Town of Belmont

DESIGN AND SITE PLAN REVIEW SUBMISSION

Belmont Hill School

August 2022

Prepared by:
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Prepared for:
Belmont Hill School

Project No. 21-002

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1.0 INTRODUCTION

1.1 School Description

Belmont Hill School (BHS) occupies approximately 40 acres of land on Belmont Hill (Figure 1). Approximately 33 acres are located west of Prospect Street ("the Main Campus") and approximately 7 acres are located east of Prospect Street ("the East Campus"). The school is an independent non-profit school for boys that was founded in 1923 and has an enrollment of approximately 464 students in grades 7 through 12. Students come from 80 +/- communities and are supported by a faculty and staff, typically numbering about 153. Forty-seven Belmont residents were enrolled in the school during the 2022 academic year.

Over the last decade, BHS has acquired a number of properties contiguous with and across the street from the Main Campus and has undertaken the development of a master plan for the future of the school. While there is no desire to increase enrollment, over the next 5-6 years there is a need to improve the flow of traffic in the upper parking lot off Marsh Street, provide on-site student parking, provide visitor parking for academic and athletic events, and to replace the existing Facilities Building with a purpose designed structure.

The Main Campus is bounded by Marsh Street to the north and residences fronting on Tyler Road to the south. The site abuts residential properties and open space owned by Mass Audubon to the west, and residential properties, and wetlands to the east. Prospect Street bisects the campus. The proposed East Campus is bounded by Park Avenue and Prospect Street to the west south, and residential properties to the east and north.

In compliance with Belmont Zoning By-Law Section 7.3, this application for Design and Site Plan Review has been prepared for the construction of a new 7,000+/- square foot Facilities Building, the addition of 150 parking spaces across campus in 3 lots, and changes to the configuration of off-street parking, screening, egress, utilities, drainage, and lighting.

The portion of the site proposed for redevelopment is shown on Figure 2.

1.2 Proposed Project and Schedule

Previous communications between the school, the Town of Belmont, and neighbors about the use of the East Campus and traffic at the existing rotary resulted in a request the school develop and share overall plans for the future. Over the last several years the school has completed a long-term master plan. This plan extends out as much as 25 years and imagines the creation of a new dining hall and modifications to some existing buildings and areas of the campus. These are long term plans that will need design and study before they are detailed enough to be presented for permits.

This application focuses on the work that will be conducted between this fall and early 2028 and is informed by the multi-year master plan. Work is proposed to be conducted in three discrete phases, with enabling work beginning in Fall of 2022 and the anticipated opening of the new Facilities Building in the spring of 2028.

Phase I – East Campus – Fall 2022 - Fall 2023

- Raze existing residence at 283 Prospect Street, repurpose the existing residential structure at 20 Park Avenue for unheated storage of tables, chairs, tents, and other occasionally used equipment; and use the 3 existing residential structures at 301, 305 and 315 Prospect Street as housing for staff and faculty (Figure 3). Once the existing house at 283 is razed, the area will be regraded.

- Construct the East Campus Parking Lot – a new 143-space East Campus Lot (138 spaces and 5 ADA spaces). The East Campus will be primarily accessed by vehicular traffic from a new driveway off Park Avenue (approximately at the location of the existing 20 Park Avenue driveway and a secondary ingress/egress off Prospect Street (approximately at the location of the existing 283 Prospect driveway).

  Pedestrians will walk from the new East Campus Lot to the Main Campus via a paved walkway exiting between 305 and 315 Prospect Street and will cross at a pedestrian actuated Rapid Rectangular Flashing Beacon (RRFB) at the crosswalk. This new crosswalk location will improve pedestrian safety. The existing sidewalk on the east side of Prospect Street will be extended to the north, to the driveway entrance near 20 Park Avenue, allowing safe pedestrian travel to and from the new East Campus Lot to the crosswalk either within the East Campus or along the roadway.

- Install 8-foot-tall wood fencing along the property line at the rear of the Rutledge Road houses and along the parking lot. The landscape includes fencing and screen planting with shrubs and trees on both sides of the fence. The fence has been located to limit

tree removal and take advantage of existing grades. It is not contiguous; the offset will allow wildlife to travel through the area.

- Lighting has been designed with a full cut off to avoid light spillage over the property boundary. Landscaping, lighting, and stormwater management details are shown on the attached plans and described below.

Phase II – Zamboni Lot Open Fall 2023

- Create on-site parking for all students – convert the existing 12 gravel parking spaces at the Zamboni Lot off Marsh Street to a 26-space paved lot connected in the interior of the site to the existing main lot (Figure 3).
- Existing curb cut for service entry/exit to remain, with gate; limited use.
- New proposed curb cut for athletic or academic team bus entry only, with gate; limited use.
- Install 8-foot-tall wood fencing along the property line to run the length of Marsh Street to the bus entry gate. The landscape includes fencing and dense screen planting along Marsh Street. Dense planting along the westerly property boundary; no fence at the request of the abutter.

Upper Lot and Front Yard Area - Open Late Summer 2023

- Traffic will continue to enter the Upper Lot from the westerly entrance and travel one way through, exiting from the easterly curb cut.
- Remove 17 existing spaces on the south side of the parking lot to create a drop-off area and a pedestrian pathway.
- Resurface and restripe the Upper Lot and realign the safety bollards. This lot will have 17 spaces and one accessible space.
- Enhance landscaping along Marsh Street.

Phase III – Facilities Building Open Spring 2028

Access to the Facilities Building and Yard will be from Prospect Street, off the driveway constructed to the East Campus Lot (Figure 3). In approximately 2027 the building will be constructed, fuel storage and materials storage areas will be constructed, the area will be paved, final drainage will be installed and a fence and landscaping will be installed to screen the structure and parking from abutters.

1.3 Communication During the Design Process

Throughout the design process, BHS reached out to neighbors and communicated with town staff. Meeting with these groups early in the design phase enabled the project team to include their recommendations and input to inform the development of the project. Comments provided from these groups and individuals resulted in a stronger overall project design and application.

Town Staff

BHS representatives and members of the project team met with members of the Select Board, the Town Administrator, Town Engineer, and Planning and Conservation staff in the Office of Community Development to review conceptual plans and discuss the project scope throughout the design process. Members of the project team met with fire prevention staff and consulted with the Fire Chief, Police Chief, and Health Director during project development.

Neighbor Meetings

BHS sent invitations to neighbors in the general area for a preliminary meeting at the school on December 1, 2021. Approximately 100 neighbors, the Director of Community Development, 2 town meeting members and a member of the warrant committee attended the hybrid format meeting with representatives of the school and the project team to discuss the school's plans for modifications to parking and the relocation of the Facilities Building.

A smaller group of neighbors met with Head of School, Greg Schneider, on January 6, 2022 and continued their conversation throughout the spring of 2022. These neighbors live on Rutledge Road or on Prospect Street, adjacent to the East Campus ("the Rutledge Road neighbors"). During these meetings attendees viewed sketches of the proposed structure and preliminary site plans, and discussed property line setbacks, lighting, noise, landscaping, and traffic impacts. As a result of this interaction, BHS reevaluated the design of the parking lot entrance off Park Avenue, increased the separation between the parking lot and the property bound where possible, and ultimately purchased a house and lot at 20 Park Avenue to add land to the project. The purchase of 20 Park Avenue enabled designers to reorient the entrance into the parking lot to minimize vehicle lights shining into homes as they enter the parking lot.

On May 25, 2022 BHS staff and consultants met with six Rutledge Road neighbors to review the changes that had been made to the plans and to hear their comments and suggestions.

On May 27, 2022 BHS staff and consultants met with three Marsh Street area neighbors to review the changes that had been made since the December 2021 meeting and to discuss landscaping and fencing options and regulatory requirements. As a result of this meeting dense planting instead of fencing is proposed at the westerly end of the Zamboni Lot and the boundary with the westerly abutter.

1.4 Regulatory Authority

The school is located in the Single Residence A District (SR-A) and educational uses as provided in MGL Chapter 40A §3 are allowed by right in the SR-A District as specified in the Town of Belmont Zoning By-law. Generally, lands and structures used for educational purposes may be subject to reasonable regulations concerning bulk and height of structures, yard sizes, lot area, setbacks, open space, parking and building coverage requirements.

1.5 Project Team

BHS has compiled a team of professionals to design the parking lots and facilities building and address site related issues. The following team members have contributed to this report, the associated plans, and the overall design of the project.

Reed Hilderbrand LLC, Cambridge, MA	Landscape Architects & Planners
Design Lab, Boston MA	Building Architecture
Langan Engineering, Boston MA	Civil Engineering
Precision Land Survey, Southborough MA	Surveying
OverUnder, Boston MA	Signage
Cavanaugh Tocci Associates, Inc, Sudbury MA	Noise Consultant
Vanasse & Associates Inc., Andover MA	Traffic
Bartlett Tree Experts, Waltham, MA	Tree Inventory
EcoTec, Inc., Worcester, MA	Wetland Delineation
Avalon Consulting Group, LLC, Taunton MA	Permit Support
DBI Projects, Boston, MA	Owners Representation

2.0 EXISITING CONDITIONS

2.1 Ownership

Existing conditions within the proposed work areas are shown on Figure 2.

The work area exists as 7 separate parcels as identified in Table 1, most of which are owned by Belmont Hill School, Inc. It is BHS's intent to convey the remaining 2 parcels (283 Prospect St and 315 Prospect St) to Belmont Hill School, Inc. before construction begins. Once this occurs, the lots will be combined. For this reason, no interior lot lines are shown on the proposed conditions plans.

Table 1: BHS Parcels for Redevelopment

Lot	Address	Owner	Area (s.f.)
52-1-A	12 Park Avenue	Belmont Hill School, Inc.	98,090
53-62	20 Park Avenue	Belmont Hill School, Inc.	18,354
52-5	283 Prospect St	283 Prospect Street LLC	101,176
52-4	301 Prospect St	Belmont Hill School, Inc.	43,980
52-3	305 Prospect St	Belmont Hill School, Inc.	15,249
52-2	315 Prospect St	315 Prospect Street LLC	30,899
54-27	350 Prospect St	Belmont Hill School Inc.	1,299,830

Note: Parcel area information from Belmont GIS

2.2 Parking

There are currently a total of 318 parking spaces (268 on campus and 50 off campus) allocated for school use serving a population of 464 students and 153 faculty/staff, with 13 spaces reserved for admissions and visitors. Fifty of the spaces are in a leased lot in Arlington, 158 spaces are in the main lot, 47 parking spaces are located in the Zamboni Lot and Upper Lot that are accessible from and face Marsh Street and 63 parking spaces are spread across campus in areas not part of this study.

2.2.1 Marsh Street Parking

Parking along Marsh Street currently exists in the form of both formal and informal lots.

There are 3 curb cuts from Marsh Street. The westerly curb cut provides access to the Zamboni gravel parking lot, which provides parking for 12 vehicles, and the service area for the Jordan Athletic Center (JAC) and leads to the service area on the south side of the JAC.

The second (middle) curb cut is located approximately 650 feet to the east and provides access through a single two-way paved entrance to the Main Lot and the Upper Lot and into the interior of the campus.

The third curb cut is located approximately 200 feet further east and provides egress from the Upper Parking Lot.

2.2.2 East Campus

The East Campus is currently occupied by 4 single family homes. One home (301 Prospect) is currently occupied by faculty. There are 3 curb cuts along Prospect Street. Driveways for 283 and 301 are separated by approximately 65 feet and there is approximately 212 feet between the driveways for 301 and 305 Prospect Street. There are 2 curb cuts along Park Avenue and the driveways are approximately 225 feet apart.

2.2.3 Off Site Parking

BHS leases 50 off-site parking spaces at 929 Concord Turnpike, Arlington. Depending on the time of year, students park at this location and either walk or take periodic shuttle buses to and from the Main Campus.

2.3 Tree Inventory

Tree inventories were conducted along Marsh Street, Park Street and Prospect Street (at a width of 25 feet) to identify existing trees, identify the tree size, age and condition class and provide a visual assessment of tree structure, health and vigor.

Phase I of this effort was conducted in October 2021 from the westerly property boundary along Marsh Street to the Upper Lot and Phase II was conducted in February 2022 and included property frontage along Park Street and the east side of Prospect Street.

During Phase I, 24 species of trees and 180 trees were identified. Generally, 27% of the trees were maples, 19% were white pine, 15% were Black Locust, 11% were Black Cherry, 6% were birch, 6% were oak, 3% were Colorado Blue Spruce, 3% were crab apple and the remainder included juniper, hickory, and dogwood among others. Eleven trees were dead and 28% of the trees were recommended for removal due to their condition or their relation to other trees.

During Phase II, 21 species of trees and 98 trees were identified. Generally, 15% of the trees were spruce, 12% were Canadian Hemlock, 11% were Black Cherry, 11% were maples, 6% were oak, 6% were crab apple, 5% were Black Locust, 5% were hickory and the remainder were yew, juniper, ash, arborvitae, and dogwood among others. Two trees were dead and 28% were recommended for removal due to their condition or their relation to other trees.

2.4 Wetlands Inventory

On April 12 2021, EcoTec, Inc. inspected the East Campus property for the presence of wetland resources as defined by: (1) the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, § 40; the "Act") and its implementing regulations (310 CMR 10.00 *et seq.*; the "Regulations"); and (2) the U.S. Clean Water Act (i.e., Section 404 and 401 wetlands). Paul McManus, PWS conducted the inspection and a complete report is included as Appendix B.

