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Ruthanne Fuller
Mayor

ZONING BOARD OF APPEALS

To: Zoning Board of Appeals Members
From: Adrianna Henriquez, Clerk
Date: May 14, 2020 (Revised May 15, 2020)
Subject: Materials for **May 20, 2020** Public Hearing

PACKET 2

Hello,

Please see the following materials are for the upcoming hearing on May 22, 2020 Public Hearing. The following board members are scheduled to sit: ***Brooke Lipsitt (Chair), William McLaughlin, Barbara Huggins Carboni, Michael Rossi, Michael Quinn, and Timothy Durken (Alternate)***

1. Supplemental Materials from the Applicant – Submitted 5/11/2020

Thank you,

Adrianna Henriquez

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May 11, 2020

BY EMAIL

Ms. Adrianna Henriquez Olmsted
Zoning Board of Appeals
1000 Commonwealth Avenue
Newton, MA 02459-1449

Re: #09-19/Comprehensive Permit Application Under M.G.L. Chapter 40B, Sections 20-23/Dunstan East, LLC

Dear Ms. Olmsted,

In accordance with Horsley Witten's March 10, 2020 Peer Review and the BETA Group's April, 2020 Peer Review relative to the above entitled application, I am emailing the following documents to you for distribution to the Zoning Board of Appeals.

1. Development Team's May 1, 2020 Response to Horsley-Witten Group's March 10, 2020 Peer Review Memorandum and supporting Exhibits.
2. VHB's April 28, 2020 Response to BETA Group's April, 2020 Peer Review Memorandum.
3. Revised Civil Engineering Plans dated April 28, 2020 by VHB consisting of fifteen sheets.
4. Site Operations Memorandum.
5. Preliminary Signage/Wayfinding Plan dated April 30, 2020 by Elkus Manfredi Architects consisting of three sheets.
6. Proposed Dunstan Street Improvements dated April 30, 2020 by Mark Development consisting of seven sheets.
7. Revised Architectural Plans dated May 8, 2020 by Elkus Manfredi Architects consisting of fourteen sheets.
8. Memorandum from Mark Development dated May 8, 2020 explaining the various plan changes.

Please feel free to contact me if you have any questions or require further information.

Sincerely,

Katherine Braucher Adams

Katherine Braucher Adams

Enclosures
cc: (By Email, w/enclosures)
Mr. Michael Gleba, Senior Planner
(By Email, w/out enclosures)
Mr. Robert Korff
Mr. Damien Chaviano
Mr. Scott Lombardi

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MEMORANDUM

To: Michael Gleba, Jennifer Caira – City of Newton

From: Janet Carter Bernardo, PE, Hannah Carlson, RLA, and Jon Ford, PE

Date: March 10, 2020

Re: Dunstan East 40B Peer Review

The intent of this memorandum is to provide the City of Newton with a peer review of the Dunstan East open space and building massing, sustainability report, and stormwater mitigation. The Applicant is proposing to develop a three-building mixed-use residential and retail area along Washington Street in Newton, Massachusetts.

The existing site is mostly impervious, and is occupied by eleven buildings ranging in footprints from approximately 1,000 square feet (sf) to 16,000 sf. The Project Site is located on 3.4-acres of land with a portion consisting of Bordering Land Subject to Flooding (BLSF). Presently, stormwater is collected by catch basins throughout Kempton Place, Dunstan Street, and Brook Street and is discharged into Cheesecake Brook via a closed drainage system.

The Applicant proposes to demolish all but one existing building, and to construct three mixed-use buildings with footprints of approximately 13,000 sf to 15,000 sf. The proposed development as designed will result in a decrease of roughly 8,900 sf of impervious cover, and therefore qualifies as a redevelopment under the Massachusetts Stormwater Management Standards as detailed in the Massachusetts Stormwater Handbook (MSH). The Applicant proposes to install a new drainage network of catch basins and manholes along Kempton Place and Brook Street. Roof drains are proposed to discharge directly into the closed drainage network, and a sand filter system is proposed to filter ½ inch of runoff prior to discharging into the municipal system on Dunstan Street which discharges into Cheesecake Brook.

HW has received the following documents:

- Application for a Comprehensive Permit, Dunstan East, Newton, MA, submitted to Mass Housing Finance Agency in July 2019;
- Transportation Impact and Access Study, The Dunstan Residences West Newton Development, Newton, MA, prepared by VHB in November 2019;
- Stormwater Report, Dunstan East Mixed-Use Redevelopment, Washington Street, Newton, MA, prepared by VHB on November 26, 2019;
- Presentation to Newton Zoning Board of Appeals, Dunstan East, prepared by Mark Development, presented on January 22, 2020;

- Application to Newton Zoning Board of Appeals for Comprehensive Permit, Dunstan East, Newton, MA;
- Existing Conditions Plan, Dunstan East, Newton, MA, prepared by Mark Investment, Inc. and Control Point Associates, Inc. on June 19, 2017; and
- Civil and Architectural Plans, Dunstan East, Washington Street, West Newton, MA, prepared by VHB and Elkus Manfredi Architects on November 25, 2019, which includes:

Legend and General Notes	Sheet C-1.0
Site Plan	Sheet C-2.0
Grading and Drainage Plan	Sheet C-3.0
Utility Plan	Sheet C-4.0
Site Details 1	Sheet C-5.1
Site Details 2	Sheet C-5.2
Site Details 3	Sheet C-5.3
Site Materials	L-1.1
Existing Site Layout Plan	A001
Buildings 1, 2, and 3, Level P2	A120
Buildings 1, 2, and 3, Level P1	A-121
Buildings 1, 2, and 3, Level 1	A122
Buildings 1, 2, and 3, Level 2	A123
Buildings 1, 2, and 3, Level 3	A124
Buildings 1, 2, and 3, Level 4	A125
Buildings 1, 2, and 3, Level 5	A126
Buildings 1, 2, and 3, Level 6	A127
Buildings 1, 2, and 3, Roof Plan	A128
Buildings 1 and 2, Elevations	A203
Buildings 1 and 2, Elevations	A204
Building 3, Elevations	A205
Building Sections	A203
Existing Conditions	Sheet 1 of 5
Existing Conditions	Sheet 2 of 5
Existing Conditions	Sheet 3 of 5
Existing Conditions	Sheet 4 of 5
Existing Conditions	Sheet 5 of 5

HW also met with the Applicant and representatives of their design team to review the design on March 2, 2020. HW has the following comments and recommendations:

General

1. The current neighborhood scale and character varies. The project location is east of the historic West Newton village core, within a quarter-mile (5-minute walk) of the intersection of Washington Street with Watertown Street. The immediate project vicinity generally is comprised of light industrial, retail, and automobile commercial with dispersed urban form. North of the site, there is a change in character across Cheesecake Brook to the adjacent residential neighborhood. The Massachusetts Turnpike is located across Washington Street to the south.

   No response required.

2. The Washington Street Vision Plan identifies the project location as part of an extension of

the West Newton village center. The proposed site framework is generally consistent with the Plan vision, with new street connections providing smaller blocks and increased porosity, village-scale buildings fronting Washington Street, a publicly accessible internal block courtyard, and step down in scale from Washington Street towards Cheesecake Brook.

No response required.

3. The Washington Street Vision Plan Height Principles Diagram identifies the project site as "Medium Heights – Village Character (3 to 6 stories)." The proposed plan is generally consistent with the overall building heights. Additional comments are provided on the following pages regarding more detailed review of massing and scale.

   No response required.

4. Portions of the proposed site are within 100 feet of Cheesecake Brook, which is classified as a Riverine Wetland System according to the US Fish and Wildlife Service National Wetlands Inventory. The Applicant has not indicated the presence of any wetlands. HW recommends that the Applicant clearly document the applicable wetland resource area present including Riverfront Area, bank, and BLSF as well as any buffer zones associated with the resource area.

   Applicable wetland resource area including riverfront area, bank, BLSF, and buffer zones are indicated on updated plan set dated 4-28-20 (EXHIBIT A). The Applicant is also in the process of preparing a full Notice of Intent for the Newton Conservation Commission. This Notice of Intent will be filed prior to the April 28th deadline for the May 14th hearing.

<u>Open Space, Building Placement and Massing</u>

5. The proposed site framework, especially adding Brook Drive as an extension of Kempton Place, succeeds in breaking up the existing megablock to increase permeability through the site and provide better public access to Cheesecake Brook. This approach is consistent with the Washington Street Vision Plan principles.

   No response required.

6. The design of the proposed landscaped area north of Building 3 adjacent to Cheesecake Brook may complicate a future extension of Brook Drive along Cheesecake Brook to the east with an eventual connection to Cross Street as shown in previous drafts of the Vision Plan (for example, 4.22.19 draft, page 111). The proposed design for the Building 3 landscape area provides compensatory flood storage, which may make it difficult to extend Brook Drive in the future (if desired). HW recommends that the future street extension to the east of Brook Drive, or possibly a pedestrian/bicycle trail, be considered. HW recommends traffic/transportation peer review provide input related to the possible Brook Drive extension.

   The 12-16-2019 Adopted Washington Street Vision does not include a future connection to Cross Street (page 84 identifies the Study Area Limits and Cross Street is not within the limits). The project will be designed so that a future pedestrian connection to the East could be possible. It is not possible to provide a future street extension due to the compensatory flood storage requirements between Cheesecake

Brook and Building 3 but a future pedestrian/bicycle a connection will be represented on the Plan Set of Record since that is a design feature which appeals to the City. An updated rendered site plan showing this future pedestrian extension is attached (EXHIBIT B).

7. Building 1 and Building 2 massing steps down in scale from Washington Street to Brook Drive. The street grade at Brook Drive is approximately one story lower than the grade at Washington Street, which should help the feeling of scale transition from Washington Street to residential neighborhoods to the north. As proposed, Building 1 appears to transition from 7 stories to 4 stories on Dunstan Street within 20-25 feet of Brook Drive. A more gradual transition in scale from Washington Street to Brook Drive might better meet the City's vision. More information should be provided to demonstrate the proposed condition at pedestrian level on Dunstan Street as well as the calculation of building heights relative to grade.

   Building 1 transitions from six stories at Washington Street to four stories at Brook Drive. The four-story façade is 25 feet from Brook Drive. Along Dunstan Street, the façade is articulated as three building expressions. Building 2 transitions from five stories at Washington Street to four stories at Brook Drive. Along Kempton Place, the façade is articulated as three different building expressions. The step-down transitions and building articulations create a gentle transition between Washington Street and the adjacent neighborhood. Average Grade Elevation and dimensions relative to it will be added to Building Elevation Sheets A203-205. As the Average Grade Plane calculation demonstrates, the parking area below the building and partially exposed on Dunstan Street, Kempton Street and Brook Drive does not count as a story under the Newton Zoning Code. Therefore, Building 1 should not be characterized as a 7 story building. Moreover, the height of the buildings is not creating any issues relative to health and safety, nor any material and measurable negative impacts. The concern have been based on subjective assessments.

8. Compared to Buildings 1 and 2, the location of Building 3 appears to be better suited to the proposed density/scale and not as sensitive to the transition to the neighborhoods north of Cheesecake Brook that is necessary for Dunstan Street.

   No response required.

9. The garage entries from Kempton Place to Building 2 and Building 3 are not aligned. Based on preliminary review of the proposed layout HW does not have an objection to the proposed configuration. HW recommends traffic/transportation peer review provide input related to the proposed alignment and garage access.

   The Applicant's traffic engineer has reviewed and opined on the location of the garage entries as part of the concept plan preparation and did not have any concerns relative to sight line visibility or turning movements. Comment 5.22 on page 17 of BETA's traffic/transportation peer review did recommend realigning the driveways across from each other to create a 4-way intersection without siting any specific reasons for doing so. The Applicant is reviewing ways to potentially accommodate this request if it can be accomplished without negatively impacting other aspects of the building program.

10. Pick up/drop off locations are proposed on Washington Street and Kempton Place. More

information is required to review the approach to pick up and drop off, especially at Building 3. Pick up and drop off areas should be provided at an intuitive location for each proposed building without blocking vehicular travel lanes.

A designated pick up/drop off area has been added on Kempton Place in front of Building 3 near Brook Drive. This space is located immediately adjacent to the main residential entrance lobby. A pedestrian pick-up/drop-off plan that clearly shows this location is attached (EXHIBIT C).

11. The intent for the Building 3 rear common space and for proposed access to Building 3 from Washington Street east of the existing building to remain (Eastern Insurance) should be clarified.

    Loading for Building 3 is intended to be through the Main Lobby at Kempton Place and Brook Drive. A secondary means of entry and egress has been provided at the South end of Building 3. The rear common space at Building 3 (behind Eastern Insurance) is a private outdoor amenity terrace. It is restricted to residential tenant use only.

12. HW recommends that flood plain elevations be added to the building cross sections to clearly review proposed first floor elevations relative to the flood plain elevation for various frequency events.

    Flood plain elevations have been added to the building cross section plan. The plan now shows proposed first floor elevations in relation to flood plain elevations for various flood events. In all cases our proposed first floor elevations are at least 1' above the 100-year flood event. Cross sections showing these flood elevations are attached (EXHIBIT D).

13. Brook Drive appears to be proposed as a flush shared street condition. HW supports this approach for traffic calming and also to help knit the proposed development and pedestrian connections to Cheesecake Brook. More information is needed to adequately review the proposed street design in conjunction with proposed sidewalk widths, Cheesecake Brook bank restoration, and a proposed linear park in this location.

    Brook Drive is a flush shared street condition. It is intended to be a multi-modal experience that connects the development to Cheesecake Brook and the proposed amenities along that brook, which include the pedestrian boardwalk and large green space. Sections of Brooke Drive, a landscape/materials plan, and character images have been provided to describe this pedestrian-friendly condition. Copies of these pieces of material are attached for reference (EXHIBIT E).

14. The Applicant has not provided a shadow study. HW recommends that the Applicant provide this for review.

    A shadow study was submitted to the City of Newton Zoning Board of Appeals March 12, 2020. A copy is attached for reference (EXHIBIT F).

15. HW recommends that the Applicant provide additional information to clarify the division of the space and intended users and programs for the interior courtyard between Buildings 1 and 2, including cross sections. Additional information should also be provided regarding the elevator connection between the courtyard and Brook Drive if it is going to serve as part of the publicly accessible path of travel.

The interior courtyard between Building 1 and 2 is designed to be an active, lively community space shared by residential tenants, retail tenants and the public. It will provide a respite from car-centric Washington Street and a pedestrian connection through the block to the Cheesecake Brook boardwalk. An enlarged noted plan of the courtyard has been submitted along with diagrams highlighting the publicly accessible route. A copy of this plan that clearly shows the designated area is attached for reference (EXHIBIT G).

16. HW recommends that the Applicant provide cross sections for all streets (showing horizontal and vertical relationship to existing/proposed buildings on both sides) in order to convey the proposed public realm and scale/character fit with the surrounding neighborhoods.

    Additional street cross sections were submitted to the City of Newton Zoning Board of Appeals March 12, 2020. Copies of these cross sections are attached for reference (EXHIBIT H).

17. HW recommends that the Applicant select trees with larger height and canopy at maturity to help soften the building edges and design the sidewalks and tree systems to provide appropriate soil volume.

    It is anticipated that all street trees shall be 4" caliper shade trees with known urban tolerance such as Hybrid Elm, Honey locust, Oak, etc. In all sidewalk locations, the trees will be in raised open tree beds which will be connected subgrade using structural soil below permeable pavers.

18. Building 2 includes ground floor parking on Dunstan Place, opposite the proposed residential space at ground level in Building 3. More information is needed to review this area and impact on the streetscape.

    Building 2 includes ground floor parking on Kempton Place (not Dunstan Street). This interior parking level at Building 1 and Building 2 is sub-surface at the south and completely wrapped by residential units as the grade drops off at the north. The parking area itself is not able to be seen from the exterior. The entrance into this semi sub-surface parking garage on Kempton Place is not directly across from any residential units at Building 3. The ground floor of Building 3 along Kempton Place includes amenity space and back of house service areas. It is also important to note that the garage entry doors will be quiet coiling speed doors that will always be closed unless a vehicle is entering or existing.

19. The Kempton Place streetscape would be improved by maximizing the number of street trees. HW recommends that the Applicant consider additional trees in front of Building 3 and potentially in front of Building 2.

    The project is committed to providing a maximum number of street trees while maintaining all the other elements/program that is required along the curb line such as parking, loading zone, bike racks, streetlights, etc. That being said, adding additional trees beyond what is currently shown on the plan at these specific locations would begin to compromise the other aforementioned pedestrian amenities. For that reason, we are not currently showing any additional trees at Kempton Place.

20. While bike storage and racks are provided, it is not clear how bicyclist mobility and safety is addressed on Brook Street and Kempton Place. HW recommends that the Petitioner

provide more detail regarding the approach to bicycle connectivity through the site and connecting to adjacent streets and neighborhoods.

Brook Street has been designed to be shared between bicycles and pedestrians, with both utilizing this low volume and versatile roadway corridor. Kempton Place is a low volume short roadway stretch which will be a shared roadway experience for bicyclist.

