a long-term use for an aging, underutilized building, renovating it for a high-quality, energy efficient conference space and a museum.
- Largely preserves the exterior appearance of 2101 Commonwealth Avenue and incorporates a minimalist addition to improve the building's functionality.
- Maintains and relocates a significant cultural facility for the University and the community.
- Creates approximately 100 construction jobs.

1.4 RELATIONSHIP TO INSTITUTIONAL MASTER PLAN

In the spring of 2003, Boston College embarked on a comprehensive strategic planning initiative to define the University's needs and establish institutional goals for the coming decade and beyond. After several years of planning, a Strategic Plan was adopted by the Board of Trustees in February, 2006. Then, in December of 2007, after two years of working with the Boston College Allston-Brighton Community Task Force and the surrounding neighborhood, Boston College submitted an Institutional Master Plan Notification Form ("IMPNF") outlining the institutional needs of the University, including the use of the recently acquired Brighton Campus. Based on the Scoping Determination on the IMPNF issued by the Boston Redevelopment Authority (BRA), Boston College submitted an Institutional Master Plan ("IMP") in June 2008. In subsequent IMP filings with the BRA and the Zoning Commission in January and March of 2009 respectively, Boston College made changes to the IMP in response to community concerns. The IMP was ultimately approved by the Boston Zoning Commission on June 10, 2009.

The first amendment to Boston College's 2000 IMP included the re-use of the former Cardinal's Residence as a conference and meeting facility for faculty, staff and alumni, and anticipated cosmetic improvements to the building, as a "Proposed Institutional Project." In the 10-year IMP approved in 2009, Boston College anticipated making further improvements and upgrades to this facility, including improvements to the kitchen and dining areas, to better support the planned use of the meeting space. A Fine Arts District was also included in the IMP, located on Commonwealth Avenue between the former Cardinal's Residence and Creagh Library in the IMP. This district was slated to contain an approximately 55,000 sf Fine Arts/Museum complex of linked buildings of four to five stories and a height of 60 feet.

This Small Project Review filing will be submitted concurrently with an Institutional Master Plan Notification Form (IMPNF) requesting an Amendment to the IMP for the Project that includes the conference and meeting space and the museum, and a new, approximately 7,100 gsf addition to the existing building.

The IMP includes a number of larger planning elements with which the proposed Project is consistent. The consistency of the Project with other elements of the IMP is described in various sections of this document addressing infrastructure, environmental issues, transportation, parking, environmental sustainability, and historic resources.

1.5 CONSISTENCY WITH ZONING REGULATIONS

According to the Boston Zoning Code, the underlying zoning of the Brighton Campus property is Conservation Protection Subdistrict (CPS), one of 11 such subdistricts in Allston-Brighton. The Brighton Campus is situated within the St. John's Seminary CPS. As stated in the Zoning Code, the CPS districts are established to promote the most desirable use of land

and siting of development in areas with special natural or scenic features in accordance with a well considered plan, and to protect and enhance the natural and scenic resources of Allston-Brighton. The CPS zoning designation is not meant to be a conservation restriction tool, nor does the CPS zoning require the permanent preservation of land. The CPS does encourage the drafting of a plan for land that is reviewed by the BRA that accounts for the natural and scenic features. The CPS zoning also provides an extensive list of allowed, conditional and forbidden land uses. Since the establishment of the underlying zoning, the Boston Zoning Commission has rezoned on an overlay basis the Brighton Campus as Boston College Institutional Master Plan zoning.

In adherence to CPS zoning, this development proposed at the Brighton Campus will respect the scenic beauty of the land to the extent feasible. This Proposed Institutional Project adheres to this objective by reusing the existing 2101 Commonwealth Avenue building and by maintaining significant features of the existing landscape, including the formal lawn, topography, trees, and plantings to the extent possible.

The Project is also located within the Commonwealth Avenue Greenbelt Protection Overlay District (GPOD) and will therefore require approval from the Boston Parks Commission.

1.6 ANTICIPATED PERMITS AND APPROVALS

The following Project approvals are anticipated to be required:

Table 1-1, Anticipated Project Approvals

AGENCY	APPROVAL
City	
Boston Redevelopment Authority	Article 80 Small Project Review IMPNF (for Amendment to the IMP)
Boston Landmarks Commission	Article 85 (Demolition Delay) for garage demolition
Boston Parks Commission	Approval for work within a GPOD
Boston Water and Sewer Commission	Water and Sewer Connection Permits
Fire Department	Flammable Storage Permit/License
Inspectional Services Department	Building Permit
State	
Department of Environmental Protection	DEP Source Registration

1.7 PROJECT TEAM

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Figure 1-1
Locus Map
Source: USGS

Figure 1-2
Aerial View of Existing Site
Source: Google, 2011

CHAPTER 2: PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The McMullen Museum and University Conference Space (the "Project") is located in the southern portion of the University's 65-acre Brighton Campus and is buffered from the residential neighborhood by intervening topography and buildings. Access to the project site is from Commonwealth Avenue, a major arterial roadway. (See Figure 2-1, Boston College IMP Map).

2.2 EXISTING CONDITIONS

Boston College's Brighton Campus sits north of Commonwealth Avenue and currently consists of thirteen buildings. The primary site entrance is from a drive off of Commonwealth Avenue. Originally part of the Chancery-St. John's Seminary Complex, the existing building at 2101 Commonwealth Avenue was constructed in 1927 to serve as the residence for the Cardinal of Boston. After the building was acquired by Boston College, it was utilized as meeting space.

The 2101 Commonwealth Avenue building consists of three above-ground floors and a basement level. Constructed in 1927, it was designed by prolific Boston architects Maginnis and Walsh in a Roman Renaissance Revival style. The building is in good condition although its interior has had a number of alterations through the years. The building height is approximately 44.5 feet, not including rooftop mechanical equipment. The total size of the building is approximately 23,000 gross square feet as defined in the City of Boston Zoning Code. The building is set back approximately 140 feet from Commonwealth Avenue and is only partially visible from the street due to existing trees and grading. It is partially banked within the gently sloping hillside and is set amongst various landscape elements, including a formal lawn on the south side. There is a one-bay, one story, minimally detailed, yellow brick garage located just west of the existing building. (See Figures 2-2 through 2-4, Existing Conditions Photographs; Figure 2-5, Site Plan; and Figure 2-7, Planting Plan.)

The mechanical, electrical, plumbing, life safety, energy efficiency and HVAC systems are in need of upgrade and the building is partially accessible.

2.3 DEVELOPMENT CONTEXT

The renovation of 2101 Commonwealth Avenue is a "Proposed Institutional Project" described in the Institutional Master Plan ("IMP"). The Project as described in this Small Project Review Application will require an Institutional Master Plan Notification Form

(IMPNF) in order to amend the IMP. The Project is a modification to the 2101 Commonwealth Avenue project as described in the IMP because it incorporates a museum use on the second and third floors of the existing building and includes a 7,100 gsf entrance and circulation addition for the museum.

2.4 SCOPE OF WORK

The Project involves select renovations to the existing 2101 Commonwealth Avenue building and the construction of an approximately 7,100 gsf addition on the east side. The renovations will improve functionality of the meeting space and supporting uses on the basement and ground floor levels. The basement will also include some support uses for the museum, including art storage and loading. The second floor of the existing building will be converted into an approximately 4,700 sf gallery space in addition to museum support uses including coat lockers, rest rooms, and storage. The third floor of the existing building will be converted into two smaller galleries of approximately 1,600 sf combined and will include an art prep/framing room and offices associated with the museum. The new addition will provide an accessible entrance and circulation space for the museum. In total the Project will accommodate approximately 11,900 gsf of conference and meeting facility use and approximately 18,200 gsf of museum use. (See Figure 2-7, Basement Plan; Figure 2-8, Ground Floor Plan; Figure 2-9, Second Floor Plan; Figure 2-10, Third Floor Plan; Figure 2-11, Roof Plan; Figure 2-12, North Elevation; 2-13, South Elevation; Figure 2-14, East Elevation; Figure 2-15 View of Proposed Addition from Northeast; and Figure 2-16, View of Proposed Addition from South.)

The scope of work will include:

- Re-pointing existing exterior masonry façade as required;
- Construction of a 7,100 gsf entrance and circulation addition to the east of the building;
- Addition of insulation to exterior walls and enhancement of roof insulation;
- New dedicated loading docks to improve service access to the building.
- Maintenance of the existing first floor spaces while improving function;
- Full renovation of second and third floors to create galleries and Museum support spaces;
- Universal accessibility improvements throughout the building, including a new elevator in the addition;

- Complete renovation of building infrastructure systems, including mechanical, electrical, plumbing and heating and cooling;
- Installation of new water-conserving plumbing fixtures;
- Installation of sprinklers and standpipes in stairwells to provide fire protection for the building;
- New air handling and energy recovery systems to provide improved indoor air quality and energy efficiency;
- Seismic performance improvements and upgrades;
- Exterior site improvements, including landscaping, walkways, lighting, and new underground utility connections;
- Replacement of existing emergency generator;

2.5 PUBLIC BENEFITS

2.5.1 BUILDING RE-USE/PRESEVATION

The Project will renovate and provide a long-term use for an underutilized building by improving the functionality of the meeting space and adding museum use, which is complementary to the building.

2.5.2 PRESERVATION AND URBAN DESIGN

The renovation of 2101 Commonwealth Avenue will help to preserve the academic setting of the Boston College Brighton Campus. The addition has been sensitively designed to be architecturally compatible with the existing building. The building's exterior façade, including the main entryway and porte-cochère, will be preserved. The ongoing use of the existing building fits into the larger plan for the Brighton Campus as set forth in the Institutional Master Plan.

2.5.3 CONSTRUCTION EMPLOYMENT

The 2101 Commonwealth Avenue building will provide a valuable source of employment for 100 construction workers from various trades during the project's construction.

2.5.4 ECONOMIC BENEFITS

Boston College is a major employer in the City of Boston and has an estimated economic impact on the City of $1.6 billion annually. The Project will help to

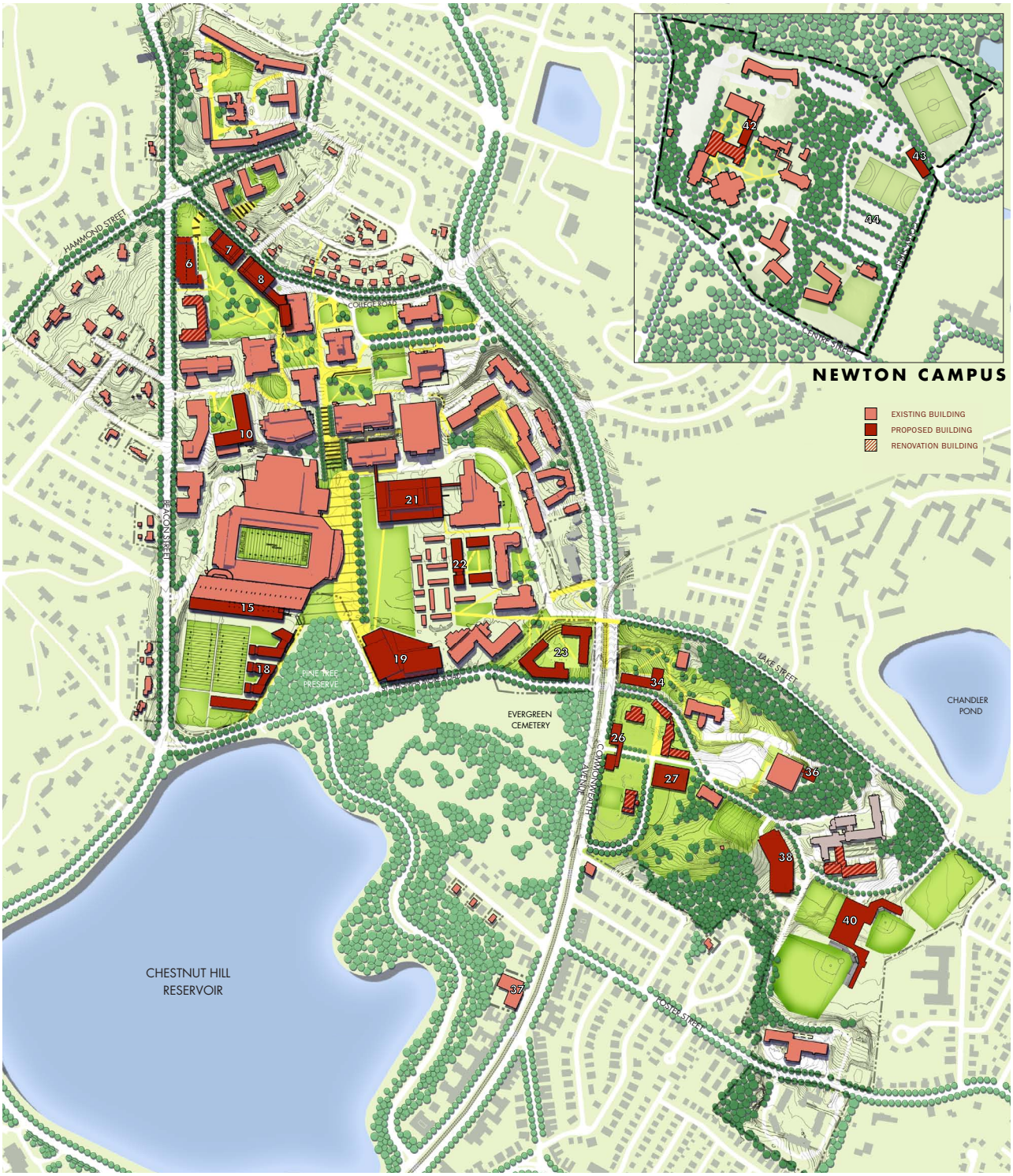
maintain the University's strong contribution to the growth of the local and regional economies.