Methodology

The site was inspected, and areas suspected to qualify as wetland resources were identified. The boundary of Bordering Vegetated Wetlands ("BVW") or, in the absence of Bordering Vegetated Wetlands, Bank was delineated in the field in accordance with the definitions set forth in the regulations at 310 CMR 10.55(2)(c) and 310 CMR 10.54(2). Section 10.55(2)(c) states that "The boundary of Bordering Vegetated Wetlands is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist." Section 10.54(2)(c) states that "The upper boundary of Bank is the first observable break in the slope or the mean annual flood level, whichever is lower." The methodology used to delineate Bordering Vegetated Wetlands is further described in: (1) the BVW Policy "*BVW: Bordering Vegetated Wetlands Delineation Criteria and Methodology*," issued March 1, 1995; and (2) "*Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook*," produced by the Massachusetts Department of Environmental Protection, dated March 1995. The plant taxonomy used in this report is based on the *National List of Plant Species that Occur in Wetlands: Massachusetts* (Fish and Wildlife Service, U.S. Department of the Interior, 1988). Federal wetlands were presumed to have boundaries conterminous with the delineated Bordering Vegetated Wetlands and Bank. One set of DEP Bordering Vegetated Wetland Delineation Field Data Forms was completed for observation plots located in the wetlands and uplands near flag C9 is attached. The table below provides the Flag Numbers, Flag Type, and Wetland Types and Locations for the delineated wetland resources.

Table 2: Wetland Delineation Flags		
Flag Numbers	**Flag Type**	**Wetland Types and Locations**
A1 – A5 & B1 – B3	Blue Flags	Boundary of Bordering Vegetated Wetlands located in the eastern portion of 283 Prosect Street.
		NOTE: Orange "LEC Resource Boundary" flags were observed corresponding largely with the EcoTec A and B series flags and continuing off site.
C1 – C10	Blue Flags	Boundary of Bordering Vegetated Wetlands located in the eastern portion of 283 Prosect Street.
Test Plots: TP-Up; TP-Wet	Red	BVW test plots located near flag C9

Bordering Vegetated Wetlands

Wetlands A/B, and C (i.e., flags A1-A5; B1-B3; C1-C10) consist of the upper portions of a wooded/ shrub swamp located in the eastern portion of the site that is associated with intermittent streams. Plant species observed include red maple (Acer rubrum) trees, northern spicebush (Lindera benzoin) and American elderberry (Sambucus canadensis) shrubs; and spotted touch-me-not (Impatiens capensis) ground cover. Evidence of wetland hydrology, including hydric soils, was observed within the delineated wetlands. These vegetated wetlands border an intermittent stream; accordingly, the vegetated wetlands would be regulated as Bordering Vegetated Wetlands and the intermittent stream would be regulated as Bank under the Act. A 100-foot Buffer Zone extends horizontally outward from the edge of Bordering Vegetated Wetlands and Bank under the Act.

Riverfront area does not exist on the site:

Based upon a review of the current USGS Map, and observations made during the site inspection, the only mapped or unmapped streams located within 200 feet of the site are small intermittent streams.

Bordering Land Subject to Flooding (BLSF) does not exist on the site:

There are no mapped floodplains on the site. When present, Bordering Land Subject to Flooding would occur in areas where the 100-year floodplain is located outside of or upgradient of the delineated Bordering Vegetated Wetlands (or in the absence of Bordering Vegetated Wetlands, Bank) boundary. Based upon a review of the Flood Insurance Rate Map, Middlesex County,

Massachusetts, Map Number 25017C0416E, Effective Date 6/4/2010 the site is mapped as Other Areas: Zone X, which is defined as areas located outside of the 0.2% annual chance flood (i.e., outside of 500-year floodplain).

Vernal Pools were not identified on the site:

Based upon a review of the *Massachusetts Natural Heritage Atlas*, 14th edition, Priority Habitats and Estimated Habitats from the NHESP Interactive Viewer, valid from August 1, 2017, and Certified Vernal Pools from MassGIS, there are no Estimated Habitats [for use with the Act and Regulations (310 CMR 10.00 *et seq*.)], Priority Habitats [for use with Massachusetts Endangered Species Act (M.G.L. Ch. 131A; "MESA") and MESA Regulations (321 CMR 10.00 *et seq*.)], or Certified Vernal Pools on or in the immediate vicinity of the site.

Proposed Work Areas:

Based on the wetland flags delineated by EcoTec, work is not proposed within areas subject to protection under M.G.L. c. 131, § 40.

3.0 PROJECT DESCRIPTION

3.1 Project Design

The goal of this project is to improve traffic flow, provide on-site parking for students, faculty, staff, and visitors at the campus, and build a state-of-the-art Facilities building. The East Campus Lot will provide dedicated parking for faculty, staff, and visitors, enabling the existing lots south of Marsh Street to serve the daily parking needs for students. During athletic and academic events, the East Campus and Main Campus parking lots will be used by visitors, alleviating some of the demand for on-street parking that occurs under the existing condition.

3.1.1 Parking

By creating parking on land east of Prospect Street, BHS will no longer be required to lease 50 parking spaces in Arlington, which will also eliminate the need for shuttle buses. This, along with the redesign of the spaces along Marsh Street, will allow all student drivers to be accommodated in lots along Marsh Street. The East Campus Lot will be used by faculty, staff, parents, alumni, and visitors. We expect initially, approximately 100 spaces will be assigned to faculty/staff and the remaining will be used to park parents, alumni, and visitors. These spaces will reduce the demand for on street parking during the school day and associated with large events. Over time, BHS expects that anticipated changes on campus (such as the construction of a new Dining Hall which is anticipated in the master plan) will necessitate more faculty and staff to park in the East Campus Lot.

3.1.1.1 Marsh Street

Zamboni Lot

Traffic and parking improvements on the Main Campus include the formalization of existing parking (12 spaces) with the paving of 26 spaces in the Zamboni Lot behind the Jordan Athletic Center and south of Marsh Street (Figure 4). The existing curb cut for service entry/exit will remain, as will the gate. A Knox Box will provide access for emergency service vehicles. Other than emergency use, use of this gate will be limited to transport of the hockey rink boards or other infrequent maintenance.

A new curb cut is proposed for athletic or academic team bus entry only. It will be separated from the existing curb cut by 151 feet-8 inches (Figure 5). This dedicated bus lane will be secured with a gate, which will only be used for athletic or academic team buses or emergency vehicles. A Knox Box will provide access for emergency service vehicles. A turning movement plan for Belmont Fire Ladder 1 is provided in the attached plans and illustrates improved emergency

access to this portion of the site. The dedicated bus lane will also separate commercial bus traffic and vehicular traffic in the parking lot. (Figure 4).

Upper Lot

Traffic will continue to enter the Upper Lot from the westerly entrance and travel one way through, exiting from the easterly curb cut (Figure 6). There are currently 35 spaces in this lot. Seventeen of these spaces, located on the south side of the parking lot will be removed to allow for a drop-off area and a pedestrian pathway. The Upper Lot will be resurfaced and restriped and the safety bollards will be realigned. This lot will have 17 spaces and one accessible space. Eight bike racks are provided at this lot (Figure 6)

3.1.1.2 East Campus

The existing 5 curb cuts will remain along Prospect Street and Park Avenue providing access to the East Campus (Figure 7). A 143-car parking lot will be constructed to serve faculty, staff, and visitors. The most northerly curb cut, which formerly served as a driveway for a residence at 20 Park Avenue will be relocated to provide primary access/egress to this parking lot from Park Avenue. The curb cut for 283 Prospect Street will provide secondary access/egress to the parking lot as well as to the relocated facilities building. The two access driveways to the East Campus Lot will be secured with an electronic gate (with a Knox Box for emergency vehicles). The gates will restrict entrance when the lot is not in use. Four electric vehicle charging stations are provided at this lot (Figure 7).

A pedestrian walkway will be constructed from the East Campus Lot to Prospect Street. The existing crosswalk will be relocated closer to the rotary, facilitating an area of refuge while crossing, and a pedestrian actuated Rapid Rectangular Flashing Beacon will be installed.

The existing sidewalk will be extended to the north from the existing crosswalk to the entrance driveway off Park Avenue.

There will be 10 parking spaces at the Facilities building. The Facilities Yard will be fenced and gated.

3.1.1.3 Off Site Parking

Under the proposed condition, all students will park in the Zamboni and Main lots, eliminating the need for shuttle buses.

3.1.2 Facilities Building and Yard

The new Facilities Building and Yard will be located on the east side of Prospect Street. Access will be from a dedicated driveway and the building will be constructed adjacent to an existing knoll to limit views from Prospect Street. The yard will be fenced and will include outdoor

storage of small buses, trailers, boats, maintenance vehicles, salt and sand, and 680 gallons of fuel in two above ground storage tanks (Figure 8).

Exterior elevations of the building are provided as Figure 9. The primary entrance to the building will be through a window wall and the rest of the building will have vertical wood tongue and groove siding in a natural wood color. The building will have a dark grey standing seam metal roof with a ridgeline of 27 feet. A drystack look, mortared fieldstone veneer will be installed below the vertical siding at the office wing. A board formed cast in place concrete retaining wall will be installed below the siding wall at the east elevation.

Floor plans are included as Figure 10. The building will include offices, shared workspace, campus telecom, break room, locker room, wood shop, mud room, lift bay, wash bay, and indoor storage for mowers and maintenance tools and equipment.

The above ground gasoline tank will be a 500-gallon Hoover Fireguard UL listed, fire rated double walled tank in desert sand epoxy finish (or equivalent). The tank will be outfitted with a dispenser pump and will be installed on a concrete pad, elevated 6 inches above grade. Ten bollards will be set into the ground and painted yellow. A spill apron will be installed flush to the surface in front of the concrete pad.

The above ground diesel tank will be a 180-gallon Highland double walled lube tank with dispenser (or equivalent). It will be installed on the concrete pad and included within the bollards.

Both tanks will have tank monitoring, leak detection, and an overfill alarm. The tank monitoring console will be mounted inside the Facilities Building and will be connected to leak detectors, to be installed in each tank's interstitial space. An overfill alarm console with signage will be mounted at the tanks.

The yard and structure will be surrounded by a solid 8-foot-tall wooden fence and will have two gates. One will provide access to the building and the northerly gate will allow snow to be removed from the paved yard.

3.2 Landscape and Lighting Design

3.2.1 Lighting

Lighting is shown on Sheets LL-100 – LL-501 and includes 10 post-top fixtures (single and twin fixtures) along drives and parking lots, 10 pedestrian bollards along walkways to match those currently existing on-campus, 49 single pole-mounted fixtures, and 3 wall-mounted fixtures. Fixtures are full cut off and dark sky friendly. Photometric analysis is provided and documents

that no light will spill off site. With the use of asymmetrical lighting, lighting overspill has been minimized, typically less than or at 0.2 fc as identified on sheets LL-110 – LL-140.

Lighting from parked cars has also been minimized through design efforts. In the Zamboni Lot, cars park facing the Jordan Athletic Center or a solid wood fence. No change is proposed in the Upper Lot. Orientation of the angle of the entrance drive, installation of fencing and grading will ensure that automobiles entering the East Campus Lot will not shine lights into nearby homes.

3.2.2 Landscape

Screen planting along Marsh Street, Park Avenue, and property abutting neighbors along Rutledge Road includes deciduous canopy trees, and deciduous and evergreen understory trees and shrubs. In addition to the plantings, a painted green 8-foot solid wooden fence will be installed. Groundcovers include turf sod, perennial, and evergreen groundcovers. Fence and landscaping details are shown on the Planting Plans (Sheets L-510, L-520, L-530, L-540).

Drainage on the East Campus includes planted swales and a settling basin planted with native grasses, deciduous and evergreen trees, and shrubs.

Irrigation will be provided as noted in the planting legend. Large trees will have deep root irrigation stakes, and groundcover areas with shrubs and understory trees will have spray irrigation.

The size of trees and shrubs to be planted are provided on sheets L510 - L540; trees are typically 3-4 inches dbh, are of a species common to the area, and will reach an ultimate height of at least 30 feet. The proposed shrubs are evergreen and are specified to be planted at 18 inches-36 inches in height. The shrubs at the street plantings are 18 inches – 36 inches and all others will be 36 inches in height at the time of occupancy or use of the respective parking lots.

BHS has on-site staff to maintain the landscape and understands that the proposed landscaping shown on the attached plans must be maintained regularly and that should individuals die, they must be replaced in kind prior to the next growing season. A permanent Maintenance Plan of the Landscape, including Best Management Practices (BMPs) will be submitted for work conducted within the project area prior to the issuance of the Certificate of Occupancy and shall include planting maintenance, pruning and upkeep schedules.

3.3 Electric Vehicle Charging Stations

Four electric vehicle charging stations are proposed in the East Campus Lot.

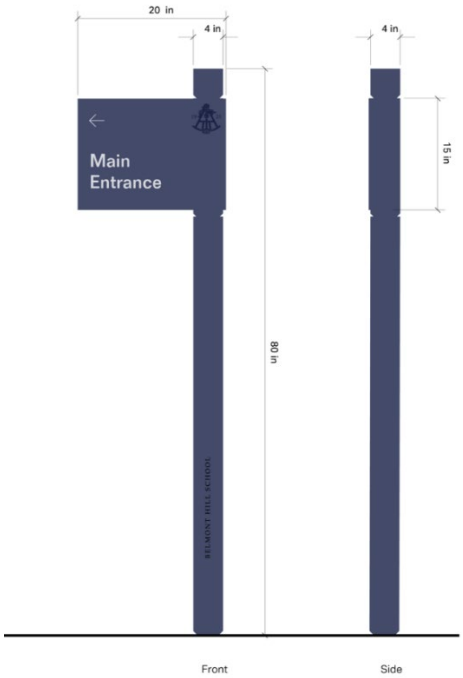
3.4 Signage

Signs have been proposed to provide directional guidance, mark entrances and for wayfinding. Sign locations and purpose are identified on Figure 11.