21. More information is needed to clarify the intent for service, deliveries, trash/recycling, and loading for all three buildings.

    A trash plan, commercial loading plan, and pedestrian move-in/move-out plan have all been provided to help clarify how each of these functions will be managed. Copies of these plans are attached for reference (EXHIBIT I).

22. HW recommends that the Applicant clarify who will be responsible for maintenance of the open spaces and landscaping. HW recommends that the Applicant communicate with the future maintenance entity to ensure that the materials, furnishings, and landscaping choices fall under the umbrella of their capabilities and potential scope of work.

    The applicant/owner will retain a highly experienced full-service management company which will be responsible for daily maintenance of the open spaces including landscaping responsibilities. This management company will also be responsible for hiring a professional commercial landscape company to maintain these open spaces year-round.

23. As the design progresses, the proposed Washington Street pedestrian realm should be carefully coordinated with City improvements to Washington Street, including potential for curb bump-outs and green infrastructure.

    The applicant fully intends to coordinate all work in, and along, Washington Street with the City and its Engineering and Public Works Departments.

Lighting

24. The Applicant has not provided a site lighting or photometrics plan. HW recommends that the Applicant provide these for review.

    A site lighting/photometric plan was submitted to the City of Newton Zoning Board of Appeals March 12, 2020. A copy of this plan is attached for reference (EXHIBIT J).

Sustainability

25. Proposed mixed-use development in this location is consistent with the City's objectives to encourage walkable, mixed-use village redevelopment in close proximity to transit and reduce single occupancy vehicle trips. HW assumes transportation peer review will provide comment regarding parking requirements in this regard.

    No response required.

26. The project appears to propose a reduction in impervious area, addition of trees and landscaped areas, and an improvement in water quality treatment on the currently highly impervious site. The site has minimal existing tree cover and is currently within a "hot

spot" with extreme temperatures as defined by the City Climate Action Plan. Significant opportunity exists to utilize green infrastructure and resilient building design to reduce heat island effect and extreme heat risks. More detailed drainage and landscape design information will be required as design development continues.

The design team agrees with the peer reviewer. As such, the proposed design features components which reduce the heat island effect and reductions of heat risks. Supplemental green infrastructure elements will be provided with the forthcoming Notice of Intent submission. Washington, Kempton, and Dunston roadways will have a continuous permeable paving continuity strip along the back of the sidewalk which allows for stormwater infiltration through pavers into a continuous granular subsurface reservoir. This continuity strip/subsurface reservoir also doubles as structural soil to increase the soil volume for street trees to increase the health of the large shade trees reducing heat island effect and improving air quality.

27. Additional information is required to review and verify the stormwater design as noted in following comments.

    The Design Team's response to comments are listed below.

28. Design to meet the standards of an authorized green building rating system is required per Zoning Section 5.12. Additional information is required for review.

    Under Chapter 40B, the Applicant is not required to meet any components of a green building rating system, and as such, has requested a waiver. However, the Applicant also recognizes that this is an important component to the application within the context of the overall city-wide initiative. As such, the Applicant is prepared to provide a comprehensive sustainability plan that will be outlined in detail once all feasibility studies are complete.

29. EV stations are required for 10% of the project parking spaces and provision of an additional 10% of parking spaces to be EV ready. Additional information is required for review.

    10% EV spaces will be provided as part of this project. Although car charging infrastructure will be installed at 29 spaces, they will not be for exclusive EV vehicle use.

30. Will buildings have green roofs and/or be solar or solar-ready? Additional information is required for review.

    The building designs have not been developed to structurally support green roofs. The buildings will be "solar-ready" with designated locations for future solar panels.

31. The project is partially located within the 100-year floodplain. Additional information is required to review resiliency. More information is required regarding immediate proposed improvements to Cheesecake Brook and collaboration with the Charles River Watershed Association.

    The Design Team is continuing to work in conjunction with the CRWA and MassDOT to evaluate potential supplemental stormwater quality treatment within the Project's limit of work. We are currently proposing some significant water quality

improvements, including; naturalizing the brook edge, widening the brook where possible, realigning the outflow of the MassDOT drainage culvert to reduce hydrostatic pressure and minimize suspended solids, among many other potential improvements.

32. Investigation of other opportunities to provide green infrastructure practices consistent with the City's Complete Streets Policy is encouraged.

    As mentioned, the Applicant believes the proposed design incorporates many green infrastructure and sustainable design components as currently proposed.

33. HW recommends more information be provided regarding long-term efforts to support neighborhood groups and advocacy organizations regarding environmental improvements as well as EVs, biking, walking, public transit, and shared transportation.

    A comprehensive TDM program is identified in the Traffic Impact and Access Report. Specific TDM offerings are outlined on the document included with this response package (SEE BETA GROUP RESPONSE COMMENTS DATED 4-30-20).

34. The Hazard Mitigation Plan recommends incorporating more stringent stormwater standards and future precipitation projections. The rainfall depths used in the drainage analysis should be based on NOAA Atlas 14 precipitation depths. Additional information is required for review.

    The stormwater piping design is based on NOAA Atlas 14 precipitation depths for the 10-year storm event.

35. Undergrounding utilities will provide resilience to wind and storms and should be required within the site and encouraged for existing Dunstan Street and Kempton Place utilities. Coordinating infrastructure design with resiliency to flooding will be required. More information will be required as part of future design development.

    All proposed infrastructure is placed underground which will have aesthetic and resilience benefits. The site is designed to be resilient by providing more effective/uniform floodplain conditions and supplemental compensatory flood storage volume based on Atlas 14 precipitations and FEMA flood projections.

36. We encourage a commitment to conducting embodied carbon analyses as part of the design process, and encourage the selection of materials, products, and wall assemblies that minimize the overall embodied carbon and maximize high thermal performance throughout the project.

    Dunstan East will be designed to embrace the holistic definition of Sustainable Design: economically viable, environmentally responsible, and socially just. The building will strive to meet or surpass several relevant metrics including Newton Zoning required LEED equivalency, the Massachusetts Stretch Code, Energy Star certifications, and meet the AIA 2030 Challenge reporting requirement commitment. The building is intended to have a wood structural system for all stories above the ground floor podium, and as such minimizes the embodied carbon required to construct the building.

Cheesecake Brook

37. The Charles River Watershed Association (CRWA) is working on a project to restore and naturalize Cheesecake Brook. There is an opportunity for this project to remove or step the wall containing Cheesecake Brook on the side of this development. The proposed landscaping includes a boardwalk and grading to accept flood waters that would work well with a naturalized and restored area brook edge. By bringing the Brook into the site, there are additional educational opportunities to teach about restoration. HW recommends that the Applicant continue to coordinate with CRWA to remove the wall and integrate the Brook into the landscaped areas, as well as coordinate enhancements to the existing 48-inch drainage outfall.

    The Design Team has adjusted the design of Cheesecake Brook to remove the existing stone wall along the project side of the brook to promote naturalization of the waterway.

38. The boardwalk maximizes the potential flood storage and restoration planting area. Large wooden boardwalks can be expensive. If needed, an alternative but similarly beneficial solution should be considered in the event the wooden boardwalk gets value- engineered out of the design (alternative materials and/or possible stepping/tiers to the Brook).

    The design team would be receptive to reviewing a specific cost saving alternative(s) should the peer reviewer propose an alternative.

39. The Site Materials Plan does not have representative species for the “Naturalized Planting Bed at Brook Edge and Northeast Open Space”. HW recommends that the species be adaptable to varying water levels and to generally use native species in order to enhance ecological communities and increase value for native birds and other wildlife.

    The design team’s intent is to create a space that promotes native species and incorporates the goals of the Newton Conservation Commission.

40. HW recommends that the Applicant consider planting occasional trees between the boardwalk and the Brook to increase the number of trees planted and help the City’s efforts to improve climate resiliency by adding trees to improve stormwater quality and sequester carbon.

    The design team has incorporated trees to help the City’s efforts to improve stormwater quality, climate resiliency, and heat island effects. A plan showing these added tree locations will be provided as part of the Conservation Commission NOI review process.

41. For maintenance and longevity, HW recommends that the transition from lawn to naturalized plantings in the northeast corner of the site be indicated or simplified for maintenance and longevity. If the Cheesecake Brook wall is removed or stepped down, then the area could be tiered to make room for lawn versus distinguishable naturalized areas along the water’s edge.

    We concur. The design team will study how trees can be incorporated into the naturalization of the streambed while considering stream hydrology, wildlife value, and pedestrian experience along boardwalk. Please see the updated design submission for further details. Relevant sections that pertain to this are attached for reference in the 4-28-20 Civil Plan Set (EXHIBIT A).

Stormwater Management and Phosphorus Removal

42. The Applicant has not provided Stormwater Analysis or Calculations to verify the performance of the proposed stormwater management system. Although it is a redevelopment project, analysis is necessary to demonstrate that the Water Quality Volume (WQv) or Water Quality Flow (WQF) can be captured by the proposed sand filter system to provide adequate stormwater treatment. HW recommends that the Applicant provide analysis to verify that the WQv or WQF will be routed through the proposed treatment train without bypassing stormwater practices.

    The design team has provided calculations as requested. Calculations are attached for reference (EXHIBIT K)

43. The Applicant has proposed an open space/flood storage area at the northeast corner of the site (bordering Cheesecake Brook). Based on proposed grading, it appears that the Applicant's design would increase available 100-year flood storage volume by up to 12,000 cubic feet. However, in accordance with 310 CMR 10.57(4)(a)1. "Compensatory storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation up to and including the 100-year flood elevation, which would be displaced by the proposed project." HW recommends that the Applicant provide a table illustrating the existing and proposed volumes available for flood storage for elevations 34-39 within the property boundaries.

    The design team has provided a foot by foot incremental analysis of the compensatory storage volume as requested.

44. HW has the following comments pertaining to the proposed stormwater sand filter system:

    a. Based on the Sand Filter Sizing Calculations provided by the Applicant, it appears that the sand filter was sized based on a hydraulic conductivity of 20 feet/day. HW recommends that the Applicant revise the sizing of the sand filter using a maximum hydraulic conductivity of 4 feet/day (2 inches/hour) per MSH Volume 2, Chapter 2.

        While the actual infiltration rates for sand filters are much higher (even in urban areas) especially when properly maintained, the sand filters have been resized for the maximum 4 feet/day criteria.

    b. According to the Sand Filter Detail on Site Details 3 (C-5.3), no material is proposed as separation between the sand and gravel layers of the sand filter. HW recommends that the Applicant revise the detail to include a layer of geotextile or filter fabric between the sand and gravel to prevent sand from infiltrating into the gravel or underdrain, per MSH Volume 2, Chapter 2.

        The design team will update their detail to include a filter fabric between the sand and gravel layers to prevent the sand infiltrating into the gravel layer.

    c. Note 7 on the Sand Filter Detail specifies that the bottom of the practice "shall be open to allow for infiltration." The detail does not appear to have an opening at the bottom of the sand filter system, and a leader calls out that the system has a "close bottom chamber." HW recommends that the Applicant either revise the detail to appear as an open bottom chamber and conduct a test pit to verify that infiltration is feasible based on the estimated seasonal high groundwater (ESHGW) elevation at

the sand filter location, or the Applicant remove Note 7 from the detail.

The sand filter will not be infiltrating due to the high ground water. The updated design plans have clarified this condition.

45. The Applicant has not provided product information for the proposed proprietary Water Quality Structure (WQS). If a specific product is intended for the stormwater management system, HW recommends that the Applicant provide product information from the WQS manufacturer to verify that 70% Total Suspended Solids (TSS) removal can be achieved by a unit and that the WQF is treatable. If no specific product is intended, HW recommends that the Applicant note on the plans the required WQF capacity and TSS removal rate intended for the WQS.

    The design team has provided details, technical specifications and calculations to establish a product that will achieve the 70% TSS removal for the proprietary structure as designated by the MassDEP. The technical specifications require a fine distribution of particles established by the NJCAT criteria for TSS removal which outperforms the treatment for OK110 particle separation as designated by the MassDEP.

46. The Applicant has specified the pipe diameters for all drainpipes except for the pipe connecting DMH 9 to DMH 7. HW recommends that the Applicant add the diameter of the drainpipe to the Grading and Drainage Plan.

    The pipe diameter for all drain pipes has been noted as requested.

47. The Applicant has proposed several erosion controls in the Erosion and Sedimentation Control Measures section of the Stormwater Report. However, none of the erosion controls are included in the plans, and only catch basin protection is included in the Site Details. HW recommends that the Applicant include all proposed erosion controls in the Site Details and specifically mark the location of erosion controls on the plans.

    The design team has provided a preliminary erosion and control plan primarily focusing on perimeter erosion controls for the duration of the project and inlet control. The final erosion control is designated and controlled by the Contractor and their phasing. It is ultimately up to the Owner and their Contractor to establish, maintain, and control erosion and sedimentation control per the phasing of the construction.

48. In the Stormwater Operation and Maintenance (O&M) Plan, the Applicant states that catch basins shall be inspected and cleaned on an annual basis. Per MSH Volume 2, Chapter, HW recommends that the Applicant revise the O&M Plan to call for catch basins to be inspected and cleaned four times every year.

    The O&M Plan will be updated for the catch basins to be inspected and cleaned (as necessary) up to four times a year and at the end of the foliage and snow removal seasons.

49. In the Long-Term Pollution Prevention Plan (LTPPP), the Applicant includes a section on Permeable Paver maintenance. As permeable pavers are not called out in the Civil Plans, HW recommends that the Applicant verify whether permeable pavers are proposed to be used on this project. If they are, HW recommends that a permeable paver detail be added to the Site Details and that the permeable paver areas be noted on the plans.

The LTPPP will be updated accordingly.

50. The Applicant has not provided calculations to demonstrate that the proposed drainage network is adequately sized. HW recommends that the Applicant provide calculations to verify that the proposed drainpipes have the capacity to carry flow based on a design storm of 8.78 inches in 24 hours (per Newton Department of Public Works Requirements for On-Site Drainage).

    Per Ordinance No. Z-45 30-5(c), the project does not increase the impervious area by more than 4% lot size or by more than 400 square feet or involve altering the landscape in such a way that may result in the runoff of surface water to abutting properties eroding of the soil. The Project, as designed, decreases the impervious area for the site and directs any runoff into a closed drainage system within the Project site.

51. HW has the following comments pertaining to the phosphorus removal calculation:

    a. The Applicant has analyzed the phosphorus loading from High Density Residential land uses as having a phosphorus load export rate (PLER) of 1.78 pounds/acre/year. HW recommends that the Applicant revise the loading analysis to use a PLER of 2.32 pounds/acre/year, per Appendix F of the Massachusetts MS4 General Permit.

       The design team has adjusted the loading rate to 2.32 pounds/acre/year

    b. The Applicant has analyzed the phosphorus removal of the stormwater management system as having a phosphorus removal rate of 98%. HW recommends that the Applicant revise the removal rate to 58.5%, based on the BMP Performance Curve of a Biofiltration practice capturing half an inch of runoff in Appendix F, Attachment 3 of the Massachusetts MS4 General Permit. If a higher depth of runoff is to be used for the load reduction calculation, stormwater analysis should be provided to demonstrate that a greater volume can be captured by the proposed sand filter without bypass.

       The design team has adjusted the removal rate to 58.5%

    c. HW recommends the Applicant revise the Phosphorus Removal Calculations provided in Appendix C of the Stormwater Report. In accordance with the MS4 permit, the City of Newton is required to reduce its phosphorus load to the Charles River by 50%, of which Cheesecake Brook is a tributary. Furthermore, the CRWA prepared a technical report (CN 272.0) for MassDEP, “Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River, Massachusetts”, dated May 2011. The document established targeted percent annual phosphorus load reductions for High Density Residential land uses to be 65%.

       The design team has revised the phosphorus loading calculations per the MassDEP requirements.

<u>Grading and Utilities</u>

52. The Applicant has indicated proposed grading for Kempton Place, Dunstan Street, and Brook Street, as well as the proposed green space/flood storage area. The Grading and

Drainage Plan appears to generally follow the existing grading of Kempton Place and Dunstan Street, and roads are proposed at slightly less steep grades. Proposed grading does not extend into the proposed courtyard between Buildings 1 & 2. HW recommends that the Applicant provide proposed contours within the courtyard, including spot grades for high points and low points. Further, HW recommends that the Applicant provide spot grades for proposed high points and low points on the roads and site features such as walls.

The design team has adjusted the grades along Kempton Street to provide slopes of less than 5%

53. Additional grading detail is required to review the grading approach for Dunstan Street, as any street regrading to adjust longitudinal slope will still require meeting existing grade on the west side of the street.

    Updated Civil Plan Set dated 4-28-20 and visuals showing the proposed Dunstan Street improvements have been provided to address these grading questions (EXHIBIT L)

54. Based on the Utility Plan, it appears that the Applicant has proposed water and sewer lines within 5 feet of each other on Kempton Place near the intersection of Kempton and Brook Street. HW recommends that the Applicant revise the Utility Plan to provide a minimum of 10 feet of separation between the water and sewer lines.

    The design has all sewer and water utility mains with a separation of ten feet or more. Any water utilities that are less than ten feet away from sewers will be concrete encased.