2.6 PUBLIC REVIEW PROCESS

The University is committed to continuing its public outreach with the Boston College Allston-Brighton Master Plan Task Force. The Task Force is composed of community representatives from various community and civic organizations in Allston and Brighton. The Project was presented at a Task Force meeting on March 25, 2014. In addition to the neighborhood input provided by the Task Force, the Boston Redevelopment Authority's Article 80 Small Project Review process offers an opportunity for public review and comment.

2.7 CONSTRUCTION SCHEDULE

The current schedule calls for the Project to be competitively bid in Summer 2014, and for Project construction to commence in Fall 2014 and continue until completion in late Fall 2015. All work will be carried out in conformance with a Construction Management Plan addressing site access, truck routes, hours of operation, rodent control, etc. (See also Section 4.7, Renovation Impacts and Appendix A, Draft Construction and Transportation Management Plan.)



MIDDLE CAMPUS
6 - Academic Building - 125,000 sq. ft.
7 - Academic Building - 75,000 sq. ft.
8 - Stokes Commons - 125,000 sq. ft.
10 - Science Center - 100,000 sq.ft.

LOWER CAMPUS
15 - Beacon Street Garage Expansion - 350 spaces
18 - Undergraduate Housing - 550 beds
19 - Recreation Center - 200,000 sq. ft.
21 - University Center - 285,000 sq. ft.
22 - Undergraduate Housing - 185 beds
23 - Undergraduate Housing - 470 beds

BRIGHTON CAMPUS
26 - Museum/Fine Arts - 55,000 sq. ft.
27 - Auditorium - 30,000 sq. ft.
34 - Undergraduate Housing - 150 beds
36 - Library Storage - 14,000 sq. ft,
37 - Undergraduate Housing - 560 beds
38 - Parking - 500 spaces
40 - Brighton Athletics Center

NEWTON CAMPUS
42 - Smith Wing Replacement - 42,000 sq. ft.
43 - Recreation/Athletics Building - 8,500 sq. ft.
44 - Surface Parking - 150 spaces

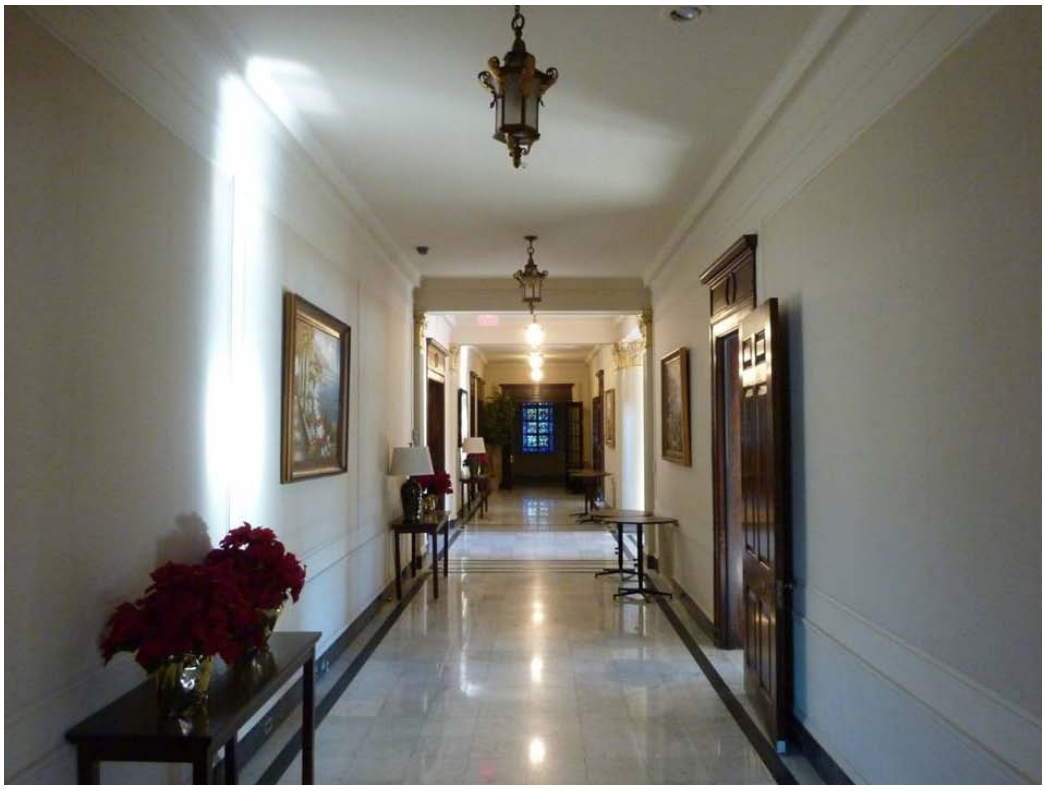
Figure 2-1
Boston College IMP Map
Source: Boston College Institutional Master Plan, 2009