Lighted Directional Signs – A Series

Three lighted directional signs are proposed within the campus to assist pedestrians with travel through campus. They will use an LED lighting source to save energy and will not have moving parts. They are single pole type signs 65 inches tall and 8 inches square.

Tall Entry Signs – B Series

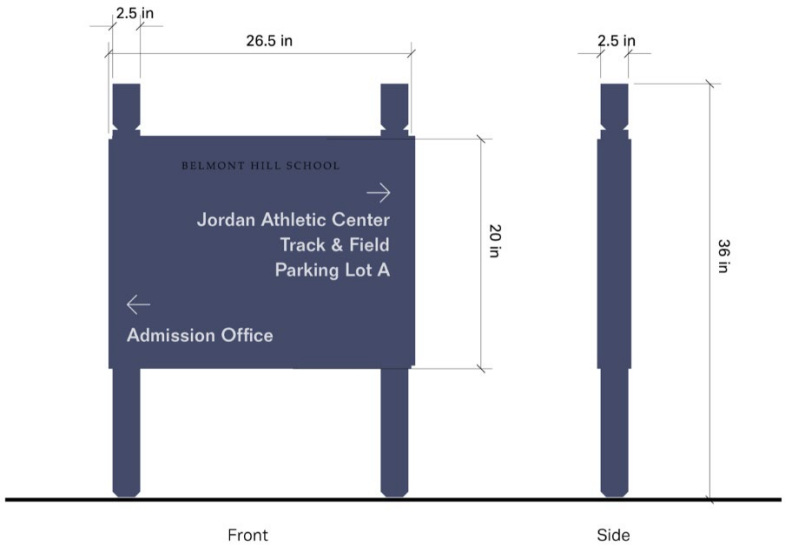


Four tall entry signs are proposed at entrances to the campus.

- Marsh Street at dedicated bus lane
- Marsh Street into Main Lot and Upper Lot
- Park Avenue and the East Campus Lot
- Prospect Street and East Campus/Facilities entrance

They are flag type signs, are 80 inches tall and the flag portion is 20 inches x 15 inches.

Low Entry Signs – C Series



Three low entry signs are proposed:

- Main Lot
- Walking path from East Campus Lot
- Facilities Building entrance

They are comprised of two poles with a central sign, are 36 inches tall and the center portion is 26 inchesx20 inches.

Table 3: Proposed Signs

Sign Number	Description	Intent and Purpose	Area (sq ft)	Illumination and Hours	Material
A.1, A.2, A.3	Directional lighted	Wayfinding	14.4 sq ft	White steady light from Dusk – 10 PM	Painted metal and wood
B.1, B.2, B.3, B.4	Entry tall	Parking Entry	4.2 sq ft	No	Painted metal
C.1, C.2, C.3	Entry low	Wayfinding	7.4 sq ft	No	Painted metal

3.5 Stormwater Management Design

Stormwater management methodologies proposed for the site are in compliance with the Town of Belmont Checklist for Stormwater Management and Erosion Control Checklist (10/21/13), and the Stormwater Management and Erosion Control Bylaw (§ 60-325 of the Belmont General Bylaws) and associated regulations adopted September 29, 2014. The Belmont Office of Community Development is the permit granting authority and as requested by Planning staff, the stormwater report has been submitted for peer review.

The following activities are part of the proposed project and are regulated under the Stormwater Management and Erosion Control Bylaw: connection of a pipe or other appurtenance to the Belmont Municipal Separate Stormwater System (MS4) and land disturbance of more than 2,500 square feet of total area.

The stormwater submittal is included at Attachment A to this Design and Site Plan Review submittal and is bound under separate cover. It will be submitted to the Office of Community Development for permit review. The submittal includes the following:

- A completed Stormwater Management and Erosion Control Permit Application
- A stormwater Management and Erosion Control Plan
- The Checklist for Stormwater Management and Erosion Control Plan
- An Operation and Maintenance Plan

The stormwater management report has been designed in accordance with the most recent versions of the town of Belmont Stormwater Management Rules and Regulations, Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook, and the U.S. Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES).

Stormwater Management

There is currently one stormwater management BMP within the limits of the proposed project – a subsurface detention basin under the main athletics parking lot.

The project will result in an increase in impervious area of 1.7 acres in the East Campus and the Zamboni Lot. This area consists of traditional pavement, permeable pavement (1.3 acres) and a new Facilities Building. The Upper Lot/Front Yard is considered redevelopment and no new stormwater infrastructure is proposed for this area.

To mitigate the impacts of this development, the project proposes two additional subsurface infiltration facilities and several areas of permeable pavement to treat and infiltrate runoff. Additionally, the project includes several proprietary water quality structures for pretreatment and

primary treatment of stormwater. Combined, these practices provide rate control, volume control, groundwater recharge and water quality control to meet or exceed all requirements of the Town of Belmont Stormwater Management and Erosion Control Bylaw and Regulations.

3.6 Snow Storage

The site has been designed to accommodate adequate snow storage for snow that is removed from the paved areas. The snow storage area for the East Campus Lot will be located at 20 Park Ave and graded such that the runoff from melting snow will not enter the public way or wetland resource areas. Snow storage for the Facilities Yard is the vegetated area located north of the paved yard. Snow storage will not impact wetland resource areas. Stored snow will not affect visibility and sight distance of vehicles entering and exiting the site. Snow storage areas have been designed to safely accommodate an area of approximately 10% of the parking areas and travel ways. If necessary, excess snow will be removed off-site. Snow storage areas are identified on sheets L310, L330 and L340.

3.7 Traffic Impact and Access Study

A Transportation Impact Assessment (TIA) is provided as Attachment B. The assessment was prepared in consultation with the Town of Belmont and the Massachusetts Department of Transportation (MassDOT) and was performed in accordance with MassDOT's Transportation Impact Assessment (TIA) Guidelines and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. As requested by Planning staff, the TIA has been submitted for peer review.

The assessment concludes that the elements of the Project will result in an overall improvement in access and circulation to and within the BHS Campus, with tangible benefits to operating conditions and safety at the Park Avenue/Prospect Street/Marsh Street intersection. The project:

- Will not result in a material increase in traffic as the project improvements are focused on facility upgrades, parking improvements and enhancements to pedestrian and bicycle access and landscaping, with no changes proposed to student enrollment or staffing levels;
- Will benefit (improve) operating conditions at the Park Avenue/Prospect Street/Marsh Street intersection through a reassignment of existing school-related traffic from the Marsh Street parking lots on the Main Campus to the East Campus Lot;
- Will not result in a significant impact (increase) on motorist delays or vehicle queuing over existing or anticipated future conditions without the Project (No-Build conditions),

with the majority of the movements at the study intersections shown to operate at a level-of-service (LOS) of D or better under all analysis conditions, where an LOS of "D" or better is defined as "acceptable" traffic operations;

- Independent of the Project, operating conditions for one or more movements at the Park Avenue/Concord Turnpike, Park Avenue/Hinckley Way and Park Avenue/Village Hill Road intersections were identified to be operating at or over capacity (i.e., LOS "E" or "F"), with Project-related impacts at these intersections generally defined as a predicted increase in overall average motorist delay of up to 3.5 seconds and in vehicle queuing of up to one (1) vehicle;
- No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study area intersections;
- The proposed parking supply is appropriately sized to accommodate the existing parking demands of the campus and to allow for the elimination of the reliance on off-campus parking to meet current daily demands; and
- Lines of sight to and from the Project driveway intersections meet, exceed, or can be made to meet or exceed the recommended minimum sight distances for the intersections to function in a safe manner based on the appropriate approach speed.

3.7.1 Transportation Demand Management

BHS has an ongoing transportation demand management program under the direction of Jay Bounty, Director of Operations, who also serves as Transportation Coordinator.

As part of the information provided to current and incoming standards, the TC provides information regarding available buses since the campus is a short walk from the bus stop at Park Avenue and Route 2, and a rideshare matching program to encourage carpooling by students and their families.

In addition to the ongoing programs, the TC will provide

- Information regarding public transportation services, maps, schedules, and fare information. This will be posted in a central location for faculty and staff and will be made available to students, staff, and visitors;
- The student and staff handbooks will be updated to include available public transportation services, bicycle and walking alternatives, and commuter options, and information to enroll in the rideshare program;

- Pedestrian accommodations have been incorporated into the Campus Master Plan and consist of connections to existing sidewalks, sidewalk improvements and ADA-compliant wheelchair ramps that will be installed at all pedestrian crossings that are to be constructed or modified as a part of the project; and
- Bicycle parking racks for 8 bicycles have been provided within the project area in the Upper Lot (Figure 6).

3.8 Construction Management Plan

The project will be conducted as 3 phases: East Campus parking lot, Marsh Street Upper Lot/Front Yard and Zamboni Lot, and Facilities Building. The work will be conducted over a 2–6-year period, beginning in the fall of 2022.

Construction of this project will be managed to minimize impacts to the community. As part of the construction process, BHS has developed a Construction Management Plan as a management guideline for all aspects of the development of this project.

This Construction Management Plan will provide guidance to contractors working on the project. It will be the responsibility of the contractors to become familiar with these guidelines as well as the guidelines set forth in the Decision from the Planning Board relative to Design and Site Plan Review and from the Office of Community Development relative to stormwater management. A Storm Water Pollution Prevention Plan (SWPPP) will be prepared by the contractor. BHS' Director of Facilities (DOF), Elton Matos, and the general contractor will be responsible for overseeing all work on the project to control and mitigate impacts to the surrounding community from the construction activities. Prior to the start of the project, BHS will provide the names and contact information of the responsible individuals to the Office of Community Development.

As soon as permits and approvals for the project are obtained, BHS will begin site preparation work for the project. This Construction Management Plan is intended to create guidelines and be a flexible document. As necessary, it will be reviewed and updated, based upon the applicable requirements of the permits and a detailed review of on-site conditions by all members of the BHS construction team, with input from appropriate Town officials and agencies. It is estimated that site work will begin the fall of 2022.

3.8.1 Pre-Construction Site Coordination

Construction management issues that relate to the site scope of work will be addressed during the bidding phase of the project. Site visits will be conducted for the DOF, contractor, landscape architect and project engineer to review existing conditions and establish control measures dealing with tree protection and environmental considerations. A pre-construction

meeting with interested parties will be organized by BHS. Parties responsible for construction activities will be identified and their contact information will be provided.

Prior to site mobilization, an on-site meeting will be held with the BHS DOF, general contractor, town officials, building architect, civil engineer, and landscape architect to review the scope of a Tree Protection Plan and a Temporary Construction Fencing Program.

After the project team is familiarized with the site and the construction program, the requirements for Tree Preservation and the Storm Water Pollution Prevention Plan (SWPPP) will be implemented. These documents provide controls to protect trees to be saved during site construction, establish erosion controls and provide temporary drainage structures for sedimentation and storm water management.

3.8.2 Initial Construction Activities

Project Access

The primary route for construction vehicles to travel to the site will be from Route 2 onto Park Avenue to Prospect Street or Marsh Street, depending on the phase of work. To facilitate the employment of local contractors and supply houses (Belmont, Cambridge, etc.), some vehicles may travel via other routes. No construction vehicles will travel through Belmont Center. Efforts will be made to establish truck routes and timing to avoid conflicts with school bus transportation including bus stops and major bus routes as identified by the school department.

General Standards

An orientation will take place with all employees to review safety, routes to and from the site, hours of operations, lunch trash disposal and noise controls.

Work Hours

During construction, BHS and its contractor shall comply with Article 23 Belmont Noise By-Law within the Belmont General By-Laws. BHS proposes that typical work hours are Monday through Friday beginning at 7:00 AM and continuing until 3:00 PM or 5:00 PM, intermittently on Saturdays and rarely on Sunday. Sunday work will occur only when necessary to meet a deadline, chiefly in the interior of the building or outdoors in such a manner as to limit impact to abutters. For the purpose of compliance with this plan, construction may occur Monday through Friday from 7:00 AM to 6:00 PM, Saturday from 7:00 AM to 5:00 PM, and Sundays from 8:00 AM to 5:00 PM with prior notice to the Office of Community Development.

Employee Parking

Construction parking will be on site under the control of DOF and general contractor. Adequate parking for construction workers has been identified on site:

For East Campus Lot construction, workers will park on the site or at 283 Prospect; on rare occasion backup parking is available at the existing facilities lot. For the Zamboni and Upper lots, workers will park in the existing athletic lot. For the Facilities Building phase, workers will park in the East Campus lot.

No employees of the general contractor or the subcontractors will be permitted to park on Rutledge Road, Village Hill Road or other neighborhood roadways surrounding the project.

Project Construction Controls

BHS's DOF will be present during construction. He will be responsible for managing the general contractor, who, in turn oversees construction during the entire time of the project, from the initial pre-construction meeting to the final walk through with the owner. The DOF will also serve as the liaison with the Town.

Communication between the design team, consisting of the project architects and landscape architects, project site/civil engineers, project structural/geotechnical engineers, etc., the construction team, including the general contractor's staff, site contractor, sub-contractors, trades, etc., BHS, and Town officials will be established early in the project timetable.

As the project develops in pre- construction, the DOF and the general contractor will be involved on a weekly basis along with the entire project team. The final construction documents and plans will be developed with input from the project team and, as approvals are obtained, the bid process will be initiated with approved work packages.

This involves communications with the subcontractor market to identify all project specific issues as well as the scope of work. Just prior to the start of construction, a partnering meeting is conducted involving all members of the total project team. At this time, the project will be reviewed in its entirety and construction controls, including permit compliance, parking and noise restrictions will be reviewed by the team and monitored throughout construction.

Tree Protection

Protective fencing will be placed around trees to remain that are likely to be impacted by construction. Tree protection is identified on the Site Prep and Erosion Control Plans (Sheets CES-110-CES-140) included with this submittal. A meeting will take place at the site with the project's landscape architect, Town officials and contractors to review and approve tree protection requirements.

