

# 4

## Zoning Compliance Narrative

This section briefly describes how CDNV Assembly, LLC and CDNV Land LLC (collectively, the "Applicant") have fulfilled the various submission requirements as described in Article 5 - Special Permits, Special Permits with Site Plan Review (SPSR), Site Plan Approval and Variances, Article 6.4 – Assembly Square Mixed-Use District (ASMD), and Article 16 - Planned Unit Development of the Somerville Zoning Ordinance adopted March 23, 1990, as amended through August 1, 2019 (the "SZO").

Furthermore, Section 7.4.3.c (*Applicability*) of the Assembly Square Mixed-Use (ASMD) Zoning provision within the recently overhauled Somerville Zoning Ordinance effective December 12, 2019 (the "New Zoning Ordinance") states that "Real property subject to a previously approved Planned Unit Development (PUD) Preliminary Master Plan may be developed in accordance with the provisions of the SZO effective as of August 1, 2019."

The property containing approximately 9.43 acres bounded by Foley Street, Middlesex Avenue, Revolution Drive and Grand Union Boulevard and having an address of 5 Middlesex Avenue (also commonly known as XMBLY; hereafter the "XMBLY Site") is located in the Assembly Square Mixed-Use District and is subject to the previously approved PUD PMP (PB2018-7) approved by the Somerville Planning Board on June 7, 2018, which XMBLY PUD PMP was fully vested pursuant to Section 16.10.3 of the Somerville Zoning Ordinance then in effect by the issuance of the Special Permit with Site Plan Review-A (SPSR-A) final level approval for 290 Revolution Drive a/k/a Block 23 (PB 2018-12) granted by the Somerville Planning Board on November 8, 2018. Accordingly, pursuant to Section 7.4.3.c of the New Zoning Ordinance, the XMBLY Site is and will remain governed by the provisions of the SZO effective as of August 1, 2019.

Section 16.11.3 of the applicable 8/1/19 Zoning Ordinance (*Amendments to PUD Plans in Assembly Square*) sets forth the process for amending a previously approved PUD PMP in the ASMD. Accordingly, the provisions of Section 16.11.13 of the 8/1/19 Zoning Ordinance govern any amendments to the previously approved PUD PMP for the XMBLY Site presently being considered or considered in the future, such PUD PMP for the XMBLY Site, as the same may be amended from time to time, will remain vested under Section 16.10.3 of the 8/1/19 Zoning Ordinance whether such PUD PMP amendment is Major or Minor, and the XMBLY Site and its development pursuant to such PUD PMP as it may be amended from time to time will remain subject to and governed by the 8/1/19 Zoning Ordinance, and therefore will not be

subject to the New Zoning Ordinance or any future amendments to the New Zoning Ordinance.

Section 7.4.3.c of the New Zoning Ordinance provides that the New Zoning Ordinance does not apply to the master-planned XMBLY Site but rather the 8/1/19 Zoning Ordinance applies. Accordingly, case-by-case waivers under Section 16.10.2 of the SZO will not be required from any provisions of the New Zoning Ordinance or any future amendments to the New Zoning Ordinance.

The below narrative summarizes various applicable Ordinance provisions from which the XMBLY Development obtained or will obtain zoning relief. The numbering used throughout this chapter follows the section numbering of the applicable SZO.

## **4.1 ARTICLE 5: SPECIAL PERMITS, SPECIAL PERMITS WITH SITE PLAN REVIEW, SITE PLAN APPROVAL AND VARIANCES**

### **5.2.3.1 Name, addresses, and telephone numbers of the applicant, the owner, if other than the applicant, and other agents for the applicant, such as the architect, engineer and/or attorney and the name and address of the proposed project:**

The name, address and telephone numbers for the Applicant, Engineer, Architect and Attorney are provided in Section 3.7 in Chapter 3, *Project Summary*, and on the cover sheet of the Preliminary Master Plan Planned Unit Development plan set (the "Plans"), found in Appendix A.

### **5.2.3.2 Plot plan certified by land surveyor indicating total land area, boundaries, angles and dimensions of the site and a north arrow:**

Please refer to the Plan Sv-1 Existing Conditions Plan of Land, found in Appendix A, which contains land areas, boundaries, angles and dimensions of the Site and a north arrow.

### **5.2.3.3 Scaled site plan(s) certified by a registered land surveyor, architect, landscape architect or engineer showing:**

#### **3.a) present and proposed use of the existing land and existing buildings, if any:**

The various sheets of the Civil Site Plans (Appendix A) have been certified (stamped) by a registered land surveyor, engineer and/or landscape architect, as appropriate. The Existing Conditions Plan of Land shows existing building and uses at the Site. Proposed uses are identified on the Layout and Materials Plan.

**3.b) dimensions of existing and proposed building(s) or other structures including height, setback(s) from property lines and total square footages of all floors:**

All existing buildings are proposed to be demolished. A Zoning Summary chart for the Project is located in Section 6.4.6 of the Ordinance, Table 4-1 of this Chapter (page 4-7), and on Plan C-3 Layout and Materials Plan, found in Appendix A.

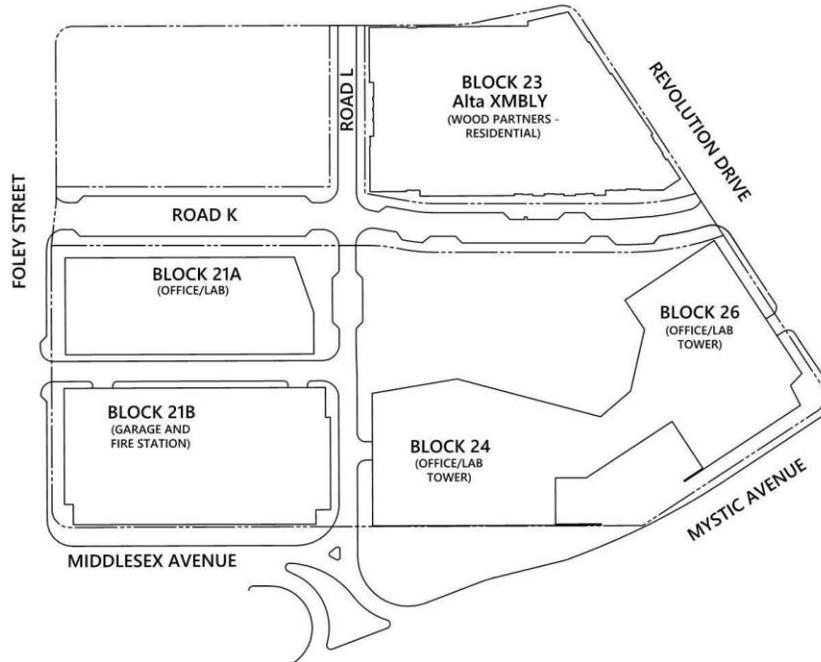
**3.c) locations and dimensions of any easements and public or private rights of way, or other burdens, existing and proposed:**

Existing easements are shown on the Existing Conditions Plan of Land, found in Appendix A. There will be appropriate easement agreements between the Applicant, the City, and various utility companies. In order to allow for flexibility in building design by future development partners and potential outdoor seating and dining, the Applicant anticipates coordinating proposed access easement and right-of-way dedication with the City through future SPSR Applications of future project phases. Road K and the eastern portion of Road Ls within the Project will be dedicated as public ways to the City. The Applicant and the City will execute an easement of use of public sidewalk as outdoor dining and seating, within these rights-of-way. Definitive lotting plans, parcels, plots, and right-of-way dimensions and areas have been and will be provided to the City prior to subsequent SPSR Applications.

**3.d) at-grade parking and loading areas showing number, location, and dimensions of the parking and loading spaces, driveways, access and sidewalks:**

The locations and dimensions of at grade parking spaces, loading areas, garage ramps and sidewalks are shown on Plan C-3 Layout and Materials Plan in Appendix A. The parking and loading spaces within the structured parking garages are shown in Figures 3.4 and 3.5 in Chapter 3. Table 4-1 below show the ground coverage. Exhibit A below provides a key site plan of each building and roadway location.

**Exhibit A – Project Site Key**



**Table 4-1 – Building Coverage**

Description	Ground Coverage (SF)
Block 21A	33,290±
Block 21B	50,900±
Alta XMBLY	63,000±
Blocks 24 & 26	77,900±

**5.2.3.4 A brief written description of the proposed project, such as proposed construction or demolition, all uses, who the project is intended to serve, expected number of employees and/or occupants and methods and hours of operation, as applicable:**

This application is for an amendment of the previously granted PUD-PMP approval and therefore no specific tenants are identified. Please refer to Section 3.2 in Chapter 3 for a description of the proposed Project.

**5.2.3.5 The total floor area and ground coverage ratio of each proposed building and structure:**

Please refer to the Layout and Materials Plan (Plan C-3) in Appendix A for the program floor area ratio and the size of the proposed uses.

**5.2.3.6 Front, side and rear elevations:**

Elevations and renderings of the proposed program are contained in the Design Guidelines section of the application submission booklet. This application is for an amendment to the previously granted PUD-PMP approval, additional renderings and elevations have been and will be provided in the SPSR approval process.

**5.2.3.7 Existing and proposed contour elevations in two foot increments:**

Existing contour elevations are shown in one-foot increments and with spot grade elevations on the Existing Conditions Plan of Land (Sv-1). Proposed contour elevations are shown in one-foot increments and with spot grade elevations on the Grading and Drainage Plan in Appendix A.

**5.2.3.8 Provisions for vehicular and pedestrian circulation:**

Vehicular and pedestrian circulation are shown in Appendix F – Mobility Management Plan.

**5.2.3.9 Color, materials, and exterior features of proposed structures:**

Anticipated architectural expression for each block is included in the Design Guidelines (see Appendix B) and highlights possible exterior materials, façade articulation and massing to be considered. Building design in detail will be addressed during the SPSR approval process.

**5.2.3.10 Landscaping and screening, including trees, stones, walls, fences and other features to be retained and removed as well as color, size and type of landscape surface materials:**

More detailed landscape plans have been and will be provided during the SPSR approval process; however, Section 3.2.3 of Chapter 3 includes a general discussion of open space and landscaping improvements, which will be consistent with the attached Design Guidelines found in Appendix B.

**5.2.3.11 Measures taken to preserve and protect natural resources:**

No natural resources such as wetlands or other water features exist on the Project Site. The Project will minimize environmental impacts by locating the development on previously paved and/or otherwise disturbed land. It is also the intent of the proposed Project to revitalize the natural qualities and landscaping of the Site and increasing the amount of open space to be in excess of the required 25 percent total open space minimum and 12.5 percent useable open space minimum. A comprehensive stormwater management system combined with the new open space features will significantly enhance water quality thereby protecting surrounding natural resources and restoring a natural water cycle.

**5.2.3.12 Outdoor lighting, including location and intensity of lighting facilities:**

This application is for an amendment of the previously granted PUD-PMP approval, and as such the lighting design for the Project Site will be addressed during building design and identified in the subsequent SPSR applications.

**5.2.3.13 Dimensions and locations of signs, proposed and existing:**

This application is for an amendment of the previously granted PUD-PMP approval and as such specific signage details will be addressed during subsequent SPSR applications.

**5.2.3.14 Location and significance of historic structures:**

A review of the Massachusetts Historical Commission's ("MHC") Inventory of the Historic and Archaeological Assets of the Commonwealth, available through the Massachusetts Cultural Resource Information System ("MACRIS"), indicated one previously inventoried property located in the Project area. A 1927 service station (SMV.1003) was recorded in 1990 along Middlesex Avenue, but has since been demolished. The property was recorded as part of the Assembly Square Area (SMV.I); in 2002 the MHC opined that the area did not retain enough integrity to be eligible for the National Register, and the area has recently been redeveloped.

**5.2.3.15 Method of handling solid waste disposal, and screening of disposal facilities:**

Solid waste disposal will be handled by private contractors. The disposal facilities (dumpsters and compactors) will be internal or screened accordingly. Specific measures will be detailed during the SPSR approval processes for each building.

**5.2.3.16 Description and location of all proposed mechanical and electrical system components including exhaust and ventilation system, transformers and satellite dishes:**

This application is for an amendment of the previously granted PUD-PMP approval and as such a description of the electrical and mechanical systems has been and will be provided during the SPSR approval process for each building.

**5.2.3.17 Locations of and adequacy of existing and proposed on-site public utilities, facilities, and conditions (water, sewerage, and drainage), showing size and direction of flows:**

Please refer to Chapter 6 *Utility Analysis*; the Existing Conditions Plan of Land, the Grading, Drainage, and Erosion Control Plan, and Utilities Plan in the Appendix A.

**5.2.3.18 Demolition and construction procedures including impact mitigation measures; an estimate of the time period required for the completion of the development:**

Please refer to Section 3.4 in Chapter 3 for a summary of the Project schedule and phasing. Throughout the coming months, the Applicant expects to work diligently with the community and with the City to complete the PUD-PMP amendment and a second SPSR approval process. The Applicant commenced and completed site preparation and enabling utility work in the summer of 2019. The construction of the roadways finished through the binder course in the fall of 2019. The Block 23 residential building is under construction is anticipated to be complete by mid-to-late 2021.

**5.2.3.19 A traffic study including estimated peak hour traffic volumes generated by the proposed use in relation to existing volumes and projected future conditions or, if the project is 25,000 square feet or more, a traffic impact analysis which is prepared by a professional traffic engineer:**

Please refer to Chapter 5, *Transportation*, which includes the Traffic Impact Study has been prepared as part of this application for an amendment of the previously granted PUD-PMP approval. The analysis conducted as part of that assessment does indicate that there will be increased trip generation during the weekday morning and evening peak hours because of the proposed development. The study documents how these changes are appropriately accommodated by the surrounding transportation infrastructure.

**5.2.3.20 General summary of existing and proposed easements or other burdens now existing or to be placed on the property:**

Existing easements are shown on the Existing Conditions Plan of Land, found in Appendix A. There will be appropriate easement agreements between the Applicant, the City, and various utility companies. In order to allow for flexibility in building design by future development partners and potential outdoor seating and dining, the Applicant anticipates coordinating proposed access easement and right-of-way dedication with the City through future SPSR Applications of future project phases. Streets within the Project will be dedicated as public ways to the City. The Applicant and the City will execute an easement of use of public sidewalk as outdoor dining and seating, within these rights-of-way.

**5.2.3.21 Wetlands, ponds, and surface water bodies, as defined under the Wetlands Protection Act, M.G.L. chapter 131, Section 40, and rules promulgated there under, 310 C.M.R. 10.00:**

There are no wetlands on the Project Site that will be altered by the Project.

**5.2.3.22 Photographs of at least eight (8) by ten (10) inches, showing the development site and surrounding parcels:**

Please refer to Figures 3.2 and 3.3 for existing conditions Site photographs.

**5.2.3.23 Names and addresses of all property owners within three hundred (300) feet of the site boundaries:**

Please refer to Section 2.4 in Chapter 2, *Application Forms*, for a copy of the Abutter's list of all property owners within three hundred feet of the Site boundaries.

## 4.2 ARTICLE 6: ESTABLISHMENT OF ZONING DISTRICTS

**6.4.6. Dimensional Requirements. ASMD Table of Dimensional Requirements**

The Project Site is located within a PUD-A district and per Section 6.4.6 – Assembly Square Mixed-Use District (“ASMD”) Table of Dimensional Requirements – the Project Site is located more than 350 feet from the Mystic River Bank. The 1,000-foot setback from an MBTA Orange Line entrance runs through the site, the maximum building height requirement for Alta XMBLY Block 23 is 250 feet and 125 feet for the rest of the site. Relief is sought for Block 21A, 24, and 26 which currently exceed the maximum building height requirement of 125 feet.

**Table 4-2 Zoning Compliance Program Table**

<b>Requirement</b>	<b>Allowed/Required within a PUD-A</b>	<b>Proposed</b>	<b>Status</b>
Minimum Lot Area	20,000	410,947 (9.43 ± acres)	Complies
Floor Area Ratio	10.0	3.8	Complies
Building Height Block 21A (ft)	125'	220'	<i>Does Not Comply</i>
Building Height Block 21B (ft)	125'	85'	Complies
Building Height Alta XMBLY (ft)	250'	85'	Complies
Building Height Block 24 (ft)	125'	240'	<i>Does Not Comply</i>
Building Height Block 26 (ft)	125'	240'	<i>Does Not Comply</i>
Min Lot Area/Dwelling Unit: 10 or more units (sf)	No Minimum	1,249	Complies
Total Open Space (sf)	25%	35.6%	Complies

<b>Requirement</b>	<b>Allowed/Required within a PUD-A</b>	<b>Proposed</b>	<b>Status</b>
Useable Open Space (sf)	12.5%	30.0%	Complies
Min. Yard Setbacks	No Minimums	1.3'	Complies
Vehicle Parking	1,577	1,899	Complies
Loading Spaces	15	13	<i>Does Not Comply</i>

**6.4.7. A Development Standards and Design Guidelines for Developments in the ASMD**

**A.1) Transportation Analysis. All new developments shall conform to the requirements set forth in any Transportation Study, subject to the approval of the SPGA.**

A traffic narrative is included as part of this amendment of the previously PUD-PMP approval in Chapter 5, *Transportation*. The updated analysis conducted as part of this submission indicates that the overall Project trip generation will increase on weekends, and on a weekday daily basis. However, the capacity analysis conducted as part of that assessment indicates that the additional traffic generated by the Project during the weekday morning and evening commuter peak hour can be accommodated by the surrounding transportation infrastructure.

**A.2) Parking Requirements. Developments shall meet the parking requirements set forth in Section 9.16.**

The Project as presented in the amendment of the previously granted PUD-PMP approval will meet the minimum and maximum parking requirements set forth in Section 9.16. The Ordinance requires the Project to provide a minimum of 1,577 total parking spaces. The Project currently proposes 1,899 total structured parking spaces, 38 surface parking spaces resulting in up to 1,937 total Project parking spaces. Though lower than comparable office developments in the near vicinity, the proposed parking ratio (which exceeds the minimum required total) responds to market input and is intended to give XMBLY the flexibility to support leading edge technology, office and life science users. It is possible that these numbers will change slightly as the Project advances, however the Project requires a waiver from Section 9.16, Parking Space and Loading Area Requirements in the ASMD, as described in Section 2.3. Although the total provided parking spaces is greater than the minimum required, the Project does not provide parking spaces to meet the minimum zoning requirement for the Residential Uses. As a result, a parking waiver was requested and granted during the SPRS-A process for Alta XMBLY.

Please refer to Figures 3.4 and 3.5 for a typical below-grade and above-grade garage floor plate. Detailed floor plans, including parking layouts have been and will be provided during the SPSR-A approval processes.

**A.3) Landscaping Requirements.** Developments shall conform to the applicable landscaping requirements set forth in Article 10. Open spaces shall be contiguous to the extent practical, in the opinion of the SPGA.