55. The Applicant has proposed a number of connections to existing water lines but has not provided details related to water line connections. HW recommends that the Applicant provide a detail of a connection to an existing water line.

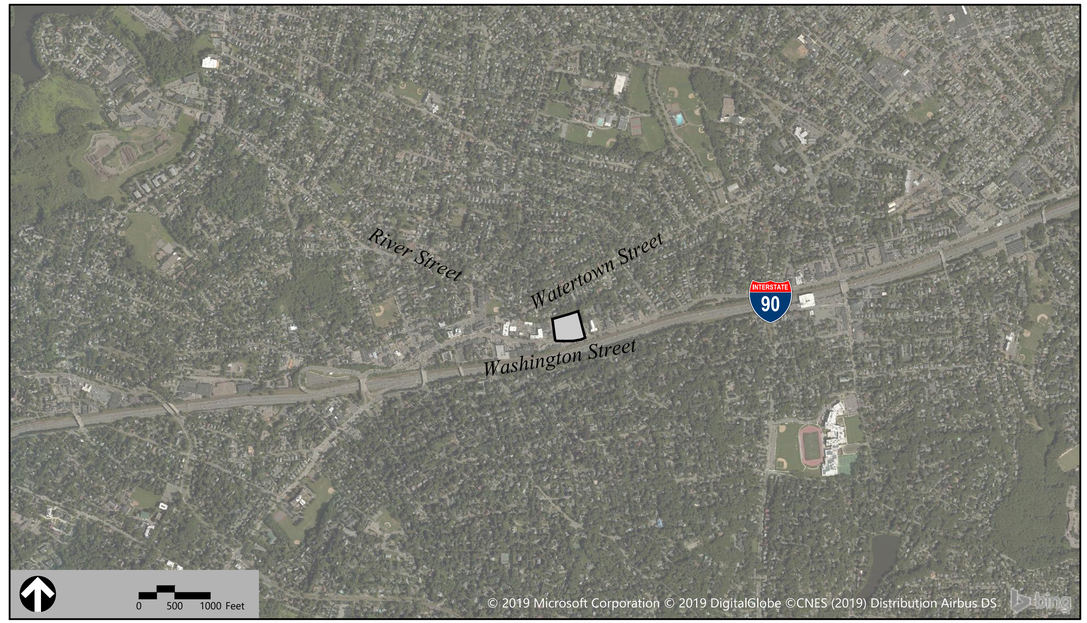
    The design team has provided water main connects as requested.

Site Plans

Issued for	Local Approvals
Date Issued	April 28, 2020

Dunstan East

Washington Street
West Newton, Massachusetts



Sheet Index

No.	Drawing Title	Latest Issue
C-1.0	Legend and General Notes	April 28, 2020
C-2.0	Site Prep and Erosion & Sediment Control Plan	April 28, 2020
C-3.0	Site Plan	April 28, 2020
C-4.0	Grading and Drainage Plan	April 28, 2020
C-5.0	Utility Plan	April 28, 2020
C-6.1-6.3	Site Details	April 28, 2020

Reference Drawings

No.	Drawing Title	Latest Issue
L1.1	Site Materials	April 28, 2020
Sheet 1-5	Boundary & Topographic Survey	May 28, 2019

Owner

Mark Development, LLC
57 River Street
Suite 106
Wellesley, MA 02481

Applicant

Mark Development, LLC
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Wellesley, MA 02481

MARK DEVELOPMENT

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617.924.1770

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Elkus Manfredi Architects
25 Drydock Avenue
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Landscape Architect
Halvorson Design Partnership
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(617)536-0380

Surveyor
Control Point Associates , Inc.
45 Franklin Street, 5th Floor
Boston, MA 02110
(857)400-3311

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38935
REGISTERED PROFESSIONAL ENGINEER

VHB Project : 14517.00 Dunstan East
Issued for : NOI Permit Set April 28, 2020

C:\USERS\DMCCORMACK\ONEDRIVE - VHB\DESKTOP_WFH\W NEWTON\CAD\LD\PLANSET\408\14517.00-COV 28 April 2020

Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		FLOODPLAIN
BLSF		BORDERING LAND SUBJECT TO FLOODING
BZ		WETLAND BUFFER ZONE
NDZ		NO DISTURB ZONE
200'RA		200' RIVERFRONT AREA
		GRAVEL ROAD
EOP	EOP	EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
	CG	CURB AND GUTTER
ECC	ECC	EXTRUDED CONCRETE CURB
CC	MCC	MONOLITHIC CONCRETE CURB
CC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
	EN	BUILDING ENTRANCE
	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		HAY BALES
		SILT FENCE
		SILT SOCK / STRAW WATTLE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	C10	COMPACT PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		BUILDINGS
		RIPRAP
		CONSTRUCTION EXIT
27.35 TC ×	27.35 TC ×	TOP OF CURB ELEVATION
26.85 BC ×	26.85 BC ×	BOTTOM OF CURB ELEVATION
132.75 ×	132.75 ×	SPOT ELEVATION
45.0 TW × 38.5 BW ×	45.0 TW × 38.5 BW ×	TOP & BOTTOM OF WALL ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN CONCENTRIC
		CATCH BASIN ECCENTRIC
		DOUBLE CATCH BASIN CONCENTRIC
		DOUBLE CATCH BASIN ECCENTRIC
		GUTTER INLET
		DRAIN MANHOLE CONCENTRIC
		DRAIN MANHOLE ECCENTRIC
		TRENCH DRAIN
E	E	PLUG OR CAP
CO	CO	CLEANOUT
		FLARED END SECTION
		HEADWALL
		SEWER MANHOLE CONCENTRIC
		SEWER MANHOLE ECCENTRIC
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		SIAMESE CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
T	TMH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX
		MATCHLINE

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE SIX (6) INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO FILE A CGP NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   - A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   - B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   - C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   - A. WATER PIPES SHALL BE DUCTILE IRON PIPE (DIP) CLASS 52
   - B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE
   - C. STORM DRAINAGE PIPES SHALL BE REINFORCED CONCRETE (RCP). ALL 10-INCH ROOF LEADERS SHALL BE DUCTILE IRON (DIP)
   - D. PIPE INSTALLATION AND MATERIALS SHALL COMPLY WITH THE STATE PLUMBING CODE WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE WITH LOCAL PLUMBING INSPECTOR PRIOR TO BEGINNING WORK.
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
10. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE FIVE (5) FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE VERTICAL GRANITE CURB (VGC) WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LAND SURVEYOR.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
4 THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Existing Conditions Information

1. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED BY AN ACTUAL FIELD SURVEY CONDUCTED BY CONTROL POINT ASSOCIATES INC., AND FROM PLANS OF RECORD. THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY CONTROL POINT ASSOCIATES, DURING APRIL 27, 2019 WITH UPDATES ON MAY 28, 2019. SEE REFERENCED PLANS FOR BOUNDARY & TOPOGRAPHIC SURVEY PREPARED FOR MARK DEVELOPMENT, LLC.
2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NGVD 1988.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS ARE BASED ON A REPORT OBTAINED FROM GEOTECHNICAL & ENVIRONMENTAL ENGINEERING DATED JUNE 26, 2008.

Document Use

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3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

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Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

Designed by DRM
Checked by OMW
Issued for Local Approvals
Date April 28, 2020

Not Approved for Construction

Drawing Title
Legend and General Notes

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38935
REGISTERED PROFESSIONAL ENGINEER

Drawing Number
C-1.0

Sheet of 8

Project Number
14517.00

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NOTES:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. CONTRACTOR TO VERIFY ELECTRICAL REROUTE LOCATION WITH EVERSOURCE PRIOR TO RELOCATION AND/OR DEMOLITION OF ANY EXISTING OVERHEAD WIRES, POLES, AND UNDERGROUND DUCTBANKS.
3. CONTRACTOR TO VERIFY TELECOMMUNICATION REROUTE LOCATION WITH RESPONSIBLE UTILITY COMPANY PRIOR TO RELOCATION AND/OR DEMOLITION OF ANY EXISTING OVERHEAD WIRES, POLES, AND UNDERGROUND DUCTBANKS.
4. CONTRACTOR TO ADHERE TO ALL BWSC REQUIREMENTS AND PROCEDURES FOR RELOCATIONS, REUSE, AND CUT AND CAPS OF ALL SEWER, DRAIN, AND WATER LINES. STUBBED SERVICES THAT WILL NOT BE USED SHALL BE CUT AND CAPPED AT THE MAIN.
5. CONTRACTOR TO COORDINATE AND WORK WITH GAS COMPANY TO MEET THE REQUIREMENTS OF REMOVING ANY EXISTING GAS SERVICES WITHIN THE LIMITS OF THE PROJECT SITE.
6. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
7. THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
8. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.
9. CONTRACTOR SHALL PROTECT EXISTING UTILITIES TO REMAIN THROUGHOUT CONSTRUCTION INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, COMMUNICATIONS, WATER, SEWER, DRAINAGE AND GAS.

LEGEND

	STEEP SLOPE STABILIZATION
	REMOVE CONCRETE
	REMOVE ASPHALT
	BUILDING DEMO
EXIST	EXISTING
R&D	REMOVE & DISPOSE
R&S	REMOVE & SALVAGE/STORE FOR RE-USE
XXXXXXXX	EXISTING UTILITIES TO BE REMOVED AND DISPOSED
	EXISTING UTILITY STRUCTURE TO BE REMOVED

Dunstan East

Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

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Drawing Title
Site Prep and Erosion & Sedimentation Control Plan

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 36835
REGISTERED PROFESSIONAL ENGINEER

Drawing Number
C-2.0

Sheet 2 of 8

Project Number
14517.00

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Zoning Summary Chart[9]

Zoning District(S):	BU2	
Overlay District(S):	Floodplain District	
Zoning Regulation Requirements	**Required [1]**	**Provided**
LOT AREA	10,000 SF	138,142 SF
LOT AREA PER UNIT	1,200 SF	(244 units) 566 SF
FRONTAGE	N/A	373.3 Feet
FRONT YARD SETBACK	5 Feet [2]	2.4 Feet
SIDE YARD SETBACK	40.5 Feet [3]	5.0 Feet
REAR YARD SETBACK	40.5 Feet [3]	64.7 Feet
MAXIMUM FLOOR AREA RATIO [6]	2.0	2.59
MAXIMUM BUILDING HEIGHT	48 Feet	81.10' Feet
NUMBER OF STORIES	4 [4]	7
MAXIMUM LOT (BUILDING) COVERAGE [5, 7]	N/A	60.3%
UNITS PER ACRE [5]	N/A	76.94
UNITS PER BUILDABLE ACRE [5, 7]	N/A	78.50

1 ZONING REGULATION REQUIREMENTS AS SPECIFIED IN NEWTON CITY ORDINANCES VOL II - UPDATED 04/30/19

2 AVERAGE SETBACK AS DESCRIBED IN SECTION 1.5.3 & 4.1.3 OF NEWTON CITY ORDINANCES

3 1/2 OF BUILDING HEIGHT

4 4 STORIES PERMITTED PER SPECIAL PERMIT

5 ITEMS NOT DEFINED IN ZONING ORDINANCE. NO MINIMUM OR MAXIMUM VALUES PRESCRIBED

6 BASED ON THE TOTAL LOT AREA LESS THE AREA OF EXISTING KEMPTON PLACE PRIVATE WAY

7 BUILDABLE AREA IS LOT AREA LESS AREA WITHIN BANKS OF CHEESE CAKE BROOK

8 AMENITY SPACE OVER STRUCTURED PARKING IS INCLUDED IN LOT/BUILDING COVERAGE

9 40B APPLICATION WAIVERS TO BE PROVIDED FOR ZONING REQUIREMENTS THAT ARE NOT MET

Parking Summary (Provided)

Description	Provided
GARAGE*	286
OFF STREET	5
SURFACE (KEMPTON PLACE)	6
TOTAL SPACES	297

* REFER TO ARCHITECTURAL PLANS FOR PROVIDED SHARED PARKING COUNTS WITHIN THE GARAGES.

5 ON STREET PARKING SPACES AND 2 PICKUP/DROP-OFF ZONES ARE LOCATED ON WASHINGTON STREET BETWEEN DUNSTAN STREET AND KEMPTON PLACE

0 10 20 40 Feet

Dunstan East

Washington Street
West Newton, Massachusetts

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Drawing Title
Site Plan

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38635
REGISTERED PROFESSIONAL ENGINEER

Drawing Number
C-3.0

Sheet 3 of 8

Project Number
14517.00

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NOTE:

SEE ARCHITECTURAL PLANS FOR GRADING WITHIN THE COURTYARDS

Dunstan East

Washington Street
West Newton, Massachusetts

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Drawing Title
Grading and Drainage Plan

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38935
REGISTERED PROFESSIONAL ENGINEER

Drawing Number
C-4.0

Sheet 4 of 8

Project Number
14517.00

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0 10 20 40 Feet

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Drawing Title

Utility Plan

Drawing Number

C-5.0

Sheet 5 of 8

Project Number 14517.00

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
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REGISTERED PROFESSIONAL ENGINEER

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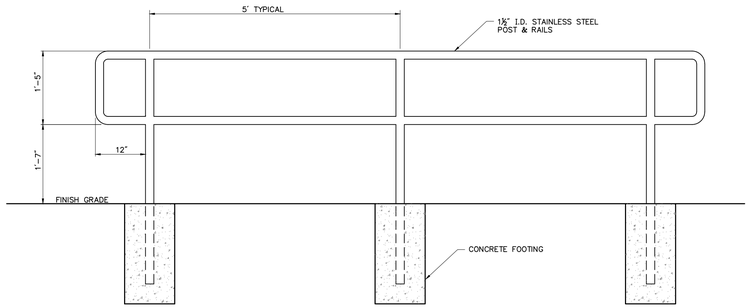


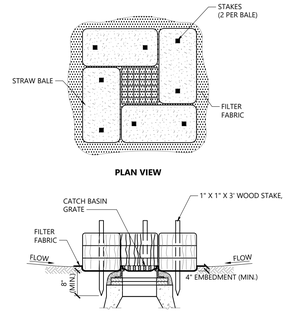
Notes:

1. SEE PLAN FOR LOCATION AND LENGTH OF PEDESTRIAN RAILING.

Pedestrian Railing

6/03

N.T.S. Source: VHB LD_765



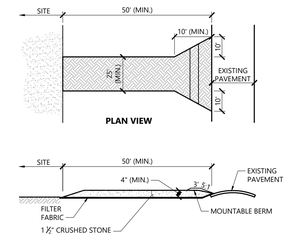
NOTES

1. ENCLOSE STRUCTURE WITH HAYBALES IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION. MAINTAIN UNTIL PAVING BINDER COURSE IS COMPLETE OR A PERMANENT STAND OF GRASS HAS BEEN ESTABLISHED.
2. IF GRATE IS AGAINST EXISTING CURB THEN BALES ARE TO BE PLACED AROUND THREE SIDES OF GRATE ONLY.
3. GRATE TO BE PLACED OVER FILTER FABRIC.
4. BALES SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.

Catch Basin Sediment Trap

1/16

N.T.S. Source: VHB LD_673



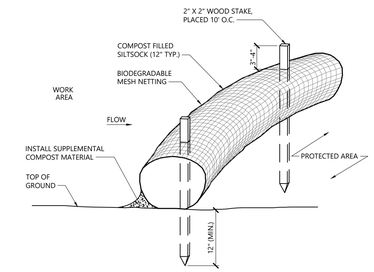
NOTES

1. EXIT WIDTH SHALL BE A-TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

Stabilized Construction Exit

1/16

N.T.S. Source: VHB LD_682



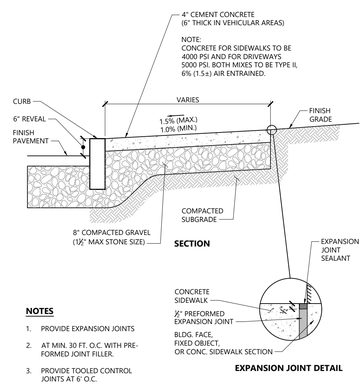
NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Siltsock - Erosion Control Barrier

1/16

N.T.S. Source: VHB LD_658



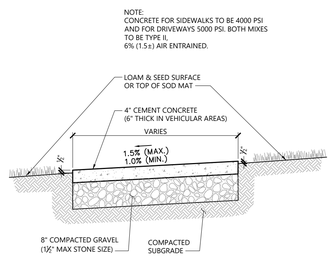
NOTES

1. PROVIDE EXPANSION JOINTS
2. AT MIN. 30 FT. O.C. WITH PRE-FORMED JOINT FILLER.
3. PROVIDE TOOLED CONTROL JOINTS AT 6' O.C.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.

Concrete Sidewalk

1/16

N.T.S. Source: VHB LD_420



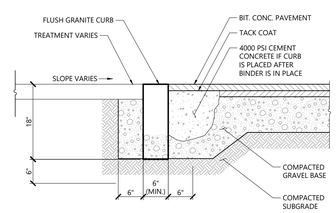
NOTES

1. PROVIDE EXPANSION JOINTS AT MIN. 30 FT. O.C. WITH PRE- FORMED JOINT FILLER.
2. PROVIDE TOOLED CONTROL JOINTS AT 6' O.C.
3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO SIDEWALK DIRECTION.

