Sustainable Design Narrative

Introduction

The Project team, with strong support from the project developer, is pursuing sustainable design and construction for the project, which will include review and evaluation of the requirements of Article 22 of the Cambridge Zoning ordinance relative to the City’s Green Building policies and procedures. The City is actively promoting measures to encourage buildings to decrease energy and water use and cost, improve the efficiency and useful life of building systems and infrastructure, and reduce the burdens imposed by buildings on city services, the environment, and public health.

The Project architectural/engineering/construction team includes several LEED Accredited Professionals, including the Sustainability Consultants, Robert G. Andrews, Jr., PE, CEA, LEED AP BD+C, and Timothy Spencer, LEED AP BD+C, and Daniel Whitted, LEED AP BD+C, BEAP, along with several other lead architects, engineers and construction personnel. Mr. Andrews’ responsibilities include meeting with the Proponent, Design Team and Construction Manager in a sustainable design charrette early in the Project, to identify the environmental design goals, motivations and issues, discuss the LEED program impact on the design, build consensus and included gaining LEED program buy-in from team members.

A LEED checklist for Northpoint Parcel H is provided at the end of this section to identify sustainability design objectives for this Project, highlights of which are included below. The project building has been registered with USGBC/GBCI to certify under the LEED for Core and Shell v4 program. Several of the site credits can be documented and applied to the building. System design solutions have been developed in an effort to achieve the targeted LEED credits. The final design and construction of the Project will create sustainable buildings to promote the internal building environmental quality for the occupants, enhance the surrounding neighborhood locally, and reduce environmental impacts globally.

LEED for Core and Shell v4 checklist summary:

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
<th>Possible Points</th>
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</thead>
<tbody>
<tr>
<td>Integrative Process</td>
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<td>0</td>
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<tr>
<td>Location and Transportation</td>
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<td>8</td>
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<tr>
<td>Sustainable Site</td>
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<td>Water Efficiency</td>
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<tr>
<td>Indoor Environmental Quality</td>
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<tr>
<td>Innovation and Design Process</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Regional Priority</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Points**: 52 Expected 37 Possible Points

Parcel H Path to Net Zero

DIVCO West is committed to developing sites and constructing and operating buildings that apply current sustainability strategies and that are adaptable to future technologies in order to be Net-zero ready. Net zero ready is understood to be a building that has a low site energy consumption and uses no fossil fuels.

Although the Parcel H project will not be a net zero building when first completed, it is currently designed with the goal of dramatically reducing energy consumption by incorporating a high-performance envelope, high-efficiency condensing gas-fired boilers, high-efficiency chillers, low-flow hot water fixtures, LED lighting, and low-e windows. The project team will also perform energy analysis to evaluate the possibility of using advanced energy saving technologies, such as triple-pane windows, chilled beam cooling, and a dedicated outdoor air system utilizing a desicant energy recovery wheel. In addition, allowance for future technologies has been taken into consideration in the design of the building systems such that later conversions are more easily facilitated.

Finally, the current building systems are set up to be upgradable to net zero in the future by making changes to the system at the end of the systems’ useful life, over the next 20 to 30 years. A path to achieving net-zero would include removal of the current natural gas burning equipment at the end of its useful life, to be replaced with an all-electric system. This would not require significant distribution changes and thus the costs would be comparable to normal equipment replacement costs. In addition, the building would reevaluate renewable generation technologies, and district utilities potential implementation at that time, which would further the goal of eliminating greenhouse gas emissions.

Solar-Ready Roof

An estimated 14,300 ft² of roof space is available for the future installation of solar photovoltaic panels for renewable energy generation. Based on this, an analysis has been conducted using NREL’s PVWatts online tool to evaluate the potential solar energy generating capability of the project roof.

Based on an estimated EUI of 70 to 80 kBtu/ft²/year for similar office buildings in the Boston Cambridge area, and a conditioned square footage of 390,000 ft² at Parcel H, the building is estimated to be capable of producing between 3% and 4% of total energy use with roof-mounted solar panels. See the results below for more detail.
Affidavit

As the lead Sustainability Consultant overseeing the planning, design and construction of the Northpoint Parcel H, I, Timothy Spencer, LEED AP BD+C, certify that I am knowledgeable of the project’s green building strategies, designs, plans and details and to the best of my knowledge this project has been planned and designed so as to meet the prerequisites and earn the credits necessary to achieve 52 points (minimum for certification is 40 points) using the LEED for Core and Shell v4 Rating System. The referenced project has been designed to meet the Green Building requirements under Article 22 of the Cambridge Zoning Ordinance.