View of 2101 Commonwealth Avenue from the North

View of Commonwealth Avenue from the South

Figure 2-2
Existing Conditions Photographs
Source: DiMella Shaffer, 2013

Interior Hallway on First Floor



Interior Hallway on First Floor

Figure 2-3
Existing Conditions Photographs
Source: DiMella Shaffer, 2013

Meeting Room on First Floor

Meeting Room on First Floor

Figure 2-4
Existing Conditions Photographs
Source: DiMella Shaffer, 2013

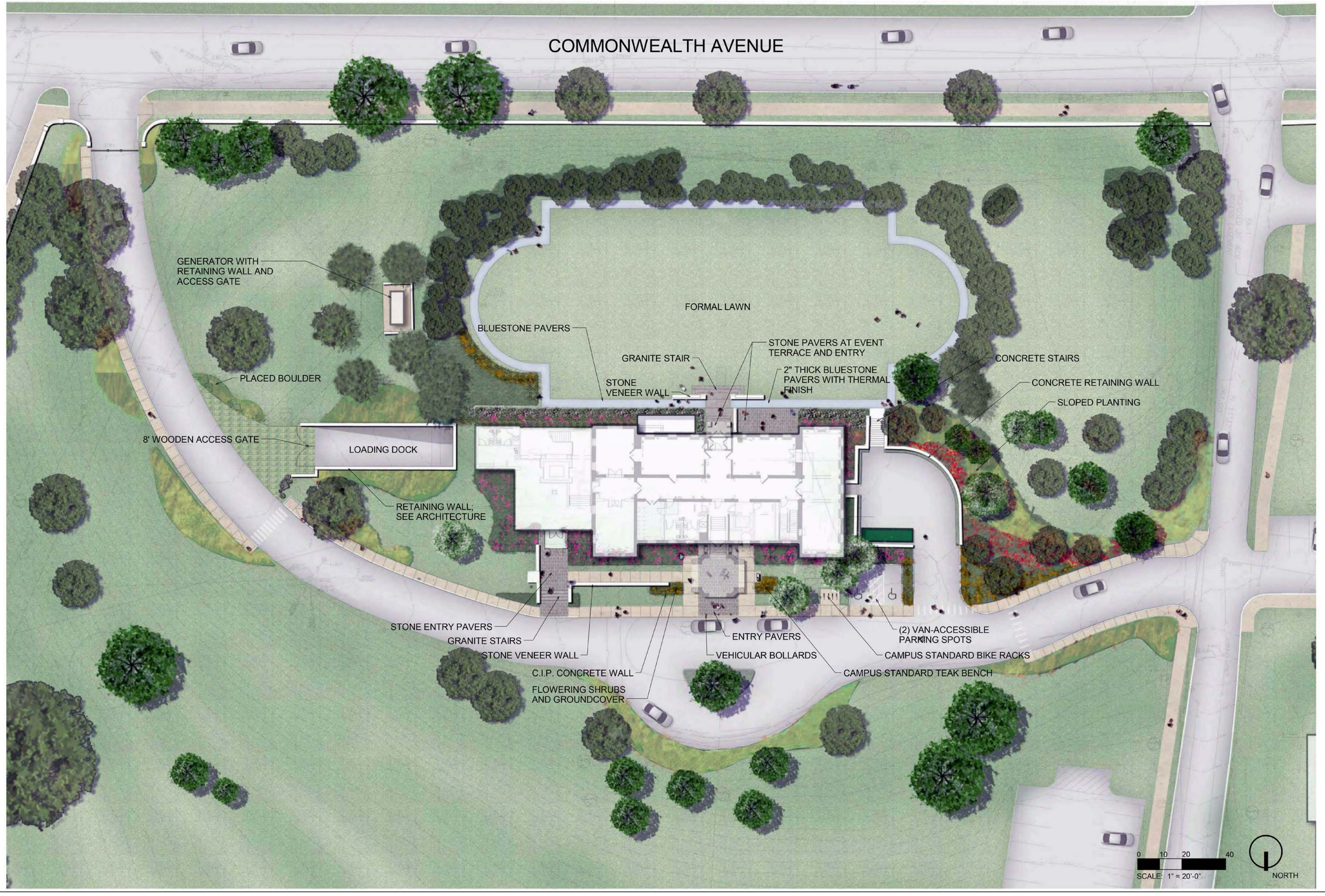


Figure 2-5
Site Plan
Source: DiMella Shaffer, 2014

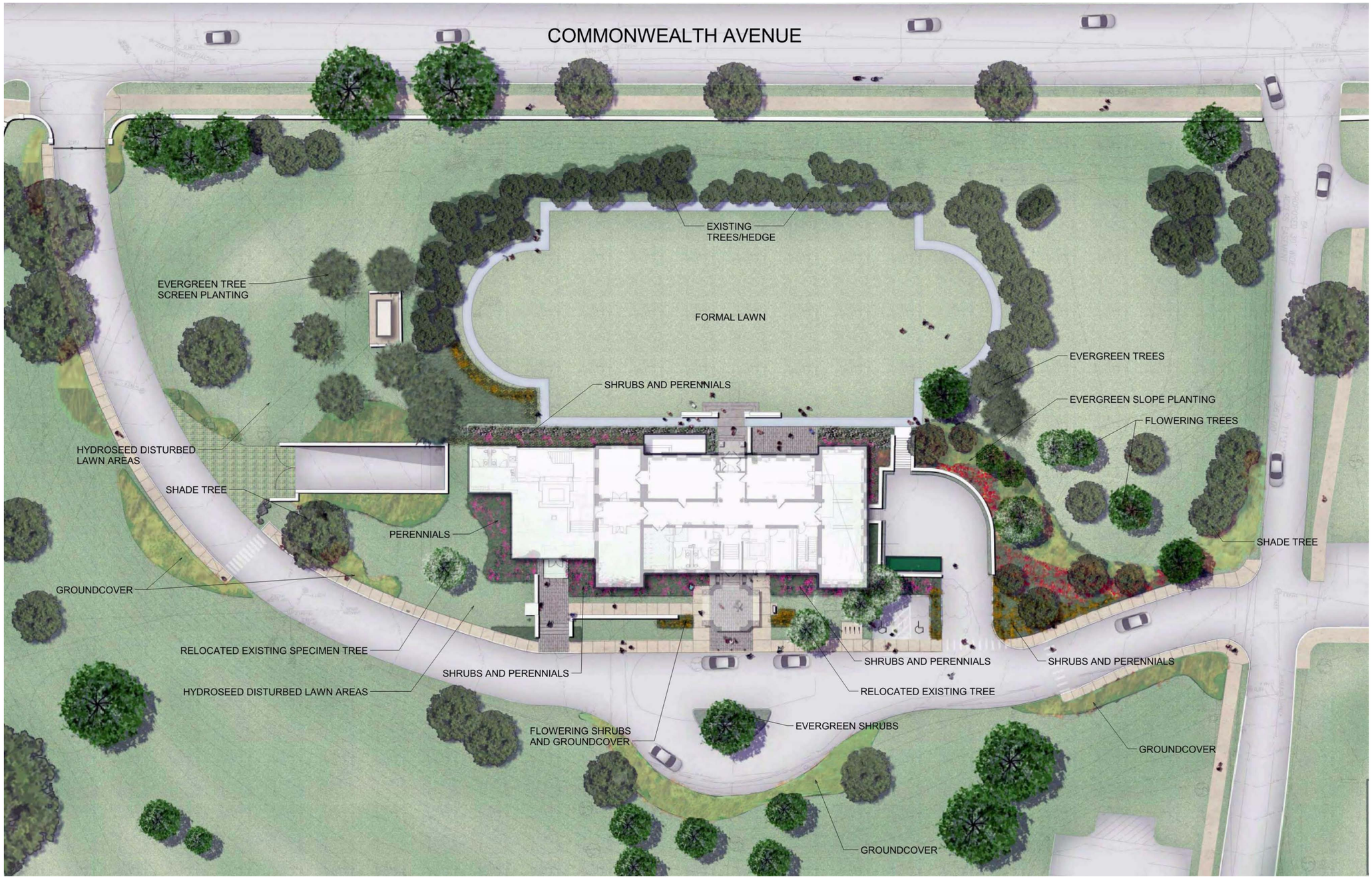


Figure 2-6
Landscape Plan
Source: DiMella Shaffer, 2014

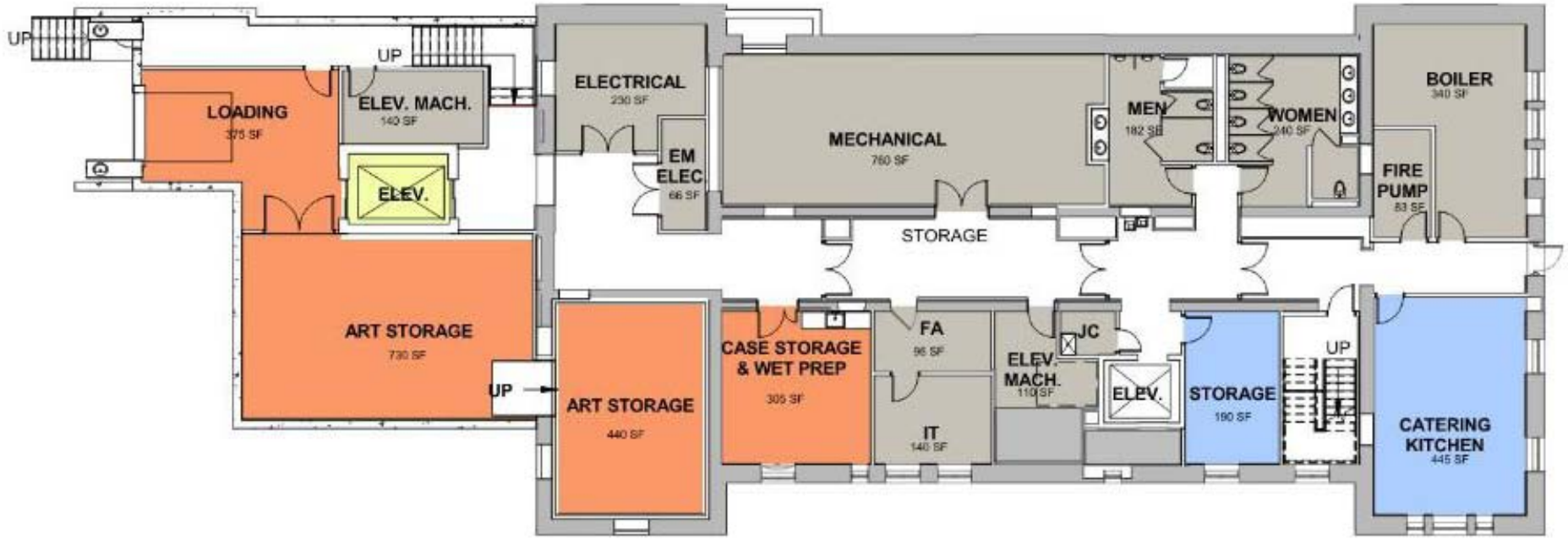


Figure 2-7
Basement Plan
Source: DiMella Shaffer, 2014

Figure 2-8
Ground Floor Plan
Source: DiMella Shaffer, 2014

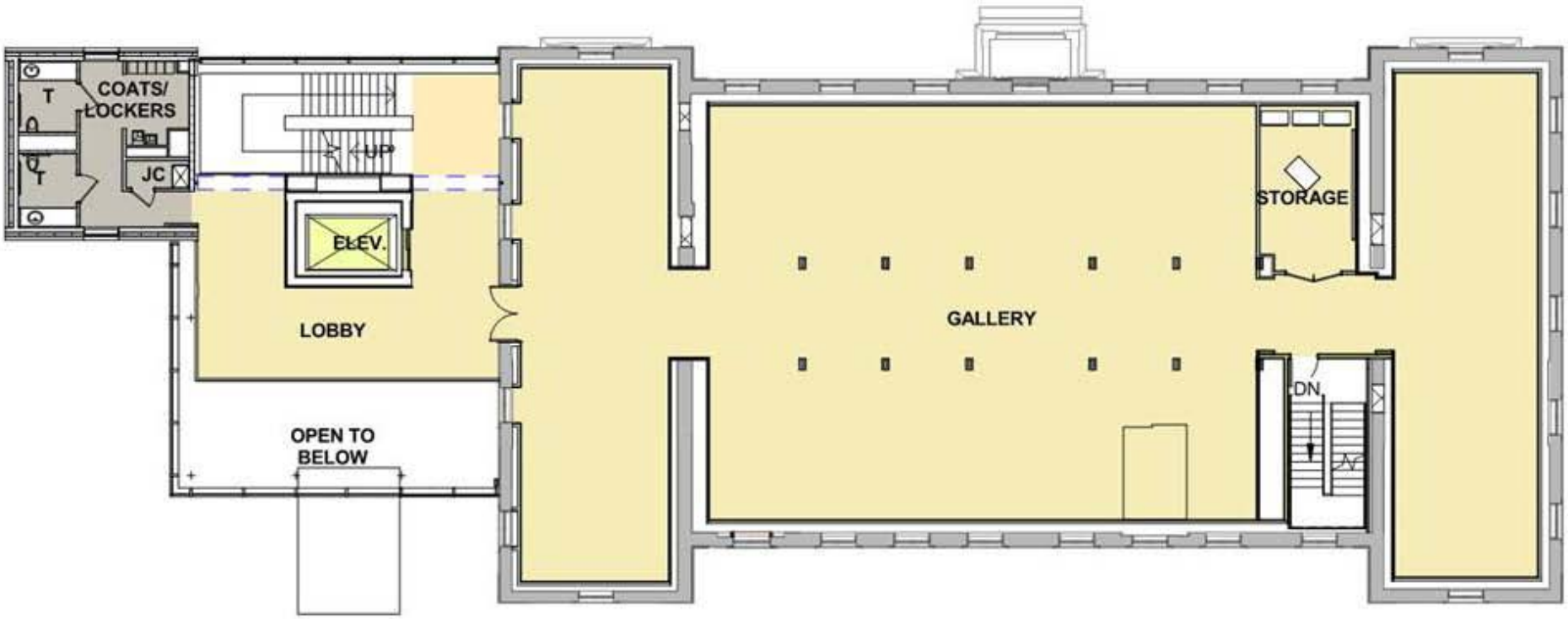


Figure 2-9
Second Floor Plan
Source: DiMella Shaffer, 2014

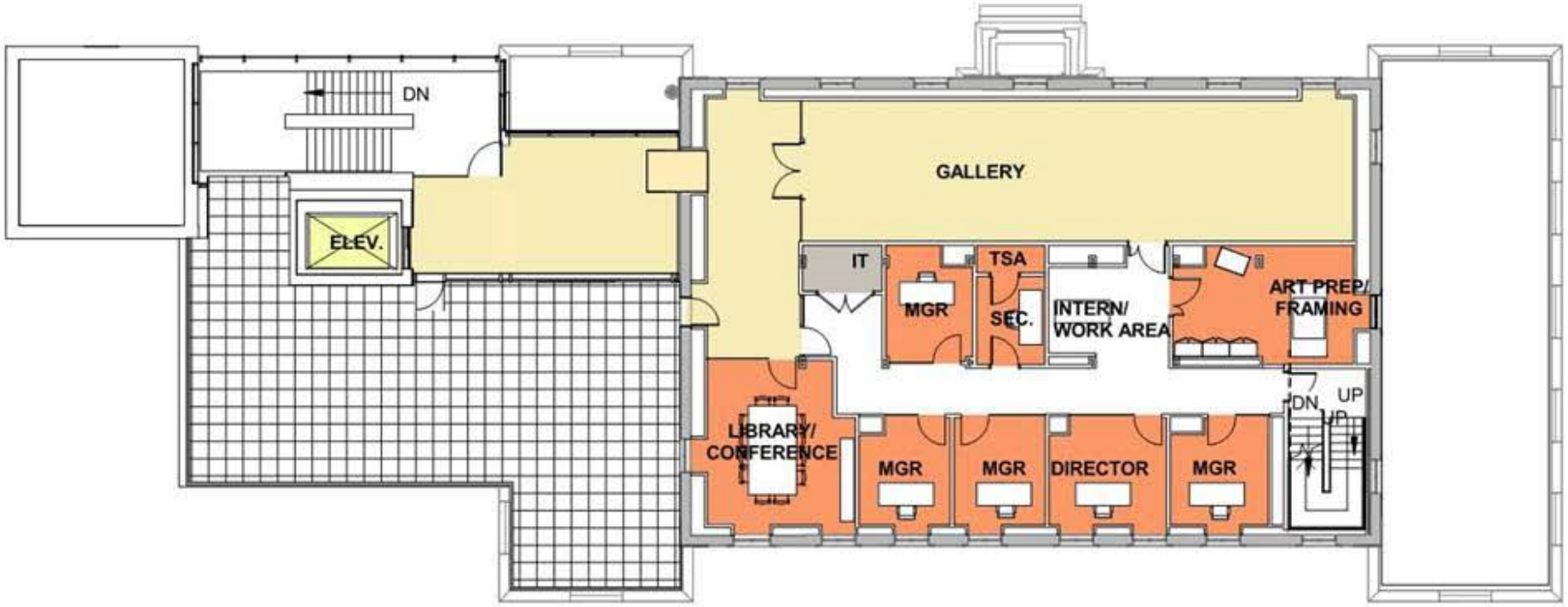


Figure 2-10
Third Floor Plan
Source: DiMella Shaffer, 2014

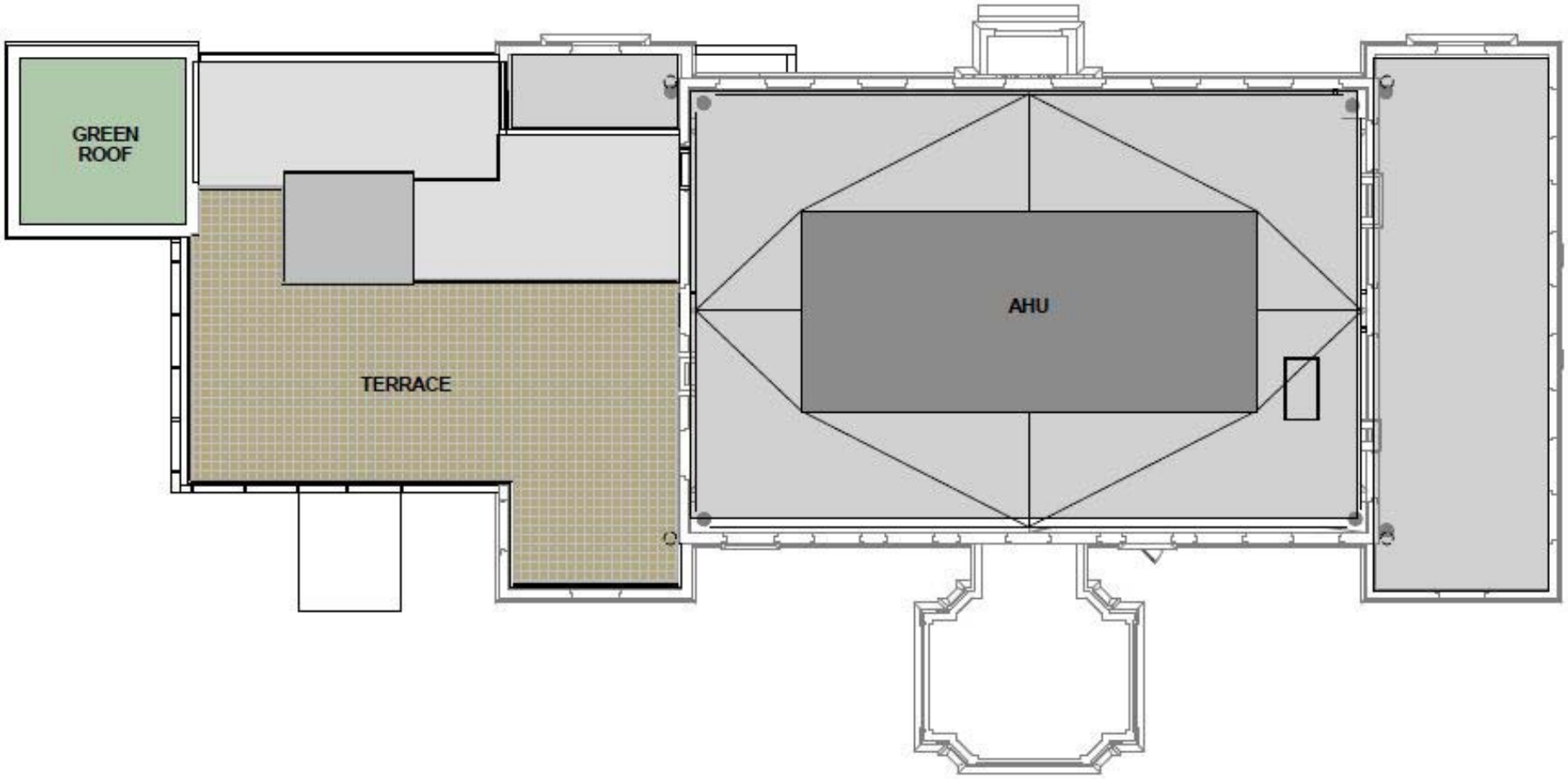


Figure 2-11
Roof Plan
Source: DiMella Shaffer, 2014

Figure 2-12
North Elevation
Source: DiMella Shaffer, 2014

Figure 2-13
South Elevation
Source: DiMella Shaffer, 2014

Figure 2-14
East Elevation
Source: DiMella Shaffer, 2014

Figure 2-15
View of Proposed Addition from Northeast
Source: DiMella Shaffer, 2014

Figure 2-16
View of Proposed Addition from South
Source: DiMella Shaffer, 2014

CHAPTER 3: TRANSPORTATION

3.1 INTRODUCTION

This transportation analysis reviews the impact of the proposed McMullen Museum and University Conference Space project (the "Project"). The Project involves renovating the existing building at 2101 Commonwealth Avenue to upgrade existing meeting space in the building and relocating the McMullen Museum from Devlin Hall on the Chestnut Hill Campus of Boston College to 2101 Commonwealth Avenue, which is on the Brighton Campus. The transportation analysis assumes that existing meeting space uses at 2101 Commonwealth Avenue will remain consistent and that the McMullen Museum will be incorporated into the existing building and proposed addition. The following sections describe existing conditions and expected Project impacts on the following:

- Traffic
- Parking
- Transit
- Bicycle and Pedestrian Accommodations
- Loading and Service
- Special Events
- Transportation Demand Management

3.2 TRAFFIC

3.2.1 VEHICULAR ACCESS

Primary vehicular access to 2101 Commonwealth Avenue is provided by the Brighton Campus Driveway on Commonwealth Avenue to the west of the Project site. (See Figure 3-1, Site Access and Circulation.) A second gated curb cut is provided east of the site on Commonwealth Avenue. This second curb cut will remain gated and will provide controlled egress as needed. The following is a description of Commonwealth Avenue and the Brighton Campus Driveway, which provide access to the site.

Commonwealth Avenue is the southern boundary of the Brighton Campus. It is a divided, east/west roadway providing two travel lanes in each direction. The Massachusetts Bay Transportation Authority ("MBTA") Green Line B Branch is

located in the median. Parking is provided along both sides of the street adjacent to the Brighton Campus, and sidewalks are provided on both sides of the street. The Brighton Campus Driveway is a little more than one tenth of a mile from Lake Street.

Brighton Campus Driveway is a north/south driveway that provides the primary access to the Brighton Campus on Commonwealth Avenue. The Driveway is a paved, two-way driveway with no pavement markings. There are sidewalks provided on the east side of the driveway. The Brighton Campus Driveway operates as a right-turn in and right-turn out to Commonwealth Avenue due to the Green Line operating in the median.

3.2.2 TRAFFIC GENERATION

The existing building at 2101 Commonwealth Avenue is home to meeting space for Boston College, however much of the building is currently underutilized. With the planned relocation of the McMullen Museum to the site, meeting operations are anticipated to remain consistent and the museum will backfill the vacant space plus a modest 7,100 gsf entrance and circulation addition, bringing the total size to approximately 30,100 gsf.

The McMullen Museum has five employees who will relocate to the site. To understand visitor trip generation, Boston College performed a survey in February of 2014 at the existing Museum. Visitor surveys were collected for a two week period to provide an understanding of the total number of visitors, the percentage of visitors who were also visiting the campus for other reasons, and the parking demand for visitors.

Survey results were averaged to provide insight into typical weekday and weekend activity at the museum. Approximately 50 percent of the weekday trips to the museum were made by people conducting other activities on campus in addition to the museum visit. On the weekend, approximately 18 percent of the visitors to the museum were already on the Boston College campus. Table 3-1, Average Daily Museum Trips, provides the estimated vehicle, transit, and walk/bike trips based on the survey volumes for weekday and weekend daily trip generation.

Table 3-1, Average Daily Museum Trips (Number of Visitors)

Time Period	Person Trips	Vehicle Trips	Transit Trips	Walk/Bike Trips
Weekday	46	14	10	22
Weekend	133	54	9	23

Source: Boston College, 2014 McMullen Museum visitor Assessment Summary

The museum currently operates from 11:00 a.m. to 4:00 p.m. outside of the commuter peak hours. Visitors are distributed throughout the day and typically peak from 2:00 p.m. to 3:00 p.m. on the weekday and weekends. During the peak hours, the museum typically generates three vehicle trips on a weekday and 15 vehicle trips on a weekend.