Rodent Control

The general contractor will retain a pest control service to establish and maintain rodent control at the perimeter of the site beginning 2 weeks prior to constructions, for the duration of the

project phase and for two weeks following completion of this phase. Weekly reports will be submitted to the Belmont Health Department. The rodent/pest control/extermination plan shall be submitted to the Health Department for its review and approval. The plan will be prepared by a Certified Pest Control Company detailing how rodents and other pests will be controlled/contained at BHS's expense during clearing of the site and construction.

Erosion Control

Concurrent with implementation of Tree Protection, the DOF, the general contractor, site contractor and civil engineer will review the Storm Water Pollution Prevention Plan (SWPPP) and prepare the NPDES permit application for submission to EPA. Prior to the beginning of any construction activities, erosion control will be installed, as shown on the plans and in accordance with the SWPPP. The erosion control barriers will be inspected on a regular basis and after periods of heavy rains of one-half inch or more. During excavation and rough grading, siltation basins and temporary drainage swales will be constructed to direct runoff from disturbed areas and reduce the amount of runoff from the construction areas. Where water flow is concentrated, crushed stone check dams will be installed as well as haybale check dams as required. Stockpiled materials will be properly stabilized as required in the SWPPP.

Construction Staging

Once the Tree Protection and the SWPPP are in place, temporary construction staging areas will be established within the zone under active construction. Site clearing will be undertaken, with care given to maintain Tree Protection and consistency with the SWPPP.

3.8.3 Construction Phase

Site Development Phase

A construction access will be established at the beginning of construction. Rough grading and tree removal will be conducted in accordance with the SWPPP. As specified by the project's landscape architect, tree protection will be installed on trees likely to be impacted during the construction process. Protective fencing will be placed around the drip line of the area of trees to remain in place during the construction activities and may only be removed for final landscaping activities. This fencing will be inspected on a regular basis in order to insure maximum tree protection.

Blasting

At the present time, based on the results of on-site test pits, blasting is not anticipated for this project.

Should blasting be required, the following procedure will be followed: A pre-blast survey will be conducted to determine ledge location and help to determine the amount of ledge to be

removed. All ledge removal will be performed in accordance with a Blasting Plan for the Project (developed within the guidelines of the State regulations and the BFD Chief's requirements). The Blasting Plan will be developed after conferring with the project's architect, the project structural/geotechnical engineers, Belmont Fire Department, and the appropriate State authorities. This blasting plan will include a definite schedule of operations and protocol that will be communicated to the local Building Inspector and nearby residents including the Hospital. Blasting will be conducted under the direct supervision of the Belmont Fire Department per their requirements.

Earth/Ledge Removal

Wherever practical earth and rock materials will be re-utilized on the site. All excess material that cannot be used on-site will be transported offsite. Efforts will be made to minimize the traffic impact of offsite material transportation.

Site Clearing

Silt fencing, drainage controls and staked haybales will be installed as shown on the plans to prevent sediment runoff. All stockpiled soil will be stabilized. Permanent slopes with gradients in excess of three-foot horizontal to one-foot vertical will be stabilized with erosion control fabric.

Stormwater

Storm water runoff will be controlled in accordance with the SWPPP. Existing and proposed catch basins inlets will be protected using sediment traps, silt sacks, and staked haybales. All stormwater control systems will be inspected and maintained routinely, per the SWPPP to ensure that the system is functioning correctly throughout the construction process.

Utilities

The DOF and general contractor will coordinate the installation of all drainage, water, and sewer installation as well as all private utility services (gas, telephone, cable, electric, etc.). Site Utilities including Storm Drainage, Sewer and Water will be constructed as the site development progresses.

Dust Control

The general contractor will control dust at the site perimeter and will sweep public streets as needed during periods of heavy excavation and truck activity.

3.9 Community Outreach Plan

BHS will provide quarterly project updates on their website for interested members of the community. The information posted is expected to include dates of specific activities at the

site, such as the beginning of tree clearing, site preparation, and construction start for each of the phases of work.

The date, time and location of neighbor meetings will be posted on the website and the timing will be based on the proposed construction schedule. Meetings will be held quarterly while construction is occurring. They will continue for one year after the opening of the Facilities Building.

4.0 CONSISTENCY WITH THE TOWN OF BELMONT ZONING BY-LAW REQUIREMENTS FOR DESIGN AND SITE PLAN REVIEW

The following sections address pertinent articles and subsection of the Zoning By-Laws for the Town. The Zoning By-Law is reproduced in italics. The statement of compliance with the By-Law is provided in standard text.

4.1 §Section 4.2 Schedule of Dimensional Regulations

§4.2.1 Area Requirements

Table 4: Zoning Requirements Per 4.2				
District		Single Residential SR-A - Other		
		Required	Existing	Future Provided
EAST CAMPUS				
Minimum Lot Area	SQ FT	25,000	NA	307,748
Minimum Lot Frontage	FT	125	NA	160
Maximum Lot Coverage	% of Lot	20%	NA	5.0%
Minimum Open Space	% of Lot	50%	NA	66%
Minimum Set Back Dimension	Front	30	NA	79
	Rear	25	NA	277
	Side (East)	15	NA	19
	Side (west)	15	NA	540
Maximum Building Height (Ft)	FT	36	NA	27
	Stories	2 1/2	NA	2
MAIN CAMPUS				
Minimum Lot Area	SQ FT	25,000	1,299,830	1,299,830
Minimum Lot Frontage	Feet	125	2,063	2,063
Maximum Lot Coverage	% of Lot	20%	11.9%	12%
Minimum Open Space	% of Lot	50%	76%	76%
Minimum Set Back Dimension	Front	30	NA - NO NEW STRUCTURES PROPOSED	
	Rear	25		
	Side (East)	15		
	Side (west)	15		
Maximum Building Height	FT	36		
	Stories	2 1/2		
The site is located within a zone of minimal flood hazard, zone X and as such is not located with the Floodplain District (panel number 25017C0418E eff June 4, 2010)				

4.2 §SECTION 5. GENERAL REGULATIONS

4.2.1 §5.1 Off-Street Parking and Loading

§5.1.1 Number of Spaces

a) Off-street parking must be provided to service all increases in parking demand resulting from new construction, additions, or change of use to one requiring more parking, without counting any existing spaces needed to meet requirements for the existing building and use….Any existing spaces removed shall be replaced in kind unless they are either in excess of the number required or removed at the request of the Town. Parking spaces also serving as loading areas shall not be credited.

The number of off-street parking spaces has been designed to meet the requirements of the school for daily use and to reduce the existing need for street parking during events. The construction of the Facilities Building does not increase parking demand; there is not adequate student parking under existing conditions. Existing spaces removed from the Upper Lot have been replaced at the Zamboni and East Campus lots. Loading areas have not been counted as parking spaces.

§5.1.2 Schedule of Requirements

i) Other uses: a number of spaces to be determined by the Building Inspector (or the Planning Board in cases referred to it for Design and Site Plan Review), based upon evidence from similar uses under similar circumstances.

The number of spaces has been proposed to enable students and faculty to park on campus daily, while providing off-street parking for visitors.

Table 5: Parking at Marsh Street and East Campus				
Lot	Existing Condition (2022)	Existing # Spaces	Proposed # Spaces	Change
Marsh Street: Jordan Athletic Center	Unpaved gravel lot without lines. Access from Marsh Street, faculty/staff	12	26	14
Marsh Street: Upper Lot	Faculty/visitors	35	18	-17
Off Site (Church) Lot	Rented lot in Arlington served by shuttle bus, students	50	0	-
Park Avenue: East Campus Lot	N/A	0	143	143
Prospect Street: Facilities Lot	N/a	0	10	10
NET INCREASE				150

Notes:

On-campus parking requires parking sticker

No increase in student population proposed

Student parking increases thru school year as more students become eligible to drive

Under current conditions (2022) school is short 29 spaces to accommodate all staff/faculty on same day, these cars park along field in Main Lot

School Day Events - parent coffee, academic meetings require double parking in Main Lot; limited large events parking on field

After school events - Athletic - some faculty/staff have left, making room in main lot; overflow on street along Marsh Street

After school events - Academic - some faculty/staff/students have left, making room in main lot; overflow on street along Marsh Street

Residential Parking at 20 Park, 283, 301, 305 and 315 Prospect not included in count

§5.1.3 Parking and Loading Area Location and Design

b) Residential.

1) In Single Residence Districts, no parking shall be permitted within a required front yard between the side lines of the dwelling extended to the street,…

The project site is located within the Single Residence A district. No parking is provided in the front yard of the Facilities Building.

c) Configuration. Dimensions of spaces and aisles shall adequately provide for clearance and movement, and designated spaces shall accommodate needs of the handicapped. The Planning Board shall adopt, and may from time to time amend, standards for such dimensions, reflecting current vehicle sizes.

The parking areas have been designed with dimensions of spaces and aisles to adequately provide for clearance and movement, and designated spaces shall accommodate needs of the handicapped as required. The spaces being removed at the Upper Lot will provide additional room for clearance and movement.

Groups of not more than 30 parking spaces shall be separated by a six-foot landscaped walk or divider.

The parking spaces in the East Campus Lot are separated by a minimum of an eight-foot landscaped divider.

d) Construction. Off-street parking areas, loading areas, and access drives, if involving six or more parking spaces, shall be surfaced with at least two inches (2 inches) of bituminous paving or comparable paving material unless the Planning Board approves an alternative surface which, because of only seasonal or periodic use, will adequately prevent dust, erosion, water accumulation, and unsightly conditions. Such parking areas shall be curbed and provide wheel stops where needed.

Parking areas and access drives are proposed to be surfaced with at least 4 inches (4 inches) of bituminous paving (see detailed on sheet CS-511), unless they are specified as porous asphalt (see sheet CS-511) as identified on the plans and in the stormwater calculations.

e) Lighting. Lighting must comply with Section 5.4.3, Light and Glare.

Site Lighting details and photometric analysis is provided as sheets LL-110-501.

The parking lot and drive fixture (10 lights) is an LED with asymmetrical flat beam light distribution mounted on a 16-foot pole and is consistent with other parking lot lighting at BHS. Both single and double heads are proposed for use.

The pedestrian pole mounted fixture (49 lights) is a Penn-Globe LED, with decorative 8-foot base pole, currently used throughout the campus.

Path lighting is provided by 10 pedestrian bollards along walkways to match those currently on campus.

There are 3 wall mounted fixtures at the Facilities Building.

With the use of asymmetrical lighting, lighting overspill has been minimized, typically less than or at 0.2 fc as identified on sheets LL-110 – LL-140

f) Backing. All parking areas having six or more spaces shall be so designed that no vehicle will be required to back on a public way or driveway serving as access to 50 or more parking spaces in order to enter or exit from a parking space.

The four parking areas modified/constructed as part of this project have been designed so that no vehicle will be required to back on a public way or driveway serving as access to 50 or more parking spaces in order to enter or exit from a parking space.

g) Egress Location.

1) There shall be not more than two driveway openings onto any street from any single premises unless each driveway is separated from all other driveways serving 20 or more parking spaces, whether on or off the premises, by at least 250 feet (measured between centerlines at the street line) on arterial streets and 150 feet on other streets. No parcel of land shall be divided in a way precluding meeting this requirement, using deeded access easements across the lots being created for shared egresses if necessary.

Under existing conditions, there are 3 curb cuts from Marsh Street. Under the proposed condition, there will be one additional curb cut. The westerly curb cut will provide access to the service area for the Jordan Athletic Center and the dedicated bus lane is located 151 feet and 8 inches to the east (Figure 5).

Under existing conditions there are 3 curb cuts along Prospect Street. Under the proposed condition, there will be 3 curb cuts; driveways for the East Campus Lot and the Facilities Building will be separated from the existing driveway for 301 Prospect Street by 63 feet and 2 inches. There will continue to be 2 curb cuts along Park Avenue and the driveways will be separated by 227 feet and 3 inches. The applicant requests the Planning Board allow the distance between the 301 Prospect Street residence and the driveway to the East Campus Lot and Facilities Building to be less than 150 feet.

3) Driveway egresses serving 20 or more parking spaces must have not less than 250 feet sight distance in each travel direction entering an arterial street and not less than 150 feet sight distance on other streets.

Sight distance measurements were performed at the BHS driveway intersections with Marsh Street, Prospect Street, and Park Avenue in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO) requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were

performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 6 presents the measured SSD and ISD at the subject intersections.

As can be seen in Table 6, the available sightlines at the existing and proposed driveways meet, exceed, or can be made to meet with pruning, or exceed the recommended minimum sight distances to function in a safe manner (SSD) based on a 35 mph approach speed along the intersecting roadways, which is consistent with or slightly above the measured 85th percentile vehicle travel speeds (31/35 mph) approaching the driveways, and is 5 to 15 mph above the posted or statutory speed limits (20, 25 or 30 mph). As noted in this table, it is recommended that selective trimming and/or removal of roadside vegetation located within the sight triangle areas of the driveways occur in order to attain and maintained the recommended minimum sight lines for safe operation of the driveways. BHS will inspect these areas and trim vegetation on BHS property as needed prior to beginning construction and then annually, and will seek to obtain approvals from the Town of Belmont for cutting within the Town right-of-way.