Timothy Spencer
LEED Administrator and Sustainability Consultant
AHA Consulting Engineers, Inc.
within ½ mile, classify transit based on vehicle types, and confirm the walkability of the neighborhood. This credit is expected to be achieved.

5. **Bicycle Facilities (Credit)**
   The project will meet the credit requirements by providing short-term bicycle storage for at least 2.5% of all peak visitors, and long-term bicycle storage for at least 30% of all regular building occupants. The project team will identify bicycle network and eligible destinations, select bike-friendly project location, and gather occupant count information. This credit is expected to be achieved.

6. **Green Vehicles (Credit)**
   The project will designate 5% of all parking spaces used by the project as preferred parking for green vehicles. These spaces will be clearly identified and enforced for sole use by green vehicles. Preferred parking spaces will be distributed proportionally among various parking sections (e.g. between short-term and long-term spaces). The project team will determine total vehicle parking capacity, calculate number of preferred parking spaces and alternative-fuel fueling stations, and incorporate preferred parking into design.

### Sustainable Sites

4. **Construction Activity Pollution Prevention (Prerequisite)**
   A management plan will enforce measures to protect adjacent areas from pollution from wind and water-borne soil and sedimentation. The civil design team prepared an erosion and sedimentation plan that meets the local codes and the EPA Construction General Permit of the National Pollution Discharge Elimination System (NPDES) program. The construction team will implement the erosion and sedimentation measures and will follow the requirements of stormwater pollution prevention plan during the construction.

5. **Environmental Site Assessment (Prerequisite)**
   The project will conduct a Phase I Environmental Site Assessment as described in ASTM E1527–05 to determine whether environmental contamination exists at the site. If contamination is suspected, the project will conduct a Phase II Environmental Site Assessment as described in ASTM E1903–11. If the site is contaminated, it will be remediated to meet local City of Cambridge and City of Boston standards.

6. **Site Assessment (Credit)**
   The project will complete and document a site survey or assessment that includes topography, hydrology, climate, vegetation, soils, human use, human health effects.

7. **Open Space**
   The project will provide outdoor space greater than or equal to 30% of the total site area (including building footprint). A minimum of 25% of that outdoor space will be vegetated.

7. **Rainwater Management (Credits)**
   The project will manage runoff from the developed site for the 95th percentile of regional or local rainfall events using low-impact development (LID) and green infrastructure. The project team will obtain rainfall data for project location using the methodology in the U.S. Environmental Protection Agency (EPA) Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy
Independence and Security Act to determine the 95th percentile amount. The project team will then calculate runoff volume to be managed on site and design strategies to manage runoff on site. This is also a Regional Priority Credit.

8. Heat Island Reduction (Credit)
   The project will meet option 1 by using a white roof membrane over the entire roof surface. The project will meet option 2 by placing 100% of parking area under a green roof.

9. Tenant Design and Construction Guidelines (Credit)
   The proponent and the design team are in the process of developing a Tenant Design and Construction Guidelines for this C&S development. The document explains the sustainable aspects of the Core and Shell building design and construction, and also explains what steps are needed for tenants to achieve LEED CI Certification for their space fit-out design and construction.

LEED-CI is a decision for individual tenants in the building. Tenants are encouraged to have their interior space constructed in an environmentally friendly manner. The rating system is designed to help guide and measure green strategies under the control of the tenants. These strategies can range from the selection of non-toxic paint to Energy Star Computers and office equipment. It is important to understand that the tenant is encouraged to play an active role in the fitting out of their new space.

**Water Efficiency**

1. Outdoor Water Use Reduction (Prerequisite)
   The project will reduce the project’s landscape water requirement by at least 30% from the calculated baseline for the site’s peak watering month. Reductions will be achieved through plant species selection and irrigation system efficiency, as calculated by the Environmental Protection Agency (EPA) WaterSense Water Budget Tool.