Please refer to Section 3.2.2 and 3.2.3 in Chapter 3 and Figures 3.10 and 3.11 for a general discussion and conceptual plans of open space and landscaping improvements. Specific landscaping requirements have been and will be reviewed during the SPSR-A approval processes.

**A.4) Pedestrian Connections.** Continuous pedestrian connections shall be supported between all major points of pedestrian activity on the Development Site, including, but not limited to, connections to the Mystic River waterfront, connections to all public and private ways abutting the Development Site, and any transit stops. Developments shall support improved access.

As described in Sections 3.2.2 and 3.2.3 in Chapter 3, the open space, pedestrian pathways and sidewalk connections to be provided as part of the Project, will be designed to complete and improve connections with the existing network of parks and pathways in the vicinity of the Project Site, including improving the connection between Assembly Row, the Mystic River area and development to the west of the Kensington Underpass and I-93.

**B) Design Guidelines.** In reviewing a Development of more than 10,000 square feet, the SPGA/DRC shall consider the following design guidelines. These guidelines are intended to serve as a general basis for the SPGA and Applicant alike to discuss the design merits of a Development, but are not intended to inhibit design creativity when the application otherwise conforms to all other substantive review criteria. These guidelines are not intended to discourage innovative architectural design solutions. Rather, they provide general standards for the massing, siting and articulation of Buildings for developers and architects to work from. They also provide parameters for dialogue between the Applicant and SPGA on design issues for Developments. These Guidelines are intended to supersede the guidelines set forth in Section 5.2.4. It is understood that existing Buildings and Structures will not be able to comply with all of the following Guidelines:

**B.1) Street and Sidewalk Design.** Street and sidewalk design shall be based on the Assembly Square Public Realm Design Guidelines and applicable engineering standards, provided that any street shown in

**such Guidelines as running through an existing Building is not required to be constructed until such Building is demolished.**

The design of streets and sidewalks will respond appropriately to the Street and Sidewalk Design Criteria of the Assembly Square Public Realm Design Guidelines. The design team has been proactive in researching the recently completed conditions at the nearby Assembly Row and the Assembly Row Design Guidelines. These will be incorporated into the Project as the building design advances. For additional information, please refer to Section 3.2 in Chapter 3.

**B.2) Building Design. Buildings shall be designed to the highest architectural standards and shall be sited appropriately on the Lot. Specifically, all construction shall:**

The final architectural design of the proposed buildings is not complete. Additional details on building design and materials have been and will be provided during the SPSR approval processes. Please refer to Appendix B Design Guidelines for Conceptual Project Renderings.

**B.2.a) Be located to create a presence on existing street edges or along major internal circulation routes. Maximum building setbacks of five feet shall be encouraged, except in special circumstances, where greater setbacks would enhance the pedestrian-friendly experience of the ASMD, such as dedicated open space. Buildings shall be located to reinforce both existing and future circulation patterns that may serve more than one Site:**

The Project currently contemplates proposed zero (0) foot setbacks and will be located to create a presence on existing street edges and internal circulation routes. The retail spaces along Foley Street and Grand Union Boulevard will be setback five (5) feet, while the upper stories are at a zero (0) foot setback. This provides an opportunity for the retail to engage with the upgraded streetscape as described in Section 3.2 in Chapter 3.

**B.2.b) Create interesting entrance areas that are visible and directly accessible from major public access points, streets and circulation patterns. Extensive areas of glass and window, providing visual access to interior uses, shall be part of all street facades and will accompany building entrances. Multiple and frequent entrances oriented to streets are encouraged. Building entrances shall be clearly defined, through the use of elements such as canopies, porticos; overhangs, peaked roof forms, arches. Entries set back from the street shall have outdoor patios, tile work, moldings, integral planters or wing walls with landscaped areas, or places for sitting:**

All building entries will be clearly defined via signage and through the intentional use of different materials and elements. Additional details on building entrances have been and will be provided during the SPSR approval processes. Please refer to Figures 3.12a-b for Conceptual Project Renderings.

**B.2.c) Clearly define the pattern of bays, rhythms, and dimensions to create continuous visual interest and variety in the design of all faces:**

As the design advances, facade treatment will be explored to address the height and massing of the Project, and to break down the scale into separate components that will be consistent with the *Assembly Row Design Guidelines at Assembly Square*. Per the suggestion of the City's Planning Board, the Project's buildings will have a clearly defined base, middle, and top. Additional details on the building composition and orientation have been and will be provided during the SPSR approval processes.

**B.2.d) Break down the overall scale of development to respond to the pedestrian-scale use of Open Space:**

Anticipated massing and determination of façade hierarchy is shown in Design Guidelines (see Appendix B). A specific description of the building composition and orientation has been and will be provided during the SPSR approval process.

**B.2.e) Use materials and colors consistent with traditional Buildings in the area with historic merit:**

There are no existing buildings of historic significance or merit in the vicinity of the Project Site. The conditions and materials of nearby developments (existing and approved) will be taken into consideration as the Project design progresses. Please refer to Figures 3.12a-b for Conceptual Project Renderings (highlighting anticipated architectural expression) in Chapter 3.

**B.2.f) Locate building equipment and service areas away from Public Ways or major interior circulation routes and provide screening. Enclose all storage of inventory unless it is completely screened from public view with architectural elements meeting these guidelines:**

The Project will be carefully designed, well organized or visually screened from its surroundings, and mechanical equipment will be acoustically buffered from neighbors to the extent practicable. Reasonable attempts will be made to avoid exposing rooftop mechanical equipment to public view from City streets. Parapet walls, and mechanical partition screening, will be designed to fit within the character of the overall building design. The Project will comply with the spirit of this design guideline.

**B.2.g) Show preference for vertical integration of uses. Developments shall ensure that development patterns provide active uses on the Ground Floor that take advantage of the waterfront views and open spaces, and that add presence to public ways and sidewalks:**

As described in Section 3.2 in Chapter 3, the proposed buildings include active ground floor uses, including ground floor retail and lobby space. Upper floors of the buildings will include above-grade structured parking and residential and office/lab/R&D uses. The above grade parking will utilize architectural or vegetative screening techniques where practicable.

**B.2.h) Not have any uninterrupted or un-fenestrated length of its façade exceeding thirty-five (35) horizontal feet. Facades greater than one hundred (100) feet in length, measured horizontally, shall incorporate wall plane projections or recesses having a depth of at least three (3) percent of the length of the façade and extending at least twenty (20) percent of the length of the façade; and**

The Project will comply with the spirit of this design guideline. A description of the building composition and orientation has been and will be provided during the SPSR approval processes.

**B.2.i) Have windows providing visual access to the interior space, arcades, display windows, entry areas, awnings, or other such features no less than seventy (70) percent of their horizontal length on all Ground Floor facades that face Public Ways or the Mystic River. Forty percent (40%) of this activated façade area on the Ground Floor of Building walls along primary and secondary streets shall consist of windows or doors meant for public entry and exit.**

The Design Guidelines provided in Appendix B show the percent fenestration anticipated and the required minimum amount of active façade.

**B.3) Parking Lot Design. Refer to Section 9.16 for parking requirements. Parking Lots shall avoid large expanses that are unbroken by Buildings or substantial landscaped Open Spaces, as set forth in Section 10.4 of this Ordinance.**

In an effort to create a pedestrian-friendly environment, the Project includes limited surface parking lots. Only the existing lot adjacent to the existing office building is to remain until Block 26 is constructed.

As described in Section 3.2.4 in Chapter 3, the Project will also provide up to approximately 1,899 parking spaces on three (3) below- and above-grade parking garage levels on Blocks 21B, 24, 26 and Alta XMBLY. Additional details on parking have been and will be provided during the SPSR approval processes.

#### **4) Open Space.**

##### **4.a) Landscaping strips required in parking areas (Article 10) shall not apply to Usable Open Space calculations.**

As described above, in an effort to create a pedestrian-friendly environment, the Project minimizes on-site surface parking, and only parallel street parking spaces. The Project does not propose any surface parking lots.

##### **4.b) Developments are encouraged to make significant contributions to Open Space along the Mystic River adjacent to the ASMD. These contributions shall be designed and developed with special attention to the provision of wildlife habitat and contiguous migration corridors, and to help reduce the level of stormwater runoff into the Mystic River.**

The Project is not located along the Mystic River, but as described in Section 3.2.3. in Chapter 3, *Project Summary*, and as shown in Figures 3.9 – 3.11, it will provide new, ample, and upgraded open space on Site with approximately 160,396 square feet (35.6 percent) of on-site open space. Additional details on landscaping and open space have been and will be provided during the SPSR approval process.

##### **5) Efficiency of Design. Every effort shall be made to design Buildings and use materials and construction techniques to optimize daylight in building interiors, natural ventilation, energy efficiency, and to minimize exposure to and consumption of toxics and non-renewable resources and incorporate appropriate "green" design techniques. In accordance with this principle all Developments within the ASMD in excess of ten thousand (10,000) square feet shall be required to complete an Leadership in Energy & Environmental Design (LEED) worksheet and submit the worksheet to the SPGA with permit application materials. This worksheet shall be considered in evaluating whether a proposed Development meets the applicable standards set forth elsewhere in this Ordinance. However, consistency with the LEED standards shall not be a factor in whether or not to permit a Development.**

A LEED worksheet has been and will be provided during the SPSR approval process for each building. The applicants

##### **6) Contributions. Contributions for Infrastructure and Open Space related to a Development made by an Applicant to the City or its constituent agencies in other agreements or permits shall be credited by the SPGA toward any applicable requirements hereunder for a Special Permit.**

The Applicant has begun active conversations with the City regarding on- and off-site contributions to open space and infrastructure. The

Applicant will continue to work closely with the City and provide additional details during the SPSR approval processes.

**7) Loading Spaces. To the extent possible, loading spaces shall be located away from major Public Ways, the Mystic River and other highly visible locations. Every effort shall be made to incorporate creative design to reduce the negative visual impacts of the Loading space.**

The final locations and dimensions of the loading spaces have been and will be provided during the SPSR approval processes. The Project proposes less loading spaces than the required total and intends to share the loading spaces between the blocks. As a result, a loading waiver request has been included as part of Section 2.3 of Chapter 2.

**6.4.12. Powers of the SPGA in the ASMD. In the ASMD the Planning Board shall serve as the Special Permit Granting Authority (SPGA). The SPGA may approve, approve with conditions, or deny any application for a SPSR-A, or a PUD-A after consideration of the criteria set forth above and criteria set forth in any other Sections of this Ordinance referred to herein. The SPGA shall administer Site Plan Approval-A for Priority Permitted Uses as set forth in Subsection 6.4.11 above.**

**A) Relief from Requirements. Notwithstanding any other provisions of this Ordinance, the SPGA may, as part of an application for a SPSR-A, a PUD-A or Site Plan Approval-A grant relief from Development Standards, and any other requirements of the ASMD outlined in Sections 6.4.6 through 6.4.11. In such cases, in granting such relief, the SPGA must find that:**

**A.1) Strict enforcement of such standards or requirements would run counter to achieving the objectives of the Assembly Square District Plan (the "ASD Plan");**

A list of requested waivers for the Project are included as part of Section 2.3 of Chapter 2.

**A.2) The application is substantially consistent with the objectives of the ASD Plan and advances the objectives of the ASD Plan;**

The Project will achieve the objectives of the ASD Plan by developing a true mixed-use program, incorporating pedestrian and transit-oriented planning, and creating a series of new pedestrian-oriented public spaces, while minimizing environmental impacts by locating development on previously paved and/or otherwise disturbed land.

Though the heights of the buildings vary from the requirements as defined in the ASD Plan, thought was given to building program, site orientation and adjacent context when determining the building heights. Though further from the MBTA station, Block 24 proposes the tallest

building at 240' towards I-93 and stepping down towards the open space. Visibility from I-93, views towards the Mystic River and the Boston Skyline, as well as additional opportunities for daylighting will be important to technology, office and life science users. Appropriately sized floor plates to support office and life science uses are provided at Block 21, 24 and 26 resulting in increased height and Achieve larger open space and activate public realm. The increased height allows the building footprints to remain minimal to preserve ample dimension for the site's central open space. The culmination of heights offer a diversity in the skyline proposed by this development and as further addressed in the Design Guidelines (see Appendix B).

**A.3) In the case of any Alteration of a Nonconforming Structure, a Change of Nonconforming Use, or a Major Amendment to an Approved PUD, such alteration, change or amendment shall conform, to the extent feasible, to the objectives of the ASD Plan; and**

This section is not applicable to the Project.

**A.4) In the case of waivers from the landscaping requirement, the SPGA must determine that such a level of landscaping is incompatible with the objectives of the ASD Plan.**

This section is not applicable to the Project.

**B) Exceptions. Notwithstanding the foregoing, the SPGA may not grant relief from any of the following standards, guidelines or requirements:**

**B.1) Section 6.4.8, regarding Large Developments being developed pursuant to the PUD-A provisions of Article 16 unless as part of a Priority Development Process; and**

This section is not applicable to the Project.

**B.2) Section 6.4.8.D.2 regarding a Large Retail Project providing a non-retail component.**

This section is not applicable to the Project.

## 4.3 ARTICLE 7: PERMITTED USES

### 7.11. Table of Permitted Uses

The following are uses that the Applicant may request relief with regards to the Project. Please note that a majority of Retail Uses are Allowed Uses in the ASMD at less than 10,000 square feet of gross floor area and a majority of Restaurant Uses are Allowed Uses in the ASMD at less than 5,000 square feet of gross floor area.

- › Residential Use – Dwellings, multiple (7 or more units) – Use No. 1-1(c) - SPSR-A - Special Permit with Site Plan Review. Town Houses (4-6) – Use No. 1(d) – SPSR-A – Special Permit with Site Plan Review
- › Office Use - 10,000 sf or more of gross floor area – Use No. 7-1(c) - SPSR-A - Special Permit with Site Plan Review
- › Retail Use – 10,000 sf or more of gross floor area – Use No. 9-5(c) – Special Permit with Site Plan Review
- › Buildings and Uses Owned by the City of Somerville (Fire Station) 10,000 sf or more of gross floor area – Use No. 5-7(b) – Special Permit with Site Plan Review
- › Laboratory engaged in research, experimental and testing activities which may include the development of mockups and prototypes but not the manufacture of finished products – 10,000 sf or more of gross floor area – Use No. 12-10(c) - Special Permit with Site Plan Review
- › Manufacturing use, including Biotechnology - 25,000 sf or more of gross floor area – Use No. 14-D(c) – Special Permit with Site Plan Review

#### 4.4 ARTICLE 16: PLANNED UNIT DEVELOPMENT (PUD)

##### 16.5.1 ***Dimensional Requirements: Within a PUD-A, refer to the dimensional requirements of Section 6.4.6.***

Please refer to Section 6.4.6 of the Ordinance for a summary of the Project's compliance with Dimensional Requirements as well as Table 4-1.

##### 16.5.4. ***Waiver of dimensional standards. In order to maximize flexibility in the application of design standards to PUD projects, the SPGA may waive strict compliance with the standards of Section 16.5 upon making a determination that: (a) such a waiver would result in a better site plan than strict compliance with the stated standards; (b) the proposed PUD design furthers the Purpose and PUD Design Guidelines of this section; and (c) the granting of such a waiver will not cause detriment to the surrounding neighborhood.***

The proposed master plan amendment is seeking a waiver for height requirements. Though the heights of the buildings vary from the requirements as defined in the ASD Plan, thought was given to building program, site orientation and adjacent context when determining the building heights. Though further from the MBTA station, Block 24 and Block 26 propose the tallest buildings at 240' towards I-93 and stepping down towards the open space. Visibility from I-93, views towards the Mystic River and the Boston Skyline, as well as additional opportunities for daylighting will be important to technology, office and life science users. Appropriately sized floor plates to support office and life science

uses are provided at Block 21, 24 and 26 resulting in increased height to achieve larger open space and activate public realm. The increased height allows the building footprints to remain minimal to preserve ample dimension for the site's central open space. The culmination of heights offer a diversity in the skyline proposed by this development and as further addressed in the Design Guidelines (see Appendix B).

#### **16.7 PUD Design Guidelines**

**PUD design shall comply with the purpose, general requirements and features, and standards for a PUD outlined in this Article, as well as with the special permit with site plan review requirements elsewhere in this Ordinance. The following design guidelines shall also be adhered to:**

**a) PUD architecture should demonstrate the cohesive planning of the development and present a clearly identifiable design feature throughout. It is not intended that buildings be totally uniform in appearance or that designers and developers be restricted in their creativity. Rather, cohesion and identity can be demonstrated in similar building scale or mass; consistent use of facade materials; similar ground level detailing, color or signage; consistency in functional systems such as roadway or pedestrian way surfaces, signage, or landscaping; the framing of outdoor open space and linkages, or a clear conveyance in the importance of various buildings and features on the site;**

While unified by the urban fabric and landscape, the four buildings within the design are intentionally conceived as different massing concepts giving individual identity and variety within the composition. Block 21 simple and orthogonal, reads as a composition of terraced slabs, broken down in scale by shifting floor plates. Blocks 24 and 26 respectively, while joined by a common base, take on their own implied form within the masterplan strategy. Block 24 at the center, maintains its greatest height on the freeway side while stepping down towards the central green. A simple fold in the east façade breaks the scale of the elevation length. Block 26 on the other hand, while cascading and faceting north towards the central green is simultaneously very much about anchoring the corner of Revolution Drive and Mystic Avenue to the south. Penthouses, required for the three office buildings become architecturally integrated elements of the massing.

The upper floors of the Project's Buildings will be consistent throughout this PUD, providing the buildings with a common base. Additionally, the upper floors of the residential building will have individual design elements that respond to each other. The SPSR Applications will show the relationship between the five (5) buildings in more detail as architectural design is refined. Furthermore, the conditions of nearby developments

(existing & approved) will be taken into consideration as the Project design progresses.

**b) Buildings adjacent to usable open space should generally be oriented to that space, with access to the building opening onto the open space;**

As described in Section 3.2.3. of Chapter 3, Block 21, 24, and 26 frame a new open space facing Road K and an anchor to all the building blocks. The multi-functional open space will serve as a convenient public passage through the Site, a prominent gathering area for ground level commercial space, and as an entry for the Building. This area establishes permeability throughout the Site and important pedestrian connections to the surrounding neighborhood. Civic program (new fire station), retail, building entrances and lobby areas activate the ground plane and integrate with the public realm and open space.

**c) When a building is proposed to exceed the base district height limit, it is intended that buildings be of slender proportions emphasizing the vertical dimension;**

Though the heights of the buildings vary from the requirements as defined in the ASD Plan, thought was given to building program, site orientation and adjacent context when determining the building heights. Though further from the MBTA station, Block 24 proposes the tallest building at 250' towards I-93 and stepping down towards the open space. Visibility from I-93, views towards the Mystic River and the Boston Skyline, as well as additional opportunities for daylighting will be important to technology, office and life science users. Appropriately sized floor plates to support office and life science uses are provided at Block 21A, 24 and 26 resulting in increased height to achieve larger open space and activate public realm. The increased height allows the building footprints to remain minimal to preserve ample dimension for the site's central open space. The culmination of heights offer a diversity in the skyline proposed by this development and as further addressed in the Design Guidelines (see Appendix B).