Concrete Sidewalk in Landscape Area

1/16

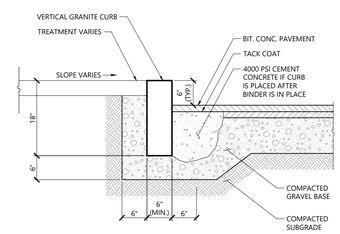
N.T.S. Source: VHB LD_426



Flush Vertical Granite Curb (VGC)

1/16

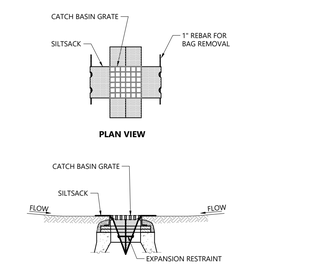
N.T.S. Source: VHB REV LD_402



Vertical Granite Curb (VGC)

1/16

N.T.S. Source: VHB REV LD_402



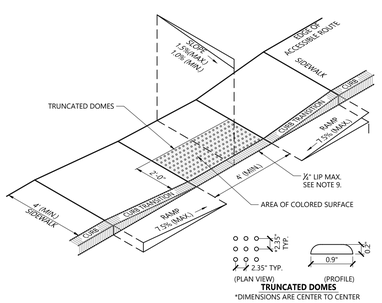
NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

Siltsack Sediment Trap

1/16

N.T.S. Source: VHB LD_674



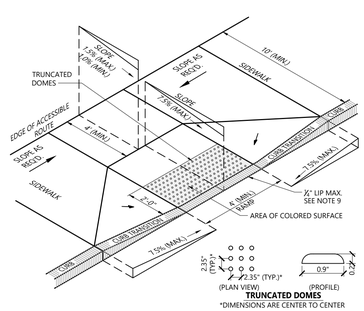
NOTES

1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB, AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING AT RAMP (OTHER THAN VERTICAL CURBING, WHICH SHALL BE SET FLUSH) WHERE IT ABUTS ROADWAY.
10. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
11. DETECTABLE WARNINGS SHALL BE INSTALLED PERPENDICULAR TO ACCESSIBLE ROUTE.

Accessible Curb Ramp (ACR) Type 'A-D'

1/16

N.T.S. Source: VHB LD_500



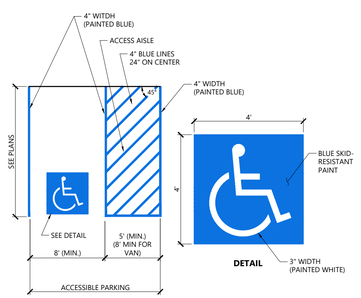
NOTES

1. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 1.5 (1% MIN.).
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE AT CURB RAMPS SHALL BE 7.5%.
4. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. RAMP, CURB AND ADJACENT PAVEMENTS SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5' x 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
9. ELIMINATE CURBING AT RAMP WHERE IT ABUTS ROADWAY, EXCEPT WHERE VERTICAL CURBING IS INDICATED ON THE DRAWINGS TO BE INSTALLED AND SET FLUSH.
10. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES.
11. DETECTABLE WARNINGS SHALL BE INSTALLED PERPENDICULAR TO THE ACCESSIBLE ROUTE.

Accessible Curb Ramp (ACR) Type 'D-D'

1/16

N.T.S. Source: VHB LD_503



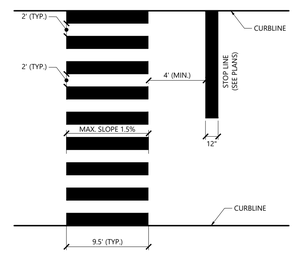
NOTES

1. ALL DIMENSIONS TO EDGES OF 4" PAVEMENT STRIPING.
2. 8' STALL WIDTH REFERS TO 8' CLEAR BETWEEN INSIDE EDGES OF PAVEMENT MARKINGS.
3. ALL SLOPES THROUGHOUT THE ACCESSIBLE PARKING AND AISLE AREAS SHALL NOT EXCEED 1.5%.
4. ACCESS AISLE MEASURED BETWEEN OUTSIDE EDGES OF PAVEMENT MARKINGS.

Accessible Parking Space

1/16

N.T.S. Source: VHB LD_552B



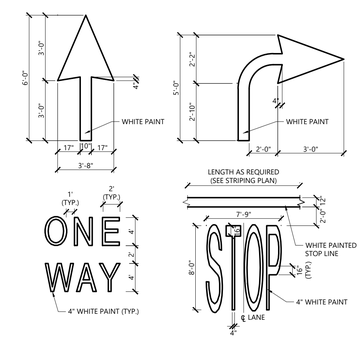
NOTES

1. TWELVE INCH (12") LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6 INCH LINES) WILL BE ACCEPTED.
2. LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
3. ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY ALIGNED.
4. CROSS WALK SIDESLOPE SHALL NOT EXCEED 1.5%.

Crosswalk

1/16

N.T.S. Source: VHB LD_553



NOTES

1. PAVEMENT MARKINGS TO BE INSTALLED FOR ON SITE WORK IN LOCATIONS SHOWN.

Painted Pavement Markings - On Site

1/16

N.T.S. Source: VHB LD_554

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Dunstan East

Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

Designed by DRM
Checked by HGH
Issued for Local Approvals
Date April 28, 2020

Not Approved for Construction

Drawing Title
Site Details 1

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38935
REGISTERED PROFESSIONAL ENGINEER

Drawing Number
C-6.1

Sheet 6 of 8

Project Number
14517.00

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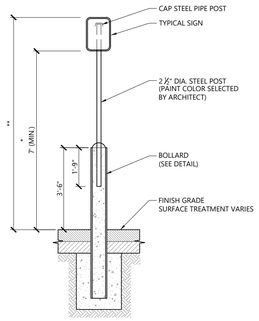
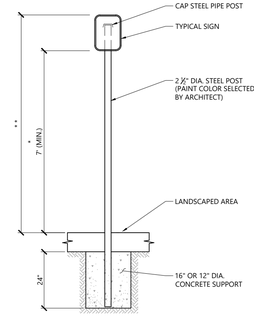


* THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.

** THIS DIMENSION SHALL BE A A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE.

Bollard Mounted Sign 1/16

N.T.S. Source: VHB LD_703

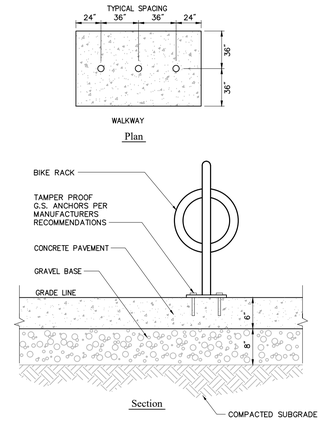


* THIS DIMENSION SHALL BE A MINIMUM OF 5' FOR ACCESSIBLE SIGNAGE.

** THIS DIMENSION SHALL BE A A MAXIMUM OF 8' FOR ACCESSIBLE SIGNAGE.

Sign Post - Type 'A' 1/16

N.T.S. Source: VHB LD_701

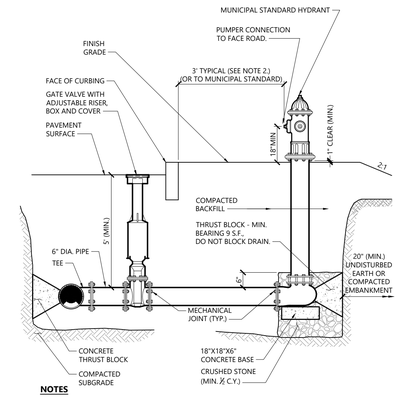


Note:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

Bicycle Rack - Surface Mount

N.T.S. Source: VHB



NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 3 FEET AT HYDRANT.
3. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT UNLESS OTHERWISE APPROVED BY AUTHORITY HAVING JURISDICTION.

Hydrant Construction 12/18

N.T.S. Source: VHB LD_250

TABLE OF DIMENSIONS

BENDS	B	C	D	E	F	BENDS	B	C	D	E	F
6" 11 ¼°	8"	15"	12"	24"	12"	6" 45°	8"	30"	12"	24"	14"
6" 22 ½°	"	19"	"	"	13"	6" 90°	"	30"	"	"	27"
8" 11 ¼°	"	20"	"	"	12"	8" 45°	"	30"	"	"	24"
8" 22 ½°	"	22"	"	"	17"	8" 90°	"	38"	"	"	36"
12" 11 ¼°	"	30"	"	"	15"	12" 45°	"	40"	"	"	40"
12" 22 ½°	"	35"	"	"	25"	12" 90°	"	60"	"	"	52"

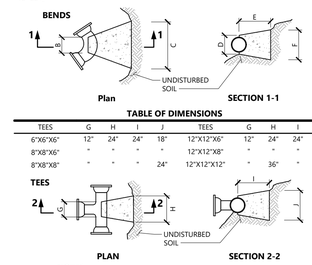


TABLE OF DIMENSIONS

TEES	G	H	I	J	TEES	G	H	I	J
6"X6"X6"	12"	24"	24"	18"	12"X12"X6"	12"	24"	24"	18"
8"X8"X6"	"	"	"	"	12"X12"X8"	"	"	"	24"
8"X8"X8"	"	"	"	24"	12"X12"X12"	"	36"	"	36"

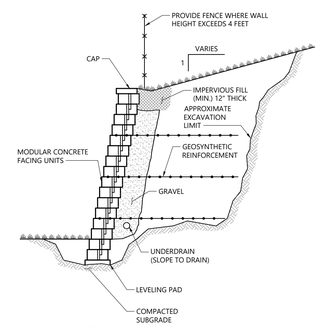
NOTES

1. PROVIDE BLOCKS FOR TAPPING SLEEVES, DEAD ENDS, GATE VALVES, AND VERTICAL BENDS (SAME SIZE AS REQUIRED FOR TEES). PROVIDE ANCHOR RODS AT VERTICAL BENDS AND GATE VALVES.
2. CONCRETE SHALL NOT BE PLACED AGAINST PIPE BEYOND FITTING.
3. CONCRETE SHALL BE 3,000 PSI-TYPE I.

Concrete Thrust Block 1/16

N.T.S. Source: VHB LD_260

vhb.com
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

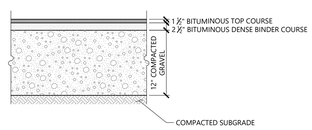


NOTES

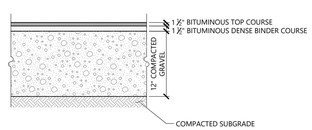
DETAIL PROVIDED FOR GENERAL INFORMATION ONLY. STAMPED FINAL DESIGN OF MODULAR WALL SYSTEM TO BE PROVIDED BY WALL MANUFACTURER BASED ON GEOTECHNICAL ENGINEERS RECOMMENDATIONS.

Modular Retaining Wall 1/16

N.T.S. Source: VHB LD_750



HEAVY DUTY FLEXIBLE PAVEMENT



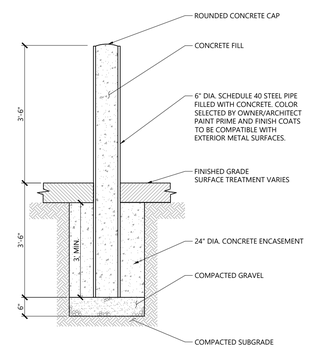
STANDARD DUTY FLEXIBLE PAVEMENT

NOTES

PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

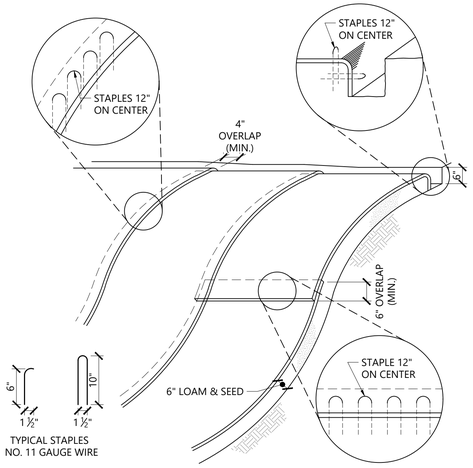
Bituminous Concrete Pavement Sections 1/16

N.T.S. Source: VHB LD_430



Bollard 9/17

N.T.S. Source: VHB LD_700

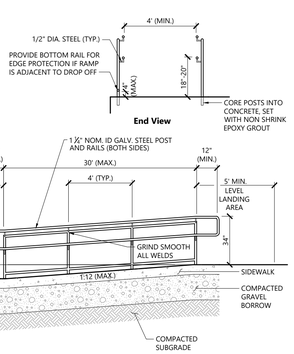


NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.
3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

Erosion Control Blanket Slope Installation 1/16

N.T.S. Source: VHB LD_680

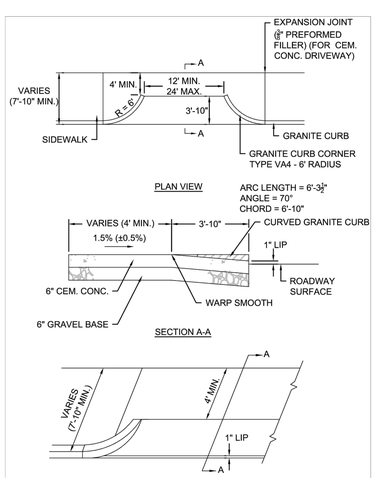


NOTES

1. FOR ADDITIONAL INFORMATION SEE 521 CMR 24.00 RAMPS.
2. REFER TO SIDEWALK DETAIL FOR SIDEWALK CONSTRUCTION.

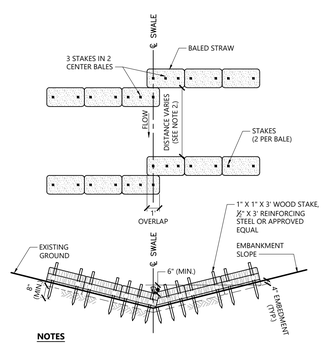
AAB Ramp 9/17

N.T.S. Source: VHB LD_764B



Typical Curb Apron with Sidewalk 4/20

N.T.S. Source: City of Boston DPW



NOTES

1. THIS CHECKDAM SHALL BE INSTALLED IN A DRAINAGE SWALE WITH BED WIDTHS OF 2 FT. OR LESS.
2. THE DISTANCE BETWEEN BALE CHECKDAMS SHALL BE DETERMINED BY THE SLOPE OF THE SWALE. CHECKDAMS SHALL BE SET AT EVERY 2 FT. DROP IN SWALE ELEVATION.
3. BALES SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. INSTALL 3 STAKES PER HAY BALE WITHIN SWALE BED AREAS.

Straw Bale Checkdam (Narrow Swale) 1/16

N.T.S. Source: VHB LD_672

Dunstan East

Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

Designed by DRM
Checked by OMW
Issued for Local Approvals
Date April 28, 2020

Not Approved for Construction

Drawing Title
Site Details 2

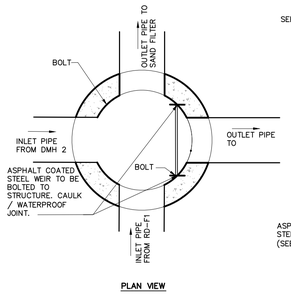
Drawing Number
C-6.2

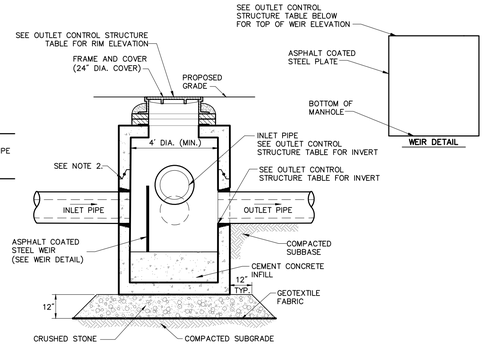
Sheet 7 of 8

Project Number
14517.00

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
No. 38935
REGISTERED PROFESSIONAL ENGINEER

Saved Tuesday, April 28, 2020 10:42:56 AM DMCCORMACK Plotted Tuesday, April 28, 2020 10:43:35 AM McCormack, Dan





OUTLET CONTROL STRUCTURE NO.	RIM ELEVATION	INVERT INLET PIPE (MAX-FROM)	INVERT OUTLET PIPE (OUM-2)	INVERT OUTLET PIPE (SF-2)	TOP OF WEIR ELEVATION
DIV-DMH 1	49.61	44.67	44.67	44.67	45.00

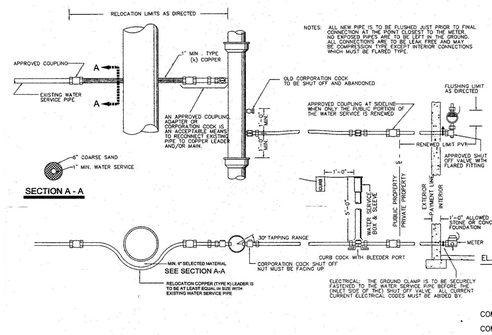
Notes:

1. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
2. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
3. BOLTS – HILTI ANCHORS, SHOT IN OR DRILL DOWELL AND EPOXY.