TABLE 6: SIGHT DISTANCE MEASUREMENTS[a]

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD)[b]	Measured
Marsh Street at the Jordan Athletic Center Driveway			
Stopping Sight Distance:			
Marsh Street approaching from the east	250	--	250
Marsh Street approaching from the west	250	--	400+
Intersection Sight Distance:			
Looking to the east from the Jordan Athletic Center Driveway	250	390	250[c]
Looking to the west from the Jordan Athletic Center Driveway	250	335	400+[c]
Marsh Street at the Belmont Hill School West Driveway			
Stopping Sight Distance:			
Marsh Street approaching from the east	250	--	350
Marsh Street approaching from the west	250	--	376
Intersection Sight Distance:			
Looking to the east from the West Driveway	250	390	360
Looking to the west from the West Driveway	250	335	325[c]
Marsh Street at the Belmont Hill School East Driveway			
Stopping Sight Distance:			
Marsh Street approaching from the east	250	--	255
Marsh Street approaching from the west	250	--	275
Intersection Sight Distance:			
Looking to the east from the East Driveway	250	390	256
Looking to the west from the East Driveway	250	335	275
Prospect Street at the Belmont Hill School North Driveway			
Stopping Sight Distance:			
Prospect Street approaching from the north	250	--	270
Prospect Street approaching from the south	250	--	280
Intersection Sight Distance:			
Looking to the north from the North Driveway	250	335	270

Looking to the south from the North Driveway	250	390	260
Prospect Street at the Belmont Hill School South Driveway			
Stopping Sight Distance:			
Prospect Street approaching from the north	250	--	255
Prospect Street approaching from the south	250	--	400+
Intersection Sight Distance:			
Looking to the north from the South Driveway	250	335	250
Looking to the south from the South Driveway	250	390	400+
Prospect Street at the Proposed East Lot Driveway			
Stopping Sight Distance:			
Prospect Street approaching from the north	250	--	320
Prospect Street approaching from the south	250	--	345
Intersection Sight Distance:			
Looking to the north from the Proposed Driveway	250	390	302
Looking to the south from the Proposed Driveway	250	335	350[c]
Park Avenue at the Proposed East Lot Driveway			
Stopping Sight Distance:			
Park Avenue approaching from the north	250	--	500+
Park Avenue approaching from the south	250	--	255
Intersection Sight Distance:			
Looking to the north from the Proposed Driveway	250	390	260[c]
Looking to the south from the Proposed Driveway	250	335	255

[a]Recommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets,* 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on a 35-mph approach speed along Marsh Street, Prospect Street and Park Avenue.

[b]Values shown are the intersection sight distance for a vehicle turning right or left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

[c]With selective trimming/removal of vegetation located within the sight triangle area of the driveway.

h) Egress Design.

1) No driveway opening shall exceed 30 feet in width at the street line unless necessity of greater width is demonstrated by the applicant.

The proposed driveway width at Park Avenue is 24 feet and at Prospect Street is 24 feet. These are shown on Sheets TM101 and have been determined to adequately allow turning movements for public safety vehicles.

2) Openings shall be graded and drainage facilities provided where necessary to prevent stormwater from ponding or running across any sidewalk.

Openings are graded and drainage facilities provided as shown on Sheets CU-110-CU-534 to prevent stormwater from ponding or running across the sidewalk on Park and Prospect Streets.

3) All driveway openings serving 20 or more parking spaces shall be constructed with a minimum edge radius of five feet on both sides.

These driveway openings serve 20 or more parking spaces and are designed to be constructed with a minimum edge radius of five feet on both sides.

i) Bicycle Racks. For premises requiring 40 or more parking spaces, bicycle racks facilitating locking shall be provided to accommodate one bicycle per 20 parking spaces required or fraction thereof.

A total of 8 bicycle racks have been added at the Upper Lot, as required for the additional 150 parking spaces on the premises.

j) Loading. Loading or unloading shall not interfere with the public use of sidewalks, streets, or parking areas.

Loading or unloading for the 20 Park Avenue structure as well as the new Facilities Building and Yard will not interfere with the public use of sidewalks, streets, or parking areas.

4.3 §Section 5.2Signs

4.3.1 *§5.2.3 General Requirements*

a) Movement. No sign shall contain any visible movable or moving parts…, any moving, flashing or animated lights, or any automatically changing written or pictorial matter or message.

The proposed signs do not have any visible moving parts.

b) Illumination. No sign shall be illuminated between the hours of 10:00 p.m. and 6:00 a.m. unless the premises on which it is located are legally open for business. Signs may be illuminated only by the following means:

1. By a white, steady stationary light shielded and directed solely at the sign;

2. By interior non-exposed lights;

3. By exposed neon or similar tube illumination.

One of the proposed types of signs will be illuminated from dusk to 10 PM by a white, steady stationary light shielded and directed solely at the sign.

e) Sign Location. Signs attached to a roof and v-shaped signs attached to buildings are not permitted…The minimum vertical clearance to the underside of any sign projecting over a sidewalk or other pedestrian or vehicular passage shall be 10 feet above the surface of the sidewalk or passage.

The proposed signs will not project over a sidewalk or other pedestrian or vehicular passage.

5.2.5 District Regulations

a) All Districts. In all zoning districts, the following are permitted:

1. Non-Commercial Signs. Non-commercial signs, subject to the following conditions:

a. Standing signs accessory to a non-commercial building are permitted in all districts, provided that no more than two such signs are permitted for each such building use, plus one additional sign for each additional street where the lot fronts on more than one street, each such sign not to exceed 18 square feet in area;

b. No such sign shall be affixed to a tree or utility pole or otherwise erected in a public way except pursuant to Section 5.2.5 a) 1. c. below;

c. Non-commercial signs may be erected in the Town's right of way adjacent to a private property by the property owner only if (a) there is no protrusion of the sign into the public walkway or roadway; (b) placement of the sign will not damage any plantings that are in the area; and (c) placement does not pose a hazard to passersby;

d. Non-commercial signs may be erected on other Town property only pursuant to such other administrative policy governing the placement of signs on Town property duly enacted by the Board of Selectmen;

e. The non-commercial sign complies with Section 5.2.3 and the applicable dimensional requirements for commercial signs in the same district;

f. Any such non-commercial sign must be no larger than the largest commercial sign permitted in the district in which it is located;

g. The number of non-commercial signs permitted on one property shall be no more than the number of commercial signs permitted on the property pursuant to this By-Law; however, non-commercial signs shall not count toward the allowable square footage or allowable number of signs on a parcel of land;

h. Non-commercial sandwich board signs are permitted, provided that they comply with the dimensional standards in Section 5.2.5 b) 7 a. through 7 e.; and

i. Non-commercial temporary signs may be in place for longer than 90 days, notwithstanding the definition of temporary signs.

The proposed signs are non-commercial and do not exceed 18 square feet. The number of signs is appropriate for the proposed use.

5.2.6 Maintenance

a) Every sign permitted hereunder shall be maintained in good condition…

BHS commits to maintaining the signs in good condition.

4.4 §Section 5.3 Landscaping

5.3.1 Applicability

Street, sideline, parking area, and district boundary plantings and screening shall be provided as specified below for any new nonresidential building, or Free-Standing Wireless Telecommunications Facility, or when any new building, addition, or change of use results in a parking increase of five or more spaces, or results in any loading or exterior storage area for equipment, materials, or supplies serving a nonresidential use. In performing Design and Site Plan Review under Section 7.3, the Planning Board may authorize alternatives to the following specifications, taking into consideration existing vegetation, topography, soils, and other site conditions, provided that equivalent screening, shading, and articulation are achieved.

5.3.2 Plantings

a) Required plantings shall include both trees and evergreen shrubs, and preferably will include trees existing on the site. To be credited towards meeting these requirements:

- *Trees must be at least 2.5 inches caliper four feet above grade, be of a species common in the area, and be ones which reach an ultimate height of at least 30 feet.*
- *Shrubs must be of an evergreen species common in the area, and be at least 36 inches in height at the time of building occupancy, and reach an ultimate height of at least five feet, except half those heights for street planting areas.*

The size of trees and shrubs to be planted are provided on sheets L510 - L540; trees are typically 3-4 inches dbh, are of a species common to the area will reach an ultimate height of at least 30 feet. The proposed shrubs are evergreen, and are specified to be planted at 18 inches-36 inches. The shrubs at the street plantings are 18 inches – 36 inches and all others will be 36 inches in height at the time of occupancy or use of the respective parking lots.

b) Plantings shall be provided at the rate of at least one tree per 40 linear feet of planting area length, and at least one shrub per three feet. Plantings preferably will be grouped, not evenly spaced, and shall be located or trimmed to avoid blocking egress visibility. The planting area shall be at least three feet wide, unpaved except for access drives and walks, essentially perpendicular to the area.

The planting plan has been prepared to meet or exceed the requirement for one tree per 40 feet of planting length and one shrub per three feet, including trees and shrubs to remain as required at 5.3.5 of the Belmont Code.

Table 7: Quantities of Trees and Shrubs

Planting Zone	Planting Length (ft)	Required Trees	Required Shrubs	Existing Trees to Remain	Proposed Trees	Proposed Shrubs	Total Trees Provided	Total Shrubs Provided
Zamboni Lot, Marsh Street, Street/Screen Planting	450	12	150	25	12	151	37	151
Zamboni Lot, Sideline Planting	150	4	50		7	50	4	50
Upper Lot, Marsh Street, Street Planting	250	6	83	3	4	83	7	83
Crosswalk Area, Prospect Street, Street Planting	120	3	40	2	2	40	4	40
East Lot, Park Ave, Street Planting	600	15	200	15	14	200	29	200
East Lot, Rutledge Road Properties	475	12	158	13	16	158	29	158
Facilities Lot, Prospect Street, Street Planting	75	2	25	4	0	25	4	25
Facilities Lot, Sideline Screening	285	7	95		7	95	7	95

5.3.3 Requirements

a) Street Planting Area. Street planting is required for nonresidential premises having a front yard setback of ten feet or more. Required street planting shall be provided within ten feet of the street property line along the entire street frontage except at drives.

Required street planting has been provided within 10 feet of street property line along the entire street frontage except at drives. As recommended, planting have been grouped, not

evenly spaced, and will be located and trimmed to avoid blocking egress visibility. See Street planting details in Table 7, above.

b) Sideline Planting Area. Sideline planting is required for premises having a front yard setback of ten feet or more. Required sideline planting shall be provided within five feet of the side lot line between the front lot line and the building setback (as built, not as required).

Sideline planting is required for this project. Required sideline planting has been identified within five feet of the side lot line between the front lot line and the building setback at the westerly margin of the site near the Zamboni Lot, at the sideline between 20 Park Avenue and 248 Rutledge Road and at the sideline between 283 and 269 Prospect Street.

c) Parking Area Plantings. Planting areas must comprise a minimum of 2% of the interior area of parking lots containing three or more rows of parking spaces. In such cases, a minimum of one tree and four shrubs exclusive of perimeter plantings must be planted for every 3,500 square feet of parking lot. Planting areas must each contain not less than 30 square feet of unpaved soil area. Trees and soil plots shall be so located as to provide visual relief and wind interruption within the parking area, and to assure safe patterns of internal circulation.

Planting areas have been designed to comprise 23% of the interior area of the East Campus Lot. A minimum of one tree and four shrubs (exclusive of the perimeter plantings) is proposed for every 3,500 square feet of parking lot. Each planting area contains not less than 30 square feet of unpaved soil area. Trees and soil plots have been located provide visual relief, reduce the heat island effect, provide wind interruption within the parking area, and assure safe patterns of internal circulation.

5.3.4 Screening

Any parking, loading, or storage area for equipment, materials, or supplies serving a nonresidential use or a Freestanding Wireless Telecommunications Facility (including any appurtenant equipment storage building or structure), and any dumpster or similar trash receptacle shall be screened from any adjoining lot residentially used or zoned or in public use. Screening shall consist of plantings as specified in Section 5.3.2 which, unless sufficiently dense to effectively obscure vision, must be supplemented with an opaque fence or wall at least five feet high.

The Zamboni Lot and the East Campus Lot serve a nonresidential use and are proposed to be screened from the adjoining residential lots. The Upper Lot currently exists and the reduction of parking spaces does not impact the view from Marsh Street or residential properties to the north.

The Screening shall consist of plantings as specified in Section 5.3.2 which, unless sufficiently dense to effectively obscure vision, must be supplemented with an opaque fence or wall at least five feet high.

The Zamboni lot will be screened by an 8-foot solid wooden fence, painted green and trees and shrubs as shown on Sheet L-510.

5.3.5 Existing Vegetation

Wherever possible, the above requirements shall be met by retention of existing plants. If located within 25 feet of a street, no existing tree of 6 inches caliper or greater (measured four feet above grade), dense hedgerow of four or more feet in both depth and height, or existing earth berm providing similar visual screening shall be removed or have grade changed more than one foot unless dictated by plant health, access safety, or identification of the premises.

Existing trees and shrubs have been retained to the extent possible and are used to meet the planting requirements. Trees to remain are identified on the Planting Plans, sheets L-510 - L-540. Trees to be removed are shown on sheets CES-110 – CES 140 along with the reason for removal.

At the Zamboni Lot, trees are being removed because they are dead, in poor condition or for construction of the new dedicated bus lane (Sheet CES-110).

Along Park Street for the East Campus Lot, trees are to be removed because they are in poor condition of to construct the sidewalk.

Trees are not proposed to be removed within the planting area along Prospect (frontage at 283 Prospect Street).

5.3.7 Maintenance

All plant materials required by this By-Law shall be maintained in a healthful condition. Dead limbs shall be promptly removed, and dead plants shall be replaced at the earliest appropriate season. Any fences required for screening shall be properly maintained.

BHS commits to maintaining plant materials and fences required under the By-law.

4.5 §Section 5.4 Environmental Controls

4.5.1 §5.4.2 Noise - The requirement of the Belmont Noise By-Law (§60 Article 6 of the General Bylaws) must be met.

§ 60-610. Designated noise zones.

Noise Zone I: All residential properties and the grounds of any school, hospital or similar health care institution, house of worship or library while the same is in use, and any Cemetery or Open Space Subdistrict.