**d) It is strongly encouraged that landscaped space, and particularly usable open space, be designed and located to connect as a network throughout the PUD. It is also generally intended that said space be designed and located to connect with existing off-site usable open space, and provide potential for connection with future open space by extending to the perimeter of the PUD, particularly when a plan exists for the location and networking of such future open space;**

As described in Section 3.2.3 in Chapter 3, the open space, pedestrian pathways and sidewalk connections to be provided as part of the Project will be designed to complete and improve connections with the existing network of parks and pathways in the vicinity of the Project Site,

including improving the connection between Assembly Square, the Mystic River, and development to the east of I-93.

**e) It is intended that no non-residential structure cause a casting of any shadow on any residential lands between 10:00 AM and 2:00 PM, solar time, on the vernal equinox (March 21); and that any shadow cast by a PUD structure on public usable open space be of minimal impact on the desired functional use of said open space, particularly in the period from March 21 to September 21;**

A shadow study is included as part of this submission (see Appendix D). Final description of shadow analysis for each building is preliminary and will be updated during the SPSR approval processes. The Applicant notes shadows on approved Block 23 SPSR-A (PB2018-12), which is part of this amendment of the previously granted PUD-PMP approval, do not run afoul of this condition, which only applies to pre-existing residential structures, and the originally approved PUD-PMP already showed shadows on Block 23.

**f) Vehicular access to and from public roads is intended to be consolidated. Vehicular access to PUD lands from a public roadway shall generally be limited to one (1) access point, particularly when PUD frontage along said roadway is three hundred (300) feet or less. When a PUD has more than six hundred (600) feet of frontage on a public road, separation between existing, approved, and proposed curb cuts, whether on or off-site, shall average a minimum of two hundred (200) feet. Consolidation to a minimal number of access points is strongly encouraged;**

As described in Section 3.2.2 in Chapter 3, the primary vehicular point of entry to the Site will be from Foley Street, Grand Union Boulevard, Middlesex Avenue, and Revolution Drive. As described in Section 3.2.2, and as shown on Figure 3.5 and Plan C-3 Layout and Material Plan (found in Appendix A), on-site structured vehicle parking, and service and loading areas will all be accessible from Foley Street, Grand Union Boulevard, Middlesex Avenue, and Revolution Drive.

**g) Internal PUD streets shall consist of local and collector roadways, designed in accordance with standard traffic engineering practice. Any street proposed for public dedication shall meet the standards of the City's Director of Traffic and Parking.**

Please refer to Plan C-3 Layout and Material Plan in Appendix A. Internal PUD streets "Road K" and "Road L" will be designed in accordance with standard traffic engineering practice and will meet the standards of the City's Director of Traffic and Parking, to the maximum extent practicable.

**h) PUD block sides should reflect average city block size of Somerville, to maximize a pedestrian-friendly scale in the street grid. Alight streets to give building energy-efficient orientations.**

Please refer to Figure 3.4, Plan C-3 Layout and Material Plan, and the Design Guidelines for more information. The PUD will be divided into blocks to create a pedestrian-friendly scale in street grid and streets will give buildings energy-efficient orientations, to the maximum extent practicable.

**i) The PUD design should preserve and enhance natural features such as topography, waterways, vegetation, and drainage ways.**

The Project will be located on a previously paved and/or otherwise disturbed site and does not currently contain any natural features to be preserved or enhanced.

**j) The PUD design should minimize impervious surfaces and incorporate other design features to minimize storm water runoff.**

This Project will decrease the Site's total impervious surfaces. Under existing conditions, a majority of the site is surface parking with more than 800 parking spaces, landscape areas in poor conditions, demolished buildings, and construction debris. The Project will reduce total volume of runoff from the Site through use of green infrastructure BMPs, such as pervious pavements, green roofs, raised stormwater planters, and proprietary separators to improve the water quality of runoff from the Project. The reduction in surface parking reduces the potential vehicular pollutants as building roofs do not contribute and their stormwater runoff is not required to be treated for water quality.

**k) PUDs should maximize pedestrian transit-oriented development. Specifically they should use "traffic-calming" techniques liberally; provide networks for pedestrians as good as the networks for motorists; provide pedestrians and bicycles with shortcuts and alternatives to travel along high-volume streets, and emphasize safe and direct pedestrian connections to transit stops and other commercial and/or employment nodes; provide long-term, covered, bicycle parking areas; provide well-lit, transit shelters; incorporate transit-oriented design features; and establish Travel Demand Management programs at employment centers.**

The Project will provide wide sidewalks for pedestrians as well as access to the nearby commercial and retail spaces. "Road K" contains raised pavement and proposed curvature that acts as traffic calming in its "Festival Street" location. Long-term, covered bicycle parking spaces will be provided on-site. Travel Demand Management (TDM) measures will be implemented as part of the Project, and can be found in Chapter 5, *Transportation*.

**I) Make shopping centers and business parks into all-purpose activity centers.**

This section is not applicable to the Project.

**16.8.2 PUD Preliminary Master Plan Contents. Any application for PUD preliminary master plan approval shall be accompanied by the following supportive information:**

**2.A) Neighborhood Context Plan and Narrative**

Please refer to Sections 3.1 and 3.2 in Chapter 3, *Project Summary*, for a summary of the existing Site conditions, neighborhood conditions, and a description of the proposed Project. Please refer to Plan C-2 in Appendix A for a Neighborhood Context Plan.

**2.B) Conceptual Site Plan**

Please refer to Figure 3.4 for the Conceptual Ground Floor Plan, Plan C-3 Layout and Material Plan in Appendix A, and the Design Guidelines in Appendix B.

**2.C) Analysis of Compliance**

Please refer to Table 4-1 for a summary of the Project's compliance with applicable zoning requirements and dimensional standards.

**2.D) Names of Property Owners within 300 Feet of PUD**

Please refer to Section 2.4 in Chapter 2, *Application Forms*, for a copy of the abutter's list of all property owners within three hundred feet of the Site boundaries.

**2.E) Narrative on Maintenance of Landscaping, Open Space and Drainage**

Please refer to Section 3.2.3 in Chapter 3 and Figures 3.10-11 for a summary of conceptual landscaping and open space to be provided by the Project. Please refer to Section 6.4 in this chapter for a summary of existing and proposed stormwater management strategies. A final open space and landscaping plan, along with a final stormwater management plan have been and will be provided during the SPSR approval processes.

The Applicant (which term shall include each and every successor in interest to the original Applicant) will be responsible for maintenance of the open space and public realm improvements on the Project Site. The Applicant will work closely with the City to provide additional details during the SPSR approval process regarding the maintenance of the proposed off-site improvements to City-owned property.

**2.F) Traffic**

Please refer to Chapter 5, *Transportation*, which has been prepared and submitted as part of this application of an amendment of the previously granted PUD-PMP approval.

**2.G) Utility Analysis**

Please refer to Chapter 6, *Utility Analysis*, which has been prepared and submitted as part of this application of an amendment of the previously granted PUD-PMP approval. Please refer to Plan C-5 Utility Plan and Sv-1 Existing Conditions Plan of Land, found in Appendix A, which show existing and proposed utilities. The utility design will be refined during building design and elaborated with each subsequent SPSR application.

## 4.5 PLANNED UNIT DEVELOPMENT PRELIMINARY MASTER PLAN (PMP)

### APPROVAL CONDITIONS

The following represents the applicable conditions listed in *Appendix E PUD-PMP Conditions* within the Planning Board Decision for the XMBLY (5 Middlesex Ave) PUD-PMP from June 2018(PB2018-7). Itemized below each applicable conditions is an updated status applicable to the amendment of the previously granted PUD-PMP approval.

**Condition 1: Approval is based upon the Preliminary Master Plan submitted by Vanasse Hangen Brustlin, Inc. dated May 7, 2018 (received by the Planning Staff as an update to the original submission stamped in at the City Clerk's office on March 15, 2018), including Chapters 1-6 plus the Appendices A-D. Any changes to the submitted application material that do not qualify as a minor PUD amendment must receive Planning Board approval, unless such changes are designed only to establish compliance with one of the conditions of this PMP approval.**

**The approval of this PMP does not incorporate any of the following items: a) Any interior layout of buildings; b) Locations of and specifications for elements of the public right of way to be covered in the maintenance agreement per Condition #3 and #4; c) Design details within individual open spaces to be reviewed per Condition #5; d) Any off-site design.**

The applicant respectively submits this amendment of the previously granted PUD-PMP for approval of changes to the PUD-PMP as documented in updated Chapters 1-6 plus the Appendices A-D.

**Condition 2: The approval of this PMP shall be approval of the width of roadway and rights-of-ways. For each street, 100% street design plans, consistent with the PMP and the City's Complete Street Ordinance, must be filed with the City Engineer, Traffic and Parking Director, Transportation & Infrastructure Director and Planning Director for review and compliance with city standards and sound engineering practices. Applicant shall provide detailed roadway marking plans and cross sections, including bicycle and pedestrian design details (markings, signals, crosswalks, street furniture's, etc.) Bike lanes shall be provided as determined by the City's Transportation & Infrastructure Director. All modes must be considered and accommodated in these details, and NACTO minimum accommodations incorporated. [*Timeframe for Completion: Continuous.*]**

The City approved the roadway and utility construction for XMBLY Road K and Road L per the site plans submitted by Owner/Applicant in the Summer of 2019, titled "XMBLY Road K and Road L 95% Construction Plans" as revised by VHB July 3, 2019. The construction of the roadways finished through the binder course in the fall of 2019.

**Condition 3: Applicant will work with the City to develop the long term maintenance agreement noted in Section 12.1B of the application form that will provide for the Proponent's commitments to the City relative to maintenance of the elements of the public right of ways including sidewalk treatments, street trees, landscaping , finishes, street furniture and other amenities. The City will not maintain anything that is not consistent with City standard, unless otherwise approved by the City Engineer. [Timeframe : Prior to Start of Work Beyond Core & Shell of Building]**

The Applicant will continue to work to develop a long-term maintenance agreement with the City as the streetscapes are finalized following the construction of abutting block building construction. It is the Applicants intention to submit Road K and portions of Road L for City acceptance as public rights-of way.

**Condition 4: Pursuant to #3 above, design of sidewalk treatments, street trees, landscaping , finishes, street furniture and other amenities that are to be maintained by the Applicant will be submitted to the City Engineer and Planning Director for review and approval. [Timeframe : Prior to opening of any new public street in the project]**

The Applicant has committed to provide final streetscape plans to the City for approval.

**Condition 5: Applicant will work with the City to develop the long- term maintenance agreement for the Useable Open Space as required in Article 17 of the SZO. The agreement shall specify the requirements for public access and private maintenance of useable open space of the Central Lawn and surrounding open space, as required by the SZO. The applicant shall build out and maintain all of the open space and allow public access to all of the useable open space in the plan as required by the SZO. The applicant will submit 100% construction plans for open space to the City for review and comment. [Timeframe : Building Permit]**

The Applicant will continue to work to develop a long-term maintenance agreement with the City for the open space areas. The applicant has committed to filing an SPSR-A for the Central Green open space area for the City's review.

**Condition 6: Applicant shall, per the agreement made with the OSPCD Economic Development Director, sign a covenant prior to the first SPSR-A application, which indicates that the amount provided towards public benefits and improvements. This is in addition to any required linkage payments per Article 15, on-site inclusionary zoning per Article 13, and the required provision and maintenance on land owned by the applicant. The covenant shall indicate that a portion of the total improvement may be provided by the applicant completing in-kind work. Unless otherwise permitted by the covenant, the funds may be dedicated to infrastructure upgrades of public property in and around Assembly Square, and shall include a substantial portion of the funding towards: a) improvements to Draw 7 and/or Foss Park; b) lighting and other improvements to the Kensington Underpass; c) highway sound barriers; and, d) improvements to transit infrastructure. *[Timeframe: Prior to submission of first SPSR-A].***

The Applicant and the City of Somerville have an executed Development Covenant dated March 22, 2019.

**Condition 7: Because of the history of the site and the intended use, the Applicant shall, prior to issuance of any demolition permit and/or any building permit for the project, provide to the Planning Department and the Inspectional Services Division: a) a copy of the Response Action Outcome (RAO) Statement, signed by a Licensed Site Professional (LSP) and filed with DEP, verifying that a level of no significant risk for the proposed residential use has been achieved at the site; or b) if remediation has not reached the RAO stage, a statement signed by an LSP describing (i) the management of oil and hazardous materials/waste at the site, including release abatement measures intended to achieve a level of no significant risk for residential use at the site, treatment and storage on site, transportation off-site, and disposal at authorized facilities, (ii) a plan for protecting the health and safety of workers at the site, and (iii) a plan for monitoring air quality in the immediate neighborhood. *[Timeframe: Demolition Permit].***

The Applicant is committed to providing the documentation prior to demolition permit.

**Condition 8: Notification must be made, within the time period required under applicable regulations, to the Massachusetts Department of Environmental Protection (DEP) if there is any release of oil, hazardous materials, or regulated hazardous substances at the site. The City's OSE office, Fire Department and the Board of Health shall also be notified. *[Timeframe: At the time of release].***

The Applicant is committed to compliance regulations and notifying the proper authorities in the event of a hazardous material release.

**Condition 9: Prior to acceptance by the City, any civic space, thoroughfare, or utility and the land upon which or within which it is located that is to be conveyed to the city must be certified by the Applicant to meet all Federal, State, and local environmental laws and other standards as they are applied at the time of conveyance. The Applicant is responsible for the preparation of all documentation necessary for the conveyance of these facilities to the City. [Timeframe: Prior to Issuance]**

The Applicant will ensure and document that such land complies with all Federal, State, and local environmental laws and other standards at the time of conveyance.

**Condition 10: The Applicant must contact the Engineering Department to obtain a street address prior to an SPSR-A application for the individual buildings [Timeframe: Prior to submission of first SPSR-A].**

The Applicant has contacted the Engineering Department to obtain a street address (290 Revolution Drive) for Alta XMBLY. For the remaining blocks, addresses will be obtained from the Engineering Department prior to each SPSR submission.

**Condition 11: The applicant will submit a plan amendment to subdivide all public roadway right of way from development blocks, to be approved by the Planning Board, per the SZO, and filed with the Middlesex South Registry of Deeds. Any minor plan changes to this initial subdivision will be reviewed for approval by the Planning Director and Director of Transportation & Infrastructure as a minor plan change [Timeframe: Prior to submission of first SPSR-A].**

The Applicant has filed a Subdivision Plan of Land recorded as Plan No 198 of 2019 received on 03/14/2019 with the Middlesex South Registry of Deeds. This condition has been satisfied.

**Condition 12: Applicant shall be required work with the Planning Director, City Engineer, and the Fire Chief as necessary, to rename the new thoroughfares. The Applicant may suggest names but should involve the Ward Alderman with the previously mention department directors and note that street names that are the same or similar to names already used in Somerville shall not be permitted. [Timeframe: Prior to submission of first SPSR-A].**

The Applicant has contacted the City to provide street names to the new thoroughfares.

**Condition 13: The applicant shall post the name and phone number of the general contractor at the site entrance where it is visible to people passing by. [Timeframe: During Construction].**

The Applicant will conform with the condition as new phases of construction commence.

**Condition 14: Approval is subject to the Applicant's and/or successor's right, title and interest in the property. [Timeframe: Continuous].**

The Applicant acknowledges this condition.

**Condition 15: The Applicant, its successors or assigns, shall be responsible for maintenance of both the buildings and all on-site amenities, including landscaping, fencing, lighting, parking areas and storm water systems, ensuring they are clean, well kept and in good and safe working order.. [Timeframe: Continuous].**

The Applicant is committed to the maintenance of the building, utilities and grounds on-site.

**Condition 16: SPSR-A applications under the PMP shall include information required to ensure compliance with this PMP decision, including but not limited to information noted as required in the findings (Appendix A, B, C and D) [Timeframe: Addressed with each SPSR-A application]**

Approved on November 8, 2018, the SPSR-A application report for Alta XMBLY (290 Revolution Dr.) addressed the applicable PUD-PMP findings. Each subsequent SPSR application will include information ensuring compliance with the PMP decision.

**Condition 17: The Usable Open Space (Festival Streetscape, Pergola Plaza, Central Lawn, Gathering area, Rain Garden, Filtration Grove, and Promenade) must be submitted as a separate SPSR-A application and not included with any of the buildings' application packages. Final design should be coordinated with the Director of Transportation & Infrastructure. [Timeframe: SPSR-A]**

The Applicant is committed to submitting SPSR applications for the Usable Open Space areas.

**Condition 18: Applicant must identify a location for a future bike share station and provide a diagram of the larger bike network – including new infrastructure on Revolution Drive, Grand Union, and Foley Street. [Timeframe: SPSR-A]**

The Applicant is committed to working with the City to identify a location for a future bike share station.

**Condition 19: As a part of the continued effort to shift travel away from private cars, the Applicant shall provide sheltered and secure bike storage facilities in strategic locations, with each SPSR-A application [Timeframe: SPSR-A].**

Alta XMBLY is providing 111 bicycle spaces within the structured parking lot and 15 bicycle spaces within the public bike room. Future SPSR-A applications for the remaining blocks will consider bike storage during those processes.

**Condition 20: Screening of above-ground parking from any thoroughfare, access easement, sidewalk, civic space, or open space by walls, screening, artwork, fences, planting or other means, must be specified in detail and approved by Planning Staff and the DRC [Timeframe: SPSR-A].**

The Project proposes structured parking interior to the buildings. The elevations of the buildings are designed as a complete building without parking visible to the exterior on any street.

**Condition 21: The intersection of Middlesex avenue and Mystic Avenue behind the existing building at 5 Middlesex will be further studied for redesign potential to a right in/right out T intersection. The Applicant will meet with the Director of Transportation & Infrastructure to review conceptual plans. If the conceptual plans are acceptable to the City, the Applicant will then convene a meeting between the Applicant's engineering team, the Director of Transportation & Infrastructure, and representatives from MassDOT.**

The intersection at Middlesex Avenue and Mystic Avenue is conceptually redesigned as a new intersection with the proposed "Road L" extension shown on this masterplan. The Applicant has had ongoing coordination with the City and the Transportation Department. The Applicant is committed to be involved in future design and coordination with the City and MassDOT..

**Condition 22: The Applicant and the Applicant's engineering team must participate in a future meeting between the Director of Traffic & Parking, the Director of Transportation & Infrastructure, and other development teams to review the intersection at Lombardi and Mt. Vernon as the TIS shows the LOS dropping. This meeting should also address potentially adding a video system (similar to Revolution Drive) to the signals at Middlesex and Foley. [Timeframe: SPSR-A]**

The Applicant commits to participation.