Diversion Manhole

3/19

N.T.S. Source: VHB REV_LD_163

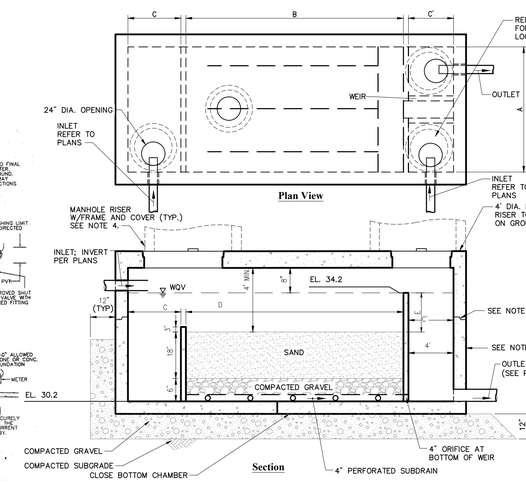


NOTES: ALL NEW PIPE IS TO BE FLUSHED JUST PRIOR TO FINAL CONNECTION AND AS CLOSELY TO THE METER. DISINFECTING PIPES AND TO BE SAMPLED TO THE METER. ALL CONNECTIONS ARE TO BE LEAK FREE AND MAY BE COMPRESSION TYPE EXCEPT INTERIOR CONNECTIONS WHICH MUST BE FLARED TYPE.

Water Service Connection

4/20

N.T.S. Source: City of Newton DPW



DIMENSIONS	SYSTEM # SF-1
A	10'
B	57'
C	18'
C'	35'
D	57'
E	1'
F	13'

Notes:

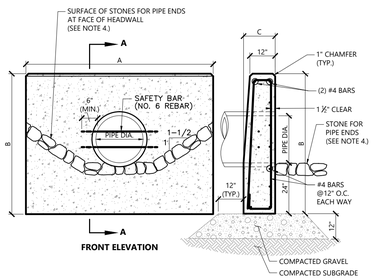
1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. STANDARD 24-INCH DRAINAGE MANHOLE FRAME AND COVER SHALL BE LOCATED OVER CROSSES AND SET IN FULL MORTAR BED. ADJUST TO GRADE WITH BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
5. PRECAST SECTIONS SHALL BE STORMTRAP DOUBLE TRAP SYSTEMS OR APPROVED EQUAL.
6. AT LEAST ONE ACCESS MANHOLE SHALL BE LOCATED OVER FOREBAY/SETTLING BASIN, SAND FILTER AND OUTLET.

Sand Filter

5/16

N.T.S. Source: VHB

vhb.com
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770



DIMENSIONAL TABLE

PIPE DIA.	A	B	C	#OF SAFETY BARS
12"	5'-6"	4'-2"	1'-6"	
15"	6'-6"	4'-5"	1'-6"	-
18"	7'-6"	4'-9"	1'-6"	1
24"	9'-0"	5'-3"	1'-6"	1
30"	11'-0"	5'-10"	1'-6"	2
36"	13'-0"	6'-4"	1'-9"	2
42"	15'-9"	6'-11"	1'-9"	3
48"	17'-9"	7'-5"	2'-0"	3
60"	21'-9"	8'-6"	2'-6"	4
72"	25'-9"	9'-7"	3'-0"	5

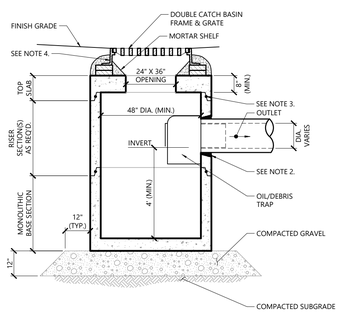
NOTES

1. CONCRETE SHALL BE AIR ENTRAINED TYPE II CEMENT WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI
2. SAFETY BARS TO BE OMITTED WHERE INDICATED ON PLANS.
3. SAFETY BARS SHALL BE SET TO CREATE EQUAL OPENING DIMENSIONS.
4. SEE STONE PROTECTION AT HEADWALL DETAIL.

Concrete Headwall (HW)

1/16

N.T.S. Source: VHB LD_130



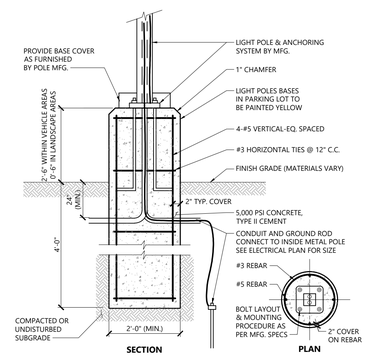
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
4. DOUBLE CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICKS TYPICALLY, 5 BRICK COURSES MAXIMUM)

Double Grate Catch Basin (DCB) with Oil/Debris Trap

1/16

N.T.S. Source: VHB LD_103



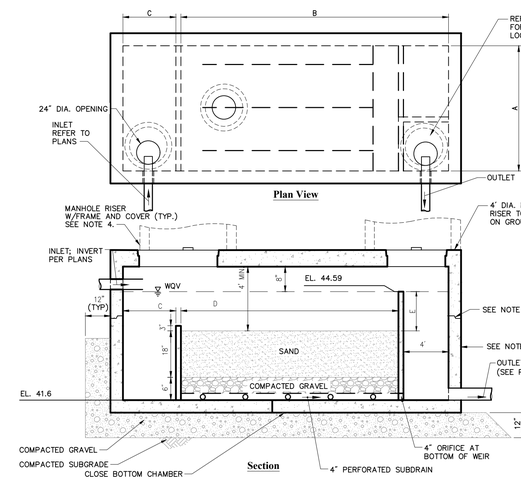
NOTES

LIGHT POLE FOUNDATION DESIGN IS SUBJECT TO CHANGE BASED ON FINAL POLE AND FIXTURE SELECTION AND GEOTECHNICAL SITE INVESTIGATION.

Light Pole Foundation Detail (Up to 15' Pole)

1/16

N.T.S. Source: VHB LD_310A



DIMENSIONS	SYSTEM # SF-2
A	8'
B	23'
C	13'
D	23'
E	1'
F	13'

Notes:

1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. STANDARD 24-INCH DRAINAGE MANHOLE FRAME AND COVER SHALL BE LOCATED OVER CROSSES AND SET IN FULL MORTAR BED. ADJUST TO GRADE WITH BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
5. PRECAST SECTIONS SHALL BE STORMTRAP DOUBLE TRAP SYSTEMS OR APPROVED EQUAL.
6. AT LEAST ONE ACCESS MANHOLE SHALL BE LOCATED OVER FOREBAY/SETTLING BASIN, SAND FILTER AND OUTLET.

Sand Filter 2

5/16

N.T.S. Source: VHB

Dunstan East

Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

Designed by DRM
Checked by OMW

Issued for **Local Approvals**
Date **April 28, 2020**

Not Approved for Construction

Drawing Title
Site Details 3

Drawing Number
C-6.3

Sheet 8 of 8

Project Number
14517.00

COMMONWEALTH OF MASSACHUSETTS
RICHARD S. HOLLWORTH
CIVIL
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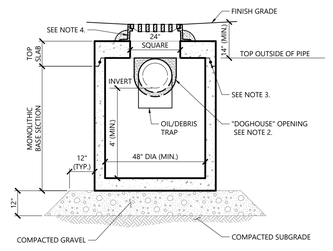


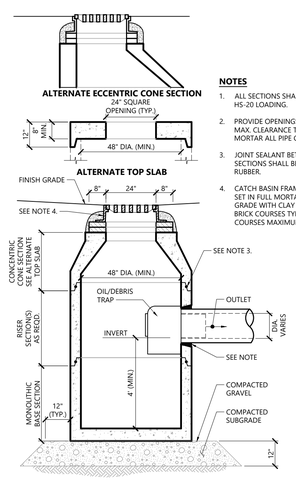
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE (4"DEPTH) SHALL BE SET IN FULL MORTAR BED.
5. ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.

Catch Basin (CB) Shallow Cover with Oil/Debris Trap

1/16

N.T.S. Source: VHB LD_105



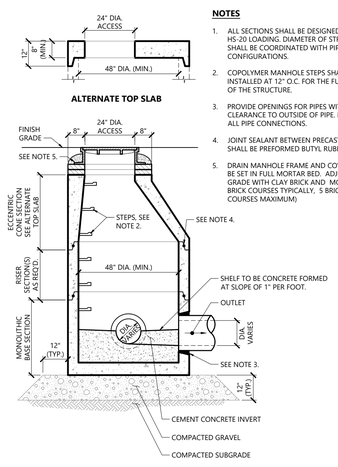
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

Catch Basin (CB) With Oil/Debris Trap

1/16

N.T.S. Source: VHB LD_101



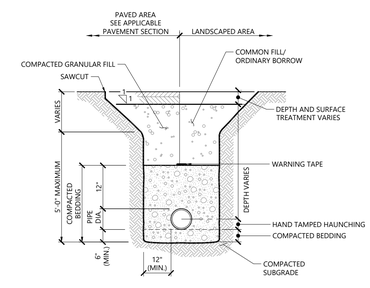
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Drain Manhole (DMH)

1/16

N.T.S. Source: VHB LD_115



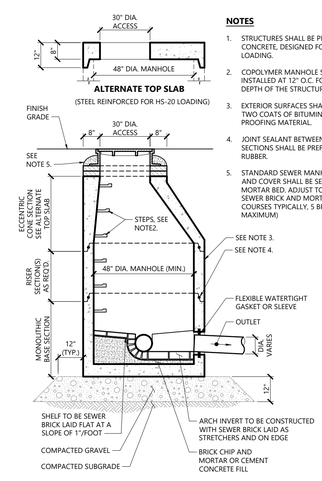
NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.

Utility Trench

1/16

N.T.S. Source: VHB LD_300



NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Sanitary Sewer Manhole (SMH)

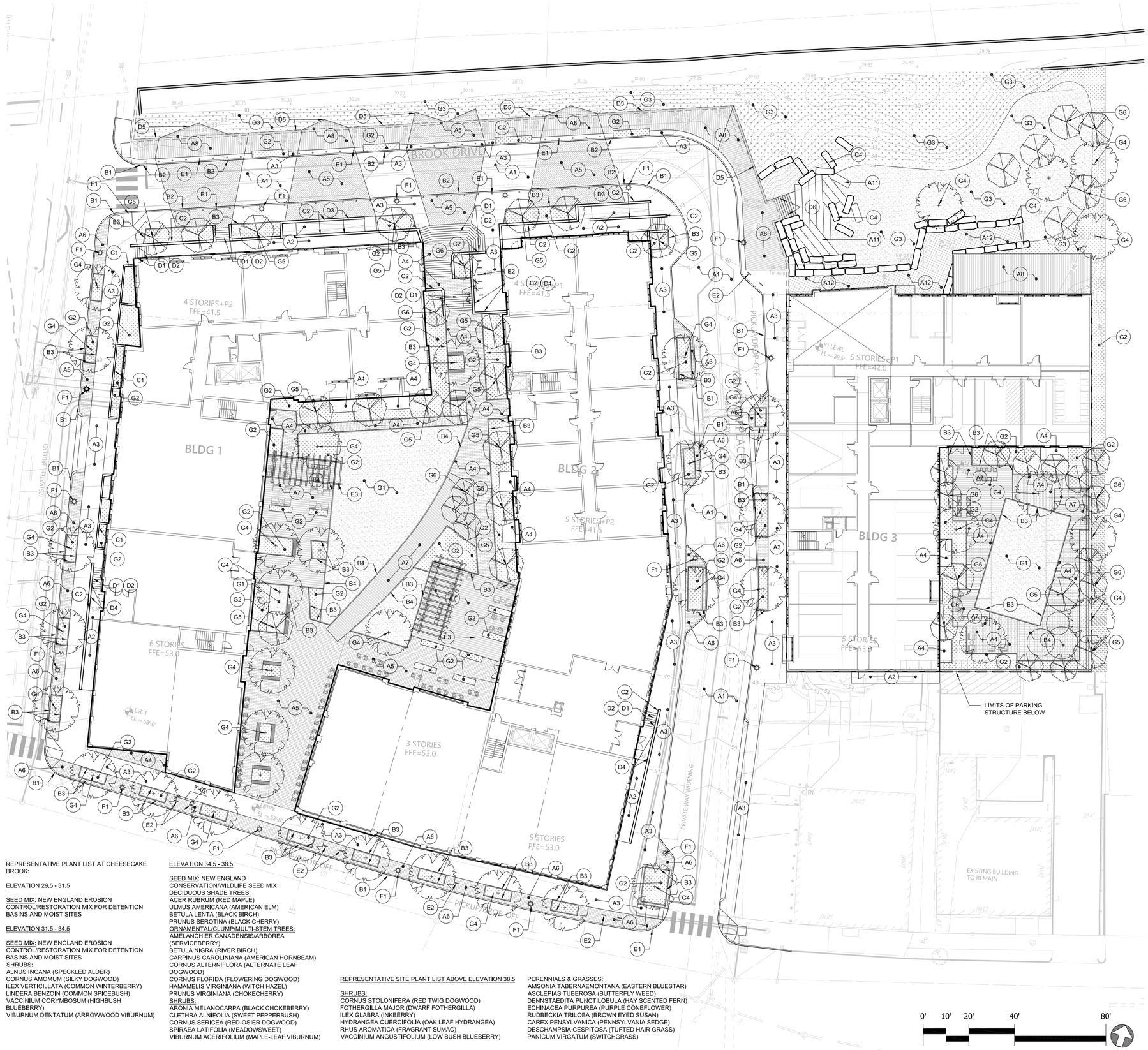
1/16

N.T.S. Source: VHB LD_200

Saved Tuesday, April 28, 2020 10:42:56 AM DMCCORMACK Plotted Tuesday, April 28, 2020 10:43:51 AM McCormack, Dan

MATERIALS LEGEND

TAG	DESCRIPTION	DETAIL
PAVING		
A1	BITUMINOUS CONCRETE PAVING - VEHICULAR - SEE CIVIL DRAWINGS	
A2	POURED IN PLACE CONCRETE PAVING - PEDESTRIAN (4" THK) - SEE CIVIL DRAWINGS	
A3	POURED IN PLACE CONCRETE PAVING - VEHICULAR (6" THK) - SEE CIVIL DRAWINGS	
A4	PRECAST CONCRETE UNIT PAVERS - PEDESTRIAN CONDITION	
A5	PRECAST CONCRETE UNIT PAVERS - VEHICULAR CONDITION	
A6	PRECAST CONCRETE UNIT PAVERS - PERMEABLE CONDITION AT STREETSCAPE	
A7	WOOD DECKING ON PEDESTAL SYSTEM	
A8	WOOD DECKING ON WOOD SLEEPER SYSTEM OVER CONCRETE SLAB. ALLOW WEEPS IN RETAINING WALL FOR SLAB DRAINAGE. SECTIONS OF DECK EXTENDING BEYOND WALL ARE CANTILEVERED WITH STRUCTURAL SLEEPER MEMBERS EXTENDING BEYOND WALL.	
A9	ACCESSIBLE CURB RAMP - SEE CIVIL DRAWINGS	
A10	DETECTABLE WARNING PANEL - SEE CIVIL DRAWINGS	
A11	RECLAIMED GRANITE SLABS - FLUSH	
A12	STABILIZED STONEDUST SURFACING	
CURBS		
B1	NEW OR RESET VA4 GRANITE ROADWAY & PARKING LOT CURB - SEE CIVIL DRAWINGS	
B2	6" WIDTH FLUSH GRANITE ROADWAY CURB - SEE CIVIL DRAWINGS	
B3	4" WIDTH GRANITE LANDSCAPE CURB	
B4	4" WIDTH FLUSH GRANITE LANDSCAPE CURB	
WALLS		
C1	STREETSCAPE PLANTER WALL - CAST IN PLACE INTEGRALLY COLORED CONCRETE WITH FORMLINER FINISH - 8" WIDTH	
C2	STAIR/RAMP RETAINING WALL - CAST IN PLACE INTEGRALLY COLORED CONCRETE WITH FORMLINER FINISH - 12" WIDTH	
C3	LANDSCAPE SEAT WALL - CAST IN PLACE INTEGRALLY COLORED CONCRETE WITH FORMLINER FINISH - 18" WIDTH	
C4	RECLAIMED GRANITE BLOCKS - LANDSCAPE FEATURE	
STAIRS & RAILS		
D1	PRECAST CONCRETE STAIR TREADS SET ON CAST IN PLACE CONCRETE FOUNDATION - 12" WIDTH	
D2	EXTERIOR STAIR HANDRAIL - S.S. #4 NON DIRECTIONAL FINISH	
D3	EXTERIOR ACCESSIBLE RAMP HANDRAIL - S.S. #4 NON DIRECTIONAL FINISH	
D4	42" HEIGHT PEDESTRIAN GUARDRAIL AT COURTYARD ENTRY OFF BROOK STREET	
D5	42" HEIGHT PEDESTRIAN GUARDRAIL AT BOARDWALK	
D6	SUSPENDED WOOD STAIR OFF BOARDWALK, SIM TO DECKING	
FURNISHINGS		
E1	VEHICULAR BOLLARDS AT BROOK STREET	
E2	BIKE RACKS - LANDSCAPE FORMS 'RING', QTY: 16 (FOR PARKING OF 32 BIKES)	
E3	WOOD & METAL SHADE STRUCTURE	
E4	"TOT LOT" PLAY AREA	
LIGHTING		
FX	EXISTING LIGHT POLE TO REMAIN	
F1	NEW LIGHT POLE - STREETSCAPE	
F2	NEW LIGHT POLE/BOLLARD AT COURTYARD	
F3	RECESSED LIGHT FIXTURES AT STAIR/RAMP WALLS	
PLANTING		
G1	SOD LAWN	
G2	ORNAMENTAL PLANTING BED	
G3	NATURALIZED PLANTING AREA AT BROOK EDGE AND NORTHEAST OPEN SPACE	
G4	DECIDUOUS SHADE TREE - 4" CALIPER	
G5	ORNAMENTAL TREE - 2.5" CALIPER	
G6	ORNAMENTAL TREE - 10-12' HT MULTI-STEM/CLUMP	



REPRESENTATIVE STREET/ORNAMENTAL TREE LIST:

DECIDUOUS SHADE TREES
ACER X FREEMANII 'JEFFERSRED' - AUTUMN BLAZE MAPLE
ACER RUBRUM 'KARPICK' - KARPICK RED MAPLE
ULMUS AMERICANA 'PRINCETON' - PRINCETON ELM
GINKGO BILOBA 'AUTUMN GOLD' - AUTUMN GOLD GINKGO

ORNAMENTAL TREES:
CRATAEGUS VIRIDIS 'WINTER KING' - WINTER KING HAWTHORN
CORNUS FLORIDA - FLOWERING DOGWOOD
STYRAX JAPONICUS - JAPANESE SNOWBELL

CLUMP/MULTI-STEM TREES:
AMELANCHIER ARBOREA - DOWNY SERVICEBERRY
AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' - SERVICEBERRY
HAMAMELIS VERNALIS 'AUTUMN EMBERS' - AUTUMN EMBERS WITCHHAZEL

NOTES:
1. SITE IMPROVEMENTS ASSUME ALL EXISTING STREET TREES WITHIN LIMIT OF WORK TO BE REMOVED AND REPLACED WITH NEW STREET TREES AS SHOWN IN LANDSCAPE PLAN.