2. Indoor Water Use Reduction (Prerequisite)
   Low Flush (1.28 GPF) toilets, 0.125 GPF Urinals, 0.35 GPM Metering lavatory faucets, 1.5 GPM tenant kitchenette faucets, and 1.5 GPM showerheads are specified and are calculated to achieve a reduction in water usage of at least 39% over the baseline.

3. Building-Level Water Metering (Prerequisite)
   The project will install permanent water meters that measure the total potable water use for the building and associated grounds. Meter data must be compiled into monthly summaries.

4. Outdoor Water Use Reduction (Credit)
   The project will reduce the project’s landscape water requirement by at least 50% from the calculated baseline for the site’s peak watering month. Reductions will be achieved through plant species selection and irrigation system efficiency, as calculated by the Environmental Protection Agency (EPA) WaterSense Water Budget Tool.

5. Indoor Water Use Reduction (Credit)
   Low Flush (1.28 GPF) toilets, 0.125 GPF Urinals, 0.35 GPM Metering lavatory faucets, 1.5 GPM tenant kitchenette faucets, and 1.5 GPM showerheads are specified and are calculated to achieve a reduction in water usage of at least 39% over the baseline. This is also a Regional Priority Credit.

6. Cooling Tower Water Use (Credit)
   The project will conduct a one-time potable water analysis, measuring Ca (as CaCO3), total alkalinity, SiO3, Cl-, and Conductivity. The project will achieve a minimum 10 cycles by increasing the level of treatment in condenser or make-up water, and will study the potential for using a minimum 20% recycled nonpotable water through rainwater capture and reuse.

7. Water Metering (Credit)
   The project will install permanent water meters to monitor water use for at least two water subsystems, including irrigation and cooling tower water use. The project team will prepare a narrative describing the subsystems metered, including the location and model of each installed submeter.

**Energy and Atmosphere**

1. Fundamental Commissioning (Prerequisite 1)
   Commissioning of the Mechanical and Electric building systems is under contract and will be performed.

2. Minimum Energy Performance (Prerequisite 2)
   The energy code utilized for the Project will be the Massachusetts Energy Stretch Code at a minimum, and ASHRAE Standard 90.1-2010 for LEED purposes. The energy model is developed by the energy consultants at AHA Consulting Engineers.

   Energy Conservation measures will include: Low-E glazing, reduced lighting power density in the core areas, high-efficiency water-cooled centrifugal chillers with VFD, variable volume (VFD) based condenser and chilled water pumping, cooling towers with variable volume fans instead of two-speed fans, high-efficiency gas-fired condensing boilers supplying low temperature hot water to AHUs and reheat coils, variable volume hot water pumping, and reduced flow hot water fixtures (lavatory, and shower) to reduce hot water demand. Other energy conservation measures such as triple pane windows, chilled beams, and enthalpy recovery wheels may also be employed.

3. Building-Level Energy Metering (Prerequisite)
   All energy provided to the building will be supplied by utility meters. Energy consumption will be tracked and shared with the USGBC for a five-year period.

4. Refrigerant Management (Prerequisite)
   No CFC-based refrigerants will be utilized for the Project.

5. Enhanced Commissioning (Credit)
   An independent commissioning authority will be contracted to perform on-board design reviews and re-commission the building systems after occupancy in accordance with ASHRAE Guideline 0–2005 and ASHRAE Guideline 1.1–2007 for HVAC&R systems. This credit is expected to be achieved.
6. Optimize Energy Performance (Credit)
This development is planning to achieve at least 3 points under the Optimize Energy Performance credit. The Energy modeling team is performing the energy analysis in accordance with the ASHRAE 90.1-2010, Appendix G, protocols using eQuest v3.64 software. This is also a Regional Priority Credit.

7. Advanced Energy Metering (Credit)
The project will install meters for future tenant spaces so that tenants will be capable of independently metering energy consumption (electricity, chilled water, etc.) for all systems dedicated to their space. A sufficient number of meters will be provided to capture total tenant energy use with a minimum of one meter per energy source per floor.

8. Demand Response (Credit)
The project team will investigate what demand response programs are available and examine the feasibility of enrolling in a demand response program.

9. Enhanced Refrigerant Management (Credit)
The project team will conduct a refrigerant impact calculation to examine the global warming potential and ozone depletion potential of refrigerants used within the project scope. The refrigeration devices and cooling equipment installed within this building will have total impact per ton of less than 100.