**Condition 23: All mitigation involving traffic signal upgrades must include specific discussion and documentation of the ability of all controllers to be left in place (before, during, and after construction) to fulfill the functions required of them by proposed mitigation. [Timeframe: SPSR-A]**

The Applicant will work with the City and provided required documentation on regarding the operation of signals during upgrades

**Condition 24: All City of Somerville traffic control equipment and roadway elements must meet City specifications and standards unless they are otherwise approved by the City Engineer and are maintained by the Applicant under the maintenance agreement. [Timeframe: Continuous ]**

The Applicant is committed to comply with all City specifications and standards.

**Condition 25: The Applicant shall provide street-lights that meet City standards on all public streets where lights are to be maintained by the City [Timeframe: Continuous]**

Somerville Standard street lights are proposed along the public ways of "Roads K and L", refer to the Civil Site Plans in Appendix A.

**Condition 26: The Applicant will be responsible for the initial cost of parking meters and cost of construction/installation of the parking meters in coordination with and to the standards of the Director of Traffic & Parking and the City Engineer. [Timeframe: SPSR-A].**

The Applicant is working with the City to layout parking on Road K and will coordinate with the Director of Transportation & Infrastructure, the Director of Traffic & Parking, and the City Engineer regarding the installation of parking meters or pay station kiosk.

**Condition 27: Any Hotel use must have access to a shuttle van or bus, and provide complementary scheduled or on-demand guest shuttle services between the hotel and Logan Airport in order to reduce automobile trips between the airport and the hotel. The Applicant may coordinate a shared shuttle between other hotel operators in the ASMD. Conceptual plans for the operation of this service must be approved by the Director of Transportation & Infrastructure prior to the issuance of the Certificate of Occupancy for the Hotel. Revisions to operations at any time require approval by the Director of Transportation & Infrastructure. [Timeframe: C of O].**

The Applicant is not proposing any Hotel Use as part of this amendment of the previously granted PUD-PMP approval.

**Condition 28: The property owner must have a signed contractual agreement to join or be a member of the Assembly Square Transportation Management Agency (TMA) established by Federal Realty and others. Proof of membership must be submitted to the Director prior to the issuance of the any Certificate of Occupancy for any building. [Timeframe: C of O].**

The Applicant is committed to join the Assembly Square TMA.

**Condition 29: The Applicant must submit a revised MMP to the Director prior to the submittal of any SP, SPSR, DSPR applications for individual buildings. The revised plan must provide an updated Mode Split/Trip Generation analysis using the Transportation & Infrastructure Division's required methodology and Average Vehicle Occupancy and Mode Splits from the Means of Transportation to Work (B08301) data for Census Tract 3398.01 from the U.S. Census 2016 5-year Estimates. [Timeframe: SPSR-A]**

The Application has submitted a Revised MMP within this application see Section F: Transportation of the application report.

**Condition 30: In the revised MMP, the Applicant must commit to achieving the City's goal to control the percentage of trips made by automobile at 50% of less, consistent with SomerVision. If annual monitoring and reporting identifies a shortfall in meeting this goal, additional mobility management programs and services must be implemented. [Timeframe: Perpetual].**

An MMP was submitted as part of the Alta XMBLY SPSR-A application, as revised through November 8, 2018. Further revisions have been made to the MMP, which can be found in Appendix F of this application.

**Condition 31: The property owner of Block 21, Block 23, Block 25, and Block 26 must submit a MMP in accordance with the Director's submittal requirements prior to or simultaneously with the development review application (SP, SPSR, DSPR) required for each site [Timeframe: SPSR-A].**

An MMP was submitted as part of the Alta XMBLY SPSR-A application, as revised through November 8, 2018. Further revisions have been made to the MMP, which can be found in Appendix F of this application.

**Condition 32: In any lease agreement for a tenant with fifty (50) or more employees, the property owner of any building shall require the leasee to submit a MMP in accordance with the Directors submittal requirements for approval prior occupancy of the leased space. Standard lease agreement language to implement this condition must be approved by the Director prior to the issuance of any Certificate of Occupancy for the building. To verify ongoing conformance, the property owner must provide either a copy of the executed lease agreement or an affidavit signed by the owner and tenant verifying that this language was included and agreed to in the lease. [Timeframe: C of O].**

The Applicant and qualifying Lessees will comply with this condition

**Condition 33: The cost to purchase, rent, or lease floor space must be 'unbundled' from the cost of parking. Parking spaces must be rented, leased, or sold as an option rather than a requirement of the rental, lease, or purchase of a dwelling unit or non-residential floor space. Standard lease agreement language to implement this condition must be approved by the Director prior to the issuance of any Certificate of Occupancy for the building. To verify ongoing conformance, the property owner must provide either a copy of the executed lease agreement or an affidavit signed by the owner and tenant verifying that this language was included and agreed to in the lease. [Timeframe: C of O].**

The Applicant is committed to provided unbundled parking.

**Condition 34: The property owner must purchase and install a bike-share docking station with at least fifteen (15) docks and nine (9) shared bicycles. The station must be installed in a location approved by the Director prior to the issuance of the Certificate of Occupancy for Block 23 (the 8-story**

**residential building at the corner of Grand Union Boulevard and Revolution Drive). Note: If a station with more docks is provided, additional bikes must be included to maintain a 0.57 bike to dock ratio. [Timeframe: CofO]**

The Applicant will continue to work with the Director of Transportation and Infrastructure to locate a bike-share docking station.

**Condition 35: Annual Reporting to track, assess, and report on the implementation of the Mobility Management program as required by the Somerville Zoning Ordinance and the Planning Board's Mobility Management Plan Submittal Standards must be conducted at the same time each year, as determined by the CO for the first building, subject to the approved Mobility Management Plan. [Timeframe: Continuous]**

The Applicant is committed to provide annual reports at the time starting with the CO of the first building.

**Condition 36: Approved Mobility Management Plans are transferable by and among private parties, contingent upon the new owner agreeing to continue to operate in accordance with the previously approved Mobility Management plan, as conditioned. Should the developer elect to transfer some portion or all of the development subject to this Mobility Management Plan, commitment to the previously approved Mobility Management Plan is required by the new property owner. [Timeframe: CofO]**

The Applicant acknowledges the condition.

**Condition 37: Infrastructure must be designed to meet all requirements and standards of the City of Somerville and its relevant departments (including, but not limited to, the City Engineer, Department of Public Works, Inspectional Services, Traffic & Parking, Fire Department, and the divisions of the Mayor's Office of Strategic Planning and Community Development) and all other legal requirements for the installation of services within public rights-of-way. Subsequent SPSR-A applications must include reasonable written evidence establishing that such infrastructure is sufficient to support the proposed development, that all details are designed to City standards, that installation, unless otherwise included in capital project work of the City, is done without cost to the City, and that installation will be functionally adequate and completed at the appropriate time in the course of the phases of development [Timeframe: SPSR-A].**

Infrastructure is designed to meet all the City's requirements and is provided as preliminary design within this submission. 100% roadway design plans were submitted and approved by the City in June 2019. Final building utility connections will be verified during the building permit application.

**Condition 38: All new sidewalks will be installed by the Applicant in accordance with the specifications of the Director of Transportation & Infrastructure and the City Engineer. [Timeframe: SPSR-A]**

The sidewalks will comply with the City's specifications. The sidewalks along the roadways (Road L and Road K) were included in the 100% roadway design plans in June 2019.

**Condition 39: Applicant shall conduct additional hydraulic analyses to ensure that the City's system is capable of meeting the adjusted demands throughout the project. Applicant shall meet fire flow requirements while maintaining a minimum pressure of 20 psi at the fire location. In accordance with DEP guideline, a minimum pressure of 35 psi shall be maintained throughout the distribution system during normal demand conditions. [Timeframe: BP].**

**The Applicant will provide necessary documentation to comply with fire flow requirement.**

**Condition 40: Applicant shall provide individual calculations to determine the sizes necessary for the water connections to each property. The proposed service connections to each of the new buildings shall be shown on further design drawings [Timeframe: SPSR-A].**

The applicant will provide detailed utility plans as building design development progresses and fixture counts are finalized. Detailed utility plans for Alta XMBLY were submitted as part of the block's Building Permit Submission, on August 20, 2019.

**Condition 41: Design and construction phasing of the stormwater management system shall be subject to review and approval by Engineering and the Director of Sustainability & Environment to ensure compliance with City standards and best practices for design and ongoing maintenance [Timeframe: SPSR-A].**

Included with the SPSR-A application for Alta XMBLY and the Roadway Design permit were plans and stormwater reports pertaining to the Project's stormwater management design. Each subsequent block will include plans and stormwater reports pertaining to the respective stormwater management masterplan design.

**Condition 42: Applicant shall provide a detailed soil erosion control plan with each SPSR-A application and prior to construction. [Timeframe: SPSR-A/Building Permit]**

The Applicant provided erosion control plans as part of the Alta XMBLY SPSR-A application and 100% Roadway Design Plans. For future SPSR-A applications, erosion control plans will be provided.

**Condition 48: Each individual building provide interior disposal and storage systems for trash and recycling with locations clearly indicated on site plans. Storage areas shall be inside of the structure and screening or loading dock doors must be designed as an integral part of the architecture and the building elevation and remain closed unless in active use. [Timeframe: Addressed with each SPSR-A application]**

Each individual SPSR application will address interior disposal and storage systems for trash and recycling.

**Condition 49: Any transformers should be located as not to impact the buildings or landscaped area, and shall be fully screened to the extent permissible by code. [Timeline: SPSR-A]**

Future SPSR applications for the remaining blocks will address transformer locations and screening.

**Condition 50: There shall be a minimum of one tree for each 1,000 sf of required landscaped area under SZO §10.3 installed and maintained in compliance with the American Nurserymen's Association Standards and in accordance with the City Arborist. [Timeline: SPSR-A]**

The Owner /Applicant is dedicated to this condition and will contribute as part of the overall masterplan requirements.

**Condition 51: Signage shall be subject to separate review and approvals by the Design Review Committee and the Planning Board, as required and customary. [Timeline: SPSR-A]**

The Applicant commits to formally submit for review and approval by the Design Review Committee and the Planning Board the required documentation for signage.

**Condition 52: All storefronts and retail signage shall be consistent with the Assembly Row Storefronts and Signage Design Standards. Storefronts or retail signage that is inconsistent with the guidelines shall be provided to DRC and Planning Board for review and approval. [Timeframe: Building Permit for retail unit and retail signage]**

The Applicant commits to formally submit for review and approval by the required documentation for signage.

**Condition 53: This approval does not constitute approval for any signage on the building above the retail level except for the building addresses at entryways and garage directional signage. The design of these signs shall be submitted to Planning Staff for review and approval. This approval does not constitute approval for any of the roof signs or signs at the top of the towers. [Timeframe: Building Permit for retail unit and retail signage]**

The Applicant commits to formally submit for review and approval by the required documentation for signage.

**Condition 54: To the extent possible, all exterior lighting must be confined to the subject property, cast light downward and must not intrude, interfere or spill onto neighboring properties. [Timeline: SPSR-A]**

Outdoor lighting will be provided to meet code requirements. Exterior street fixtures will match the City of Somerville Assembly Row Roadway streetscape standards.

**Condition 55: As part of each site plan review submittal, the Applicant shall provide calculations showing that the percentage of open space and usable open space meets the zoning requirement for a PUD-A within the ASMD. [Timeline: SPSR-A]**

Open space figures and calculations were provided in Section H-VII of the Alta XMBLY SPSR-A application. Revised open space figures and calculations are provided in this application and have been and will be provided in each subsequent block SPSR application.

**Condition 56: Applicant shall ensure that all trees meet the species, caliper, well size, and planting specifications of the City Arborist. [Timeline: SPSR-A]**

The Applicant will ensure that all landscape design complies with the specifications of the City Arborist.

**Condition 57: Each subsequent SPSR-A application submitted under this PUD-PMP must identify vulnerabilities and/or risk for each parcel based on the City's Climate Change Vulnerability Assessment. The application should clearly identify the extent and nature of planning/design interventions necessary to mitigate those risks. To ensure effective strategies for resiliency by preparing for weather and flooding impacts, the Director of the Office of Sustainability & Environment shall define specific appropriate expectations for responses to this condition, and the applicant shall provide these responses with each PUD-PMP application. [Timeline: SPSR-A]**

A Sustainable and Resilient Building questionnaire and narrative explaining responses was included in Appendix II of the Alta XMBLY SPSR application. Each SPSR application will include a Sustainable and Resilient Building questionnaire and narrative.

**Condition 58: Each subsequent SPSR-A application submitted under this PUD-PMP must document how the proposed development, including civic spaces, public realm improvements, and buildings, will help to reduce the urban heat island, assist in the City's stated objective to be Net Zero by 2050, and assess whether the infrastructure presents an opportunity for reducing demand and/or district energy solutions. [Timeline: SPSR-A]**

A Sustainable and Resilient Building questionnaire and narrative explaining responses was included in Appendix II of the Alta XMBLY SPSR application. Each SPSR application will include a Sustainable and Resilient Building questionnaire and narrative.

**Condition 59: Each subsequent SPSR-A application submitted under this PUD-PMP must submit the necessary LEED worksheets along with narratives explaining the methods of compliance with each point achieved [Timeline: SPSR-A].**

A LEED worksheet and explanatory narrative was included in Appendix I of the Alta XMBLY SPSR application report. Each SPSR application will include a LEED worksheet.

**Condition 60: Applicant shall provide material and color samples for all exterior cladding, trim, windows, and doors to Planning Staff and the Design Review Committee for review, comment, and approval as part of the review required with each SPSR-A application. [Timeline: SPSR-A]**

The Applicant commits to providing a material palette for during the SPSR application process.

**Condition 61: Applicant shall provide an on-site mock-up or final building material samples (including color and texture) to Planning Staff and the Design Review Committee for review, comment, and approval prior to the issuance of a Building Permit. [Timeframe: BP]**

Mock-ups and material samples will provided to the Planning Staff during the SPSR process.

**Condition 62: Where sides or backs of buildings face a civic space, they must incorporate (physically or visually) strategies that address the public frontage and impact of these spaces. These strategies need not be related to retail spaces or functional entrances, and can be small in scale. But, these spaces should be ambitious, active and should encourage creativity and engagement. These spaces may include, but are not limited to, public art installations or display cases for artwork, large scale supergraphics or murals, green walls, and/or artist/maker space, etc. [Timeline: SPSR-A]**

The Applicant commits to providing detailed facades that emphasize visual interest and variety which provide dimension and rhythm in the buildings' design during the SPSR process.

**Condition 63: A draft Affordable Housing program must be provided by the Applicant showing the anticipated affordable units - types and sizes - in each DSPR application. [Timeline: SPSR-A]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 64: The AHIP must be approved by the OSPCD Housing Division and executed prior to issuance of Building Permit. [Timeframe: C of O]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 65: Written certification of the creation of affordable housing units, any fractional payment required, or alternative methods of compliance, must be obtained from the OSPCD Housing Division before the issuance of a Certificate of Occupancy (C.O.). No C.O. shall be issued until the OSPCD Housing Division has confirmed that the Affordable Housing Restriction has been approved and recorded and the developer has provided the promised affordable units on-site. . [Timeframe: CofO]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 66: No Certificate of Occupancy shall be issued until the OSPCD Housing Division has confirmed that: (for Condominium Projects) the Condominium Documents have been approved and the Developer has agreed to a form of Deed Rider for the Affordable Unit(s), or (for Rental Projects) the Developer has agreed to and executed a Memorandum of Understanding for Monitoring of the Affordable Unit(s). . [Timeframe: CofO]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 67: In the circumstance where the applicant proposes and builds a condominium building with individual units for sale upon completion of the building, the applicant may request a Section 13.3.5 waiver and the City will determine the appropriateness of the waiver on a case by case basis. b. In the circumstance where the applicant proposes a building that is used as rental apartments when first opening: the waiver is approved, with the exception under item (c); c. In the event that the a rental building is converted to condominium use at a future date: 1. the waiver will expire; 2. the applicant will be expected to maintain the units at the affordable rental rates that were available prior to the conversion, either by selling them under Section 13.3.5 at a price that will permit the continued use of the units as affordable rental units at current rental rates, or by working with the OSPCD Housing Division on an alternative strategy to meet this condition. . [Timeframe: CofO]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 68: Affordable Housing Linkage Fee payments will be required to be paid to the Somerville Housing Trust Fund before a CO is issued as required by Section 15 of the SZO as amended. [Timeframe: CofO]**

The Applicant has committed to conformance with the Affordable Housing Program, which will be entirely addressed by Alta XMBLY as the only residential portion of the Project.

**Condition 69: Jobs Creation and Retention Linkage Fee shall be paid to the Somerville Municipal Job Creation and Retention Trust before a CO is issued as required by Section 15 of the SZO as amended. [Timeframe: CofO]**

The Applicant acknowledges the condition.

**Condition 70: Any new connection to the City's combined sanitary and drain system, or any increase in flows to an existing sanitary or drain connection require infiltration / inflow (I/I) mitigation. The Applicant shall work with the City Engineer to establish mitigation requirements, which will include an I/I fee as established by City policy, prior to building permit being issued. Those requirements must be satisfied before a Certificate of Occupancy is issued. [Timeframe: CofO]**

Revised I/I calculations are included in Figure 6.1 of this application. The Applicant will continue to work the City Engineer to establish mitigation requirements.

# 5

## Transportation

Since its 2018 approval, the XMBLY Project has initiated construction of the Block 23 “Alta XMBLY” residential component of the Project. However, the other remaining commercial components of the Site are being revisited as part of this current updated proposal. This document provides as summary of the currently proposed modification to the XMBLY project (the “Project”), and the associated transportation-related potential impacts.

### 5.1 Project Description

The Project will consist of approximately 1.6 million square feet (sf) of residential and commercial uses within five (5) mixed-use buildings, each on its own block, surrounding a central open space. This development proposes Block 21A to be located at the northerly end of the Site, which will include office/research & development/lab uses along with supporting retail/restaurant/active space. The parking needs for that block primarily will be accommodated via a structured parking garage to be provided within Block 21B, which also will include retail/active use space. A new fire station also will be constructed within this building on behalf of the City of Somerville to serve the emergency needs of the overall Assembly Square District. As noted above, the approved Alta XMBLY residential development within Block 23, will include 329 residential units with supporting ground-floor retail/restaurant/active use space. Blocks 24 and 26 will be developed to include two towers with supporting structured parking for the office/research & development/lab space to be constructed, along with supporting retail/restaurant/active uses.