BHS and surrounding residential properties are located within Noise Zone I.

§ 60-615. Exterior noise standards.

It shall be unlawful for any person at any location within the area of the Town to create any loud noise, or to allow the creation of any noise, on property owned, leased, occupied or otherwise controlled by such person, which causes the sound level when measured on any other property to exceed the greater of:

(1) The maximum allowable exterior sound level outlined in Table I; or

(2) Five dB over the background sound level.

Table I, Maximum Allowable Exterior Sound Level

Noise Zone	*Daytime Level 7:00 a.m. to 10:00 p.m.*	*Nighttime Level 10:00 p.m. to 7:00 a.m.*
I	*55 dBA*	*45 dBA*
II	*65 dBA*	*60 dBA*

B. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the background sound level can be determined, the measured sound level obtained while the source is in operation shall be compared directly to the maximum allowable exterior sound level outlined in Table I.

Exterior noise due to the HVAC equipment associated with the Facilities Building has been evaluated (Appendix A). The selected exterior mechanical equipment is one (1) Mitsubishi ASHP (Air Source Heat Pump) model SUZ-KA30NAHZ which produces the sound pressure levels listed in Table 8. The unit will be located at the southwest corner of the building as shown on Figure 1, approximately 90 feet from the nearest residential property line. The maintenance building

provides shielding of the unit so there is no direct line of sight from the unit to the east property line or the nearest residential receptor.

Table 8: ASHP Sound Pressure Levels (dB) at a distance of 1m (3.3									
Frequency band	**63**	**125**	**250**	**500**	**100**	**2000**	**4000**	**8000**	**Overall**
ASHP Cooling	54	60	54	48	46	42	38	34	52 dBA
ASHP Heating	55	54	58	51	46	43	39	36	53 dBA

The Town of Belmont Noise Ordinance[1] maximum allowable exterior sound levels for residential property lines are 55 dBA during daytime hours and 45 dBA during nighttime hours.

As currently designed, estimated sound levels from the ASHP at the nearest residential property line are expected to be less than 30 dBA due to shielding from the building and will comply with the Town of Belmont Noise Ordinance.

§ 60-620. Construction noise standards.

A. Noise associated with construction is permitted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays provided the sound level from:

(1) Non-impact devices does not exceed 70 dBA as measured over a time interval of 10 minutes with a sound-level meter set to Leq located on any other property, but at least 50 feet from the construction activity; and

(2) Impact devices does not exceed 90 dBA as measured with a sound-level meter set to slow response located on any other property, but at least 50 feet from the construction activity.

B. Between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturday, and at any time on Sunday or a legal holiday, noise associated with construction shall be limited by the standards of § 60-615 (exterior noise standards).

C. Between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturday, and at any time on Sunday or a legal holiday, noise associated with construction shall be limited by the standards of § 60-615 (exterior noise standards).

The proposed construction schedule is consistent with the construction noise standard. Noise associated with construction is permitted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays and based on communication with the construction manager, construction noise is expected to meet these requirements. Work is not proposed between 8:00 PM and 7:00 AM and limited work is proposed on Sundays (only if needed). Sunday work will be limited to activities meeting the exterior noise standards.

§ 60-625. Maintenance noise standards.

A. Noise associated with maintenance is permitted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays and between the hours of 9:00 a.m. and 8:00 p.m. on Sunday, provided the sound level does not exceed 80 dBA as measured with a sound-level meter set to slow response on any other property, but at least 50 feet from the maintenance activity.

B. If it is not possible to make an accurate sound-level measurement at the specified distance of 50 feet, measurements made at an alternate distance can be used, if the level is recalculated for an equivalent expected sound level at 50 feet. Calculations shall be made in accordance with established engineering practices for noise measurement and assessment, including those established or recommended by the United States Environmental Protection Agency (USEPA).

C. Between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and Saturday, and between the hours of 8:00 p.m. and 9:00 a.m. on Sunday or a legal holiday, noise associated with maintenance shall be limited by the standards of § 60-615.

Noise associated with maintenance is permitted between 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays and between the hours of 9:00 a.m. and 8:00 p.m. on Sunday, provided the sound level does not exceed 80 dBA based on communication with the construction manager, construction noise is expected to meet these requirements. Maintenance work is not proposed between 8:00 PM and 7:00 AM and limited work is proposed on Sundays (only if needed). Sunday work will be limited to activities meeting the exterior noise standards.

§ 60-630. Exemptions.

Noise associated with the following activities shall be exempted from the provisions of this bylaw:

A. Emergency work or emergency vehicles;

B. The operation of any vehicular alarm, provided it terminates within 15 minutes of the initially recorded complaint;

C. Activities, other than construction, conducted in public parks and playgrounds, and on public or private school grounds so long as authorized by the appropriate jurisdiction, including but not limited to school athletic and school entertainment events;

D. Occasional outdoor gatherings, public dances, shows, and sporting and entertainment events, provided said events are conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events;

E. Snow removal performed by snowblowers, snow throwers or snowplows when

appropriately outfitted with a muffler; and

F. *Any activity to the extent regulation thereof has been preempted by state or federal law.*

The project has been designed to meet the noise code including the exterior noise standards, construction noise standards and maintenance work standards. Based on the exemptions provided for emergency work, the operation of a vehicular alarm, activities conducted on private school grounds and occasional outdoor gatherings, we anticipate the parking lots and Facilities Building will meet the requirements of Belmont Noise By-Law.

4.5.2 §5.4.3 Light and Glare

d) An exterior lighting plan is required where compliance with these requirements is not apparent, and in all applications for a Special Permit for lighting, to include indication of location, mounting height, and orientation of luminaires, and sufficient technical information on the fixture to determine its type and resulting illumination levels.

Site Lighting details and photometric analysis is provided as sheets LL-110 – LL-501.

The parking lot and drive fixture (10 lights) is an LED with asymmetrical flat beam light distribution mounted on a 16-foot pole and is consistent with other parking lot lighting at BHS. Both single and double heads are proposed for use.

The pedestrian pole mounted fixture (49 lights is a Penn-Globe LED, with decorative 8-foot base pole, currently used throughout the campus.

Path lighting is provided by 10 pedestrian bollards along walkways to match those currently on campus.

There are 3 wall mounted fixtures at the Facilities Building.

With the use of asymmetrical lighting, lighting overspill has been minimized, typically less than or at 0.2 fc as identified on sheets LL-110 – LL-140.

4.5.3 §5.4.4 Air Quality

a) Any use whose emissions are such as to cause it to be classified as a major new stationary source of air pollution, as defined by the U.S.E.P.A. under the Clean Air Act, and any use required to apply to DEP under 310 CMR 7.00 or to EPA under Section 112 of the Clean Air Act for permission to emit asbestos, benzene, beryllium, mercury, vinyl chloride, or radio nuclides shall be permitted only if granted a Special Permit under Section 5.4.8.

No emissions as described above are proposed at the site.

4.5.4 §5.4.5 Hazardous Materials

Use of premises involving one or more of the following may be allowed only if granted a Special Permit under Section 5.4.8:

a) manufacturing as the principal use of the premises, if the products manufactured are either:

1. when wastes, regulated as hazardous under Massachusetts General Law, Chapter 21C.; or

2. substances listed on the Massachusetts Substance List contained in 105 CMR 670.000, Appendix A;

b) keeping of flammable fluids, solids, or gases in quantities exceeding four times that requiring licensure under 527 CMR 14.00, except for storage of fuel for consumption on the premises or by vehicles operated incidental to the principal use of the premises;

c) any use for which licensure is required under 310 CMR 30.800 to transport, use, treat, store, or dispose of hazardous waste (but not those excluded under 310 CMR 30.801);

d) any use whose waste generation requires the obtaining of an EPA identification number, except for small quantity generators, as defined under DEP Regulations, 310 CMR 30.351;

e) discharge to surface water requiring a Permit under 314 CMR 3.00 ("NPDES Permit").

Manufacturing is not proposed at the site. Fuel to be stored on site will be for consumption on the premises or by vehicles operated incidental to the principal use of the premises. The facility is expected to be classified as a very small quantity generator as defined under DEP Regulations, 310 CMR 30.351.

4.5.5 §5.4.6 Vibration

No use shall be permitted which produces vibration which is discernible to the human sense of feeling (except as sound) at or beyond the boundaries of the premises for 3 minutes or more in any hour between 7:00 a.m. and 9:00 p.m. or for 30 seconds or more in any one hour between 9:00 p.m. and 7:00 a.m. Vibrations exceeding two-thirds the frequency/amplitude limitations established by the Board of Fire Prevention Regulations at 527 CMR 13.11 (18) shall, except for quarry activities within the jurisdiction of that Board, be deemed to be discernible without instruments.

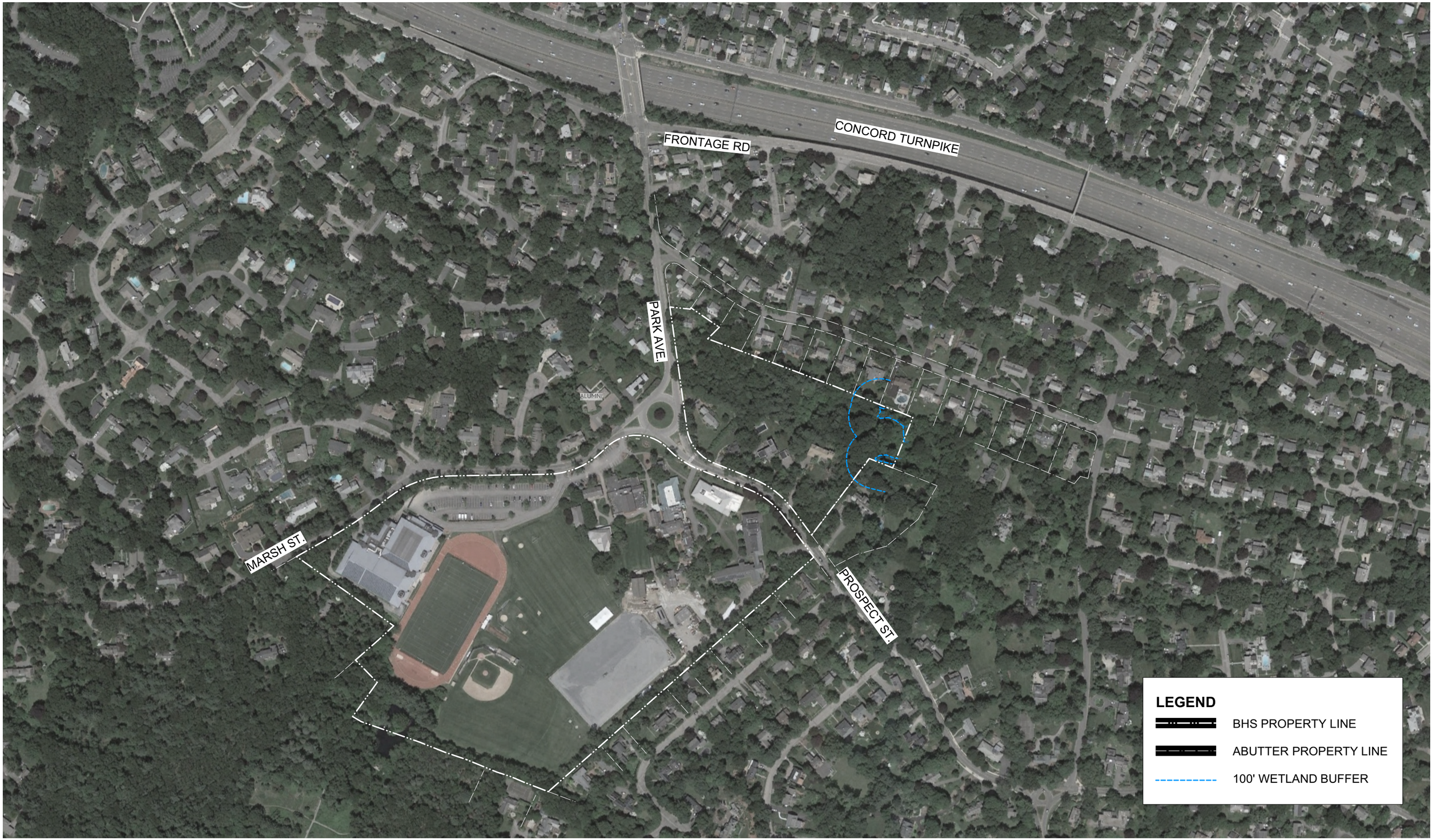
No use at the site is expected to produce such vibration.

4.5.6 §5.4.7 Electrical Disturbances

No electrical disturbance shall be permitted which adversely affects the operation of any equipment other than that of the creator of such disturbance.

No use at the site is expected to produce such electrical disturbances.

FIGURES



REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

LOCUS PLAN
EXISTING CONDITIONS

0' 300'

JUNE 2022

Figure 1

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

FULL SCOPE
EXISTING

0' 120'

JULY 2022

Figure 2

EAST LOT AND FACILITIES

UPPER LOT

ZAMBONI LOT

PARK AVENUE

MARSH STREET

PROSPECT STREET

LEGEND

BHS PROPERTY LINE

LIMIT OF WORK

100' WETLAND BUFFER

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

PROPOSED SCOPE BOUNDARY

0' 120'

JULY 2022

Figure 3

PROPOSED CURB CUT AND GATE, FOR ATHLETIC USE

PROPOSED LIGHTING

MAINTAIN EXISTING CURB CUT; KEEP GATE

PROPOSED FENCE AND SCREENING PLANTING TO MEET BELMONT TOWN CODE SECTION 5

MARSH STREET

JORDAN ATHLETIC CENTER

LEGEND

BHS PROPERTY LINE

LIMIT OF WORK

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

ZAMBONI LOT
PROPOSED

0' 40'

JULY 2022

Figure 4

LEGEND

PROPERTY LINE (WHITE)

LIMIT OF WORK

DISTANCE BETWEEN DRIVEWAY CENTERLINES

DISTANCE FROM ROAD TO GATE

81'-11"

52'-11"

227'-3"

PARK AVENUE

MARSH STREET
(PUBLIC - 40' WIDE)

EVERGREEN WAY

EDMUNDS WAY

ALUMNI

ADMISS.