10. Green Power (Credit 6)
The project will investigate the cost of purchasing renewable energy credits in the amount of at least 50% of the electricity used in the building, based on the results of the energy model, and may purchase 100% to achieve an innovation point for Exemplary Performance.

Materials and Resources

1. Storage and Collection of Recyclables (Prerequisite)
There will be a dedicated recyclable storage within the building. This area will be easily accessible to local recycling handlers for the collection of paper, corrugated cardboard, glass, plastics and metals. This will also include space for the storage and disposal of two of the following: batteries, mercury-containing lamps, and electronic waste.

2. Construction and Demolition Waste Management Planning (Prerequisite)
The project team will develop and implement a construction and demolition waste management plan establishing waste diversion goals and identify at least five materials targeted for diversion. The plan will specify materials that will be separated onsite, as well as comingled waste. A final report detailing all major waste streams generated, including disposal and diversion rates, will be provided.

3. Building Life-Cycle Impact Reduction (Credit)
The project will examine the feasibility of conducting a life-cycle assessment of the project’s structure and enclosure that demonstrates a minimum of 10% reduction compared with a baseline building, in at least three of the six impact categories listed below, one of which must be global warming potential:

- global warming potential (greenhouse gases), in CO2e;
- depletion of the stratospheric ozone layer, in kg CFC-11;
- acidification of land and water sources, in moles H+ or kg SO2;
- eutrophication, in kg nitrogen or kg phosphate;
- formation of tropospheric ozone, in kg NOx or kg ethene; and
- depletion of nonrenewable energy resources, in MJ.

4. Building Product Disclosure and Optimization— Environmental Product Declarations (Credit)
The project will specify at least 20 different products sourced from at least 5 manufacturers that either have industry-wide EPD’s available or products that comply with 3rd party certifications for global warming potential for 50% by cost for the project.

5. Building Product Disclosure and Optimization—Sourcing of Raw Materials (Credit)
The project will use at least 20 different permanently installed products from at least five different manufacturers that have publicly released a report from their raw material suppliers which include raw material supplier extraction locations, a commitment to long-term ecologically responsible land use, a commitment to reducing environmental harms from extraction and/or manufacturing processes, and a commitment to meeting applicable standards or programs voluntarily that address responsible sourcing criteria.

6. Building Product Disclosure and Optimization— Material Ingredients (Credit)
The project will use at least 20 different permanently installed products from at least five different manufacturers that have either a manufacturer inventory, a health product declaration, cradle to cradle certification, or a USGBC approved program.

7. Construction and Demolition Waste Management (Credit)
The project team will develop and implement a construction and demolition waste management plan to maximize diversion and reuse of material and identify at least five materials targeted for diversion. The project will divert at least 75% of the total construction and demolition material; diverted materials must include at least four material streams.

Indoor Environmental Quality

1. Minimum IAQ Performance (Prerequisite)
The ventilation code utilized for the Project will be ASHRAE Standard 62.1-2010, as required by the present Massachusetts Building Code. The mechanical systems are designed to provide superior ventilation throughout the building; therefore, the project will meet the minimum requirements of ASHRAE 62.01-2010, Minimum Ventilation Rate Procedure.

2. Environmental Tobacco Smoke Control (Prerequisite)
The entire building has a no-smoking policy to comply with the Massachusetts Workplace Smoking law and is a Smoke-Free building; smoking is prohibited anywhere in the building, and within 25’ of main entries, operable windows and air intakes.

3. Enhanced Indoor Air Quality Strategies (Credit)
Permanent entryway systems will be provided at least 10 feet long in the primary direction of travel at all regularly used exterior entrances. Spaces where hazardous gases or chemicals may be present will be exhausted at a minimum of 0.50 cfm per square foot, to create negative pressure with respect to adjacent spaces when the doors to the room are closed. For each of these spaces, provide self-closing doors and desk-to-ceiling partitions or a hard lid ceiling. All ventilation systems will be provided with MERV 13 filters or higher.

Carbon dioxide will be monitored in all densely occupied spaces. CO2 monitors will have an audible or visual indicator or alert the building automation system if the sensed CO2 concentration exceeds the setpoint by more than 10%. CO2 setpoints will be calculated using methods in ASHRAE 62.1–2010, Appendix C.