#### **Blocks 21A and 21B**

Blocks 21A and 21B are located in the northwest corner of the Site, bordered by the proposed private extension of roadway “Road L” to the south, Middlesex Avenue to the west, Foley Street to the north, and the proposed roadway “Road K” to the east. The two buildings will include a combined 379,500 sf primarily of office and/or laboratory development. The ground level of Block 21A will be comprised of the building lobbies, which are oriented towards “Road K” and intended to activate this important streetscape, and other dynamic uses including a 4,000 SF retail space facing “Road L” and a zone for active uses along Foley Street and “Road K”. This zone has the potential to support a variety of active uses, including a co-working environment, maker space, commercial amenity space, arts and creative enterprises, bicycle facilities, gathering areas and other uses intended to encourage a vibrant

condition at the streetscape. The ground level will also support the building's service areas, including loading and utility space. The ground level of Block 21B will be comprised of 3,400 sf retail space along the Site's Foley Street frontage, the parking garage, and building service areas (including loading bays). As noted earlier, a new fire station also will be provided for the City of Somerville. This municipal use will be located at the southeasterly corner of the intersection of Foley Street and Middlesex Avenue. In total, structured parking for 1,283 vehicles will be provided within Block 21B.

### **Alta XMBLY (Block 23)**

The Alta XMBLY development within Block 23 of the overall Project Site currently is under construction. This building is located at the northwesterly corner of the Grand Union Boulevard/Revolution Drive intersection. This new building will include a total of 329 residential units and 10,700 sf of supporting ground-floor retail/restaurant/active use space along the perimeter of this block. The primary parking and loading entrances will be located along the northerly side of the building along "Road L". The structured parking within this building will accommodate a total of 188 vehicles for Site residents.

### **Block 24**

The existing 162,000 sf office building within this block will be razed and will be replaced with a new 464,000 sf building primarily oriented to research & development/lab use. Approximately 3,900 sf of supporting retail/restaurant/active use space will be provided along the ground floor of the building facing Road L.

### **Block 26**

Block 26 will include a total of approximately 386,000 sf primarily of office/research & Development/lab space. Approximately 2,500 sf of retail/restaurant/active use space also is proposed to be provided at the ground- floor level facing Road K. Structured parking within this building's footprint will be provided for a total of approximately 428 vehicles.

## **5.2 Parking Demand and Supply**

The 2018 approved XMBLY development provided 1,727 parking spaces, with 188 of those spaces being located within the Alta XMBLY residential building currently under construction within Block 23. With the originally proposed residential component of the Site being reduced from 489 units to only the 329 units currently under construction, the parking for the Project will be modified accordingly. Specifically, the approved 190,000 sf Block 25 building is now proposed to be used as commercial space instead of for residential units. Applying the approved commercial parking ratio of 1.47 spaces per thousand square feet would result in an additional 169 parking spaces being appropriate for the additional lab space, which

is expected to have a greater need for parking than the previously-approved residential building.

With this change, the overall approach to parking within the Site will remain unchanged. As noted above, the residential component of the Project has been reduced since the original proposal with the remaining residential units. Considering the 188 parking spaces planned for the 329-unit building under construction, there will be a 0.57 space per 1,000 sf parking ratio, which is slightly lower than the 0.61 ratio originally contemplated. With the 190,000 sf of former residential space now being allocated for research & development use, the approved 1.47 space per unit parking ratio still will be used for this area. Accordingly, while the mixture of uses has changed, the underlying approved commercial parking ratio still will be applied without modification (while the residential parking ratio has decreased slightly). All the proposed parking will be located within parking structures with the exception of on-street parallel parking being provide at key locations within the internal Project roadway network.

The parking structures will be available only for Project use for both security and parking demand management purposes. Access will be controlled through gating, ticketing, reader cards or other means. This will help avoid this parking being used for the MBTA or other nearby developments.

The Project will include short- and long-term bicycle parking storage in compliance with the City of Somerville's guidelines to encourage cycling as a strong alternative transportation mode. The Project will provide interior secured bicycle parking spaces located within both the Block 21B, Block 24, and Block 26 parking structures, in addition to the bicycle parking that already will be provided within the approved Block 23 Alta XMBLY building. The Project also will be providing short-term bicycle racks within 50 feet of each building entrance. The City of Somerville Zoning Bylaws require that a total of 182 bicycle parking spaces be provided. The exact capacity and location of the racks will be determined as the details of the Site design are refined. However, considering the mixture of proposed uses and configuration of the Site, a total of 224 bicycle parking spaces will be provided.

In addition to the parking facilities discussed above, there is ample on-street parking spaces near the Project Site. Specifically, on-street parallel parking is provided on both sides of Grand Union Boulevard within close walking distance to the Site, and along the southerly side of Foley Street. On-street angled parking spaces also are provided along the westerly side of Middlesex Avenue with parallel parking provided along the east side of this roadway. The parking spaces along Middlesex Avenue are free along the westerly side but are metered along the east side. The cost for the metered spaces currently is \$1.25 per hour/\$0.25 per twelve minutes, with a two-hour time limit during the Monday-Saturday (8 AM-8PM) metered operation of these spaces. Due to its location, it is expected than any on-street parking demand associated with the Project primarily will occur along Grand Union Boulevard, Foley Street, or the planned roadways within the Site.

### 5.3 Site Access Plan

The Project Site is bound by existing roadways around its perimeter, which will allow for multiple options for entering and existing the overall Project Site. The Project also will include the construction of a new "Road K" traveling in a north/south direction through the center of the Project Site. This roadway will be intersected at its midpoint by Road L, which will continue to the east to its terminus with Grand Union Boulevard. This road also will continue to and from the west where it will connect to Middlesex Avenue. Road K will intersect Foley Street opposite the K-Mart Driveway on the opposite side of the roadway, and this location will continue to function as a full-access unsignalized intersection. Road K will continue to the south through the Project Site where it will intersect Revolution Drive opposite the existing Home Depot driveway. To enhance access at this location, a new eastbound left-turn lane already has been constructed within the existing roadway median to accommodate entering left-turns into the Project Site. This intersection will continue to operate at as a full-access four-way, unsignalized intersection.

To avoid traffic conflicts on Grand Union Boulevard, turning movements to and from Road L will be limited to right-turns only. Road L will provide access and egress for the residential 188-space parking garage under construction within Block 23, and Project Site residents also may use Road K to travel to and from the garage. Road K also will provide access and egress to the Block 21B commercial parking garage. The Block 21 garage will no longer have an access driveway on Road K. Instead, the garage will be accessed via a connecting circulation aisle on Foley Street, and the Road L connector roadway to the south.

A new driveway also will be provided on Middlesex Avenue, but it will be limited to entering and exiting right-turns only due to the existing landscaped island opposite the site which limits Middlesex Avenue to one-way, northbound travel only in this area. However, the Proponent actively pursuing an alternate design to allow for at least exiting traffic directly onto Middlesex Avenue heading to Mystic Avenue northbound, with entering left-turns into the Site also possibly being allowed. To help provide adequate sight lines looking from this driveway towards northbound Middlesex Avenue traffic, the easterly curbline of this roadway will be modified slightly. Specifically, the existing edge of road will be shifted by up to 26 feet to the west. Traffic heading northbound on Mystic Avenue still will be able to freely turn right onto Middlesex Avenue, but exiting Project Site traffic will be able to see these oncoming vehicles for a greater distance. With this change, there also will be additional green space provided along the Project Site's Middlesex Avenue frontage which should provide for improved conditions for pedestrians in this area.

Finally, the potential 14,000 sf City of Somerville fire station will have its own driveway on Middlesex Avenue at the northwest corner of Block 21. The Proponent is committed to working with the City to help provide appropriate measures to help ensure timely, safe, and efficient access and egress to this new amenity. Loading

Loading needs for the Project will be accommodated by multiple loading areas provided at appropriately positioned locations to maximize internal efficiency and to minimize any conflicts on the surrounding roadway system.

The Applicant is seeking a waiver from the loading bay requirement specified under the City of Somerville Zoning Bylaws. Specifically, while the city regulations require a total of 15 loading bays, the applicant has determined that the actual needs of the Site will be limited to only 13 total loading bays.

Four loading bays will be provided on the easterly side of the north/south connecting aisle between Foley Street and the westerly extension of Road L. A limited number of off-peak on-street deliveries also may occur along this circulation aisle, with the allowable delivery hours to be determined through consultation with the City staff.

The primary loading accommodations for the research & development/lab component of the Site will be provided at the westerly end of Block 24/26 adjacent to Mystic Avenue. Within this area, four loading bays will be provided along the southerly end of the loading area, and five loading bays will be provided along the northerly side. After turning right into the Site from Mystic Avenue all maneuvering in and out of the specific docks will occur within the at-grade loading area within the building footprint. Information regarding the specific loading maneuvers is provided in the Transportation Access Plan accompanying this submittal.

To the extent possible, the Applicant is proposing a shared loading approach for the supporting retail and restaurant uses. By allocating less ground floor space to loading bay spaces, more ground floor area is available for uses that will further the lively pedestrian-friendly atmosphere envisioned for the district. Most deliveries will likely occur in the weekday morning hours. Regardless, as part of the overall site management, deliveries being made to the Site will be scheduled to help minimize any shared loading conflicts.

### **5.3.1 Public Transportation**

There are ample public transportation services provided by the Massachusetts Bay Transportation Authority (MBTA) currently in the immediate vicinity of the Project Site as summarized in the following section.

#### **Existing Conditions**

The study area is currently served by two MBTA bus routes within 0.5 miles of the Project Site. The area is serviced by MBTA Bus Routes 90 and 95. There are eighteen additional MBTA bus routes with stops within 0.75 miles of the Site. In addition, the Project Site is served by the MBTA Orange Line with Assembly Station located approximately less than 2,000 feet (approx. 0.38 miles), or an 8-minute walk, from the Project Site. A description of each transit service is provided below:

- › Bus Route 90 travels between Wellington Station and Davis Square via Assembly Square Mall, Sullivan Square, and Highland Avenue. The nearest

stop to the Project Site is on Grand Union Boulevard at Foley Street, located approximately 1,100 feet (or a 4-minute walk) from the Site. During peak periods, Bus Route 90 has a frequency of approximately 30-50 minutes.

- › Bus Route 95 travels between Sullivan Square and West Medford via Mystic Avenue and Medford Square. The nearest stop to the Project Site is on Mystic Avenue (Route 38) at Kensington Avenue, located approximately 500 feet (or a 2-minute walk) from the Site. During peak periods, Bus Route 95 has a frequency of approximately 10-40 minutes.

The current MBTA bus ridership for these routes is summarized in Table 5-1. Additional information regarding these transit accommodations is provided in the Mobility Management Plan accompanying this submittal.

**Table 5-1 Project Area MBTA Service**

Bus Route	Origin / Destination	Peak-Hour Frequency (minutes)	Direction	Weekday	Saturday	Sunday
90	Charlestown; Davis Square – Wellington Station	30-50	Inbound	588	334	230
			<u>Outbound</u>	<u>593</u>	<u>350</u>	<u>163</u>
			Total	1,182	684	393
95	Fellsway; West Medford – Sullivan Square	10-40	Inbound	896	445	206
			<u>Outbound</u>	<u>986</u>	<u>491</u>	<u>236</u>
			Total	1,881	936	442

a Based on MBTA's Ridership and Service Statistics – Fourteenth Edition, 2014.

### Assembly Square Orange Line Station

Assembly Station on the Orange Line of the MBTA is approximately 2,000 feet (approx. 0.38 miles) east of the Project Site via Foley Street. The Orange Line travels from Oak Grove in the north, to Forest Hills in the south, and serves the cities of Malden, Medford, and Somerville, as well as the Boston neighborhoods of Charlestown, Downtown, Chinatown, Back Bay, South End, Roxbury, and Jamaica Plain. The Orange Line runs approximately every six minutes during peak periods. The Assembly Station on the Orange Line opened in 2014.

Additional transit services are available within the study area beyond the 0.5 miles range discussed above. Additional stops on the Orange Line are located at Sullivan Square Station (located approximately 0.6 miles south of the Project Site) and Wellington Station (located approximately one mile north of the Site). Both Sullivan Square Station and Wellington Station are local transit hubs and provide connections to several additional MBTA bus routes.

### 5.3.2 Trip Generation

While the commercial component of the 2018 approved XMBLY development was planned to include a mixture of office and research and development space (and

supporting retail/restaurant space) the current Project will consist entirely of research & development/lab space with ground-floor retail/restaurant space.

The resulting overall Project trip generation was compared to that associated with the existing uses on the Project Site, with the additional traffic compared that to condition being added to the study area roadway network.

Table 5-2 summarizes the Project-related trip projections for the existing uses within the Project Site.

**Table 5-2 Existing Site Trip Generation**

	Existing Office <sup>1</sup> (137,000 sf)	Existing Health Club <sup>2</sup> (25,000 sf)	Existing Block 24 (162,000 sf)	
			Total Unadjusted Trips (162,000 sf)	Total Net Vehicle Trips (162,000 sf)
<b>Weekday Daily</b>				
Enter	720	538	1,258	668
Exit	<u>720</u>	<u>538</u>	<u>1,258</u>	<u>669</u>
Total	1,440	1,076	2516	1,337
<b>Weekday Morning</b>				
Enter	134	17	151	73
Exit	<u>22</u>	<u>16</u>	<u>38</u>	<u>15</u>
Total	156	33	189	88
<b>Weekday Evening</b>				
Enter	25	49	74	37
Exit	<u>129</u>	<u>37</u>	<u>166</u>	<u>82</u>
Total	154	86	240	119
<b>Saturday Daily</b>				
Enter	151	339	490	265
Exit	<u>151</u>	<u>339</u>	<u>490</u>	<u>264</u>
Total	302	678	980	529
<b>Saturday Midday</b>				
Enter	39	39	78	41
Exit	<u>33</u>	<u>41</u>	<u>74</u>	<u>39</u>
Total	72	80	152	80

1 Source: Trip Generation Manual, 10<sup>th</sup> Edition; Institute of Transportation Engineers (ITE); Washington, D.C. (2017). Land use code 710 (General Office Building).

2 Ibid. Land use code 492 (Health/Fitness Club).

As shown in Table 5-2, the existing trip generation for Block 24 is lower than that which would be found in a more isolated suburban site. This is due to the availability of public transportation, shared trips with other nearby uses within the Assembly Square district, and the inherent benefits of being located within an area with bicycle and pedestrian accommodations. The details of these assumed mode splits are discussed in greater detail later in this section. With the Project and continued ongoing development of the surrounding area the trend away from single-occupant automobile travel to and from the Project Site should continue.

Following the documentation of the existing Block 24 trip generation as shown in Table 5-2, trip generation was estimated for the full redevelopment of the Project Site. The methodology used and results of this analysis are discussed in detail in the following sections.

### **Proposed Project-Generated Traffic**

The amount of vehicular traffic generated by a development depends on multiple factors including size, location, and concentration of surrounding developments. The Trip Generation Manual<sup>1</sup> published by the Institute of Transportation Engineers (ITE) categorizes these land uses and provides weekday daily, weekday morning, weekday evening, Saturday daily and midday peak hour unadjusted vehicle trip generation estimates for each use. For the proposed development, the trip generation estimates for the planned uses were projected using LUC 760 (Research & Development Building), LUC 820 (Shopping Center), and LUC 222 (Mid-Rise Residential) for the Alta XMBLY building. The resulting overall Project trip generation was compared to that previously approved for development on this Site.

The proposed transit-oriented development will consist of a mixture of research & development/lab and supporting ground floor retail/restaurant space. As noted above, traffic associated with the office/lab space was estimated using ITE LUC 760 (Research & Development Building) trip generation data. The retail uses are expected to be small, service-oriented businesses. While exact tenants have not yet been secured, these are not expected to be large destination-retail uses. Instead, potential uses will include small eating establishments, coffee shops, or gallery uses. While these do not fit the description of a transitional ITE "Shopping Center", retail traffic was estimated using this land use code (LUC 820), which results in an overly conservative analysis. The overall unadjusted vehicle trip estimates for the Project are presented in Table 5-3.

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<sup>1</sup> Trip Generation Manual (10<sup>th</sup> Edition), Institute of Transportation Engineers, Washington D.C., 2017.

**Table 5-3 Project Trip Generation – Unadjusted Vehicle Trips**

	Research & Development	Residential	Retail/ Restaurant	Total Unadjusted Vehicle Trips
<b>Weekday Daily</b>				
Enter	6,755	896	475	8,126
Exit	<u>6,755</u>	<u>896</u>	<u>475</u>	<u>8,126</u>
Total	13,511	1,791	950	16,252
<b>Weekday Morning</b>				
Enter	378	29	15	421
Exit	<u>126</u>	<u>81</u>	<u>9</u>	<u>216</u>
Total	504	110	24	638
<b>Weekday Evening</b>				
Enter	88	85	46	219
Exit	<u>500</u>	<u>54</u>	<u>50</u>	<u>604</u>
Total	588	139	96	823
<b>Saturday Daily</b>				
Enter	1,140	709	580	2,429
Exit	<u>1,140</u>	<u>709</u>	<u>580</u>	<u>2,429</u>
Total	2,280	1,417	1,160	4,857
<b>Saturday Midday</b>				
Enter	144	71	59	274
Exit	<u>144</u>	<u>74</u>	<u>54</u>	<u>272</u>
Total	288	145	113	546

a Based on ITE LUC 760 (Research & Development Building).

b Based on ITE LUC 820 (Shopping Center), assumes 25,100 sf of retail/restaurant space.

The values shown in Table 5-3 are the base unadjusted vehicle-trip estimates prior to the necessary adjustments for internal trip sharing, mode-splits, and other factors. The details of how these subsequent adjustments were made by each step are discussed in the following sections.

### Person Trips

The unadjusted vehicle trips calculated using the ITE data were subsequently converted into person trips by applying national data<sup>2</sup> for vehicle-occupancy rates for a variety of uses. This was done so that the national ITE-based data also would be converted to person trips using national data for consistency.

2 Summary of Travel Trends – National Household Travel Survey; USDOT Federal Highway Administration (Washington, DC) 2017.

## Internal Capture Trips

As described in the ITE Trip Generation Handbook, “because of the complementary nature of these land uses, some trips are made among the on-site uses. This capture of trips internal to the site has the net effect of reducing vehicle trip generation between the overall development site and the external street system (compared to the total number of trips generated by comparable land uses developed individually on stand-alone sites)...an internal capture rate can generally be defined as the percentage of total person trips generated by a site that are made entirely within the site. The trip origin, destination, and travel path are all within the site.”

Based on the methodology outlined in the ITE Trip Generation Handbook, internal capture rates were applied to the gross person trips. The resulting peak-hour person trip estimates for the Project are presented in Table 5-4.

**Table 5-4 Project Peak-Hour Person Trips**

	Research & Development	Residential	Retail <sup>a</sup>	Total Person Trips
<b>Weekday Morning</b>				
Enter	427	32	26	<b>485</b>
Exit	<u>142</u>	<u>92</u>	<u>16</u>	<b>250</b>
Total	569	124	42	<b>735</b>
<b>Weekday Evening</b>				
Enter	100	96	82	<b>278</b>
Exit	<u>565</u>	<u>61</u>	<u>89</u>	<b>715</b>
Total	665	157	171	<b>993</b>
<b>Saturday Midday</b>				
Enter	163	80	105	<b>348</b>
Exit	<u>163</u>	<u>84</u>	<u>97</u>	<b>344</b>
Total	326	164	202	<b>692</b>

<sup>a</sup> Person trip generation estimate with internal capture credits applied.