Table 3-2, Average Peak Hour Museum Trips, presents the vehicle, transit, and walk/bike trips expected to occur during the weekday and weekend peak hours.

Table 3-2, Average Peak Hour Museum Trips

Time Period	Person Trips	Vehicle Trips	Transit Trips	Walk/Bike Trips
Weekday (2:00 – 3:00 p.m.)	11	3	3	5
Weekend (2:00 – 3:00 p.m.)	37	15	3	6

Source: Boston College, 2014 McMullen Museum visitor Assessment Summary

3.3 PARKING

3.3.1 ON-CAMPUS PARKING

The Brighton Campus has approximately 700 surface parking spaces. Approximately 80 percent of the spaces are occupied. 2101 Commonwealth Avenue currently has 36 spaces on the adjacent driveway to support the building's meeting functions, which will be maintained with the Project.[1] In addition to the driveway spaces, there are two surface lots close to the site that will serve the

[1] The University is adding 11 spaces to the Brighton Campus parking inventory to satisfy the parking requirement that may apply to the addition to the 2101 Commonwealth Avenue building in accordance with Table J of Article 51.

Project (Library and Gymnasium lots). These lots have direct access from the Brighton Campus Driveway.

Table 3-3. Weekday Average Existing Parking Supply and Demand, summarizes the existing supply and demand at the Library Lot, Gymnasium Lot, and 2101 Commonwealth Avenue site.

Table 3-3, Weekday Average Existing Parking Supply and Demand

	Existing Capacity[1]	**Existing Demand**
Library Lot	137	85
Gymnasium Lot	28	22
2101 Commonwealth Avenue Surface Spaces	36	30[2]
Total	201	137

[1] Boston College, Parking Utilization Study from Fall Semester, 2013
[2] VHB observed typical meeting space event demand in February 2014

Table 3-4, Average Weekday Project Demand Parking, summarizes the average weekday parking demand associated with the McMullen Museum and the meeting space. It is expected that an average of approximately 5 visitor and 5 employee spaces will be required on the weekdays during the peak time period for the Museum as shown below. No changes to parking are expected for the meeting space. The table provides a breakdown of the future parking required to support the Project.

Table 3-4, Average Weekday Project Demand Parking

	Visitor Demand	**Staff Demand**
McMullen Museum	5	5
Meeting Space*	30	0
Total	35	5

Source: VHB
*Note: The meeting space is an existing use in the existing building.

Up to 12 visitor spaces will be dedicated to the Project within the existing Gymnasium lot. In addition, two handicap spaces will be reserved adjacent to the Project. Permit holders displaced from the Gymnasium Lot will be relocated to the

Library Lot. The Library Lot will also accommodate the additional five Museum employees.

As previously stated, the visitors of the meeting space will continue to use the driveway during weekday events. On the weekends, there is ample parking on the Brighton Campus to accommodate typical visitation and special events.

3.3.2 ON-STREET PARKING

There is limited on-street parking around the Brighton Campus. The abutting streets are primarily reserved for resident parking. A small amount of unregulated parking and visitor parking is provided on Commonwealth Avenue adjacent to the Brighton Campus; however, it is highly utilized. For this reason, the Project's parking demand will be absorbed by the Brighton Campus.

3.4 TRANSIT

3.4.1 PUBLIC TRANSPORTATION

Boston College is well served by MBTA transit and bus services. Boston College is located at the terminus of the MBTA's Green Line Boston College B Branch (See Figure 3-2, Public Transportation.) Boston College Station is located on the north side of Commonwealth Avenue, just west of the Brighton Campus. Boston College provides shuttles to additional MBTA services including local bus routes, the Cleveland Circle stop on the C Line, and the Reservoir stop on the D Line.

Boston College B Branch operates between Boston College and Government Center on 7-minute headways during rush hours and on 9-minute headways throughout the day on weekdays. Weekend service is provided with 7-minute to 10-minute headways throughout Saturday and Sunday. Service from the Boston College stop is provided between 5:01 a.m. and 12:10 a.m. during the Monday through Thursday, between 5:01 a.m. and1:48 a.m. Fridays, between 4:45 a.m. and 1:48 a.m. on Saturdays, and between 5:20 a.m. and 12:10 a.m. on Sundays.

Cleveland Circle C Branch operates between Cleveland Circle and North Station on 6-minute headways during rush hours and 10-minute headways throughout the day on weekdays. The Cleveland Circle stop is located within one mile of the Brighton Campus. Service is provided between 5:01 a.m. and 12:10 a.m. Monday through Thursday, between 5:01 a.m. and 1:40 a.m. Fridays, between 4:50 a.m. and 1:40 a.m. on Saturdays, and between 5:30 a.m. and 12:10 a.m. on Sundays.

Riverside D Branch operates between Riverside and Government Center on 7-minute headways during rush hours and on 11-minute headways throughout the

day on the weekdays. The Reservoir stop is located just east of the Cleveland Circle stop on the C Branch. Service is provided between 4:56 a.m. and 12:05 a.m. Monday through Thursday, between 4:56 a.m. and 1:43 a.m. Fridays, between 4:55 a.m. and 1:43 a.m. on Saturdays, and between 5:25 a.m. and 12:00 a.m. on Sundays.

The MBTA has recently started a one-year pilot program offering late-night service, as shown in these service hours, as a way to boost the region's economy and provide affordable transportation options to employees working late evening shifts. Subway lines, light rail, and 15 key bus routes will run until 2:30 a.m. on Friday and Saturdays through March of 2015.