4. Low-Emitting Materials (Credit)
   All categories of materials will be in compliance with emissions and contents standards, and will be specified with low-VOC content limits as prescribed by the respective applicable standards.

5. Construction IAQ Management Plan (Credit)
   An Indoor Air Quality Management plan will be implemented during the construction phase in accordance with the SMACNA Indoor Air Quality for Buildings under Construction Guideline. This document defines procedures for maintaining good indoor air quality inside the building during construction and also addresses construction practices to allow the best possible indoor environment after occupancy. These practices include cleaning during construction, interrupting paths of odor and dust travel within the building, segregating odor and dust producing activities from absorbent materials, and scheduling similar odor or duct producing activities to occur at the same time. This will be done in accordance with Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition, 2007, ANSI/SMACNA 008–2008, Chapter 3.

6. Daylight (Credit)
   The project will provide manual or automatic glare-control devices for all regularly occupied spaces. At least 75% of the regularly occupied spaces will achieve illuminance levels between 300 lux and 3,000 lux.

7. Quality Views (Credit)
   The project team will study the feasibility of achieving a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area. View glazing in the contributing area will provide a clear image of the exterior, not obstructed by frits, fibers, patterned glazing, or added tints that distort color balance.

   Additionally, 75% of all regularly occupied floor area must have at least two of the following four kinds of views:
   - multiple lines of sight to vision glazing in different directions at least 90 degrees apart;
   - views that include at least two of the following: (1) flora, fauna, or sky; (2) movement; and (3) objects at least 25 feet from the exterior of the glazing;
   - unobstructed views located within the distance of three times the head height of the vision glazing; and
   - views with a view factor of 3 or greater, as defined in “Windows and Offices: A Study of Office Worker Performance and the Indoor Environment.”

Innovation and Design Process

Only two Innovation and Design Credits may be achieved by the Exemplary Performance path. These exemplary performance credits are listed as Maybe on the scorecard in case not all are achieved. The project team will identify innovative strategies, develop innovation point strategy, confirm credit eligibility, and develop documentation for each credit.

END OF SUSTAINABLE DESIGN NARRATIVE
SUSTAINABLE APPROACH

• Pedestrian Connectivity
• Bicycle Parking
• Urban Scale Density
• Massing and Orientation
• Landscape Water Retention
• Green Roof
• Stormwater Collection
• Low-flow Fixtures
• Façade Shading
• Natural Ventilation
• Daylight Access
• High-Albedo Materials
• Recycling
• Regional Materials
• Low Flow Fixtures
• High Performance Glazing
• Green Roof with Native & Adapative Plants
• Stormwater Collection
• Daylighting & Automated Controls
• Efficient HVAC Systems & Controls
• Daylight Access
• Pedestrian Access and Connections from Gilmore Shores
SUSTAINABLE APPROACH

CAMBRIDGE CROSSING PARCEL H

NOVEMBER 7, 2017
TOTAL FLOOR G.F.A.: 0 sf
TOTAL BUILDING G.F.A.: 347,600 sf

- PARKING
- MECHANICAL / CORE
- BICYCLE STORAGE
- OFFICE
- ROOF
- EGRESS STAIR
- PENTHOUSE MECHANICAL ROOMS
- SHAFT / ELEVATOR
- SERVICE / BACK of HOUSE
- MAIN BUILDING LOBBY
- GARAGE LOBBY
- FSAE LOBBY
- TOILET ROOMS
- PROPERTY LINE

NEW SOLAR PANEL COUNT: 353

SOLAR READY ROOF PLAN

CAMBRIDGE CROSSING PARCEL H
NOVEMBER 7, 2017
Northern facade much cooler than other facades

Although on the north, the terrace receives a good amount of sunlight throughout the year

Southern facade

Western facade much cooler due to shading from adjacent buildings

Eastern facade is completely unprotected and receives the most direct sunlight throughout the year

Southwestern top corner is one of the warmest portions of the building

20 Twenty provides some shade during the year on the southern facade

Although on the north, the terrace receives a good amount of sunlight throughout the year

Northern facade much cooler than other facades

Western facade much cooler due to shading from adjacent buildings

Eastern facade is completely unprotected and receives the most direct sunlight throughout the year