## Mode Share

The mode shares to be used for this Project were developed considering multiple sources. These include U.S. Census data<sup>3</sup>, a traffic study<sup>4</sup> for a prior development proposal on the Project Site, the Mobility Management Plan (MMPG) for an adjacent parcel<sup>5</sup>, and data from the Notice of Project Change (NPC)<sup>6</sup> prepared for the

<sup>3</sup> U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates. Census Tract 3501.03.

<sup>4</sup> Assembly's Edge, Special Permit with Site Plan Review (Chapter 4 – Transportation); Design Consultants, Inc. (Somerville, Massachusetts); April 19, 2018.

<sup>5</sup> XMBLY – 5 Middlesex Avenue (Appendix F - Mobility Management Plan); VHB (Watertown, Massachusetts); May 2018.

<sup>6</sup> Assembly Row Revised Program for Partners Healthcare Site – Notice of Project Change; VHB (Watertown, Massachusetts); May 15, 2014.

Partner's office development within the Assembly Square Mixed-Use District (ASMD).

The following sections discuss aspects of the Project which also should help promote a shifting from single-occupant vehicles as the predominant mode of travel near the Project Site.

### **Promotion of Transit Use**

Access to public transportation will significantly reduce demand for vehicular travel and parking spaces. This should be particularly effective in relation to the MBTA Orange Line Assembly Station already being in operation within a short walking distance to the Project Site.

As noted earlier, the on-site TDM coordinator will provide a central commuter information center within the Project Site in a prominent location such as in a building foyer, or near garage elevators. This will provide employees and visitors with transit maps and schedules and route information for pedestrians and cyclists.

### **Facilitating Bicycle and Pedestrian Travel**

The open space, pedestrian pathways and sidewalk connections proposed as part of the Project will be designed to complete and improve connections with the existing and future network of parks and pathways in the vicinity of the Project Site. Travel to the Project Site by cycling or walking will be promoted by the Proponent through the provision of improved bicycle and pedestrian connections within the Project Site and surrounding Assembly Square area. In addition to secured, covered bike storage within each building, bicycle racks also will be provided at locations near various buildings within the overall development. Walking to and from, and throughout the Project Site will be encouraged by the provision of a pedestrian-friendly site layout, which features sidewalks and crosswalks at key points both within the Site and connecting to adjacent planned developments. The bicycle and pedestrian infrastructure improvements will help to promote non-vehicular travel to the Project Site.

The nearest Blue Bikes bicycle-sharing station to the Project Site is located near the northerly headhouse at Assembly Station approximately 1/4 mile to the east of the Project Site. Additionally, the Proponent remains committed to installing an additional bicycle-sharing station at the Project Site.

Secured bicycle parking spaces will be provided to meet the City of Somerville requirements. This parking will be provided within both of the primary structured parking garages within the Site to satisfy the Somerville Zoning Ordinance requirements. The Project also will be providing short-term bicycle racks within 50 feet of each building entrance. The exact capacity and location of each rack will be determined as the Project design is refined.

### **Parking Management**

The parking ratios proposed for the Project are considerably lower than those found in a suburban setting and are low even for sites that are well-served by public transportation. With the limited supply, parking spaces will be allocated to a select number of employees.

Parking for the research & development/lab employees will be allocated only to certain employees through a process to be determined by individual tenants, or parking use will be managed through pricing strategies. Given that the Project Site is located within 2,000 feet (approx. 0.38 miles) of the Assembly Station, not having access to parking on site should not be a hardship to employees.

Most of the Project retail space will consist of small shops, restaurants, or cafes within the ground-level of the buildings. Even without any formal shared parking program, there will likely be shared activity. The majority of customer traffic to the retail/restaurant uses on site will likely be in the form of office/lab workers already on-site as opposed to destination retail traffic.

The Proponent will consider the following additional TDM measures:

- › Charge for on-site employee parking and provide subsidies for off-site parking;
- › Demand-responsive pricing: adjust hourly rates for employee and customer parking to manage parking availability;
- › Preferential carpool/vanpool parking spaces; and
- › Shared parking.

### **Project Mode Share**

The existing mode splits for this area are compared to the resulting anticipated mode splits in Table 5. Through the implementation of this MMP, it is the hope and expectation of the Proponent that the percentage of trips made by automobile can be reduced to under 50-percent in keeping with the goals of the City of Somerville.

**Table 5 Mode Share**

<b>Use</b>	<b>Vehicle</b>	<b>Transit</b>	<b>Bike/Walk</b>
<u>Project with Existing Mode Splits:</u>			
Research & Development	54%	36%	10%
Residential	43%	47%	10%
Retail/Restaurant	80%	10%	10%
<u>Project with Anticipated Mode Splits:</u>			
Research & Development	50%	38%	12%
Residential	43%	47%	10%
Retail/Restaurant	50%	25%	25%

Source: Based on hybrid of mode shares used in Partners Health Care Study PNF (2014), Certified NorthPoint TIS (with data from Kendall Square K2 City of Cambridge, "Hotel Parking and Transportation Demand Management Reports – City of Cambridge", Assembly Edge PUD-PMP (2017), US Census data, and Boston Transportation Department data for Zone 11 (Sullivan Square).

The existing mode shares discussed above were applied to the net-new person trips to generate the adjusted Project trips by mode. The local average vehicle-occupancy rate based on US Census data for each primary use then was applied to the vehicle mode to reflect the number of vehicle trips generated by the Project Site.

### **Pass-By Trips**

While the ITE rates provide estimates for all the traffic associated with each land use, not all of the traffic generated by the Project will be new to the area roadways. For example, a portion of the vehicle-trips generated by the retail land use will likely be drawn from the traffic volume roadways adjacent to the Project Site. Someone traveling on Middlesex Avenue may choose to deviate from their original travel path to visit the Project Site retail, before heading back to continue to their final destination. For this evaluation, ITE pass-by rates for LUC 820 (Shopping Center) were utilized for the retail trip generation and applied to existing trips on South Street. Specifically, 34- and 26-percent of the Project Site trip generation was assumed to be drawn from the surrounding roadway network during the weekday evening and Saturday midday peak hours, respectively. For all other time periods studied, a 25-percent pass-by rate was assumed.

### **Project-Generated Trips**

The existing mode share and local average vehicle-occupancy rate were applied to the person trips to estimate net new trips by mode, and then the pass-by adjustments noted above were applied to the vehicle trips generated by the retail portion of the Project. Tables 5-6 and 5-7 summarize the net new trips by mode and net new vehicle trips by use, respectively.

**Table 5-6 Project-Generated Peak-Hour Trips by Mode**

	Bike/Walk	Transit	Vehicle <sup>a</sup>
<b>Weekday Morning</b>			
Enter	47	168	211
<u>Exit</u>	<u>23</u>	<u>91</u>	<u>96</u>
Total	70	259	307
<b>Weekday Evening</b>			
Enter	24	74	98
<u>Exit</u>	<u>66</u>	<u>229</u>	<u>301</u>
Total	90	303	399
<b>Saturday Midday</b>			
Enter	30	90	129
<u>Exit</u>	<u>29</u>	<u>95</u>	<u>125</u>
Total	59	185	254

a Total development vehicle trips (including pass-by trips associated with the retail portion).

As shown in Table 5-6, the Project is expected to generate between 254 and 399 total vehicle trips during the peak hours studied (including trips generated by the existing Project Site uses). The breakdown of these trips by use is provided below in Table 5-7.

**Table 5-7 Project-Generated Peak-Hour Vehicle Trips by Use<sup>a</sup>**

	Research & Development	Residential	Retail	Pass-By <sup>b</sup>	Total Trips	-Existing Trips <sup>c</sup>	= Total New Vehicle Trips
<b>Weekday Morning</b>							
Enter	192	11	6	2	211	73	138
Exit	<u>61</u>	<u>31</u>	<u>2</u>	<u>2</u>	<u>96</u>	<u>15</u>	<u>81</u>
Total	253	42	8	4	307	88	219
<b>Weekday Evening</b>							
Enter	44	24	20	10	98	37	61
<u>Exit</u>	<u>254</u>	<u>18</u>	<u>19</u>	<u>10</u>	<u>301</u>	<u>82</u>	<u>219</u>
Total	298	42	39	20	399	119	280
<b>Saturday Midday</b>							
Enter	72	18	30	9	129	41	88
<u>Exit</u>	<u>70</u>	<u>24</u>	<u>22</u>	<u>9</u>	<u>125</u>	<u>39</u>	<u>86</u>
Total	142	42	52	18	254	80	174

a New vehicle trips with internal capture credits applied.

b Pass-by credits of 25%, 34%, and 26% applied to weekday morning, weekday evening, and Saturday midday peak hour retail trip generation, respectively.

c Source: Table 5-2.

As shown in Table 5-7, the Project is expected to generate a total of 307, 399, and 254 new vehicle trips during the respective weekday morning, weekday evening, and Saturday midday peak hours. However, these totals do not account for any credit for

traffic already being generated by the Project Site under existing conditions. Compared to the current use of the Site, the Project will result in an increase of 219, 280, and 174 vehicle trips during the weekday morning, weekday evening, and Saturday midday peak hours. Furthermore, this increase is even smaller when compared to the prior 2018 XMBLY approval involving more traffic-intensive offices use and additional residential units. With that approved project, the projected increases during these respective peak hours were 364, 414, and 264 vehicle trips. The full potential impacts of that project were evaluated through a comprehensive Traffic Impact and Access Study reviewed as part of both the City of Somerville and state MEPA review processes. With the lesser increase in traffic shown above, the findings of that prior study remain unchanged.

## 5.4 Trip Distribution and Assignment

The directional distribution of traffic approaching and departing the Project is a function of several variables. These include the population densities, shopping opportunities, competing uses, existing travel patterns, and the efficiency of the roadways leading to the Site.

As the Project is primarily comprised of office/research & development/lab space, the trip distribution patterns were determined using journey-to-work census data for the City of Somerville.

The Project Site is bound by existing roadways around its perimeter, which will allow for multiple options for entering and existing the overall Project Site. The Project also will include the construction of a new "Road K" traveling in a north/south direction through the center of the Project Site. This roadway will be intersected at its midpoint by Road L, which will continue to the east to its terminus with Grand Union Boulevard. This road also will continue to and from the west where it will connect to Middlesex Avenue. Road K will intersect Foley Street opposite the K-Mart Driveway on the opposite side of the roadway, and this location will continue to function as a full-access unsignalized intersection. Road K will continue to the south through the Project Site where it will intersect Revolution Drive opposite the existing Home Depot driveway. To enhance access at this location, a new eastbound left-turn lane already has been constructed within the existing roadway median to accommodate entering left-turns into the Project Site. This intersection will continue to operate at as a full-access four-way, unsignalized intersection.

To avoid traffic conflicts on Grand Union Boulevard, turning movements to and from Road L will be limited to right-turns only. Road L will provide access and egress for the residential parking garage under construction within Block 23, and Project Site residents also may use Road K to travel to and from the garage. Road K also will provide access and egress to the Block 21 commercial parking garage. The Block 21 will no longer have an access driveway on Road K. Instead, the garage will be accessed via a connecting circulation aisle on Foley Street, and the Road L connector roadway to the south.

A new driveway also will be provided on Middlesex Avenue, but it will be limited to entering and exiting right-turns only due to the existing landscaped island opposite the site which limits Middlesex Avenue to one-way, northbound travel only in this area. However, the Proponent actively pursuing an alternate design to allow for at least exiting traffic directly onto Middlesex Avenue heading to Mystic Avenue northbound, with entering left-turns into the Site also possibly being allowed. To help provide adequate sight lines looking from this driveway towards northbound Middlesex Avenue traffic, the easterly curbline of this roadway will be modified slightly. Specifically, as noted earlier, the existing edge of road will be shifted by up to 26 feet to the west. Traffic heading northbound on Mystic Avenue still will be able to freely turn right onto Middlesex Avenue, but exiting Project Site traffic will be able to see these oncoming vehicles for a greater distance. With this change, there also will be additional green space provided along the Project Site's Middlesex Avenue frontage which should provide for improved conditions for pedestrians in this area.

Finally, the potential 14,000 sf City of Somerville fire station will have its own driveway on Middlesex Avenue at the northwest corner of Block 21. The Proponent is committed to working with the City to help provide appropriate measures to help ensure timely, safe, and efficient access and egress to this new amenity. Table 5-8 summarizes the resulting trip distribution patterns for the Project.

**Table 5-8 Vehicle Trip Distribution Summary**

Route	Direction	Commercial Trip Distribution	Residential Trip Distribution
I-93	North	18%	11%
I-93	south	15%	28%
Route 28	north	11%	3%
Route 28	south	21%	14%
Broadway	north	17%	11%
Mystic Avenue	north	6%	3%
<u>Mystic Avenue</u>	<u>south</u>	<u>12%</u>	<u>3%</u>
Total	--	100%	100%

## 5.5 Transportation Demand Management Plan

A full Mobility Management Plan (MMP) documenting transportation demand management (TDM) measures to minimize single-occupant automobile trips to the Site is required as part of the City of Somerville approval process. The required MMP has been prepared and is included as part of this overall submittal. The following section provides a general summary of the TDM measures included in the MMP.

## General Measures

### Transportation Management Association (TMA) Involvement

The Proponent is in the process of becoming a member of Assembly Connect, Assembly Square's Transportation Management Association, and this requirement will be satisfied within the timeframe noted above.

### Transportation Coordinator

As required by the submittal requirement for MMP's, an on-site TDM coordinator will be designated for the Project. Alternatively, a representative from an approved Mobility Management Association may be appointed in place of an on-site TDM coordinator. The work location and contact information for the TDM Coordinator will be provided to the Director of Mobility Division (the "Director") prior to the issuance of a Certificate of Occupancy. This person may be the office manager, human resources employee, or other individual serving a dual role in another job on the Project Site. Also, the specific office location for the TDM Coordinator will be shown on plans to be submitted to the Director prior to the submittal of the Building Permit application.

The person(s) in this role will coordinate with other organizations within Assembly Square to help promote a reduced reliance on single-occupant motor-vehicle travel to the Project Site. To that end, the TDM measures identified in the following sections will be implemented under the direction and supervision of this person. The final job description for this role will be determined over time, but the duties of the on-site TDM coordinator will include, but not be limited to:

- › Assisting site employees with ride matching and transportation planning;
- › Developing and implementing appropriate TDM measures;
- › Disseminating information on alternate modes of transportation and developing transportation related marketing and education materials;
- › Hosting an annual mobility management educational meeting for tenants and their employees (both the content of this meeting and associated posted material shall be provided to the Director for review and approval prior to the issuance of a Certificate of Occupancy);
- › Developing and maintaining information pertaining to pedestrian and cycling access to and from the Project Site;
- › Distributing transit maps and passes;
- › In tenants' lease agreements the Proponent will require that tenants provide an Emergency Ride Home, with a copy of the lease agreement language specifying that being provided to the Director for review prior to the issuance of the building's Certificate of Occupancy; and
- › Tenants will make efforts to seek qualified candidates located within one-quarter mile (i.e., walking distance) of the Project Site.

Any tenants with more than fifty (50) employees also will be required to submit their own MMP, along with a copy of the leases (with financial aspects and other non-MMP elements redacted) or an affidavit signed by the owner and tenant(s) verifying that this language was included and agreed to in the lease. This documentation will be provided to the City prior to the issuance of the Certificate of Occupancy of a space by these tenants.

### **Ride-Sharing Services**

The parking needs for the Project will be lessened due to the nearby availability of public transit currently provided in the area. Furthermore, alternate means of travel, such as taxi, private ride services (Uber, Lyft, and others) should continue to reduce the parking needs for this area. The exact level of usage by these private ride-sharing services can be quantified through post-opening monitoring studies to be conducted as discussed later in this document.

### **Use-Specific Measures**

In addition to the general TDM measures outlined above, the following use-specific programs for the office/laboratory uses and retail shops and restaurants also will be provided.

### **Research & Development Laboratory Space**

Research & development/lab employers within the Project Site will be required to implement appropriate TDM measures in their leases and to be overseen by the on-site building TDM coordinator. As not every TDM program will be suitable for every type of employer, such as telecommuting or flexible work hours, the on-site TDM coordinator will offer technical assistance to employers to evaluate potential programs and implement them when appropriate. Employer-based TDM measures may include the following programs:

- › Preferential carpool and vanpool parking within the parking garage and spaces near office building entrances within the parking garage as a convenience to commuters and to promote ridesharing;
- › Ride matching assistance managed by the on-site TDM coordinator so that employees find appropriate carpool and vanpool partners;
- › Sponsored vanpools and subsidized expenses;
- › Tenants will provide employees with Qualified Transportation Fringe benefits per current U.S. Internal Revenue Service Code, with a copy of the lease agreement language specifying that being provided to the Director for review prior to the issuance of the building's Certificate of Occupancy;
- › Provide telecommuting and flexible work hour options for employees in appropriate jobs;
- › Provide incentives for bicycle and pedestrian commutes, like covered bicycle storage, changing rooms, and shower facilities;

- › Hold promotional events for transit-riders, cyclists, and pedestrians;
- › Offer direct deposit to employees; and
- › The Proponent will consider providing preferred parking for low-emitting fuel-efficient vehicles and/or electric vehicle charging stations within the Project garages.

### **Retail/Restaurants**

The Proponent will seek to attract a variety of retail shops, restaurants, and service tenants as ground-floor supporting uses. Ground floor retail/active uses will potentially include restaurant or café use, general merchandise, and/or service uses like banks and office supplies. As most of these businesses will be small shops, there will not be the same levels of TDM opportunities internal to each individual business as will be available with larger employers, but employees who work on the Project Site will be able to take advantage of the transportation guidance and programs coordinated by the transportation coordinator.

The suite of TDM measures to be implemented in association with the retail shops are fewer than for traditional offices but will still have an impact in reducing single-occupant vehicle travel. The retail/restaurant MMP measures for those tenants with more than fifty (50) employees may include the following:

- › Ride matching services and transit information provided by the on-site TDM coordinator;
- › Tenants will provide employees with Qualified Transportation Fringe benefits per current U.S. Internal Revenue Service Code, with a copy of the lease agreement language specifying that being provided to the Director for review prior to the issuance of the building's Certificate of Occupancy;
- › Offer direct deposit to employees; and
- › As noted earlier, the Proponent will consider providing preferred parking for low-emitting fuel-efficient vehicles and/or electric vehicle charging stations within each of the garages serving the buildings comprising the Proposed Project.

### **Monitoring and Annual Reporting**

The Proponent will conduct annual travel surveys as required. These surveys will be developed through consultation with the City to determine the number of Project Site employees utilizing public transportation, those traveling to the Project Site by private automobile, and those using car-sharing services. Employees also will be surveyed to identify those that bike or walk to and from work. The Proponent is committed to making reasonable efforts to achieve the City's goal to control the percentage of trips made by automobile at 50 percent or less, consistent with SomerVision. If annual monitoring and reporting identifies a shortfall in meeting this goal, additional mobility management programs and services must be implemented.