3.4.2 BOSTON COLLEGE SHUTTLE BUS SERVICES

Boston College provides shuttle bus services for students and employees of the Chestnut Hill, Brighton, and Newton campuses. These services are shown in Figure 3-3, Existing Shuttle Bus Service, and described below:

The **Brighton Shuttle** provides a van service between the Brighton Campus and the Chestnut Hill Campus Monday through Friday from 8:40 a.m. to 6:10 p.m. Service is provided every 30 minutes except on University holidays and when class is not in session.

The **Boston/Commonwealth Avenue Shuttle** service provides a Boston Direct Route and an All Stops route that run every 15-20 minutes. The Brighton Campus is served by the Greycliff Hall stop. The Boston Direct Route stops at Conte Forum, Commonwealth Avenue opposite Greycliff Hall (outbound), 2000 Commonwealth Avenue, the Reservoir Green Line stop at Cleveland Circle, Bank of America on Chestnut Hill Avenue, Chiswick Road, the corner of Commonwealth Avenue and Chestnut Hill Avenue, South Street, Greycliff Hall, and Robsham Theater. The All Stops route makes all of these stops plus McElroy Commons on Boylston Street, Donaldson House on College Road, and the Main Gate at the Chestnut Hill Campus.

The **Newton Shuttle** transports students and employees between the Boston College Newton Campus and Chestnut Hill Campus via Commonwealth Avenue. Service is provided every 15-20 minutes from 7:00 a.m. to 2:00 a.m. on weekdays and from 8:00 a.m. to 2:00 a.m. on weekends. Five distinct routes are provided depending on the day of the week and time of day.

3.5 PEDESTRIAN AND BICYCLE ACCOMMODATIONS

3.5.1 PEDESTRIANS

Pedestrian accommodations on the Brighton Campus are in good condition. As described in Section 3.2.1, Vehicular Access, sidewalks exist on both sides of Commonwealth Avenue. When Boston College acquired the Brighton Campus, it contained few dedicated pedestrian walkways. With the development of the campus, Boston College has expanded pedestrian accommodations, including paths, sidewalks and crosswalks connecting various buildings on campus. The recently completed 2121 Commonwealth Avenue Project included new pedestrian sidewalks and crosswalks connecting the Library and Gymnasium parking lots to 2121 Commonwealth Avenue and the 2101 Commonwealth Avenue driveway. The Project at 2101 Commonwealth Avenue will include the construction of a new sidewalk along the south side of the driveway with crosswalks connecting to the building.

3.5.2 BICYCLES

Boston College offers services to provide safety and security to bicyclists and their equipment in order to support a bike-friendly campus. In addition, Boston College participates in the MassRIDES Bike to Work Week (BTWW) Challenge to promote bicycling as a viable commute option.

The Project will include four outdoor bicycle parking spaces for visitors. Additionally, four covered bicycle storage spaces will be provided within the basement level of the building for employees.

3.6 LOADING AND SERVICE

2101 Commonwealth Avenue currently has a loading dock for the meeting space on the west side of the building. With the planned Museum relocation, a second loading dock area will be constructed on the east end of the building as shown previously in Figure 2-5, Site Plan. Both dock areas will accommodate single-unit trucks. In addition, tractor-trailer trucks will occasionally access the museum's east wing dock. Primary truck access to the building will be via the Brighton Campus Driveway. In the event of a tractor trailer delivering to the building, the gate on Commonwealth Avenue to the east of the site may be opened to allow the truck to drive through the site without making backing movements. Trash and recycling will be handled through the same loading areas. The meeting space will continue to receive small deliveries (single-unit trucks) during the day, while the museum will typically only require deliveries prior to events and when the exhibits change.

3.7 SPECIAL EVENTS

The McMullen Museum expects to have approximately two major events per year related to the opening of exhibits. These Museum events are expected to have approximately 250 visitors and will usually take place on weekend nights during the school year.

The meeting space is expected to have approximately five special events per year, consistent with their existing operations. These events may have 300-500 attendees and will typically happen during a weekend day.

It is expected that parking for these events will be accommodated on the Brighton Campus within the Gymnasium lot, the Library lot and surface parking spaces along the 2101 Commonwealth Avenue driveway. Parking permits will not be required in these lots during the off-peak events.

3.8 TRANSPORTATION DEMAND MANAGEMENT

Boston College actively supports efforts to reduce automobile use by faculty, staff, students, and visitors traveling to the campus. Many actions to support this goal are actively employed and will be applied to employees at and visitors to the Project. Existing measures include:

- **Information Dissemination**. Boston College promotes all forms of alternative transportation through the Office of Transportation and Parking and provides a comprehensive website for the members of the institution and the public. This website provides detailed transportation and parking policies. (See www.bc.edu/transportation.)

- **Transit.** Boston College is served by the MBTA Green Line B Branch and provides shuttle bus service to the Cleveland Circle and Reservoir MBTA stops on the C and D Branches of the Green Line. Students can purchase a semester pass through the University and receive an 11 percent discount on MBTA passes. Full-time employees are provided a pre-tax T-pass sales benefit.

- **Ride matching.** In conjunction with MassRIDES, Boston College assists in the creation of carpools and vanpools, providing employees with a cost-effective and environmentally friendly alternative to drive-alone commutes. Discounted parking permit rates are available for those who sign up for the ride matches. Carpoolers are guaranteed a preferential parking location on campus.

- **Shuttle Bus System.** Boston College operates and promotes a free 13-bus shuttle system to link the Brighton, Chestnut Hill, and Newton campuses with the Green Line at the Cleveland Circle and Reservoir stops.

- **Guaranteed Ride Home.** Pre-registered employees who utilize alternative transportation can take advantage of a guaranteed ride home when a personal or family illness or unplanned overtime interrupts their regular commute.

- **Eagle Escort Service.** Operated by the Boston College Police, the Eagle Escort service transports individual members of the Boston College community who are concerned for their personal safety and well-being. The service operates throughout campus, 24 hours a day, 7 days a week, except for school holidays and breaks of four or more days.

- **Bicycling Incentives.** Boston College has numerous safe, clean, and conveniently placed bicycle racks throughout its campus. Approximately 45bicycle spaces are available on the Brighton Campus in four locations. Boston College participates in the MassRIDES Bike to Work Week (BTWW) Challenge to promote bicycling as a viable commute option. Boston College promotes biking as an alternative to driving, as identified on the Transportation website, and distributes promotional material and incentives for Bike Week to encourage employees to bike to work.

- **Car Sharing.** Boston College currently has a relationship with Zipcar, providing employees and students a significant discount on the membership rates