REPRESENTATIVE PLANT LIST AT CHEESECAKE BROOK:

ELEVATION 29.5 - 31.5

SEED MIX: NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES

ELEVATION 31.5 - 34.5

SEED MIX: NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES
SHRUBS:
ALNUS INCANA (SPECKLED ALDER)
CORNUS AMOMUM (SILKY DOGWOOD)
ILEX VERTICILLATA (COMMON WINTERBERRY)
LINDERA BENZOIN (COMMON SPICEBUSH)
VACCINIUM CORYMBOSUM (HIGHBUSH BLUEBERRY)
VIBURNUM DENTATUM (ARROWWOOD VIBURNUM)

ELEVATION 34.5 - 38.5

SEED MIX: NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX
DECIDUOUS SHADE TREES:
ACER RUBRUM (RED MAPLE)
ULMUS AMERICANA (AMERICAN ELM)
BETULA LENTA (BLACK BIRCH)
PRUNUS SEROTINA (BLACK CHERRY)
ORNAMENTAL/CLUMP/MULTI-STEM TREES:
AMELANCHIER CANADENSIS/ARBOREA (SERVICEBERRY)
BETULA NIGRA (RIVER BIRCH)
CARPINUS CAROLINIANA (AMERICAN HORNBEAM)
CORNUS ALTERNIFLORA (ALTERNATE LEAF DOGWOOD)
CORNUS FLORIDA (FLOWERING DOGWOOD)
HAMAMELIS VIRGINIANA (WITCH HAZEL)
PRUNUS VIRGINIANA (CHOKECHERRY)
SHRUBS:
ARONIA MELANOCARPA (BLACK CHOKEBERRY)
CLETHRA ALNIFOLIA (SWEET PEPPERBUSH)
CORNUS SERICEA (RED-OSIER DOGWOOD)
SPIRAEA LATIFOLIA (MEADOWSWEET)
VIBURNUM ACERIFOLIUM (MAPLE-LEAF VIBURNUM)

REPRESENTATIVE SITE PLANT LIST ABOVE ELEVATION 38.5

SHRUBS:
CORNUS STOLONIFERA (RED TWIG DOGWOOD)
FOTHERGILLA MAJOR (DWARF FOTHERGILLA)
ILEX GLABRA (INKBERRY)
HYDRANGEA QUERCIFOLIA (OAK LEAF HYDRANGEA)
RHUS AROMATICA (FRAGRANT SUMAC)
VACCINIUM ANGUSTIFOLIUM (LOW BUSH BLUEBERRY)

PERENNIALS & GRASSES:
AMSONIA TABERNAEMONTANA (EASTERN BLUESTAR)
ASCLEPIAS TUBEROSA (BUTTERFLY WEED)
DENNSTAEDITA PUNCTILOBULA (HAY SCENTED FERN)
ECHINACEA PURPUREA (PURPLE CONEFLOWER)
RUDBECKIA TRILOBA (BROWN EYED SUSAN)
CAREX PENSYLVANICA (PENNSYLVANIA SEDGE)
DESCHAMPSIA CESPITOSA (TUFTED HAIR GRASS)
PANICUM VIRGATUM (SWITCHGRASS)

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(PHONE) 617.536.0380
WWW.HALVORSONDESIGN.COM

MASSACHUSETTS ROBERT J. ADAMS NO. 1231 REGISTERED LANDSCAPE ARCHITECT
ADAMS:

Dunstan East

Washington Street
West Newton, Massachusetts

No.	Revision	Date	Appvd.

Designed by: SRL
Checked by: RJA
Issued for: Local Approvals
Date: April 28, 2020

Not Approved for Construction

Drawing Title
L1.1 SITE MATERIALS

Drawing Number

Sheet 7 of

Project Number
14517.00

LEGEND

124	EXISTING CONTOUR
125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 123.45	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BH 122.95	EXISTING BOTTOM OF BRIDGE HEADER ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
× GF 123.45	EXISTING GARAGE FLOOR ELEVATION
× DS 123.45	EXISTING DOOR SILL ELEVATION
	HYDRANT
WV	WATER VALVE
GV	GAS VALVE
GM	GAS METER
EM	ELECTRIC METER
OH	OVERHEAD WIRES
G	APPROX. LOC. UNDERGROUND GAS LINE
T	APPROX. LOC. UNDERGROUND TELEPHONE LINE
W	APPROX. LOC. UNDERGROUND WATER LINE
UP	UTILITY POLE
UPLP	UTILITY POLE/LIGHT POLE
GW	GUY WIRE
	STREET LIGHT
MW	MONITORING WELL
	AREA LIGHT
AC	AIR CONDITIONING UNIT
	SIGN
	BOLLARD
	U-BOLLARD
	METAL GUIDE RAIL
P	POST
U.S.	MAILBOX
RD	ROOF DRAIN
TF	TREE & TRUNK SIZE
10	PARKING SPACE COUNT
31 7 23	MAP, BLOCK, LOT

D DMH	DRAINAGE/STORM MANHOLE
E EMH	ELECTRIC MANHOLE
S SMH	SANITARY/SEWER MANHOLE
T TMH	TELEPHONE MANHOLE
MH	UNKNOWN MANHOLE
W WMH	WATER MANHOLE
CB	CATCH BASIN OR INLET
	FLOW DIRECTION
(S)	SURVEY DIMENSION
(R)	RECORD DIMENSION
DC	DEPRESSED CURB
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
LSA	LANDSCAPED AREA
MC	METAL COVER
(TYP)	TYPICAL
UG	UNDER GROUND
CLF	CHAIN LINK FENCE
SYL	SOLID YELLOW LINE
DYL	DOUBLE YELLOW LINE
HT	HEIGHT
DAWL	DASHED WHITE LINE
BLDG	BUILDING
BFPA	BUILDING FOOTPRINT AREA
NVP	NO VISIBLE PIPE
INV	INVERT ELEVATION
GRT	GRATE ELEVATION
BOT	BOTTOM ELEVATION
TOW	TOP OF WATER
VC	VITRIFIED CLAY
RCP	REINFORCED CONCRETE PIPE
BOS	BOTTOM OF STRUCTURE
TOS	TOP OF SILT

LOT AREAS:

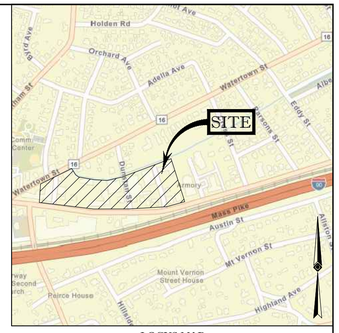
MAP 31, BLOCK 5, LOT 2 = 6,269 SQUARE FEET OR 0.144 ACRES
MAP 31, BLOCK 5, LOT 3 = 17,369 SQUARE FEET OR 0.399 ACRES
MAP 31, BLOCK 6, LOT 1 = 1,942 SQUARE FEET OR 0.045 ACRES
MAP 31, BLOCK 6, LOT 2 = 11,851 SQUARE FEET OR 0.272 ACRES
MAP 31, BLOCK 6, LOT 2A = 2,983 SQUARE FEET OR 0.068 ACRES
MAP 31, BLOCK 6, LOT 9 = 17,075 SQUARE FEET OR 0.392 ACRES
MAP 31, BLOCK 6, LOT 10 = 17,446 SQUARE FEET OR 0.400 ACRES
MAP 31, BLOCK 6, LOT 12 = 7,673 SQUARE FEET OR 0.176 ACRES
MAP 31, BLOCK 6, LOT 13 = 6,763 SQUARE FEET OR 0.155 ACRES
MAP 31, BLOCK 6, LOT 14 = 29,539 SQUARE FEET OR 0.680 ACRES
MAP 31, BLOCK 6, LOT 15 = 7,682 SQUARE FEET OR 0.176 ACRES
MAP 31, BLOCK 6, LOT 16 = 9,026 SQUARE FEET OR 0.207 ACRES
MAP 31, BLOCK 6, LOT 17 = 26,936 SQUARE FEET OR 0.618 ACRES
MAP 31, BLOCK 6, LOT 18 = 7,355 SQUARE FEET OR 0.169 ACRES
MAP 31, BLOCK 6, LOT 19 = 15,880 SQUARE FEET OR 0.365 ACRES
MAP 31, BLOCK 6, LOT 20 = 18,552 SQUARE FEET OR 0.426 ACRES
MAP 31, BLOCK 7, LOT 28 = 8,271 SQUARE FEET OR 0.190 ACRES
MAP 31, BLOCK 7, LOT 28A = 5,340 SQUARE FEET OR 0.123 ACRES
MAP 31, BLOCK 7, LOT 29 = 6,970 SQUARE FEET OR 0.160 ACRES
MAP 31, BLOCK 7, LOT 30 = 6,119 SQUARE FEET OR 0.140 ACRES
MAP 31, BLOCK 7, LOT 32 = 8,749 SQUARE FEET OR 0.201 ACRES
MAP 31, BLOCK 7, LOT 33 = 22,623 SQUARE FEET OR 0.519 ACRES
MAP 31, BLOCK 7, LOT 35 = 22,557 SQUARE FEET OR 0.518 ACRES
MAP 31, BLOCK 7, LOT 36 = 23,457 SQUARE FEET OR 0.538 ACRES
MAP 31, BLOCK 7, LOT 37 = 5,911 SQUARE FEET OR 0.136 ACRES
MAP 31, BLOCK 7, LOT 38 = 3,527 SQUARE FEET OR 0.081 ACRES
MAP 31, BLOCK 7, LOT 40 = 8,671 SQUARE FEET OR 0.199 ACRES
MAP 31, BLOCK 7, LOT 41 = 7,812 SQUARE FEET OR 0.179 ACRES
MAP 31, BLOCK 7, LOT 42 = 16,773 SQUARE FEET OR 0.385 ACRES

GRAPHIC SCALE

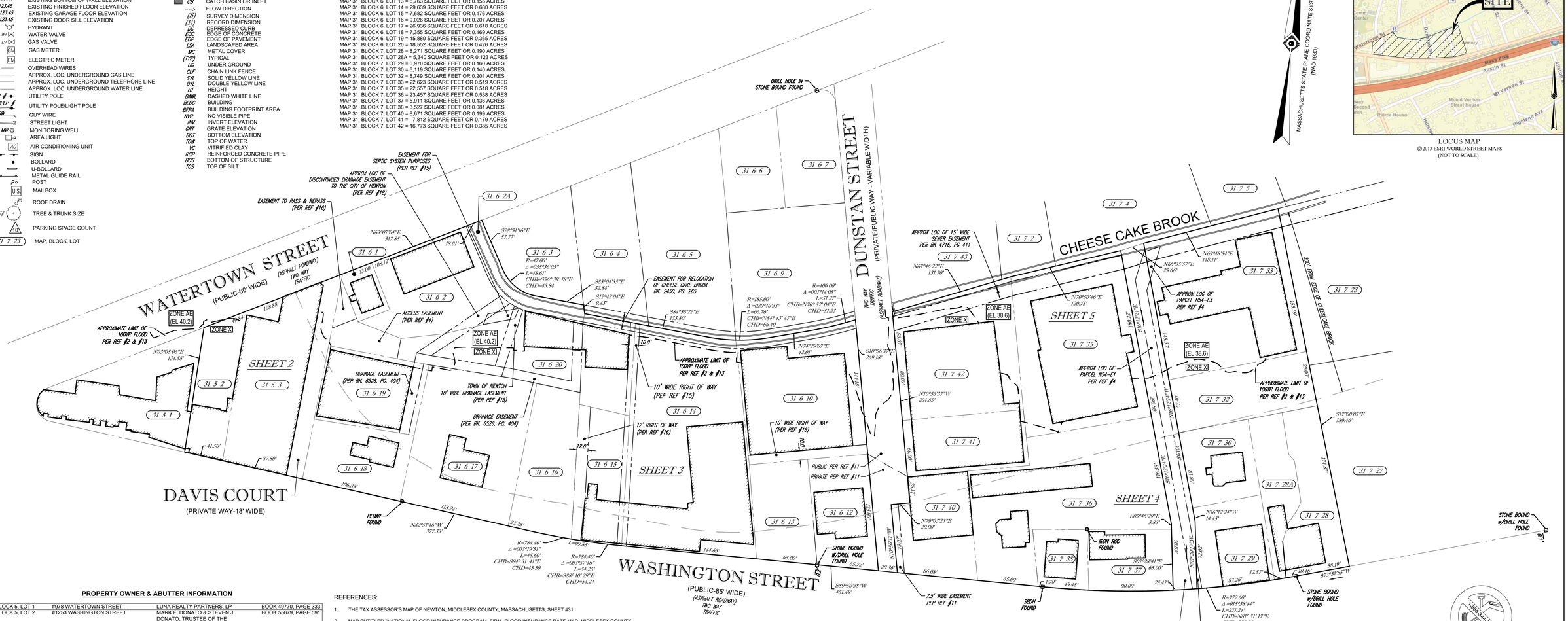
50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD 1983)



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
(NOT TO SCALE)