The annual update to the MMP, to be submitted to the City, will include the following the components.

- › Annual travel survey of employees;
- › Annual reporting of parking utilization for each parking garage and parking lot. This will be done through an inventory to be conducted for a representative weekday midday period when it can reasonably be assumed that the combined peak parking demand for employees and visitors would occur;
- › Biennial (every other year) counts of entering and exiting automobile trips for the parking garage proposed as part of the Project; and
- › A status summary of the MMP in place at the Site will be provided.

In keeping with standard practices for the City of Somerville, all the monitoring outlined above will occur during the months of April/May or September/October, unless other time periods are pre-approved by the City.

# 6

## Utility Analysis

The following report is submitted relating to the Site Plans entitled, "XMBLY, Somerville, Massachusetts", dated March 19, 2020 as part of this Amended Planned Unit Development, Preliminary Master Plan (PUD-PMP) submission.

For the Site Location Map, refer to Figure 3.1.

For existing utilities referenced in this report please refer to the drawing in the Appendix A – Civil Site Plans, entitled:

- Existing Conditions Plan of Land, SV-1, dated November 2017.
- For proposed utilities referenced in this Chapter please refer to the drawings in the Appendix A – Civil Site Plans, entitled:
- Grading, Drainage, and Erosion Control Plan, C-4, dated March 19, 2020
- Utility Plan, C-5, dated March 19, 2020

### 6.1 Study Description

This analysis describes the existing and proposed on-site and surrounding utility infrastructure supporting the proposed XMBLY development (the "Project") at 5 Middlesex Avenue, Somerville, MA (the "Site"). The Site was partially developed as part of the Assembly Square Development and its various phases. The report uses and makes references to the previously submitted Utility Analysis prepared by VHB as part of the Assembly Square Amended Preliminary Master Plan, Planned Unit Development submitted to the City in May 2014 which relied upon the Assembly Square Development Utility Analysis confirmed and updated the findings in a report by Green International Affiliates, In., ("GIA"), which analyzed for the Somerville Office of Housing and Community development ("OHCD"), all existing utilities, and future improvements within the Assembly Square Revitalization Area ("ASRA"). The GIA report was completed in November 2001 and entitled "Utility Analysis Report ("UAR") for Assembly Square Revitalization Area Somerville, Massachusetts".

Existing utilities and associated infrastructure within the Site and surrounding roadways were obtained from actual on the ground survey performed by VHB in November 2017 supplemented by additional subsurface investigations, field observation and information of record.

This report was prepared using information in the 2014 AMP-PUD submission and 2001 GIA report. Previously in March 2018, a PUD-PMP submission including a

Utility Analysis was submitted to the City of Somerville and was approved in June 2018. This report is a revision of the 2018 XMBLY PUD-PMP Utility Analysis and contains all the utility existing information, data and analyses that are valid for current conditions. This report identifies the availability and adequacy of the existing utility facilities and infrastructure that will serve Blocks 21A, 21B, 24, 26, and Alta XMBLY of the Project.

## 6.2 Water Supply and Distribution

The City of Somerville owns and maintains the public water distribution system that services the ASRA. The City's water distribution system supplies both domestic and fire protection water to the area. The following sections describe the existing water system surrounding the Project Site and its capability to service the proposed development.

### 6.2.1 Existing

This existing water system is part of a City-wide interconnected network that is supplied by the Massachusetts Water Resources Authority ("MWRA") through seven metered connections. The City is supplied by both MWRA's high service and low service pressure systems. The water distribution system within the Assembly Square area is part of the City's low service system.

MWRA Meter 91 is located at the intersection of the Fellsway West and Middlesex Avenue and provides the closest supply of water to the Assembly Square area from a 48-inch cast iron water main located in Middlesex Fells Parkway ("Fellsway"). The City does not have any water storage facilities or any pumping stations that service this area.

The water distribution system surrounding the Site is described as follows:

- The primary connection to the MWRA meter is a 20-inch diameter cast iron main installed in 1925 by the City within and along Middlesex Avenue.
- Several branch lines of varying diameter feed off the 20-inch main between Middlesex Avenue and the Fellsway.
- A new 20-inch water main from the existing 20-inch water main in Middlesex Avenue, continues along Grand Union Boulevard to Foley Street then continues west along Foley Street to Middlesex Avenue where the new 20-inch water main is looped into the existing 20-inch water main in Middlesex Avenue. The newly constructed 20-inch main in Foley Street replaced the existing 12-inch water main installed in 1928 as part of the infrastructure improvements for the Assembly Row.
- Water mains were extended ranging in size from 8 to 20-inch, from the newly constructed 20-inch water main in Grand Union Boulevard along

Artisan Way, Great River Road, Canal Street, Foley Street and Revolution Drive where they are interconnected to create multiple looped systems.

- The remainder of the system along Foley Street, Grand Union Boulevard and Mystic Avenue consist of a 12-inch diameter pipe interconnected to create several loops.

## 6.2.2 Required Water Demands

### Projected Water Use

Estimates of water demand have conservatively been determined assuming water use is equivalent to wastewater flows calculated in accordance with Massachusetts Department of Environmental Protection ("MassDEP") Wastewater Design Flows in 314 CMR 7.15. However, these flows are likely to be reduced in recognition of Proponent's commitment to implement water conservation measures and maximizing water efficiency within building during the design development phase for each Block. In all cases, the City's water distribution system is anticipated to provide sufficient capabilities to meet the normal daily peak demands of the Project.

The projected water consumption rates used to calculate Maximum Projected Water Flow below assume water use to be equivalent to wastewater flows calculated in accordance with the MassDEP Wastewater Design Flow Guidelines in 314 CMR 7.15, generally as follows:

- Office Space/Lab/Research & Development: 110 gallons per day per 1,000 square feet
- Apartments: 110 gallons per day per bedroom
- Retail: 50 gallons per day per 1,000 square feet
- Restaurant: 35 gallons/seat

Because the DEP wastewater design flows are considered very conservative in relation to actual flow volumes, therefore, no increase in water consumptive rates have been applied to these figures.

**Table 6-1 - Maximum Projected Water Use**

<b>Land Use</b>	<b>Unit – Wastewater Rate (GPD)</b>	<b>Total Size of Building Program</b>	<b>Water Use 100% of Wastewater Rate (GPD)</b>
Office/Lab/Research & Development	110/1,000 SF	1,219,100 SF	134,101
Residential	110/bedroom	418 Bedrooms	45,980
Retail	50/1,000 SF	20,011 SF	1,000
Restaurant	35/seat	214 seats	7,490
Fire Station	50/person/shift	8 people/ 2 shifts	<u>800</u>
<b>Total</b>			<b>189,371</b>

**Fire Flow Demand**

The water system within the Site provides both domestic and fire flow water supply. The City's existing water distribution network within this area has, on average, fire hydrants located 300 feet apart throughout the entire area. This spacing meets the typical maximum recommended distance between hydrants in an urban setting.

The minimum Needed Fire Flow ("NFF") for MWRA Meter 91 and maximum Insurance Services Office ("ISO") requirements for a Community are:

Fire Flowrate

Estimated minimum NFF requirements to be supplied by MWRA for meter 91: 2,000 gpm

Maximum requirements a community is required to supply according to the ISO: 3,500 gpm

The required minimum residual pressure at any location within the distribution system during a fire flow situation is 20 psi.

**6.2.3 Proposed Water**

A hydraulic analysis was also performed on the City water system as part of the Assembly Row PUD-PMP that indicates the existing municipal water system has sufficient capacity for existing maximum daily demands plus a 3,500 gpm fire flow demand while maintaining greater than the minimum required pressure of 20 pounds per square inch ("psi") throughout the system. Independent hydrant flow tests conducted in Foley Street verify the existing available flows, pressures, and the ability to accommodate the added load.

A fire flow of 3,500 gpm is the maximum flow a community is required to supply according to the ISO standards.

Based on VHB's analysis, the Future Maximum Day Demand and 3,500 gpm fire flow can be achieved within the Site after the proposed water improvements are constructed.

The Project proposes the following water mains and service connections:

- A proposed 12-inch water main in proposed "Road K" that creates a loop through the Site connecting the City of Somerville's 20-inch main in Foley Street to the existing 12-inch main in Revolution Drive.
- A secondary 12-inch water main in "Road L" and the Block 21 Alley creates a loop around Block 21A by connecting to the proposed 12-inch main in Road K, west through Road L, and north in the Block 21 alley connecting to the City of Somerville's 20-inch main in Foley Street.
- Block 21A connection to the proposed 12-inch main in the Block 21 Alley, with potential connections to water stubs to the proposed 12-inch main in "Road K" for domestic and water services.
- Block 21B connection into the City of Somerville's 20-inch main in Middlesex Avenue and potential connections to water stubs to the proposed 12-inch main in the Block 21 Alley for domestic and fire services.
- Alta XMBLY (formerly known as Block 23) connection to the proposed 12-inch main in "Road K" for domestic and water services.
- Block 24 connection into the City of Somerville's 20-inch main in Middlesex Avenue for domestic and water services.
- Block 26, connection to the existing 12-inch main in Revolution Drive or into the proposed 12-inch main in "Road K" for domestic and fire services.

## 6.3 Sanitary Sewer

The City of Somerville Owns and maintains the sanitary sewer system in the ASRA. The sanitary sewer is a separated system with storm drainage collected in an independent system.

### 6.3.1 Existing

The ASRA sewer shed begins with an eight-inch sewer main at the north end of ASRA. The sewer trunk line flows from North to South within Grand Union Boulevard gradually increasing to an 18-inch at the intersection of Foley Street and Grand Union Boulevard. The trunk line continues to flow within Grand Union Boulevard towards the southern end of the ASRA, where the sewer system connects into a 24-inch pipe on North Union Street prior to discharging to the City of Somerville Regulator Manhole, which is the connection to the MWRA system.

During the permitting for the Assembly Row development, the total peak sewer flows were projected for the full-buildout of the Assembly Row development which was calculated to generate approximately 3.11 million gallons per day (MGD). The 18-inch sewer trunk line has a design capacity of approximately 5.1 MGD at a slope of approximately 0.003 with an average velocity of 5 feet per second.

### **6.3.2 Proposed**

The average daily wastewater flows rates are based on MassDEP, Sewer System Extension and Connection, regulation 314 CMR 715. The proposed land use areas and calculated flow rates are shown on Figure 6.1.

The existing 18-inch trunk line sewer system has adequate capacity to accept the proposed peak flows of the XMBLY Development. All five (5) proposed development blocks (Blocks 21A, 21B, 24, 26, and Alta XMBLY) will be serviced via connections into the proposed 8-inch sewer main within "Road K" or to a proposed 8-inch sewer main flowing west to east within the proposed "Road L", and connect into the existing 18-inch trunk line in Grand Union Boulevard. The existing 18-inch sewer trunk line will have enough capacity to handle all peak sewer demands of the Proposed Development with an excess capacity of approximately 1.0 MGD +/-.

Existing sanitary sewer connections from the existing office building could be utilized as connections for the proposed Block 24. These existing sanitary sewer lines connect to the 8-inch sewer line that runs parallel to Middlesex Avenue. Further investigations will need to be performed to determine the viability of these connections. The Grand Union Boulevard sewer trunk line ultimately flows southerly within Grand Union Boulevard to a 3'-3" by 3'-11" MWRA sewer interceptor near North Union Street. The MWRA interceptor conveys flow to the Charlestown Pumping Station and eventually to the Deer Island Treatment Plant. The Project will increase wastewater flows to the MWRA interceptor sewer.

### **6.3.3 Sewer Mitigation**

The City of Somerville requires Inflow and Infiltration ("I&I") improvements for developments with greater than 2,000 GPD of sewer flow. The policy requires the proponent to remove or cause the removal of a minimum of four (4) gallons of I/I flow for each gallon of new wastewater generated. Alternatively, the City has created a mitigation fund which provides developers the option to contribute to the fund in lieu of performing infrastructure improvements. The Proponent will work closely with the City to determine the I&I mitigation for the Project through the PUD and Special Permit processes.

## **6.4 Stormwater**

### **6.4.1 Existing Drainage Conditions**

The Project Site was previously covered with existing buildings and parking lots or areas that were previously developed with buildings and since been demolished. The Site is generally flat, ranging from approximate elevation 9.0 feet (NGVD) to 14.0 feet (NGVD) except for the eastern edge of the Site that has a 3:1 slope up to an elevation of 14.0 feet (NGVD) to transition into Grand Union Boulevard. Much of the Site is covered by impervious parking or near-impervious surfaces with minimal landscape islands or features. Much of pervious area is found adjacent to Grand Union Boulevard. See Plan Sv-1 Existing Conditions Plan of Land in Appendix A.

The existing on-site drainage systems collect and convey stormwater runoff from the impervious areas via a closed drainage system of catch basins, pipes, and manholes, that connects into the existing stormwater infrastructure in the abutting streets. The eastern half of the Site conveys the stormwater runoff to the existing stormwater infrastructure in Foley Street and Grand Union Boulevard which flows East to the recently built 72-inch drainage outfall and ultimately discharging to the Mystic River downstream of the Amelia Earhart Dam. The western half of the Site conveys the stormwater runoff to the existing stormwater infrastructure near the intersection of Foley Street and Middlesex Avenue which flows North to the existing 84-inch drainage outfall and ultimately discharging in the Mystic River upstream of the Amelia Earhart Dam. See Figure 6.3 Existing Drainage Areas for the Site's existing drainage boundaries.

NRCS Soil Maps for Middlesex County (NRCS Web Soil Survey, 12-21-2017) show the existing soils to be Urban Land with wet substratum (603) and Udorthents with wet substratum (655) (see Figure 6.2). Geotechnical information available at the time of this memo classify the soils as hydrologic soils group D, which has low infiltration potential. The cover condition and soils present in the Site result in minimal infiltration of stormwater under existing conditions. Areas to the North and East of the Site that were historically occupied with railroad and manufacturing facilities were redeveloped into mixed-use buildings that were required to limit infiltration during redevelopment.

### **6.4.2 Proposed Stormwater Management System**

An overall goal of the Project is to provide a comprehensive stormwater management system designed to enhance the water resources both on the Site and downstream. The analysis outlined in this section concludes that the Project will vastly improve the existing conditions on the Site and accomplish this goal by:

- Implementing an environmentally sensitive site design that creates additional open space areas and significantly reduces the amount of on-site paved surface parking areas thereby re-establishing components of a

natural water cycle (evapotranspiration, groundwater recharge and runoff) on the Site.

- Improving the surface water and groundwater quality by implementing integrated stormwater controls throughout the Project area including the use of Low Impact Development (LID) techniques, where feasible, as well as traditional stormwater Best Management Practices (BMPs) combined with a thorough Operation and Maintenance (O&M) Plan.
- The stormwater management system is designed to attenuate the peak rate and volume of runoff to meet existing conditions.

The Project, under proposed conditions, maintains the existing hydrologic conditions and corresponding drainage subwatersheds. The eastern half of the Site will convey stormwater runoff to the 72-inch outfall and the western half of the Site will convey stormwater runoff to the 84-inch outfall. The Project shall install new drainage infrastructure within the proposed "Road K" and "Road L" and Block 21 Alley. Roof drains from the proposed buildings and site drainage associated with the five (5) blocks will connect directly into the existing drainage infrastructure in Revolution Drive, Grand Union Boulevard, , and Foley Street, or into the proposed drainage infrastructure in "Road K", "Road L", and the Block 21 Alley. See Figure 6.4 Proposed Drainage Areas for the Site's proposed drainage area boundaries.

Stormwater runoff from the Site will be collected in a series of deep-sump catch basins with oil/debris traps and treated by proprietary particle separators and non-structural BMPs before discharging to either the 72-inch trunk line or to the 84-inch outfall. Regular sweeping programs for roads, parking, and loading areas, and a scheduled catch basin cleaning program will be proposed for pollutant source reduction. LID stormwater management techniques and BMPs will be incorporated into the design as much as possible for stormwater quality and temperature control as the design development of each block progress.

A Long-Term Operations and Maintenance ("O&M") Plan will be prepared in future Special Permit and Subdivision applications. The O&M Plan will provide detailed procedures and a schedule for maintaining each of the BMPs. It is anticipated that the O&M plan will be formalized in an agreement with the City to maintain the proposed BMPs.

Refer to Plan C-4 Grading, Drainage, and Erosion Control Plan in Appendix A for the proposed drainage infrastructure in the Site and in the proposed roadways. After the PUD-PMP process, the Project will submit more detailed plans and information regarding the water quality design and stormwater runoff mitigation analysis as part of the Subdivision of Land, Proposed Roadway Applications, and Special Permit Applications on a Block by Block basis. Detailed plans have already been submitted for Alta XMBLY and the Roadways to the City.

## 6.5 Private Utilities

The follow sections describe the existing and proposed private utilities surrounding the XMBLY Site:

### 6.5.1 Gas

Gas services to the Site are provided by National Grid. The existing gas lines surrounding the Site are as follows:

- 12-inch gas main running north-south along the centerline of Middlesex Avenue
- 20-inch gas main along the centerline of Mystic Avenue
- 8-inch gas main running east-west along Foley Street
- 12-inch existing gas line that on the eastern part of the Site that continues south on Grand Union Boulevard and east on Revolution Drive.

There are no gas services on Revolution Drive west of Grand Union Boulevard.

Service to all Blocks will be provided from existing gas mains surrounding the Site. Refer to Plan C-5 Utility Plan in Appendix A for potential gas connections to each of the four proposed blocks.

### 6.5.2 Electrical

There are several existing electric duct banks and manholes surrounding the Site in Middlesex Avenue, Foley Street, and Revolution Drive. Eversource provides the electricity for the ASRA.

Electric conduits run north-south on the eastern side of Middlesex Avenue and Mystic Ave, with an electric manhole ("EMH") at the intersection of "Road L" and Middlesex Avenue intersection. This EMH can be utilized as a proposed connection point for Block 21B. There is an existing EMH on the eastern side of Mystic Avenue at the northeast corner of Revolution Drive and Mystic Avenue that can be utilized as a proposed connection point for Block 26.

The Project proposes to connect a new electrical duct bank to an existing EMH at the northeast corner of the "Road L" and Grand Union Boulevard intersection, run the proposed duct bank east-west along "Road L", split the duct bank north and south along "Road K" and connect into the existing electrical duct bank in Revolution Drive, while continuing along "Road L" to provide services to the proposed buildings. This new electrical duct bank will be used to service Blocks 21A, 24, 26, and Alta XMBLY. See Plan C-5 Utility Plan in Appendix A.

VHB will design the conduit and manhole system in conjunction with Eversource in order to accommodate the Project's required electrical infrastructure.