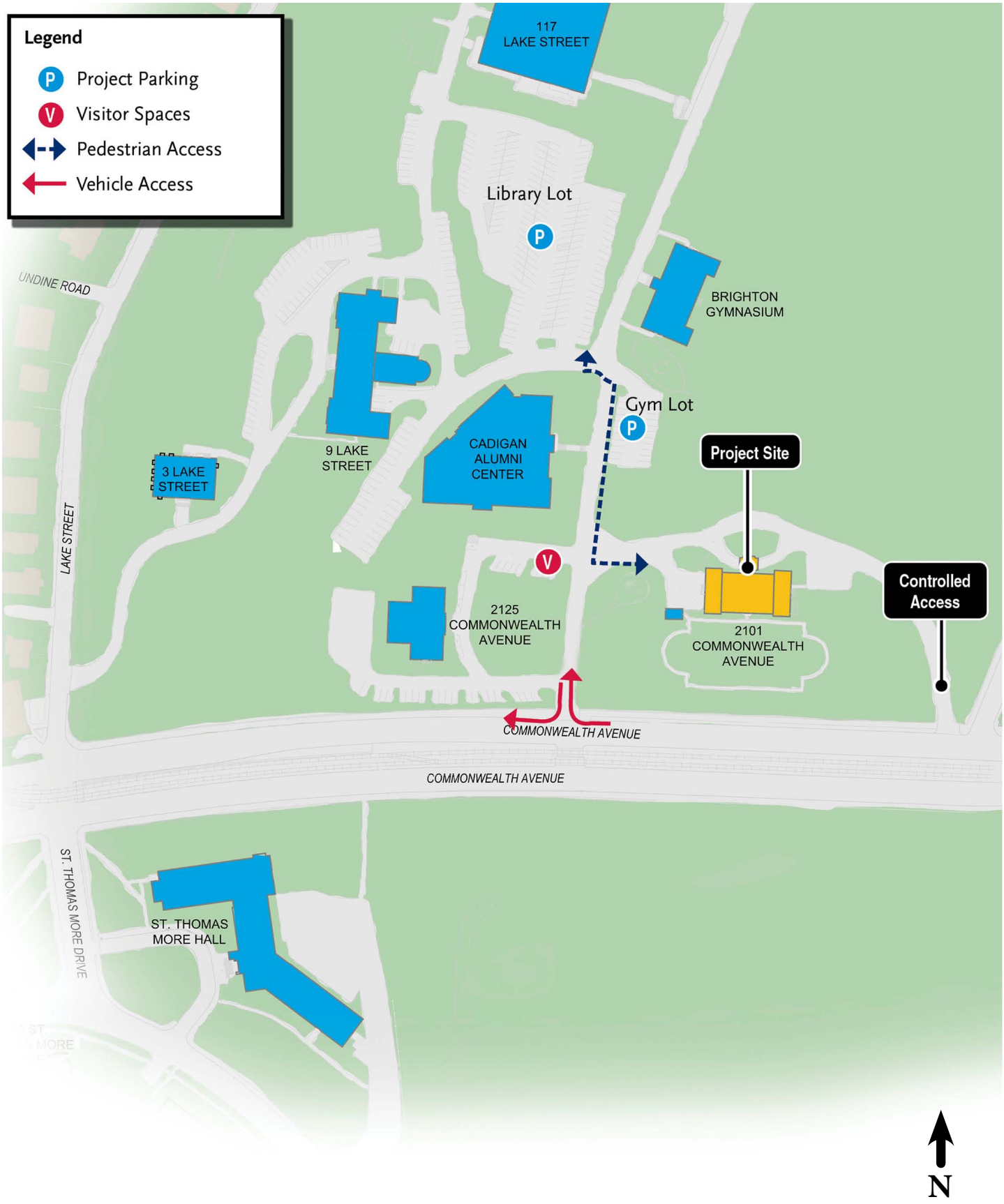


Figure 3-1
Site Access and Circulation
Source: VHB, 2014

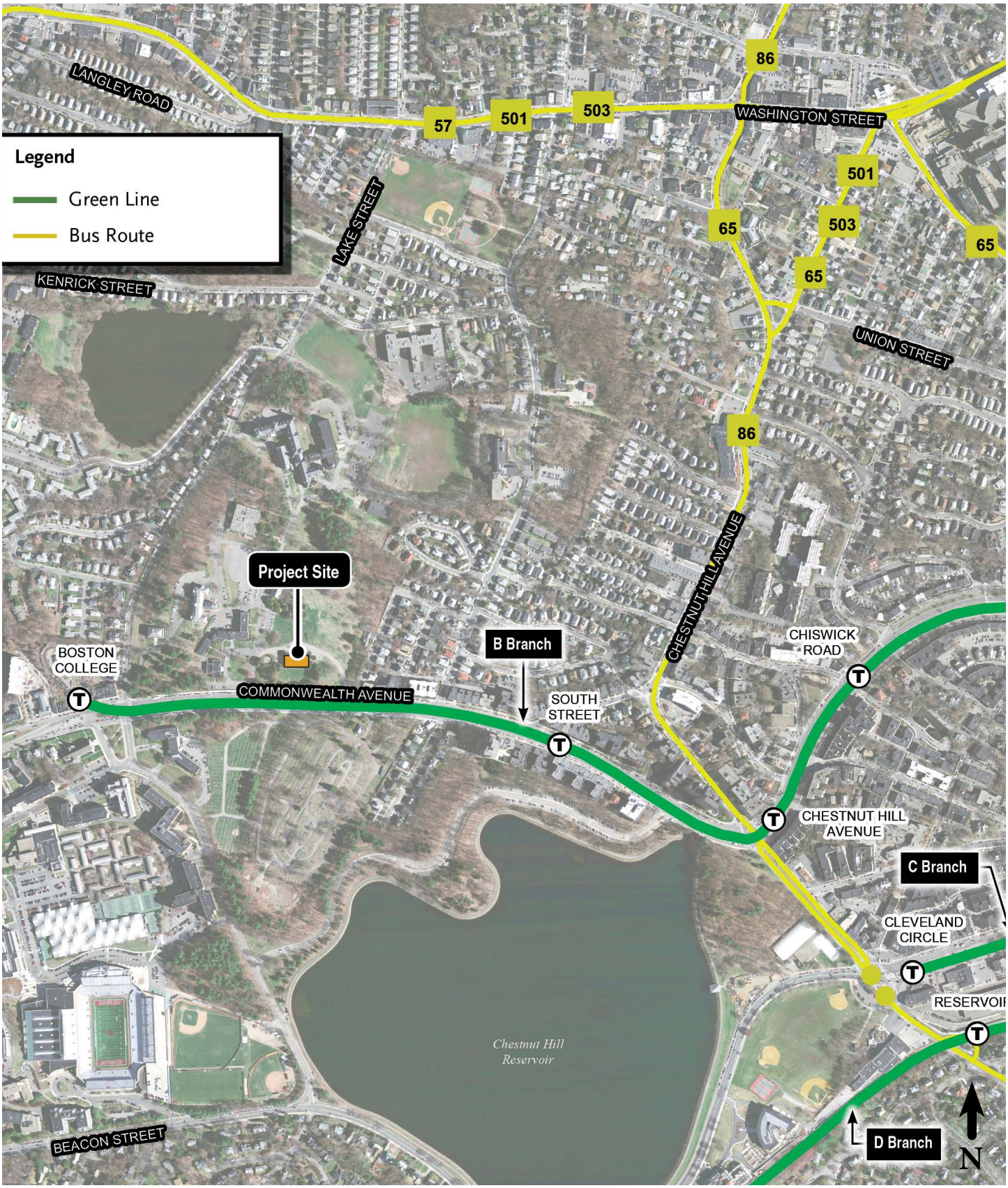


Figure 3-2
Public Transportation
Source: VHB, 2014

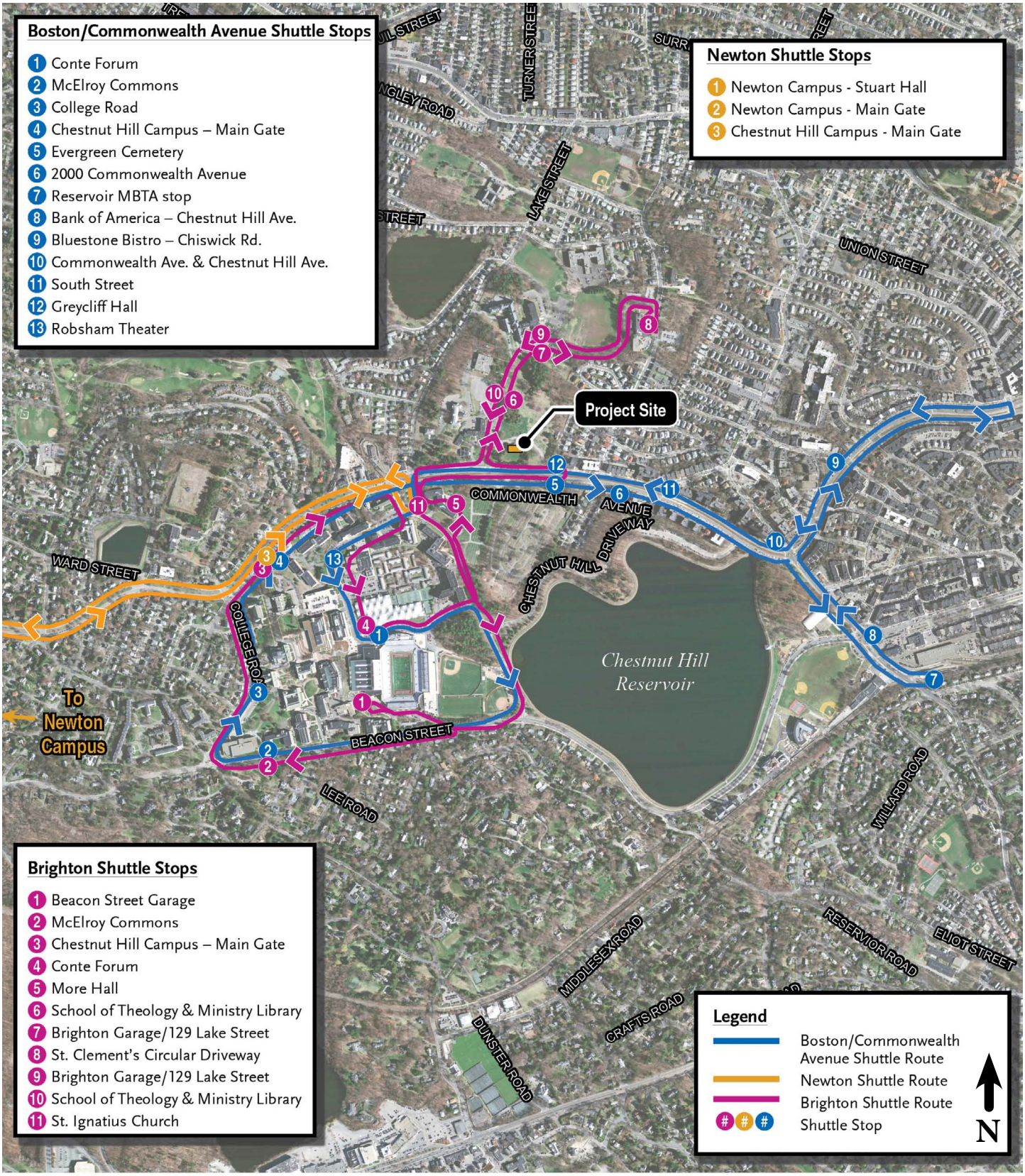


Figure 3-3
Boston College Shuttle Routes
Source: VHB, 2014

CHAPTER 4: ENVIRONMENTAL

4.1 INTRODUCTION

The McMullen Museum and University Conference Space (the "Project") is an appropriate reuse of an existing building for compatible purposes, with a modest addition. The meeting space use is consistent with the building's current use and the incorporation of a museum that already exists on campus will be a low intensity use. Existing staff and activity from the McMullen Museum at Devlin Hall on the Chestnut Hill campus will be shifted to this new location. Accordingly, the environmental impacts of the proposed Project are minimal and confined to the immediate building envelope and most proximate grounds. The only significant change to the form of the building is a small addition to the east. The only other changes to the site will be the demolition of the small, one-story garage to the west, minor landscaping and grading changes, and the addition of loading docks. Pedestrian level wind analyses, daylight studies, solar glare or shadow impact studies are not warranted given the modest size of the proposed Project.

4.2 ENVIRONMENTAL SUSTAINABILITY

The University is committed to achieving a Project design certifiable under the Leadership in Energy and Environmental Design (LEED) program. Because the Project is still at a schematic design level, final decisions about which LEED credits to pursue have not yet been made. However, the University has identified a number of credits which are potentially available for the Project. (See Figure 4-1, LEED Checklist.) As the design progresses, the University will select the final design elements to achieve LEED certifiable status.

4.2.1 SUSTAINABLE DESIGN STRATEGIES

The Project incorporates a wide variety of sustainability strategies and best practices in order to extend the useful life of the existing building and improve the building's energy performance. Specifically, the Project is sensitive to the following sustainable design performance measures:

- **Site.** The Project design will ensure that the site will experience improved storm water quality and retention. Additionally, the site is well served by public transportation.

- **Water.** All existing and new plumbing fixtures will be upgraded to low-flow models to minimize water consumption.

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- **Site.** The Project design will ensure that the site will experience improved storm water quality and retention. Additionally, the site is well served by public transportation.

- **Water.** All existing and new plumbing fixtures will be upgraded to low-flow models to minimize water consumption.

- **Envelope**. High R-value insulation will be used at both the existing building and at the new addition.

- **HVAC Energy savings Strategies.** For energy savings beyond high efficiency equipment, the chilled water system will utilize an evaporative condensing chiller as an alternative to a traditional air-cooled system. The hot water system will include condensing boilers to optimize the energy savings of the HVAC systems. CO2 sensors and/or other indoor air quality sampling sensors will be used to modulate the outdoor air quantities to a demand based system which responds dynamically to the environmental needs of the occupants.

- **Materials:** The existing structure and façade will be reused and new materials will be selected with an emphasis on recycled content and low VOC.

4.3 AIR QUALITY

The proposed building renovation will include upgrades to building systems that may affect air quality. With respect to indoor air, the building HVAC systems will be upgraded to code compliant systems that will provide a significantly greater rate of air exchange over existing conditions. To prevent heat/AC loss due to increased air exchanges, a heat/AC recovery unit will be installed to minimize energy consumption. Installation of a new emergency generator will involve some increase in emissions from a diesel-powered engine. However, the generator will be operated only sporadically during emergencies and for routine operational testing, and will be in conformance with current standards for air emissions regulated by the state Department of Environmental Protection.

4.4 NOISE

Intermittent increases in noise levels will occur in the short term during renovation. Work will comply with the requirements of the City of Boston noise ordinance. Efforts will be made to minimize the noise impact of renovation activities, including appropriate mufflers on all equipment, maintenance of intake and exhaust mufflers, turning off idling equipment, replacing specific operations and techniques with less noisy ones, scheduling equipment operations to synchronize the noisiest operations with times of highest ambient noise levels, and muffling enclosures on continuously operating equipment such as air compressors and welding generators.

A new emergency generator will be installed to the southeast of the building in a location that will be shielded by trees to minimize noise dispersion. Noise reducing options will be considered in the selection of equipment.

4.5 WATER QUALITY

In terms of stormwater runoff, the Project will not alter the existing conditions significantly. Building systems will be checked to ensure that all stormwater is completely separated from the existing sanitary sewer system and discharged into the appropriate Boston Water and Sewer Commission ("BWSC") conveyance system.

4.6 SOLID AND HAZARDOUS WASTES

Solid waste generated by construction will consist of demolition debris from interior renovations and waste from new construction. Debris resulting from the demolition of the interior portions of the existing structure will be recycled or disposed of in accordance with applicable federal and state regulations.

4.7 RENOVATION IMPACTS

A Construction Management Plan ("CMP"), in compliance with the City of Boston's Construction Management Program, will be submitted to the Boston Transportation Department. It will include detailed information on renovation activities, specific mitigation measures, and materials access and staging area plans to minimize impact on the surrounding neighborhood.

Construction methodologies that ensure public safety and protect nearby residents will be employed. Techniques such as barricades, walkways, and signage will be used. Construction management and scheduling will minimize impacts on the surrounding environment, including plans for construction worker commuting and parking, routing plans for trucking and deliveries, and control of noise and dust. Although the design of the 2101 Commonwealth Avenue renovation is still in development, Boston College has begun to identify preliminary elements of how traffic and parking will be managed during construction. This section outlines some of these elements, which are subject to refinement and modification as the design of the renovation project progresses.

Worker parking will be provided on the Brighton Campus during the renovation. For previous renovation projects, Boston College has provided up to 60 parking permits to allow workers to park on campus. Based on utilization counts taken at peak hours over one month in late February 2014, an average of 201 spaces were available in the Library and Gymnasium parking lots and the surface parking on the 2101 Commonwealth Avenue drive. These three areas provide sufficient parking capacity to easily accommodate 60 or more workers during construction of the Project.

As with other projects on the Brighton campus, the following steps will be taken regarding construction at 2101 Commonwealth Avenue to minimize traffic impacts in the area:

- Workers will be directed to reach the Brighton Campus via Commonwealth Avenue.
- Working hours will be 7:00 a.m. to 4:30 p.m. Monday through Friday and 8:00 a.m. to 4:30 p.m. on Saturday, as authorized.
- Deliveries to the work site will be made via Commonwealth Avenue.
- As needed, a security detail will be utilized to safely direct and manage construction related traffic as well as routine campus traffic.
- A fenced lay down and work area will be established to separate construction activity from day-to-day pedestrian and vehicular traffic on campus.

Short-term air quality impact from fugitive dust may be expected during the demolition of the building interior and during the early phases of the Project site preparation activities. The construction contract for the project will require the contractor to reduce potential emissions and minimize air quality impacts. Mitigation measures are expected to include the use of wetting agents where needed on a scheduled basis, covered trucks, minimizing exposed construction debris stored on-site, monitoring construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized, locating aggregate storage piles away from areas with the greatest pedestrian activity where and when possible, and periodic cleaning of streets and sidewalks to reduce dust accumulations.

Intermittent increases in noise levels will occur in the short-term during renovations. Work will comply with the requirements of the City of Boston Noise Ordinance. Efforts will be made to minimize the noise impact of construction activities.