PROPERTY OWNER & ABUTTER INFORMATION

SECTION 31, BLOCK 5, LOT 1	#978 WATERTOWN STREET	LUNA REALTY PARTNERS, LP	BOOK 49770, PAGE 333
SECTION 31, BLOCK 5, LOT 2	#1253 WASHINGTON STREET	MARK F. DONATO & STEVEN J. DONATO, TRUSTEE OF THE WASHINGTON STREET 1253 REALTY TRUST	BOOK 55679, PAGE 591
SECTION 31, BLOCK 5, LOT 3	#1239-1247 WASHINGTON STREET	GENNARO FEDERICOM, TRUSTEE OF THE 966 WATERTOWN STREET REALTY TRUST	BOOK 43663, PAGE 417
SECTION 31, BLOCK 6, LOT 1	#958 WATERTOWN STREET	FRANK A. DONATO	BOOK N/A, PAGE N/A
SECTION 31, BLOCK 6, LOT 2	#950 WATERTOWN STREET	FRANK A. DONATO	BOOK 15479, PAGE 522
SECTION 31, BLOCK 6, LOT 2A	WATERTOWN STREET	CITY OF NEWTONE	BOOK N/A, PAGE N/A
SECTION 31, BLOCK 6, LOT 3	#942 WATERTOWN STREET	JANET M. EDSAL FIELDS, TRUSTEE OF THE JANET EDSALL FIELDS REVOCABLE TRUST	BOOK 48685, PAGE 458
SECTION 31, BLOCK 6, LOT 4	#934-936 WATERTOWN STREET	NICOLAS D. GARAY, ALBA ALVAREZ & ROSA GARAY	BOOK 35019, PAGE 338
SECTION 31, BLOCK 6, LOT 5	#930 WATERTOWN STREET	ALFREDO GRECO & MELANIA GRECO, TRUSTEES OF THE 930 WATERTOWN STREET REALTY TRUST	BOOK 44073, PAGE 438
SECTION 31, BLOCK 6, LOT 6	#924 WATERTOWN STREET	JOSHUA PLUMB & DOROTHY N. PLUMB	BOOK 55699, PAGE 349
SECTION 31, BLOCK 6, LOT 7	#920 WATERTOWN STREET	ANN L. CAREY & THOMAS J. CAREY	BOOK 51251, PAGE 522
SECTION 31, BLOCK 6, LOT 9	#17-19 DUNSTAN STREET	17-19 DUNSTAN STREET CONDOMINIUM	BOOK 29109, PAGE 518
SECTION 31, BLOCK 6, LOT 10	#25-27 DUNSTAN STREET	FRANK A. DONATO, TRUSTEE OF THE DUSTAN STREET 25 REALTY TRUST	BOOK 64819, PAGE 203
SECTION 31, BLOCK 6, LOT 12	#1197 WASHINGTON STREET	RICHARD W. SEWALL & RICHARD D. SEWALL, TRUSTEES OF BARRON REALTY TRUST	BOOK 26752, PAGE 263
SECTION 31, BLOCK 6, LOT 13	#1197 WASHINGTON STREET	MARK DONATO & STEVEN J. DONATO	BOOK 22136, PAGE 399
SECTION 31, BLOCK 6, LOT 14	#1203 WASHINGTON STREET	MARK DONATO & STEVEN J. DONATO	BOOK 22136, PAGE 399
SECTION 31, BLOCK 6, LOT 15	#1213-1215 WASHINGTON STREET	MARK DONATO & STEVEN J. DONATO	BOOK 22136, PAGE 401
SECTION 31, BLOCK 6, LOT 16	#1221 WASHINGTON STREET	FRANK A. DONATO & CARLENE E. DONATO	BOOK 13108, PAGE 679
SECTION 31, BLOCK 6, LOT 17	#1229 WASHINGTON STREET	FRANK A. DONATO & CARLENE E. DONATO	BOOK 13108, PAGE 679
SECTION 31, BLOCK 6, LOT 18	#1235 WASHINGTON STREET	1235 WASHINGTON STREET LLC	BOOK 39991, PAGE 587
SECTION 31, BLOCK 6, LOT 19	#12 DAVIS COURT	FRANK A. DONATO & CARLENE E. DONATO	BOOK 14082, PAGE 111
SECTION 31, BLOCK 6, LOT 20	#1211 WASHINGTON STREET	STEVEN J. DONATO, TRUSTEE OF THE WASHINGTON STREET 1211 REALTY TRUST UDT	BOOK 69272, PAGE 231
SECTION 31, BLOCK 7, LOT 2	#902 - 904 WATERTOWN STREET	902-904 WATERTOWN STREET CONDOMINIUM TRUST	BOOK 33056, PAGE 93
SECTION 31, BLOCK 7, LOT 4	#888 - 898 WATERTOWN STREET	MANOR HOUSE CONDOMINIUM	BOOK 13945, PAGE 179
SECTION 31, BLOCK 7, LOT 5	#886 WATERTOWN STREET	A.Z. PROPERTY MANAGEMENT, LLC	BOOK 27097, PAGE 394
SECTION 31, BLOCK 7, LOT 23	#25 ARMORY STREET	GPH WEST NEWTON LLC	BOOK 47345, PAGE 499
SECTION 31, BLOCK 7, LOT 27	#1135 - 1137 WASHINGTON STREET	COMMONWEALTH OF MASSACHUSETTS	BOOK 3539, PAGE 504
SECTION 31, BLOCK 7, LOT 28	#1149 WASHINGTON STREET	TENNANT VENTURE, LLC	BOOK 42040, PAGE 353
SECTION 31, BLOCK 7, LOT 28A	#1151 WASHINGTON STREET	TENNANT VENTURE, LLC	BOOK 47223, PAGE 205
SECTION 31, BLOCK 7, LOT 29	#1157 WASHINGTON STREET	NORMAN S. ROSENFIELD TRUST	BOOK 59096, PAGE 54
SECTION 31, BLOCK 7, LOT 30	#12 KEMPTON PLACE	FIELDCOM REALTY TRUST	BOOK 62381, PAGE 39
SECTION 31, BLOCK 7, LOT 32	#18 KEMPTON PLACE	THE CLAIR TRUST	BOOK 18705, PAGE 101
SECTION 31, BLOCK 7, LOT 33	#24 KEMPTON PLACE	THE CLAIR TRUST	BOOK 18705, PAGE 101
SECTION 31, BLOCK 7, LOT 35	#25 KEMPTON PLACE	THE CLAIR TRUST	BOOK 18705, PAGE 101
SECTION 31, BLOCK 7, LOT 36	#1179 WASHINGTON STREET	PINEHURST REALTY TRUST	BOOK 21490, PAGE 250
SECTION 31, BLOCK 7, LOT 37	#1169 WASHINGTON STREET	MARK KEMPTON, LLC	BOOK 67996, PAGE 530
SECTION 31, BLOCK 7, LOT 38	#1171 - 1173 WASHINGTON STREET	MARK KEMPTON, LLC	BOOK 70019, PAGE 236
SECTION 31, BLOCK 7, LOT 40	#1185 WASHINGTON STREET	WASHINGTON WEST CONDOMINIUM	DOCUMENT NO. 764153
SECTION 31, BLOCK 7, LOT 41	#34 DUNSTAN STREET	IN GOD WE TRUST REALTY, LLC	BOOK 52191, PAGE 181
SECTION 31, BLOCK 7, LOT 42	#32 DUNSTAN STREET	IN GOD WE TRUST REALTY, LLC	BOOK 52191, PAGE 181
SECTION 31, BLOCK 7, LOT 43	#18 DUNSTAN STREET	THE MARIA FARINA LLC	BOOK 53715, PAGE 137

REFERENCES:

1. THE TAX ASSESSOR'S MAP OF NEWTON, MIDDLESEX COUNTY, MASSACHUSETTS, SHEET #31.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS) PANEL 551 OF 656," MAP NUMBER 25017C0551E, EFFECTIVE DATE: JUNE 4, 2010.
3. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS.," PREPARED BY U.M. SCHIAVONE, DATED MARCH 27, 1992. RECORDED IN THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 487 OF 1992.
4. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS," PREPARED BY APEX ASSOCIATES, DATED JANUARY 3, 1985. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 61 OF 1985.
5. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS.," PREPARED BY FREDERICK W. RUSSELL, DATED SEPTEMBER 22, 1997. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 1027 OF 1997.
6. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS.," PREPARED BY EVERETT M. BROOKS CO., DATED FEBRUARY 12, 1968. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 605 OF 1968.
7. MAP ENTITLED "PLAN OF LAND IN WEST NEWTON, MASS.," PREPARED BY RALPH W. WALES, DATED JULY 23, 1936. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 584 OF 1936.
8. MAP ENTITLED "SUBDIVISION OF LAND IN WEST NEWTON, MASS.," PREPARED BY ROWLAND H. BARNES & CO., DATED MARCH 12, 1947. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 372 OF 1947.
9. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS.," PREPARED BY EVERETT M. BROOKS & CO., DATED SEPTEMBER 29, 1980. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 1180 OF 1980.
10. MAP ENTITLED "WEST AQUEDUCT SUPPLY MAINS, LAND IN NEWTON, PLAN NO. 242 OF LAND TAKINGS," PREPARED BY THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION WATER DIVISION, DATED APRIL 1931. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 455 OF 1931.
11. MAP ENTITLED "PLAN OF LAND IN WEST NEWTON," PREPARED BY W. E. LEONARD, DATED AUGUST 29, 1923.
12. MAP ENTITLED "PRIVATE LAND, CHEESE CAKE BROOK SOUTHERLY, LAND TAKEN FOR MAIN DRAIN, PRIVATE LAND, CHEESE CAKE BROOK SOUTHERLY, DISCONTINUED AS A MAIN DRAIN," PREPARED BY ASHLEY ROBENIEU, DATED DECEMBER 19, 1949. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 89 OF 1950.
13. MAP ENTITLED "FEDERAL EMERGENCY MANAGEMENT AGENCY, CITY OF NEWTON, MA (MIDDLESEX CO.), FLOOD PROFILES, CHEESE CAKE BROOK," PREPARED THE F.E.M.A. - ONLINE RESOURCE.
14. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS, OWNED BY DAVIS BLOCK TRUST," PREPARED BY LKF CONSULTANTS, INC., DATED DECEMBER 10, 1986. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 581 OF 1987.
15. MAP ENTITLED "PLAN OF LAND IN WEST NEWTON, MASS., OWNED BY G&S PAPER COMPANY, INC.," PREPARED BY BARNES ENGINEERING COMPANY, INC., DATED AUGUST 14, 1986. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 1342 OF 1986.
16. MAP ENTITLED "PLAN OF LAND IN NEWTON, MASS.," PREPARED BY EVERETT M. BROOKS CO., DATED OCTOBER 11, 1961. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 1869 OF 1961.
17. MAP ENTITLED "PRIVATE LAND OFF DAVIS COURT, CHEESECAKE BROOK SOUTHWESTERLY LAND TAKEN FOR MAIN DRAIN," PREPARED BY THE CITY OF NEWTON CITY ENGINEER, DATED APRIL 18, 1941. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 687 OF 1941.
18. MAP ENTITLED "PRIVATE LAND CHEESE CAKE BROOK (SOUTHERLY) LAND TAKEN FOR MAIN DRAIN, PRIVATE LAND, CHEESE CAKE BROOK (SOUTHERLY, WESTERLY) DISCONTINUED AS A MAIN DRAIN," PREPARED BY THE CITY OF NEWTON CITY ENGINEER, DATED AUGUST 18, 1947. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS AS PLAN NO. 1355 OF 1947.
19. MAP ENTITLED "PLAN OF THE "JERMAIN ESTATE" IN WEST NEWTON, MASS.," PREPARED BY E.S. SMILIE, DATED NOVEMBER 7, 1887. RECORDED WITH THE MIDDLESEX COUNTY SOUTH REGISTRY OF DEEDS IN PLAN BOOK 94, PLAN 33.
20. GAS MAPPING PROVIDED BY NATIONAL GRID GENERATED BY LUCKEP ON APRIL 26, 2019.

NOTES:

1. PROPERTY KNOWN AS LOTS 2-3, BLOCK 5, LOTS 1, 2, 9, 10 &12-20, BLOCK 6, LOTS 28-30, 32, 33, 35-38 & 40-42, BLOCK 7 AS SHOWN ON THE CITY OF NEWTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS MAP NO. 31.
2. SEE LIST OF LOT AREAS ON SHEET ONE.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
6. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONES AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. BASE FLOOD ELEVATIONS DETERMINED), ZONE X - SHADED (AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD), ZONE X - UNSHADED (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF #2 (SEE NOTE #8)
7. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).

   TEMPORARY BENCH MARKS SET:

   TBM-A: X-CUT IN CONCRETE WALK ON NORTH SIDE OF WASHINGTON STREET NEAR LOT 37 AT ELEVATION 52.62'.

   TBM-B: MAG NAIL IN PAVEMENT ON WEST SIDE OF KEMPTON PLACE NEAR LOT 37 AT ELEVATION 51.42'.

   TBM-C: MAG NAIL IN PAVEMENT ON NORTH SIDE OF WASHINGTON STREET NEAR LOT 16 AT ELEVATION 50.95'.

   TBM-D: MAG NAIL IN PAVEMENT ON LOT 2 AT ELEVATION 39.17'.

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
8. BASE FLOOD ELEVATION DETERMINED THROUGH EXAMINATION OF FLOOD PROFILES OF CHEESE CAKE BROOK PREPARED BY THE F.E.M.A.; BASE FLOOD FLOOD ELEVATION FOR AE ZONE SHOWN TO BE AT APPROXIMATE ELEVATION 38.6 FEET (NAVD88) ON PROPERTY EAST OF DUNSTAN STREET & APPROXIMATE ELEVATION 40.2 (NAVD88) ON PROPERTY WEST OF DUNSTAN STREET PER REF #13.

THE COMMONWEALTH OF MASSACHUSETTS REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
SERIAL NUMBER(S): 20161813420

UTILITY COMPANY	PHONE NUMBER
AT&T TRANSMISSION	781-961-5300
ZAYO	866-236-2824
COMCAST - PEMBROKE	800-266-2278
LEVEL 3 COMMUNICATIONS	877-253-8353
MCI	800-444-2224
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY	617-222-3200
LIGHTOWER	888-583-4237
VERIZON	800-592-2000
RCN	888-659-3158
NSTAR ELECTRIC	888-633-3797
NATIONAL GRID GAS - BOSTON	800-732-3400
ALGONQUIN GAS \ SPECTRA ENERGY	617-254-4050
SPRINT/NEXTEL	866-275-1411
WELLESLEY MUNICIPAL LIGHTING PLANT	781-235-7600
ON TARGET LOCATING	508-429-1002
VERIZON	800-592-2000

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NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL

GERRY L. HOLDRIGHT, PLS
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

DATE

FIELD DATE 4-27-19	BOUNDARY & TOPOGRAPHIC SURVEY MARK DEVELOPMENT, LLC. WATERTOWN STREET, WASHINGTON STREET DUNSTAN STREET & KEMPTON PLACE CITY OF NEWTON, MIDDLESEX COUNTY COMMONWEALTH OF MASSACHUSETTS			
FIELD BOOK NO. MA19-8				
FIELD BOOK PG. 37				
FIELD CREW S.B.H.	CONTROL POINT ASSOCIATES, INC. 352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 508.948.3000 - 508.948.3003 FAX	ALBANY, NY 5182175010 BOSTON, MA 8574003311 CHALFONT, PA 2157129800 MANHATTAN, NY 6467800411 MT LAUREL, NJ 6098572099 WARREN, NJ 9086680099		
DRAWN: A.J.D.				
REVIEWED: S.P.P.	APPROVED: G.L.H.	DATE 5-28-19	SCALE 1"=50'	FILE NO. 03-160095
DWG. NO. 1 OF 5				