### 6.5.3 Telephone Communications and Cable

Verizon, Comcast, and RCN provide telephone communication services to the Project Area. The system consists solely of underground duct banks. Telecom conduits are located along Grand Union Boulevard, east of the Site, including combined telecom manholes ("TMH") for Comcast, RCN, and Federal Realty owned house conduits, and separate TMHs for Verizon. A pair of these manholes are located just east of Block 23 on Grand Union Boulevard. A combined RCN and Comcast duct bank and series of manholes begin on Middlesex Avenue just west of Block 21B, running north along Middlesex. This duct bank splits north and east at the intersection of Middlesex and Foley Street through a TMH. The RCN/Comcast duct bank runs east/west along the south side of Foley Street north of the Project and bends south onto Grand Union Boulevard.

Under proposed conditions, a new duct bank for RCN, Comcast, and Verizon conduits is proposed to be constructed along Roads "K" and "L" to provide service to each individual block. The proposed conduits would connect into the north side of the RCN/Comcast/FRIT and Verizon TMHs in Grand Union Boulevard, run north along Grand Union Boulevard, bend west down the intersection of "Road L" and Grand Union Boulevard, and run west/east in "Road K". These new telephone duct banks will be used to service Blocks 21A, 24, 26, and Alta XMBLY. The ductbanks will terminate at proposed TMHs at either end of "Road K". There is an existing TMH on eastern side Middlesex Avenue northeast of the "Road L" and Middlesex Avenue intersection See Plan C-5 Utility Plan in Appendix A.

VHB will design the conduit and manhole system in conjunction with Verizon, Comcast, and RCN to accommodate the required telephone communication infrastructure.

# Chapter 6 Figures

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VHB  
101 Walnut Street  
Watertown, MA 02172  
(617) 924-1770

**Figure 6.1 - Projected Sewer Flows and I/I Mitigation**

Project: XMBLY Amended Planned Unit Development  
Location: 5 Middlesex Ave, Somerville, MA

Proj. No.: 14000.00  
Date: 3/6/2020  
Computed by: PTM  
Checked by: DAH

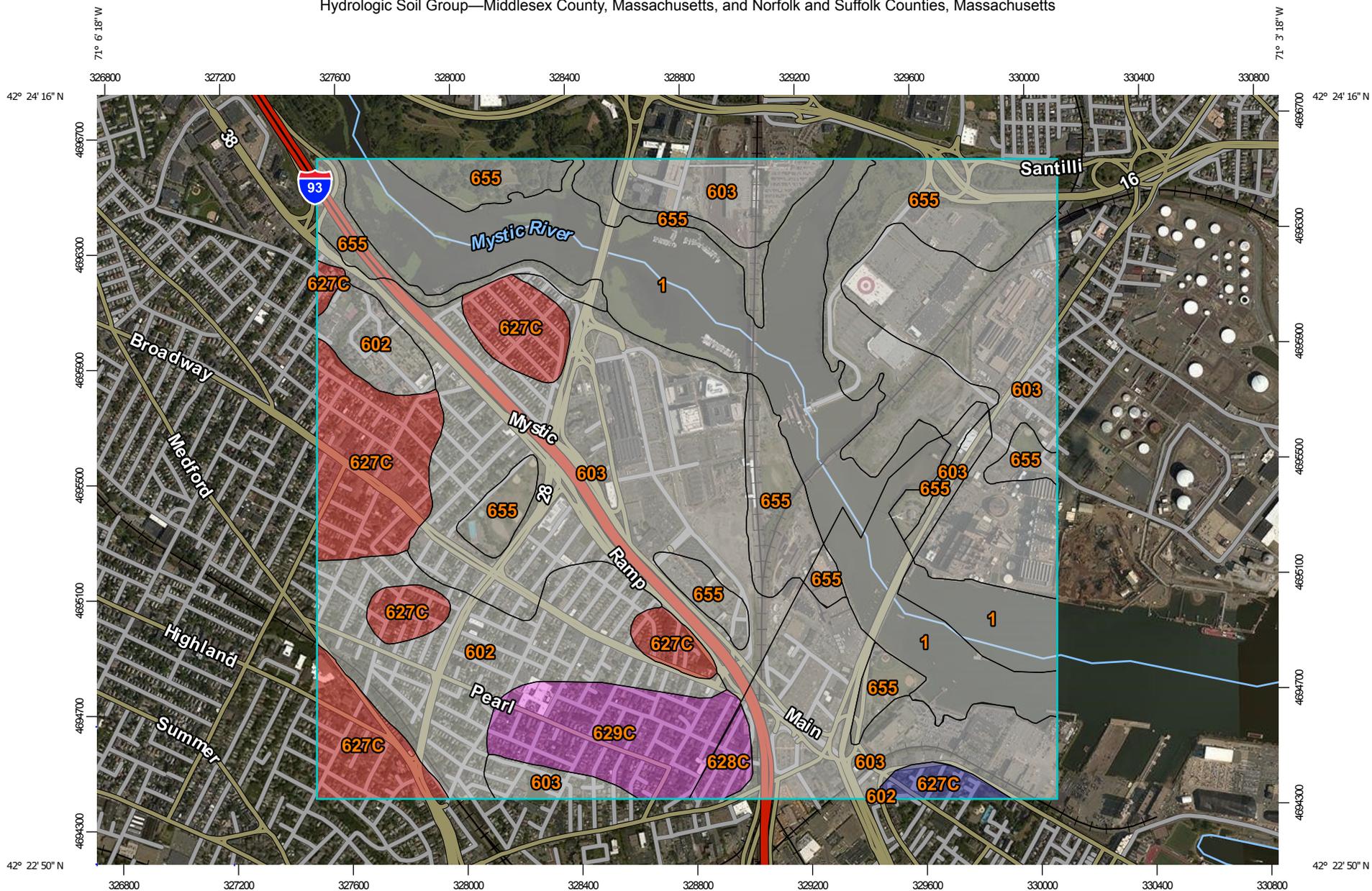
Block	Use	Area <sup>1</sup> (SF)	Unit	Bedroom	Quantity	Unit Flow <sup>3</sup> (Gal/Unit)	Average Flow (GPD)	Total Block Flow (GPD)	Total Development Flow (GPD)	Net Development Flow (GPD) <sup>5</sup>	Required I/I 4:1 Mitigation (GPD)	Comments
Block 21A	Office/Lab/R&D	375,500	1,000 SF	-	376	110	41,305	1,540	125,961	108,141	432,563	
	Retail	2,800	1000 SF		2.8	50	140					
	Restaurant <sup>2</sup>	1,200	seat		40	35	1,400					
Block 21B	Retail/Active	2,380	1000 SF		2.4	50	119	2,109				
	Restaurant <sup>2</sup>	1,020	seat		34	35	1,190					
	Fire Station	14,000	person/2 shifts	-	16	50	800					
Alta XMBLY (Block 23)	Residential	300,000	Bedroom	418	418	110	45,980	51,504				
	Retail	5,744	1000 SF		5.7	50	287					
	Restaurant <sup>2</sup>	4,489	seat		150	35	5,237					
Block 24	Office/Lab	460,100	1,000 SF		460	110	50,611	52,113				
	Retail/Active	2,730	1000 SF		2.7	50	137					
	Restaurant <sup>2</sup>	1,170	seat		39	35	1,365					
Block 26	Office/Lab	383,500	1,000 SF		384	110	42,185	875				
	Retail/Active	1,750	1000 SF		1.8	50	88					
	Restaurant <sup>2</sup>	750	seat		25	35	875					
Existing	Office	162,000	1,000 SF		162	110	17,820	17,820				Existing office building to be removed

**Notes:**

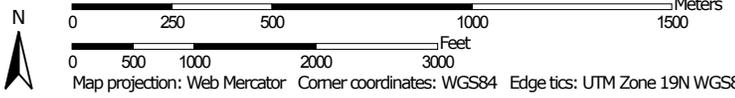
- 1) Retail/Active use space was allocated 30% restaurant. Building Program information taken from P&W Site Program dated 2/19/2020.
- 2) Restaurant seats are calculated based on 30 square feet per seat
- 3) Average flows for Massachusetts are based on 310 CMR 15: Title V. Fire Station Sewer Flow Rate assumed 50gal/person/two shifts
- 4) Sewer flows are conveyed into Grand Union Boulevard sewer main, which discharges into the Somerville/Medford MWRA Interceptor Sewer.
- 5) New Development Flow is determined by subtracting the Existing Office Flow (12,150 GPD) from the Total Development Flow



Hydrologic Soil Group—Middlesex County, Massachusetts, and Norfolk and Suffolk Counties, Massachusetts



Map Scale: 1:18,800 if printed on A landscape (11" x 8.5") sheet.



**FIGURE 6.2 - NRCS SOIL MAP**

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts  
 Survey Area Data: Version 17, Oct 6, 2017

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts  
 Survey Area Data: Version 13, Oct 6, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 10, 2014—Aug 25, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		220.2	15.5%
602	Urban land		149.6	10.5%
603	Urban land, wet substratum		417.2	29.4%
627C	Newport-Urban land complex, 3 to 15 percent slopes	D	141.8	10.0%
629C	Canton-Charlton-Urban land complex, 3 to 15 percent slopes	A	63.2	4.5%
655	Udorthents, wet substratum		217.3	15.3%
<b>Subtotals for Soil Survey Area</b>			<b>1,209.5</b>	<b>85.1%</b>
<b>Totals for Area of Interest</b>			<b>1,420.8</b>	<b>100.0%</b>

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		59.0	4.2%
602	Urban land, 0 to 15 percent slopes		0.1	0.0%
603	Urban land, wet substratum, 0 to 3 percent slopes		111.3	7.8%
627C	Newport-Urban land complex, 3 to 15 percent slopes	B	9.9	0.7%
628C	Canton-Urban land complex, 3 to 15 percent slopes	A	9.4	0.7%
655	Udorthents, wet substratum		21.4	1.5%
<b>Subtotals for Soil Survey Area</b>			<b>211.3</b>	<b>14.9%</b>
<b>Totals for Area of Interest</b>			<b>1,420.8</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

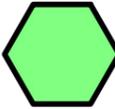
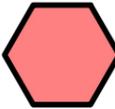
## Rating Options

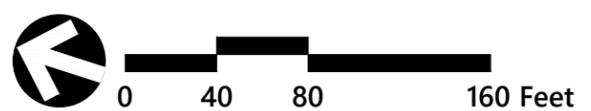
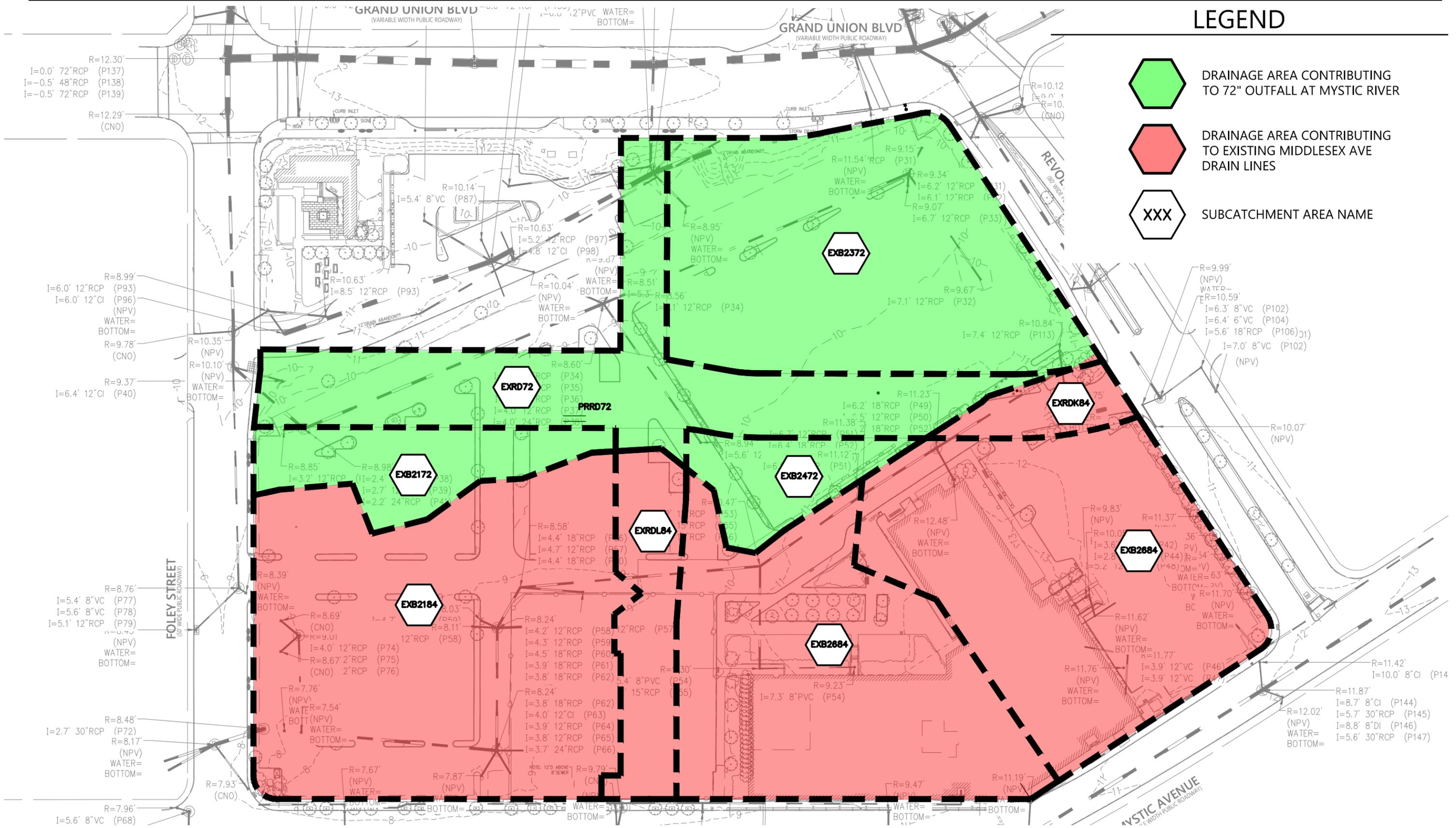
*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

# LEGEND

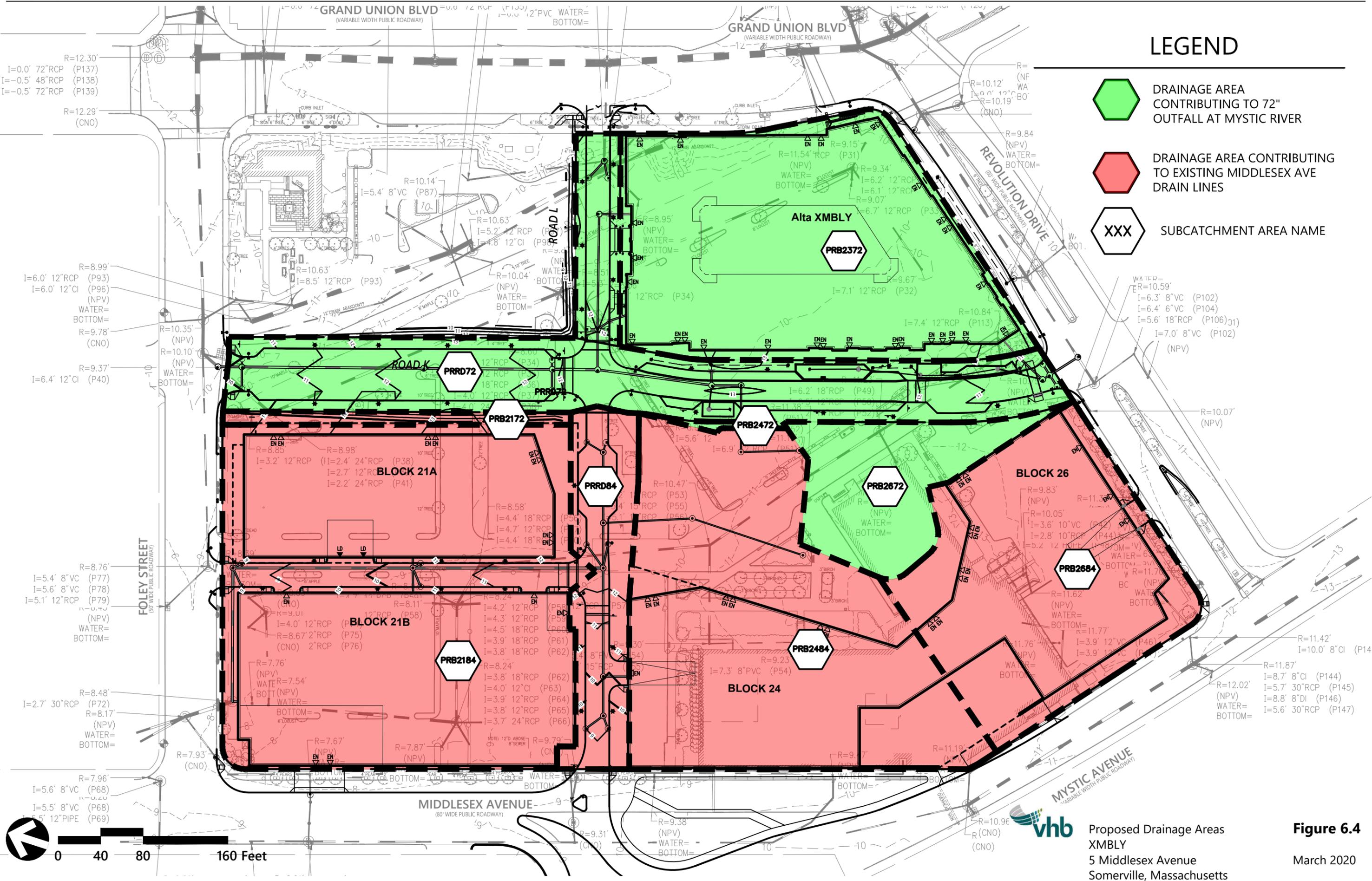
-  DRAINAGE AREA CONTRIBUTING TO 72" OUTFALL AT MYSTIC RIVER
-  DRAINAGE AREA CONTRIBUTING TO EXISTING MIDDLESEX AVE DRAIN LINES
-  SUBCATCHMENT AREA NAME



**vhb** Existing Drainage Areas  
 XMBLY  
 5 Middlesex Avenue  
 Somerville, Massachusetts

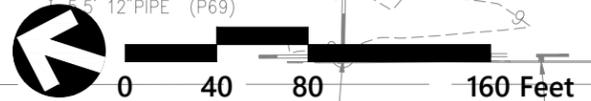
**Figure 6.3**  
 March 2020





# LEGEND

- ⬡ DRAINAGE AREA CONTRIBUTING TO 72" OUTFALL AT MYSTIC RIVER
- ⬡ DRAINAGE AREA CONTRIBUTING TO EXISTING MIDDLESEX AVE DRAIN LINES
- XXX SUBCATCHMENT AREA NAME



**vhb** Proposed Drainage Areas XMBLY  
5 Middlesex Avenue  
Somerville, Massachusetts

**Figure 6.4**  
March 2020