During renovation, erosion and sediment control measures will be implemented to minimize the transport of Project site soils to off-site areas and BWSC storm drain systems. The existing catch basins will be protected with filter fabric or silt sacks to provide for sediment removal from runoff. These controls will be inspected and maintained throughout the construction phase until all areas of disturbance have been stabilized through the placement of pavement, structure, or vegetative cover.

Other sediment controls, which will be implemented as needed during construction, will include the following:

- Staked hay bales and/or silt fence barriers will be installed at the base of stockpiled soils and at erosion-prone areas throughout the construction phase of the Project. The erosion controls will be maintained and replaced as necessary to assure their effectiveness.

- Where necessary, temporary sedimentation basins will be constructed to prevent the transport of sediment off-site.

- Measures to control dust will be implemented during renovations. All debris will be properly contained on the Project site.

- Erosion controls will be maintained and replaced as necessary until the installation of pavement and the establishment of stabilized vegetation at the Project site.

4.8 RODENT CONTROL

The contractor will file a rodent extermination certificate with the building permit application to the City. Rodent inspection, monitoring and treatment will be carried out before, during and at the completion of all construction work for the Project, in compliance with the City's requirements. Rodent extermination prior to work start-up will consist of treatment of areas throughout the project site, including building interiors. During the construction process, regular service visits will be made to maintain effective rodent control levels.

4.9 WILDLIFE HABITAT

The Project Site is fully developed and, as such, the Project will not impact important wildlife habitats.

4.10 FLOOD HAZARD DISTRICT/WETLANDS

It is not anticipated that the Project area will be susceptible to conditions of flooding. The Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") indicates the FEMA Flood Zone Designations for the Project site (City of Boston, Community-Panel Numbers 25025C0056G and 25025C0058G, dated September 25, 2009). The FIRM for the Project site shows the project located in Zone C, Area of Minimal Flooding. In addition, the Project site does not contain any wetlands.

4.11 HISTORIC RESOURCES

Boston College acquired approximately 65 acres of land from the Roman Catholic Archdiocese of Boston (RCAB) that includes St. John's Seminary, Chancery Offices, and the Cardinal's Residence. The Chancery-St. John's Seminary Complex was identified and evaluated in 2004 in the Massachusetts Historical Commission's ("MHC") *Survey of Historic Properties of the Roman Catholic Archdiocese in the City of Boston – Summary Report* (the "Survey") and was subsequently recorded on an Area Form in MHC's Inventory as a "potential historic district" (MHC #BOS.JW) eligible for listing on the National Register of Historic Places. The Chancery-St. John's Seminary Complex (the "Complex") consists of

buildings that date from 1881-1967 located north of Commonwealth Avenue, generally between Lake Street and Foster Street in Brighton. Most buildings and structures located within the Chancery-St. John's Seminary Complex are considered to be contributing elements to the Complex. 2101 Commonwealth Avenue (Cardinal's Residence), constructed in 1927 was among the buildings identified as a contributing element. The Complex is not located within any existing state or local historic district (See Figure 4-1, Listed and Inventoried Properties Near the Project Site).

2101 Commonwealth Avenue is a prominent building in the Complex. It is notable for its history as the residence of the Cardinal of Boston, for its fine Renaissance Revival architecture, and for its architects, Maginnis and Walsh, who were prolific and well known in their time for their ecclesiastical and collegiate work. The building's exterior is largely intact and appears to be in good condition and its interior is partially intact, though it has been altered significantly. The small one-bay, one story yellow brick garage just west of the existing building is minimally detailed. According to the Massachusetts Historical Commission's ("MHC") Area Form for the Chancery-St. John's Complex the garage was constructed ca. 1930 and was determined to have "no style."

There is no federal or state funding that is anticipated to be used and no federal or state on approvals are required, and thus the project is not subject to review by MHC under section 106 of the National Historic Preservation Act or under MA General Laws Chapter 9, sections 26-27c.

Since the Project is not located in an historic district or architectural conservation district it is not subject to local historic review by the Boston Landmarks Commission. Because the garage more than fifty years old, however, its demolition will be subject to Article 85 of the Boston Zoning Code (Demolition Delay). The University will be required to file an Article 85 Application with the Boston Landmarks Commission.

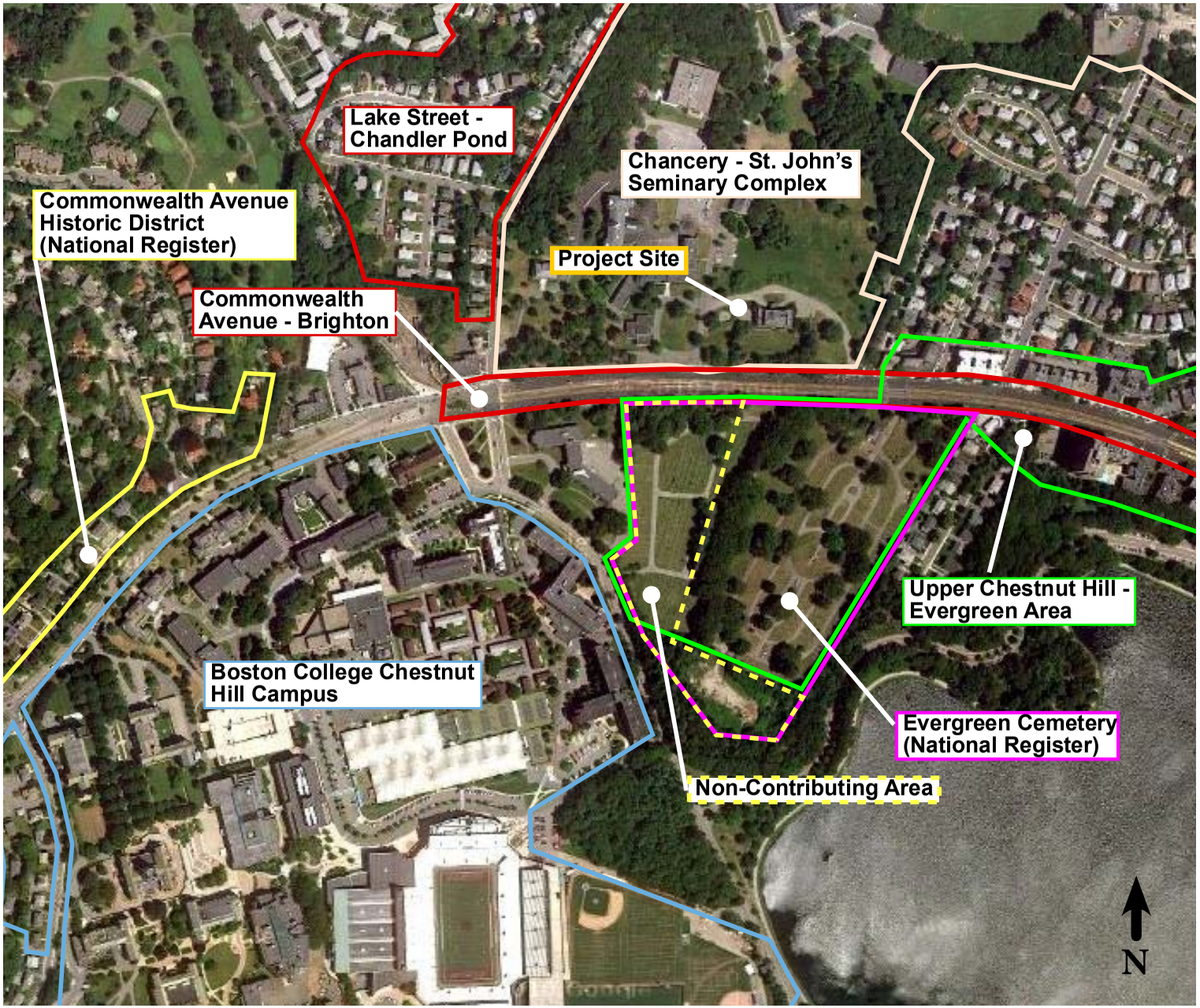

Figure 4-1
Listed and Inventoried Properties Near the Project Site
Source: Fort Point Associates, Inc., 2014

Boston College - 2101 Comm. Ave:

Preliminary LEED Certification Checklist, (V3)

McMullen Museum and University Conference Space

3/21/2014

Possible

Anticipated

Not Pursued

Certification Levels

Certified 40-49 Points

Silver Level 50-59 Points

Gold Level 60-79 Points

Platinum Level 80+ Points

Team

Boston College

DiMella Shaffer - Architect

WSP- MEP

Weidlinger- MEP

LAM- lighting

Though this project is not pursing LEED, we are applying LEED principles to the sustainability practices for the project. The following LEED point review is preliminary and based on our experience regarding which points we are likely to receive. A more detailed review and further development of the design is required to determine final likely point totals.

Prerequisite / Credit	LEED Doc. Phase	Description	Avail.	Yes	Maybe
		SUSTAINABLE SITES	26	16	4
SS P1	C	**Construction Activity Pollution Prevention**	N/A	Y	
SS C1	D	**Site Selection**	1	1	
SS C2	D	**Development Density & Community Connectivity**	5	5	
SS C3	D	**Brownfield Redevelopment**	1		1
SS C4.1	D	**Alternative Transportation** - Public Transportation	6	6	
SS C4.2	D	**Alternative Transportation** - Bicycle Storage & Changing Rooms	1		1
SS C4.3	D	**Alternative Transportation** - Low-Emitting & Fuel Efficient Vehicles	3		
SS C4.4	D	**Alternative Transportation** - Parking Capacity	2	2	
SS C5.1	C	**Site Development** - Protect or Restore Habitat	1		
SS C5.2	D	**Site Development** - Maximize open Space	1	1	
SS C6.1	D	**Storm water Management** - Quantity	1		1
SS C6.2	D	**Storm water Management** - Quality Control	1	1	
SS C7.1	C	**Heat Island Effect** - Non-Roof	1		
SS C7.2	D	**Heat Islands Effect** - Roof	1		1
SS C8	D	**Light Pollution Reduction**	1		
		WATER EFFICIENCY	10	2	1
WE P1	D	**Water Use Reduction** (20%)	N/A	Y	
WE C1	D	**Water Efficient Landscaping**	2-4		
WE C2	D	**Innovative Wastewater Technologies**	2		
WE C3	D	**Water Use Reduction** (30% min.)	2-4	2	1
		ENERGY AND ATMOSPHERE	35	9	7
EA P1	C	**Fundamental Building Systems Commissioning**	N/A	Y	
EA P2	D	**Minimum Energy Performance**	N/A	Y	
EA P3	D	**Fundamental Refrigerant Management**	N/A	Y	
EA C1	D	**Optimize Energy Performance**	1-19	7	5
EA C2	D	**On-Site Renewable Energy** (1% min. of total energy use)	1-7		
EA C3	C	**Enhanced Commissioning**	2	2	
EA C4	D	**Enhanced Refrigerant Management**	2		
EA C5	C	**Measurement and Verification**	3		
EA C6	C	**Green Power**	2	0	2
		MATERIALS AND RESOURCES	14	6	3
MR P1	D	**Storage & Collection of Recyclables**	N/A	Y	
MR C 1.1	C	**Building Reuse** - Maintain Existing Walls, Floors and Rool	1-3	1	1
MR C1.2	C	**Building Reuse** - Maintain Interior Non-structural Elements	1		
MR C2	C	**Construction Waste Management**	1-2	2	
MR C3	C	**Materials Reuse** (5% min. based on cost)	1-2		
MR C4	C	**Recycled Content** (10% min. based on cost)	1-2	1	1
MR C5	C	**Regional Materials** (10% min. based on cost)	1-2	2	
MR C6	C	**Rapidly Renewable Materials** (2.5% min. based on cost)	1		
MR C7	C	**Certified Wood** (50% min. based on cost of all wood based material)	1	0	1
		INDOOR ENVIRONMENTAL QUALITY (IEQ)	15	6	3
IEQ P1	D	**Minimum IAQ Performance**	N/A	Y	
IEQ P2	D	**Environmental Tobacco Smoke (ETS) Control**	N/A	Y	
IEQ C1	D	**Outdoor Air Delivery Monitoring**	1	1	
IEQ C2	D	**Increased Ventilation**	1	0	1
IEQ C3.1	C	**Construction IAQ Management Plan** - During construction	1	1	
IEQ C3.2	C	**Construction IAQ Management Plan** - Before Occupancy	1	1	
IEQ C4.1	C	**Low-Emitting Materials** - Adhesives and Sealants	1	1	
IEQ C4.2	C	**Low-Emitting Materials** - Paints and coatings	1	1	
IEQ C4.3	C	**Low-Emitting Materials** - Flooring Systems	1	1	
IEQ C4.4	C	**Low-Emitting Materials** - Composite wood & Agrifiber Products	1		1
IEQ C5	D	**Indoor Chemical & Pollutant Source Control**	1		1
IEQ C6.1	D	**Controllability of Systems** - Lighting	1		
IEQ C6.2	D	**Controllability of Systems** - Thermal Comfort	1		
IEQ C7.1	D	**Thermal Comfort** - Design	1		
IEQ C7.2	D	**Thermal Comfort** - Verification	1		
IEQ C8.1	D	**Daylight & Views** - Daylight	1		
IEQ C8.2	D	**Daylight & Views** - Views	1		
		INNOVATION CREDITS AND DESIGN/BUILD PROCESS	6	2	0
ID C1	D	**Innovation in Design**	1-5		
		Credit 1 - MR C2	1	1	
		Credit 2 -TBD	1		
		Credit 3 - TBD	1		
		Credit 4 - TBD	1		
ID C2.0	C	**LEED Accredited Professional**	1	1	
		REGIONAL PRIORITY	4	1	2
RP C1.1	D	**Regional priority**	1-4		
Bonus points based on project location. Up to 4 points may be achieved		**SSc3**	1		1
		SSc6.1	1		1
		SSc7.1	1	0	
		SSc7.2	1		
		EAc2	1		
		MRc1.1	1	1	
		Totals	110	42	20