Southwestern top corner is one of the warmest portions of the building

20 Twenty provides some shade during the year on the southern facade
Pedestrian Wind Comfort Conditions
Future Configuration
Summer (May to October, 6:00 to 23:00)
Parcel G & H - Northpoint Site - Cambridge, MA

LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Podium Level

Future Configuration
Summer (May to October, 6:00 to 23:00)
October 15, 2017

Mr. Jorge A. Gomez
NBBJ
One Beacon Street, Suite 5200
Boston, MA 02108

Subject: Northpoint Site – Parcel H
Acoustical Report and Noise Mitigation Narrative
Acenotech Project No. 629643

Dear Jorge:

As you requested, we have assessed exterior noise emissions and control for the design of the Northpoint Parcel H project as this impacts the nearby community. In particular, we have assessed conditions for the building that is planned to be just (nominal) south of the subject building, which is the most critical neighboring condition. This critical receiver building is residential in use, so noise from the subject building needs to be controlled to be no more than 50 dBA at nighttime hours and no more than 60 dBA during daytime hours for this receiver. If acceptable noise conditions are achieved for this receiver, acceptable noise conditions will be achieved for all other nearby community receiver locations. There are three primary source groups of concern from the Parcel H building relative to noise emission to the community – 1. the outside air intakes and reliefs for the rooftop air handling units that serve the building, 2. the emergency generator at the roof, and 3. the cooling towers at the roof.

Cooling towers
The cooling towers are located in a well at the roof level that is carved out of other penthouse mechanical space. This roof well is on the far side of the penthouse relative to the critical receiver property. The installation condition in the mechanical well also creates a degree of sound barrier effect that helps block sound propagation to the critical neighbor. The towers are provided with low noise fans to minimize noise emissions. The cooling towers will be specified to have a sound power level no greater than 92 dBA for the entire 3 - cell tower configuration. This noise emission level is expected to be consistent with achieving a sound level no greater than 50 dBA at the adjacent critical receiver building together with the noise emissions from other building mechanical sources. Note that the above noise assessment is for the tower operating at peak capacity and full speed on the fans. With the tower fans operating on their VFD controls, noise emissions to the nearby community will be substantially lower at off-peak times since the tower noise emissions are a very strong function of fan speed.

Outside air intakes
The project includes four large air handling units that are outdoor units on the roof adjacent to the mechanical penthouse. It is anticipated that the units will be provided with intake and discharge noise mitigation, within the units or as accessories to the units, in the form of internal plenum lining and/or silencers, to control outdoor noise emissions. Each unit will be limited to produce a noise level no greater than 46 dBA at a distance of 50 ft in any direction from the unit as measured in a free field condition from the unit at an elevation approximately equal to the top of the unit. This noise emission level is to be achieved assessing all paths of noise emission from the unit, especially including the ventilation air intake and discharge, the unit casing, and the engine exhaust. Based on this, the generator installation is expected to produce a noise level no greater than 63 dBA at the critical receiver location which is the daytime noise limit, at which time of day the generator will be tested. The generator will not be tested during nighttime hours and will only run during nighttime hours in the event of a true emergency, which condition is expected to be very rare.

* * * * * * *

I trust this summary of the noise emissions and noise control features planned in connection with the building mechanical equipment/systems is consistent with your needs relative to community noise issues. If you have any questions, please let me know.

Sincerely Yours,

[Signature]

Douglas H. Stutz
Site Noise Control Assessment
PARCEL H VIEW FROM GILMORE BRIDGE SIDEWALK
Cambridge Crossing - Parcel H
Site Lighting Diagram

1. LP-P: Pedestrian Scale Light Pole
2. LP-S: Cambridge Crossing Street Light
3. Existing Murphy Staircase Handrail Lighting Fixtures
4. Existing Catenary Lighting at Murphy Staircase

- PROPOSED TENANT TERRACE
- BUILDING H
- ENTRANCE PLAZA
- SOUTH PLAZA
- BRIAN MURPHY MEMORIAL STAIRCASE
- SERVICE ROAD
- DRIVEWAY
- CHILD ST
- GILMORE BRIDGE

Match Existing Handrail Light Fixture
Maintain Existing Lighting at Murphy Staircase.
Stone Setts Pavement
Exposed Aggregate Concrete Pavement
Decomposed Granite Pavement
Concrete Pavement