PROSPECT STREET

212'-4"

203'-10"

63'-2"

151'-8"

MARSH STREET
(PUBLIC - 20' WIDE)

JORDAN ATHLETIC CENTER

SOCCER FIELD

UNDERWOOD HOUSE

ROBSHAM ARTS CENTER

BYRNES LIBRARY

LYNCH CENTER

SHALER WING

BOLLES HOUSE

SPEARE HOUSE

PRENANT MUSIC CENTER

HEAD'S RES.

MORSE BUILDING

MEYER SCIENCE CENTER

ATKIN'S HOUSE

ELLIOT HOUSE

HAMILTON CHAPEL

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

DISTANCES BETWEEN DRIVES

0' 120'

JULY 2022

Figure 5

LEGEND

BHS PROPERTY LINE

LIMIT OF WORK

MAINTAIN EXISTING CURB CUT

PROPOSED BIKE RACKS

RE-STACK EXISTING WALL

MAINTAIN EXISTING PARKING AISLE AT LEFT (18 PARKING SPACES)

REMOVE PARKING AISLE AT RIGHT; PROPOSED DROP-OFF ZONE AND PEDESTRIAN PATH

(3) RECTANGULAR RAPID FLASHING BEACONS

CLOSE EXISTING CURB CUT AND RELOCATE CROSSWALK

PROPOSED CROSSWALK PER TRAFFIC ENGINEER SITING

PROPOSED POST LIGHTING TO MATCH EXISTING

MARSH STREET

#315 PROSPECT ST.

UNDERWOOD HOUSE

ROBSHAM ARTS CENTER

LYNCH CENTER

DINING HALL

MELVOIN ACADEMIC CENTER

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

UPPER LOT AND FRONT YARD
PROPOSED

0' 40'

JULY 2022

Figure 6

EAST LOT CONTAINING 3+ PARKING ROWS +/- 33,500 S.F.
SWALE +/- 8,000 S.F. (23% OF INTERIOR)
PROPOSED PLANTING COUNT TO MEET BELMONT TOWN CODE SECTION 5

CLOSE EXISTING CURB CUT

PROPOSED FENCE AND SCREEN PLANTING

PROPOSED ENTRY DRIVE AND SECURITY GATE

PROPOSED SCREEN PLANTING COUNT TO MEET BELMONT TOWN CODE SECTION 5

STORMWATER DISCHARGE

PROPOSED SIDEWALK IN R.O.W. TO MEET BELMONT TOWN SPECIFICATION

EXISTING CURB CUT TO REMAIN

PARK AVENUE

PROSPECT STREET

#248 RUTLEDGE ROAD
#240 RUTLEDGE ROAD
#232 RUTLEDGE ROAD
#224 RUTLEDGE ROAD
#216 RUTLEDGE ROAD
#208 RUTLEDGE ROAD
#200 RUTLEDGE ROAD
#192 RUTLEDGE ROAD
#184 RUTLEDGE ROAD
#178 RUTLEDGE ROAD
#20 PARK AVE
#7 HAMLIN STREET
#315 PROSPECT ST
#301 PROSPECT STREET
#307 PROSPECT STREET
#309 PROSPECT STREET
MELVOIN ACADEMIC CENTER
LYNCH CENTER
HORNE PAVILION

WF C2
WF C1
WF C3 231.51
WF C4 WF C5
228.78 WF C6
WF C7 220.31
WF C8 221.20
WF C9
WF C10 218.45
WF A5
WF A4 225.71
WF A3 221.17
WF A2 215.97
WF A1
WF B3
WF B2
WF B1

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- 100' WETLAND BUFFER
- 15' BUILDING SETBACK FROM PROPERTY SIDELINE

REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

EAST LOT
PROPOSED

0' 80'

JULY 2022

Figure 7

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- 100' WETLAND BUFFER
- 15' BUILDING SETBACK FROM SIDE PROPERTY LINE

SNOW REMOVAL GATE

EAST LOT SECURITY GATE

TRANSFORMER WITH BOLLARD PROTECTION

FUEL STORAGE WITH BOLLARD PROTECTION

MATERIAL STORAGE AND 2 YARD DUMPSTER

FACILITIES LOT ENTRY GATE

WIDEN EXISTING DRIVE

PROPOSED STREET PLANTING COUNT TO MEET BELMONT TOWN CODE SECTION 5

PROSPECT STREET

MORSE BUILDING

#269 PROSPECT STREET

15'-0"

WF C8 221.20

WF C9

WF C10 218.45

WF A1

WF A2 225.71

WF A3 221.17

WF A4 219.97

WF A5

WF B2

WF B3

REED HILDERBRAND

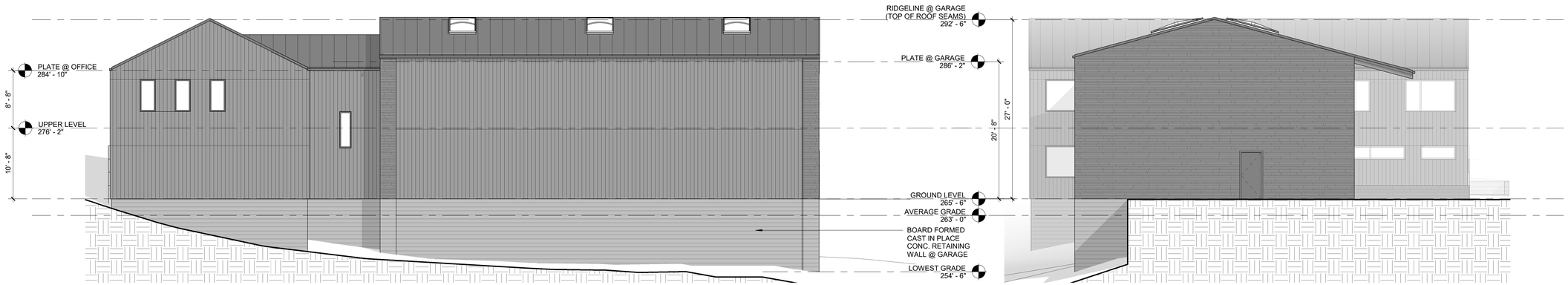
BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

FACILITIES LOT
PROPOSED

0' 40'

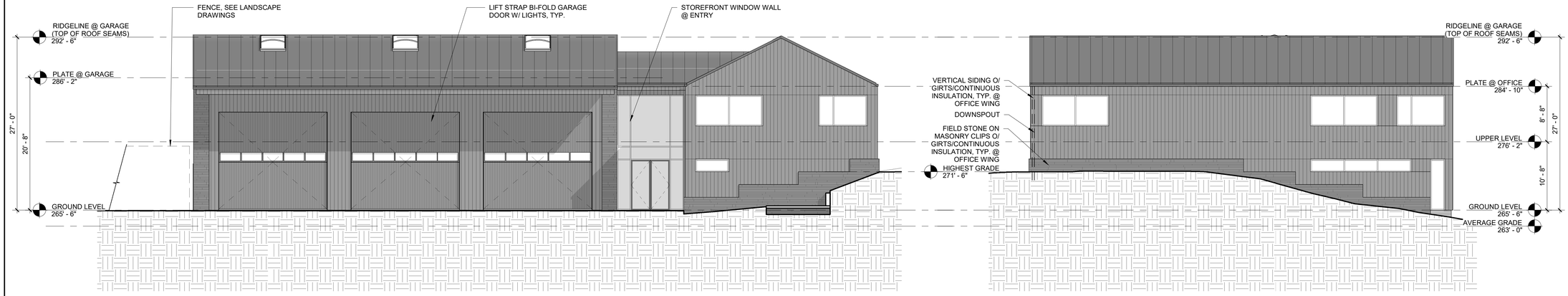
JULY 2022

Figure 8



4 EAST
1/8" = 1'-0"

3 NORTH
1/8" = 1'-0"



2 WEST
1/8" = 1'-0"

1 SOUTH
1/8" = 1'-0"

GENERAL NOTES:

1. PERIMETER WALLS @ GARAGE:
   A. FIELD STONE ON MASONRY CLIPS OVER 8" CMU @ GABLE ENDS
   B. SIDING ON BATTENS OVER 8" CMU
2. PERIMTER WALLS @ OFFICE WING:
   A. SIDING ON GIRTS W/ CONTINUOUS ROCK WOOL INSULATION OVER WOOD STUD FRAMED WALL W/ CAVITY INSULATION
   B. FIELD STONE ON MASONRY CLIPS ON GIRTS W/ CONTINUOUS ROCK WOOL INSULATION OVER:
      a. WOOD STUD FRAMED WALL W/ CAVITY INSULATION
      b. CAST IN PLACE CONC. PER STRUCTURAL
3. SUB GRADE WALLS ABOVE FINISH FLOOR: 2" CONTINUOUS ROCK WOOL INSULATION OVER CAST IN PLACE CONC. PER STRUCTURAL
4. ROOF @ GARAGE: PRE FINISHED STANDING SEAM METAL ROOF OVER WOOD DECK ON PREFABRICATED WOOD TRUSSES
5. ROOF @ OFFICE: PRE FINISHED STANDING SEAM METAL ROOF OVER WOOD DECK ON PREFABRICATED WOOD TRUSSES W/ INSULTATION IN ATTIC
   A. SCISSOR TRUSSES ABOVE SLOPED CEILING SPACES AT BREAK ROOM & SHARED WORK.

Belmont Hill School [Facilities & Maintenance Building]

350 Prospect St
Belmont, MA 02478

designLAB architects
35 Channel Center Street, Suite 103
Boston, MA 02210
t: 617.350.3005
www.designLABarch.com

Consultants:

Key Plan:

Legend:

Stamp:

REV No:	DATE:	NAME:

PROJECT NO: 2021-010
DRAWN BY: MB
CHECKED BY: Checker
DATE: 27 July 2022

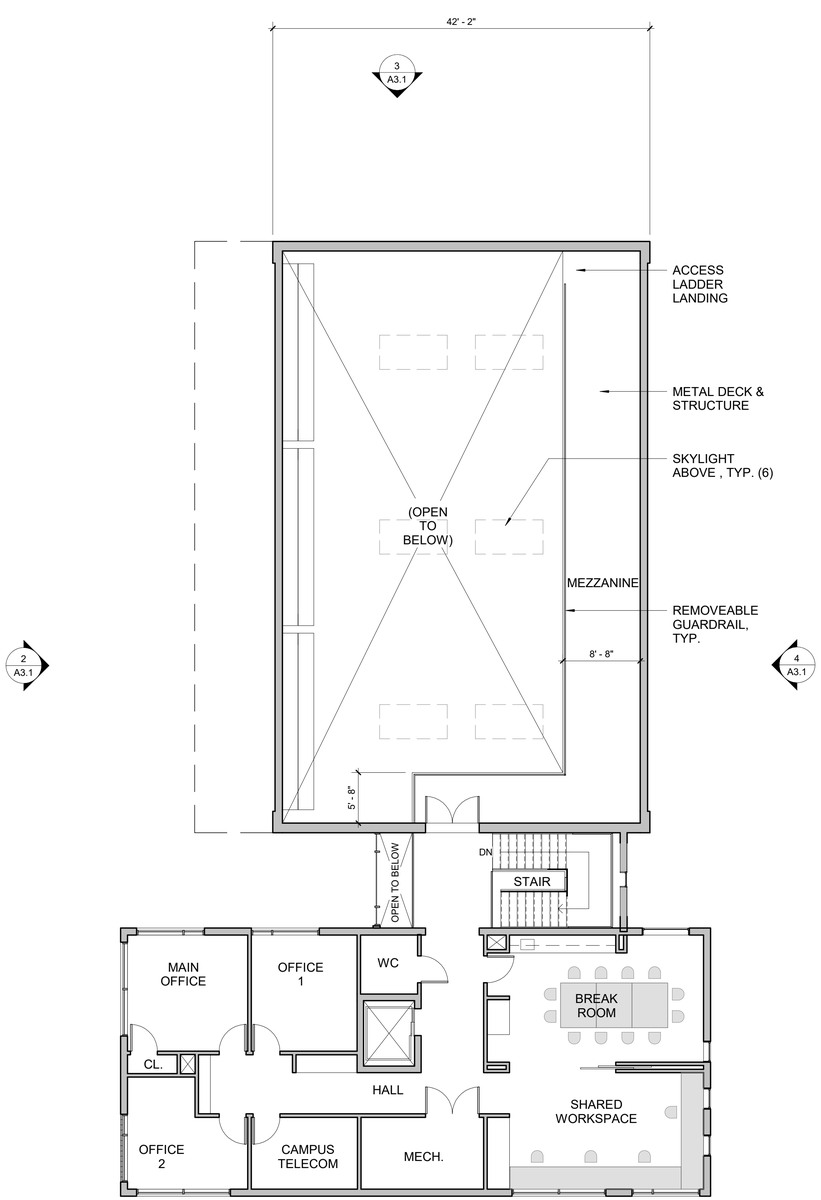
DRAWING TITLE:

EXTERIOR ELEVATIONS

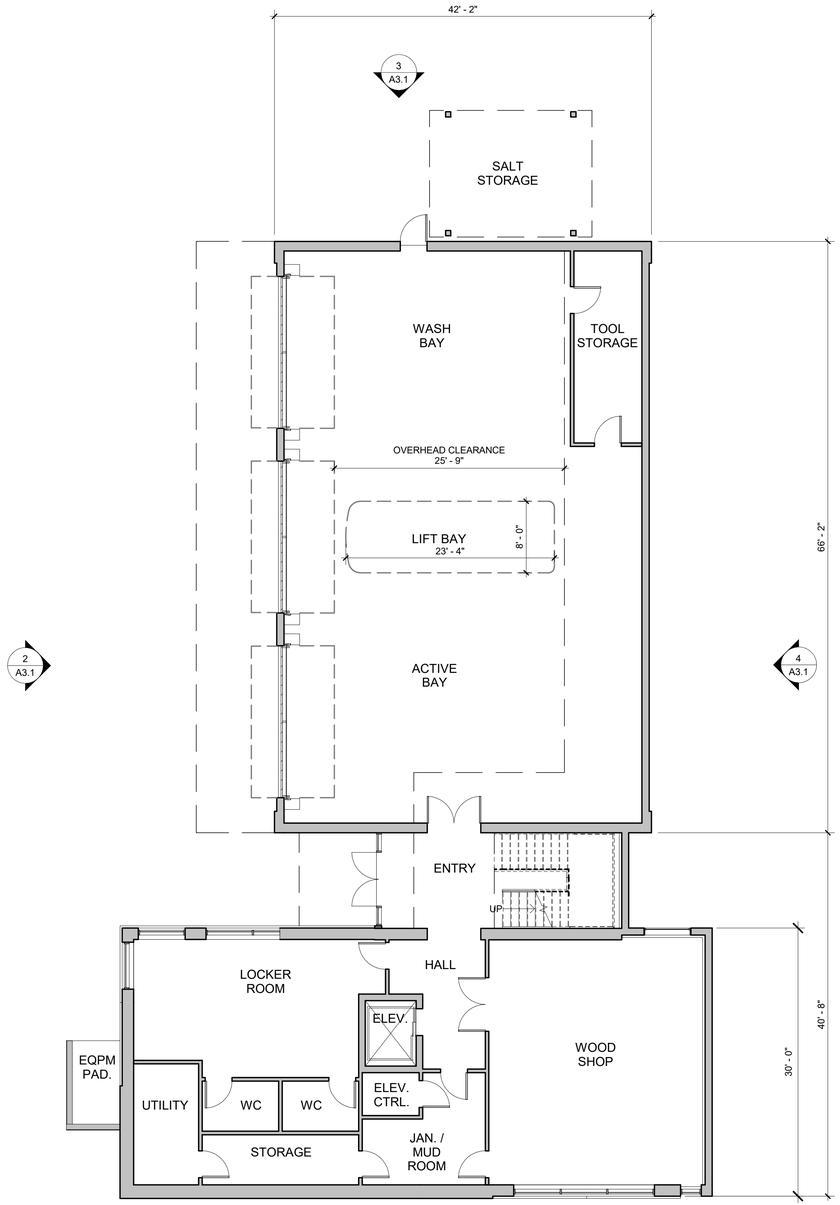
Permit Submission

SHEET NUMBER:

Figure 9



2 LEVEL 2 PLAN
1/8" = 1'-0"



1 LEVEL 1 PLAN
1/8" = 1'-0"

PROJECT NORTH

GENERAL NOTES:

1. PERIMETER WALLS @ GARAGE:
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   B. SIDING ON BATTENS OVER 8" CMU
2. PERIMTER WALLS @ OFFICE WING:
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   A. SCISSOR TRUSSES ABOVE SLOPED CEILING SPACES AT BREAK ROOM & SHARED WORK.

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REV No:	DATE:	NAME:

PROJECT NO: 2021-010
DRAWN BY: MB
CHECKED BY: MAU
DATE: 27 July 2022

DRAWING TITLE:

FLOOR PLANS

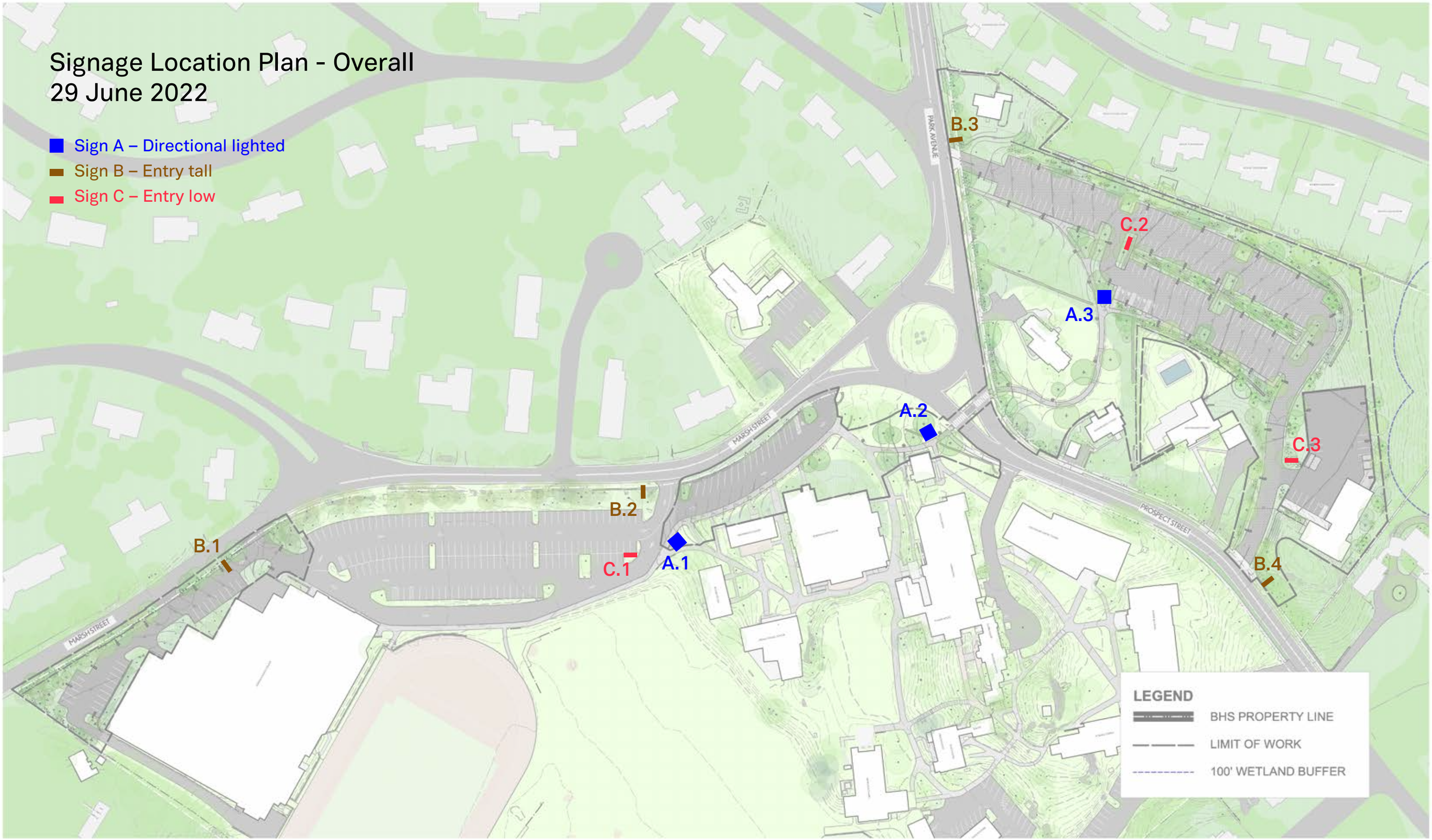
Permit Submission

SHEET NUMBER:

Figure 10

Signage Location Plan - Overall
29 June 2022

- Sign A – Directional lighted
- Sign B – Entry tall
- Sign C – Entry low



REED HILDERBRAND

BELMONT HILL SCHOOL
BELMONT, MASSACHUSETTS

FULL SCOPE
PROPOSED

0' 120'

JUNE 2022

Figure 11

APPENDIX A

NOISE REPORT

MEMORANDUM

DATE: May 12, 2022

FROM: Aaron M. Farbo

TO: Michael Bautista (designLAB) – mbautista@designlabarch.com

CC: Mary Ann Upton (designLAB) – maupton@designlabarch.com

SUBJECT: Belmont Hill School Facilities & Maintenance Building Exterior HVAC

This memo provides a brief environmental sound review of selected exterior HVAC equipment associated with the proposed Facilities and Maintenance Building at the Belmont Hill School in Belmont, MA.

The selected exterior mechanical equipment is one (1) Mitsubishi ASHP (Air Source Heat Pump) model SUZ-KA30NAHZ which produces the sound pressure levels listed in Table 1. The unit will be located at the southwest corner of the building as shown on Figure 1, approximately 90 feet from the nearest residential property line. The maintenance building provides shielding of the unit so there is no direct line of sight from the unit to the east property line or the nearest residential receptor.

Table 1 – ASHP Sound Pressure Levels (dB) at a distance of 1m (3.3 ft)

Frequency band (Hz)	63	125	250	500	1000	2000	4000	8000	Overall
ASHP Cooling Mode	54	60	54	48	46	42	38	34	52 dBA
ASHP Heating Mode	55	54	58	51	46	43	39	36	53 dBA

The Town of Belmont Noise Ordinance[1] maximum allowable exterior sound levels for residential property lines is 55 dBA during daytime hours and 45 dBA during nighttime hours.

As currently designed, estimated sound levels from the ASHP at the nearest residential property line are expected to be less than 30 dBA due to shielding from the building and will comply with the Town of Belmont Noise Ordinance.

Feel free to contact me at 978-639-4128 or afarbo@cavtocci.com if you have any questions about this memo.

22130/Belmont Hill School F&M Building Exterior HVAC Memo 1a.docx

[1] https://ecode360.com/27111806

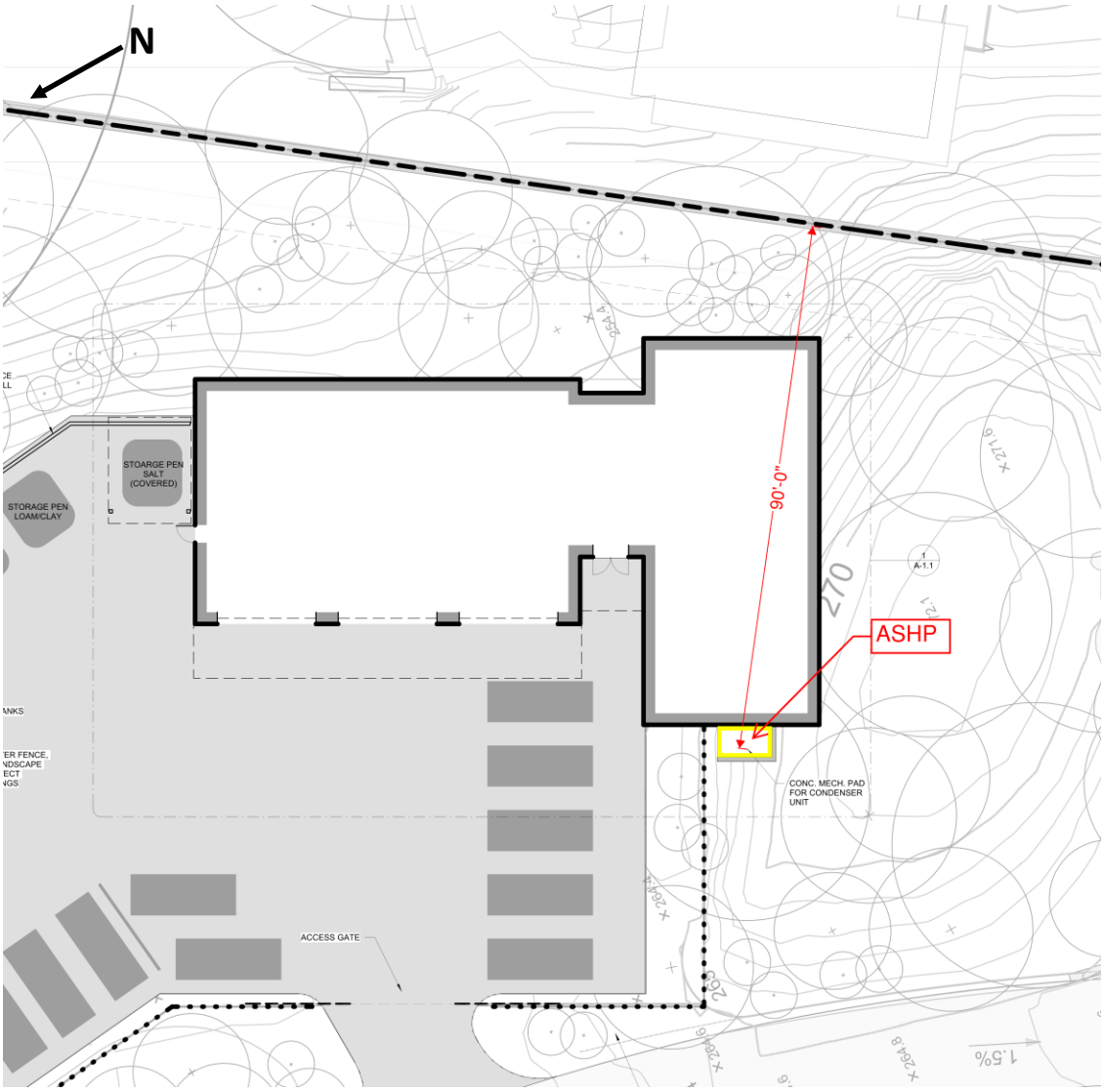


Figure 1 – Plan view showing location of ASHP
and distance to nearest residential property line