Figure 4-2

LEED Scorecard

Source: DiMella Shaffer, 2014

CHAPTER 5: INFRASTRUCTURE

5.1 INTRODUCTION

The building at 2101 Commonwealth Avenue is currently served by existing utility infrastructure. The renovation of the existing building and construction of a modest addition to support the existing meeting space and a small museum do not change the use and occupancy of the building in such a way that would significantly alter the utility demands or flows. All water, sewer, and storm drainage lines in the area of the Project will be adequate to meet the demands of the Project.

5.2 WATER SUPPLY SYSTEM

The water supply for domestic use and fire protection services is supplied by the Massachusetts Water Resources Authority ("MWRA") and distributed by the Boston Water and Sewer Commission ("BWSC") via water mains in Lake Street and Commonwealth Avenue as shown in Figure 5-1, Existing Water System. Boston College owns and maintains all of the water supply system components within the Brighton Campus. The Brighton Campus is served by a 12-inch BWSC main in Lake Street and a 16-inch BWSC main in Commonwealth Avenue.

The existing campus water mains provide sufficient domestic water service to serve the 2101 Commonwealth Avenue building, although a new six-inch fire protection building service connection will be constructed to connect the building to the existing 6-inch water line to the west of the building. The existing campus 10-inch water line provides a loop from the 16-inch line in Commonwealth Avenue to the 12-inch line in Lake Street. As part of the previously completed 129 Lake Street Project, the 8-inch portion of this water line was upgraded to a 10-inch line and connected back out to Lake Street to form a complete loop for water supply and fire protection purposes.

To improve fire protection in the building, the renovation will include a full sprinkler system and standpipes in the stairwells.

5.3 SANITARY SEWER SYSTEM

The existing sanitary sewer system within the Brighton Campus is owned and maintained by Boston College. BWSC owns and maintains the sewer systems in the public streets surrounding the campus and has a sewer main crossing the campus to the east of the 2101 Commonwealth Avenue building. As shown in Figure 5-2, Existing Sanitary Sewer System, there is an existing 6-inch sewer service for the building that connects to a 10-inch

sewer main that is located to the east of the building within a 40 foot wide City of Boston Sewer Easement.

A portion of the existing sewer service to the north of the 2101 Commonwealth Avenue building, which runs under the proposed addition, will be removed and updated as part of the project. A new 6-inch sewer service will be constructed to tie the new building into the existing service lateral that connects to the BWSC 10-inch sewer main. No other improvements to the sanitary sewer collection system are proposed, as there is sufficient capacity within the existing collection system.

5.4 STORMWATER SYSTEM

The existing stormwater system on campus is owned and maintained by Boston College. BWSC owns and maintains the stormwater systems in the public streets surrounding the campus. The Brighton Campus network discharges into the BWSC storm drainage systems in Glenmont Road and Greycliff Road. The stormwater system is adequate to serve the current needs of the campus.

Currently, the stormwater runoff from the project site flows as follows:

1. Stormwater runoff from areas to the south of the 2101 Commonwealth Avenue building flows offsite as overland flow to the catch basins in Commonwealth Avenue and Greycliff Road where it enters the BWSC system;

2. Stormwater runoff from the areas to the north and east of the 2101 Commonwealth Avenue building is collected by catch basins in the adjacent driveway and directed through a 12-inch drain line to the 15-inch BWSC drain main that is located to the east of the building within the previously mentioned 40 foot wide City of Boston Sewer Easement;

3. Stormwater runoff from the 2101 Commonwealth Avenue building roof is collected by a roof drainage system and through the previously mentioned 12-inch drain line to the 15-inch BWSC drain main located to the east of the building;

4. Stormwater runoff from the areas to the west of the 2101 Commonwealth Avenue building is collected by catch basins located in the Brighton Campus Roadway to the west of the building. The campus drainage system discharges to the BWSC storm drainage system in Glenmont Road. (See Figure 5-3, Existing Stormwater System.)

The Project will maintain the existing drainage flow patterns and the stormwater runoff from the renovated building and project site will continue to discharge to the BWSC storm drainage system after being treated by the proposed stormwater management system. The stormwater management system will be designed to meet the MassDEP Stormwater Management Standards to the maximum extent practical using a combination of

conventional and Low Impact Development (LID) Best Management Practices (BMPs) including deep sump and hooded catch basins, a bioretention basin, and proprietary water quality units.

5.5 ENERGY AND TELECOMMUNICATIONS SERVICES

The buildings on the Brighton Campus are supplied with gas by KeySpan Gas Company via Commonwealth Avenue, Lake Street, and Foster Street. The Brighton Campus is served by individual building transformers operated directly by NSTAR. The Boston College campus is supplied with telecommunications carrier service from Verizon, AT&T and PaeTec Services include local, long distance and 800 telephone services, as well as a variety of carrier services for data communications. The fire alarm and telecommunications services are privately owned and maintained by Boston College. The telecommunications and data systems are distributed throughout all campus buildings in University-owned conduit systems.

Figure 5-1

Existing Water System

Source: Boston Water and Sewer Commission, 2010; Boston College Institutional Master Plan, 2009; Nitsch Engineering, 2014

Figure 5-2

Existing Sanitary Sewer System

Source: Boston Water and Sewer Commission, 2010; Boston College Institutional Master Plan, 2009; Nitsch Engineering, 2014

Figure 5-3

Existing Stormwater System

Source: Boston Water and Sewer Commission, 2010; Boston College Institutional Master Plan, 2009; Nitsch Engineering, 2014

APPENDIX A: DRAFT CONSTRUCTION AND TRANSPORTATION MANAGEMENT PLAN

The General Contractor (to be determined) for 2101 Commonwealth Avenue will be responsible for the renovation and addition to the existing building. The Project has been assigned Application # TBD by Inspectional Services. Tentative commencement for the Project is Fall 2014. This Construction Management Plan/Transportation Management Plan (CMP/TMP) is being submitted to the Boston Transportation Department (BTD) for approval prior to the start of construction per City of Boston regulations. The CMP/TMP includes specific mitigation measures and staging plans to minimize impacts to the abutters and public at large. The Contractor will adhere to the conditions as outlined herein, and will further contractually bind their subcontractors and suppliers to the CMP/TMP.

CONSTRUCTION SCHEDULE

The construction period for the Project is expected to last approximately 15 months. Typical construction hours will be from 7:00 AM to 4:30 PM, Monday through Friday. Construction will occasionally occur on weekend days as approved by Boston College in conformance with City of Boston special permit requirements. Truck and equipment access to and from the site onto Commonwealth Avenue will be between 7:00 AM and 5:00 PM. The General Contractor notes that City of Boston ordinances require special permits to perform construction activities on weekends.

CONSTRUCTION IMPACT

The Contractor will establish and maintain construction means and methods that will insure public safety for the duration of the Project. Controls such as barricades, walkways and signage will be utilized in the maintenance of public safety. Construction management, coordination and scheduling will minimize impacts on the surrounding environment, which will include plans for construction worker commuting and parking, routing plans for trucking and deliveries and control of noise and dust generation.

CONSTRUCTION STAGING

The Brighton Campus site is bordered on the sides by Lake Street, Foster Street, Greycliff Road and Commonwealth Avenue, all classified by the City of Boston as public ways. The Commonwealth Avenue entrance to the site will be utilized as both an entrance and an exit way. No vehicles will use the Lake Street entrance.

MATERIALS HANDLING

All materials will be off-loaded within the construction site. Material deliveries will be scheduled to avoid peak traffic periods in order to minimize traffic impacts. A sign will be installed at the materials delivery area advising drivers that they must comply with applicable restrictions regarding vehicle engine idling. No truck idling or queuing will be permitted on the job-site or any community streets.

CONSTRUCTION WORKER PARKING

The number of workers required during the construction period will vary, with the estimated average daily work force ranging from approximately 40 workers during typical periods to as many as 60 workers during the peak of construction. Because the construction workers will arrive and depart prior to peak traffic periods, the construction trips are not expected to impact traffic conditions. Personnel will arrive at the job site either by MBTA or by personal vehicles. Ample secured storage for tools will be provided on site so that workers will not need to transport their tools to the site daily, which will reduce the need to drive to the site. Carpooling will be encouraged by the construction contractor through the posting of a list of all construction personnel with their hometowns noted. During the weekly construction meetings with the project managers and the foremen, the construction contractor will monitor, explore and present the opportunities for carpooling. Parking requirements for the project management staff, whose daily work hours extend beyond that of the hourly construction workers, will be met via adjacent parking lots on Boston College property.

TRUCKING ROUTE AND VOLUMES

Trucking traffic will vary throughout the construction period, depending on the work activity. However, it is expected that truck traffic will range from an average of five trucks a day during typical periods, to as many as ten trucks a day during peak periods of construction. Idling of trucking will not be allowed on site. Trucking to and from the construction site will utilize Commonwealth Avenue.

CONSTRUCTION AIR QUALITY

The construction contract provides for a number of strictly enforced measures to be implemented by contractors to reduce potential emissions and minimize impacts. These include:

- Using wetting agents to control and suppress dust that may come from construction materials.
- Fully covering all trucks used for transportation of construction debris.

- No site storage of construction debris.
- Periodic cleaning of street and sidewalks so as to minimize dust accumulation.

CONSTRUCTION NOISE

Every reasonable effort will be made to minimize the noise impact of construction activities. Mitigation measures will include:

- Initiating a proactive program to ensure compliance with the City of Boston noise limitation policy.
- Using appropriate mufflers on all equipment and regular maintenance of intake and exhaust mufflers.
- Muffling enclosures of continuously running equipment, such as air compressors and welding generators.
- Replacing specific construction operations and techniques by less noisy ones where feasible.
- Selecting the quietest of alternative items of equipment (e.g. electric instead of diesel powered equipment, hydraulic tools instead of pneumatic impact tools).
- Scheduling equipment operations to keep average noise levels low, to synchronize noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels.
- Turning off idling equipment.
- Locating noise equipment as far as possible from sensitive areas.

RODENT CONTROL

The City of Boston has declared that the infestation of rodents in the City is a serious problem. To control this infestation, the City enforces the requirements established under the Massachusetts State Sanitary Code and the State Building Code. City of Boston Policy Number 87-4 establishes that the extermination of rodents shall be required for issuance of permits of demolition, excavation, foundation, and basement rehabilitation. The project will develop a rodent control program prior to its construction start. For this scope of work, the General Contractor will contract with a pest control company.

CONSTRUCTION

Construction will include interior and exterior demolition, renovations, window replacement, selective exterior masonry re-pointing and a new addition. We intend to request the City of Boston to issue the appropriate permits to allow for the construction sequence to proceed as scheduled.

COMMITMENT

The General Contractor for the project will be responsible for all matters pertaining to construction permits. Although other individual subcontractors will be seeking permits in their own name, they will be contractually required to comply with this Construction Management Program upon its acceptance by BTD. Subcontractors to the General Contractor will coordinate all permit requirements through the General Contractor prior to actual application to the City, to ensure conformance of this CMP.

Project Manager: TBD
Project Superintendent: TBD