Bike Rack
Trash Receptacle
Planter, Clustered
Planter, Linear

Bench
Granite Bench
Movable Tables and Chairs

Cambridge Crossing - Parcel H
Site Materials and Furniture
All trees are included in the City of Cambridge recommended species list.
Magnolia x soulangiana  
Saucer Magnolia

Cercis Canadensis  
Eastern Redbud

Abies concolor  
White Fir

Picea glauca  
White Spruce

Thuja plicata  
Western Red Cedar

Amelanchia arborea  
Serviceberry

Juniperus virginiana  
Red Cedar

Cambridge Crossing - Parcel H
Landscape Trees
Ceanothus americanus
New Jersey Tea

Comptonia peregrina
Sweet Fern

Hydrangea arborescens
Smooth Hydrangea

Neviusia alabamensis
Alabama snow wreath

Pieris floribunda
Mountain fetterbush

Spirea latifolia
Broadleaf meadowsweet

Rosa rugosa
Rugosa Rose (Pink)

Rosa rugosa
Rugosa Rose (White)

Fothergilla gardenia
Dwarf fothergilla
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<th>Page</th>
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<th>Guideline Description</th>
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<tr>
<td>47</td>
<td>3.2A Character</td>
<td>Use streetscape elements such as trees, benches, signage, and lighting to support active pedestrian uses and to reinforce the character and identity of each area.</td>
<td>The aim of the streetscape at Parcel H is to create a contiguous pedestrian experience on the Gilmore Bridge, down the Murphy Staircase, and connecting to Dawes Street. At the upper level on the Gilmore Bridge sidewalk high canopy trees are introduced along with a plant bed, providing a sense of welcome and a buffer between the building and the vehicular traffic. The landscape at the Murphy Staircase is expanded with signage, benches and pedestrian scale lighting. At the bottom of the Murphy Staircase, trees, street furniture and bicycle parking create a welcoming Entrance Plaza to the building and a threshold to the Cambridge Crossing neighborhood.</td>
<td>✓</td>
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<tr>
<td>47</td>
<td>3.2A Character</td>
<td>Where appropriate, establish, preserve and highlight views from public streets and spaces to important civic landmarks such as the Zakim Bridge and NorthPoint Common.</td>
<td>The widening of the Murphy Staircase allows for views towards the Zakim Bridge and the Boston skyline.</td>
<td>✓</td>
</tr>
<tr>
<td>50</td>
<td>3.2.2 Dawes Street</td>
<td>Dawes Street is an important east-west connector running between Water Street and the Brian Murphy Staircase. Street trees will be planted on both sides of the street, and an additional landscape area will be provided on the north side of Dawes, between First Street and the Murphy Staircase, to improve the pedestrian experience on this sunnier side of the street. The widened sidewalk area provides opportunities for seating, play, art, LID swales etc. to be incorporated into the public realm.</td>
<td>The widened Murphy Staircase enhances the eastern terminus of Dawes Street, particularly the richly planted landscape areas that run along the north side of Dawes. The enhanced planting on the stairs creates an attractive transition to the Gilmore Bridge. Seating, lighting and other street furniture consistent with the rest of Cambridge Crossing improves the pedestrian experience.</td>
<td>✓</td>
</tr>
</tbody>
</table>
Cambridge Crossing (formerly known as NorthPoint)

Boston/Cambridge, Massachusetts

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**Dawes Street Cross Section**

- 1 1/2" Class I Bituminous Concrete Pavement: Type 1-1 placed in 1 layer
- Tack Coat as required
- 4" Class I Bituminous Concrete Pavement: Type 1-1 placed in 2 layers
- 12" Dense Graded Crushed Stone
- Approved Compacted Sub-Grade Material (depth varies)

**Note:** Contractor shall install temporary bituminous concrete berm on both sides of roadway in lieu of vertical granite curb. See detail on this sheet.

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**Child Street Cross Section**

- 1 1/2" Class I Bituminous Concrete Pavement: Type 1-1 placed in 1 layer
- Tack Coat as required
- 4" Class I Bituminous Concrete Pavement: Type 1-1 placed in 2 layers
- 4" Dense Graded Crushed Stone
- 6" Compacted Gravel Borrow
- Approved Compacted Sub-Grade Material (depth varies)

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**Adjacent Street Cross Sections**