LEGEND

124 / 125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 123.45	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BH 122.95	EXISTING BOTTOM OF BRIDGE HEADER ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
× GF 123.45	EXISTING GARAGE FLOOR ELEVATION
× DS 123.45	EXISTING DOOR SILL ELEVATION
	HYDRANT
wv	WATER VALVE
gv	GAS VALVE
GM	GAS METER
EM	ELECTRIC METER
OH	OVERHEAD WIRES
G	APPROX. LOC. UNDERGROUND GAS LINE
T	APPROX. LOC. UNDERGROUND TELEPHONE LINE
W	APPROX. LOC. UNDERGROUND WATER LINE
UP	UTILITY POLE
UPLP	UTILITY POLE/LIGHT POLE
GW	GUY WIRE
	STREET LIGHT
MW	MONITORING WELL
	AREA LIGHT
AC	AIR CONDITIONING UNIT
	SIGN
	BOLLARD
	U-BOLLARD
	METAL GUIDE RAIL
	POST
U.S.	MAILBOX
RD	ROOF DRAIN
TØ	TREE & TRUNK SIZE
10	PARKING SPACE COUNT
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DMH	DRAINAGE/STORM MANHOLE
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SMH	SANITARY/SEWER MANHOLE
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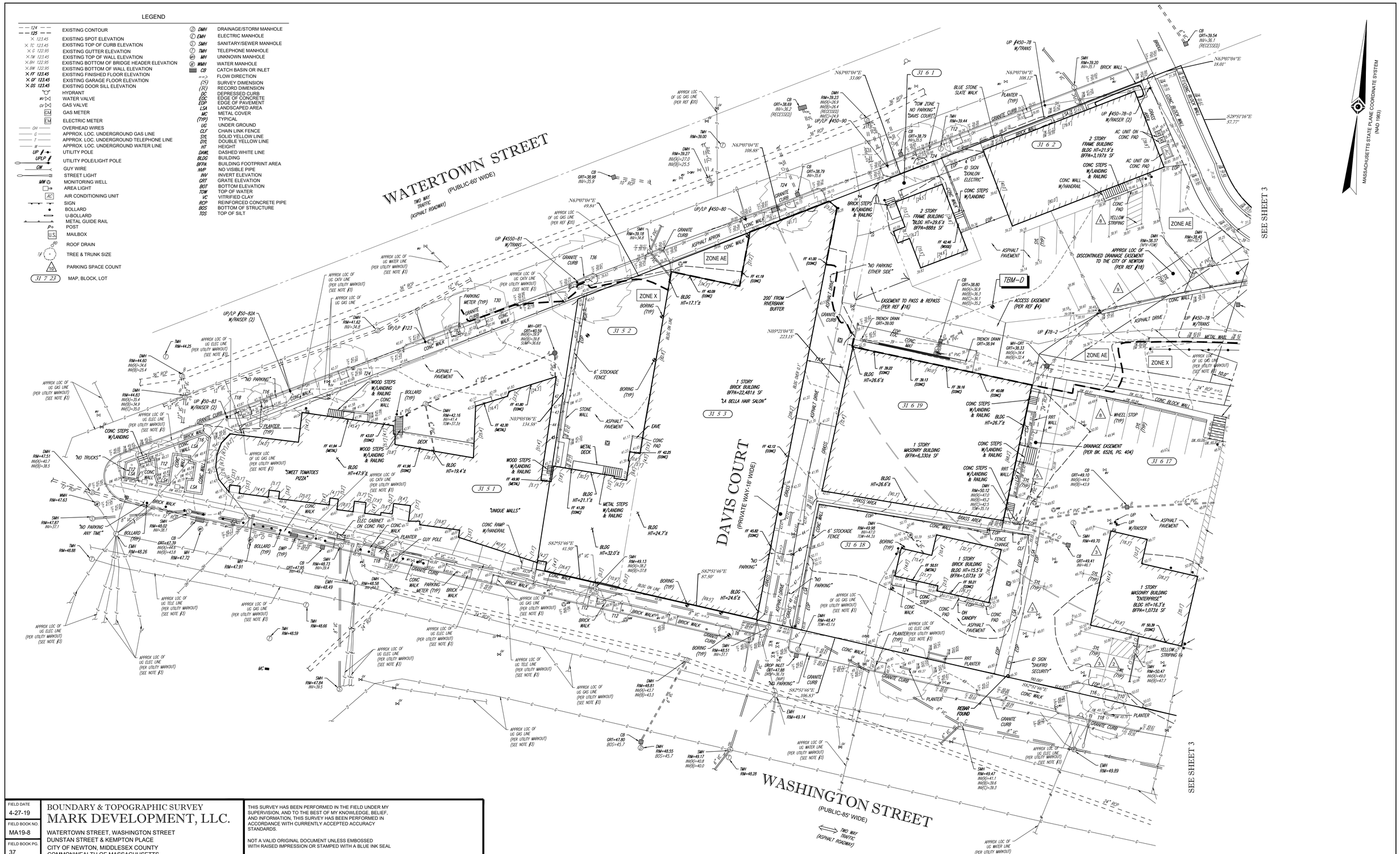
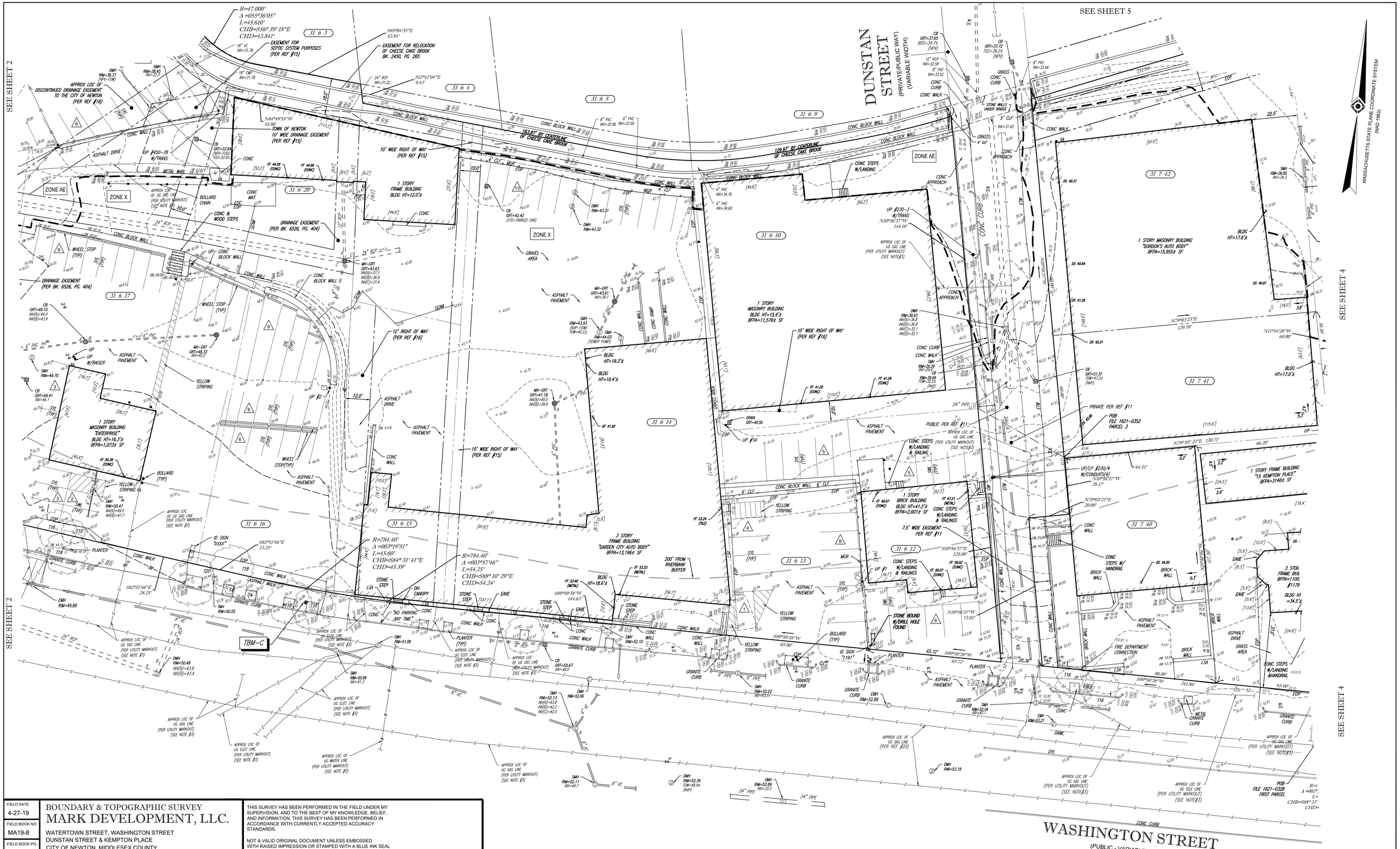


GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

FIELD DATE 4-27-19	BOUNDARY & TOPOGRAPHIC SURVEY MARK DEVELOPMENT, LLC. WATERTOWN STREET, WASHINGTON STREET DUNSTAN STREET & KEMPTON PLACE CITY OF NEWTON, MIDDLESEX COUNTY COMMONWEALTH OF MASSACHUSETTS				THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS. NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL
FIELD BOOK NO. MA19-8					
FIELD BOOK PG. 37					
FIELD CREW S.B.H.	CONTROL POINT ASSOCIATES, INC. 352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 508.948.3000 - 508.948.3003 FAX			ALBANY, NY 5182175010 BOSTON, MA 8574003311 CHALFONT, PA 2157129800 MANHATTAN, NY 6467800411 MT LAUREL, NJ 6098572099 WARREN, NJ 9086680099	GERRY L. HOLDRIGHT, PLS MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211 DATE
DRAWN: A.J.D.					
REVIEWED: S.P.P.	APPROVED: G.L.H.	DATE 5-28-19	SCALE 1"=20'	FILE NO. 03-160095	DWG. NO. 2 OF 5



FIELD DATE 4-27-19	BOUNDARY & TOPOGRAPHIC SURVEY MARK DEVELOPMENT, LLC. WATERTOWN STREET, WASHINGTON STREET DUNSTAN STREET & KEMPTON PLACE CITY OF NEWTON, MIDDLESEX COUNTY COMMONWEALTH OF MASSACHUSETTS				THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS. NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLUE INK SEAL
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DRAWN: A.J.D.					DATE
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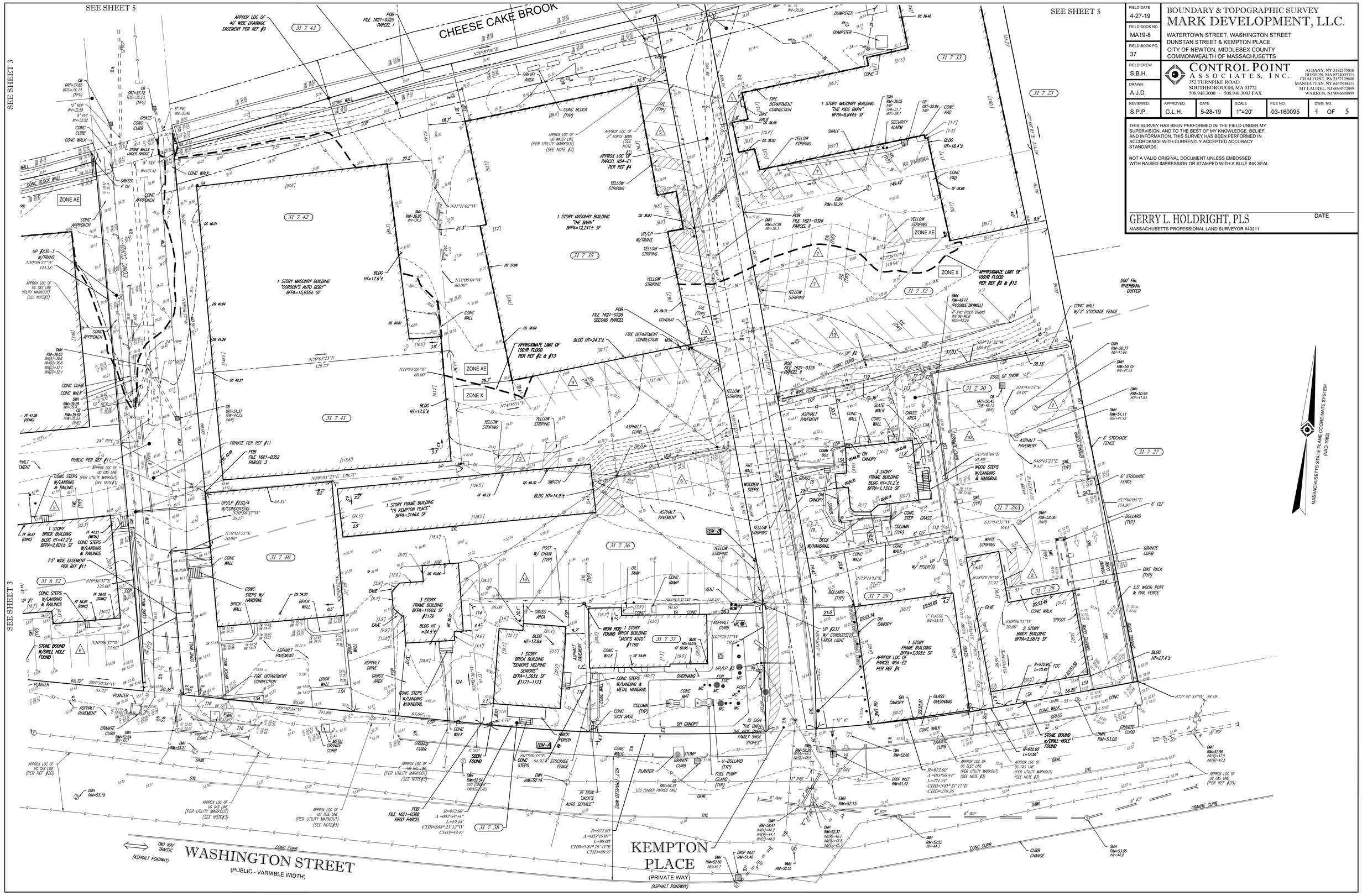

FIELD DATE	BOUNDARY & TOPOGRAPHIC SURVEY
4-27-19	MARK DEVELOPMENT, LLC.
FIELD BOOK NO.	WATERTOWN STREET, WASHINGTON STREET
MA19-8	DUNSTAN STREET & KEMPTON PLACE
FIELD BOOK PG.	CITY OF NEWTON, MIDDLESEX COUNTY
37	COMMONWEALTH OF MASSACHUSETTS
FIELD CREW: S.B.H.	CONTROL POINT ASSOCIATES, INC.
DRAWN: A.J.D.	352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 508.948.3000 - 508.948.3003 FAX
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REVIEWED:	APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
S.P.P.	G.L.H.	5-28-19	1"=20'	03-160095	4 OF 5

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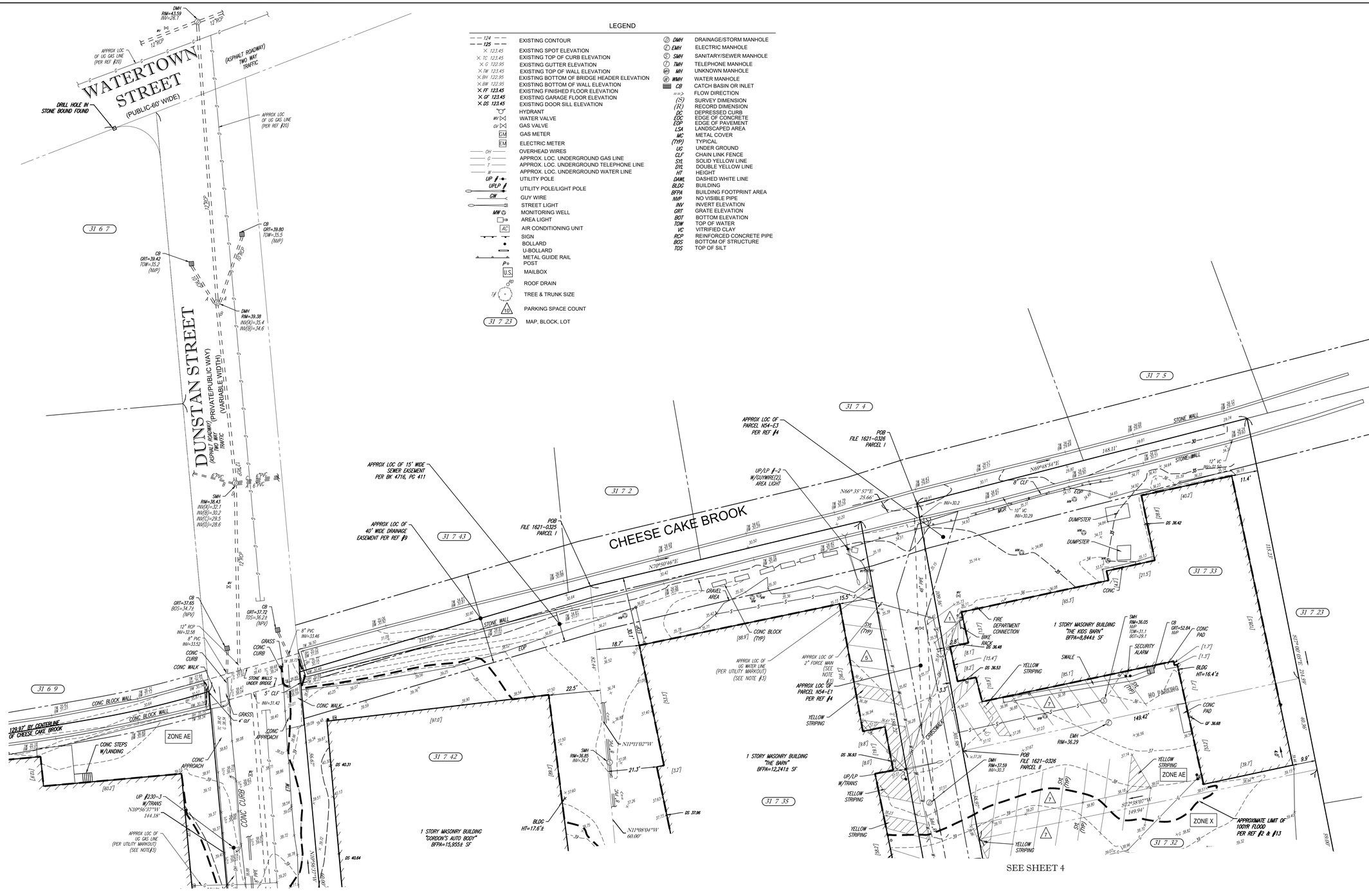
GERRY L. HOLDRIGHT, PLS — DATE

MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

SEE SHEET 3



SEE SHEET 4

SEE SHEET 4

SEE SHEET 3

LEGEND

124	EXISTING CONTOUR
125	
123.45	EXISTING SPOT ELEVATION
TC 123.45	EXISTING TOP OF CURB ELEVATION
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BOS	BOTTOM OF STRUCTURE
TOS	TOP OF SILT

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD 1983)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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GERRY L. HOLDRIGHT, PLS
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

DATE

BOUNDARY & TOPOGRAPHIC SURVEY

MARK DEVELOPMENT, LLC.

WATERTOWN STREET, WASHINGTON STREET
DUNSTAN STREET & KEMPTON PLACE
CITY OF NEWTON, MIDDLESEX COUNTY
COMMONWEALTH OF MASSACHUSETTS

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX

ALBANY, NY 5182175010
BOSTON, MA 8574003311
CHALFONT, PA 2157129800
MANHATTAN, NY 6467800411
MT.LAUREL, NJ 6098572099
WARREN, NJ 9086680099

FIELD DATE	FIELD BOOK NO.	FIELD BOOK PG.	FIELD CREW	DRAWN:
4-27-19	MA19-8	37	S.B.H.	A.J.D.

REVIEWED:	APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
S.P.P.	G.L.H.	5-28-19	1"=20'	03-160095	5 OF 5

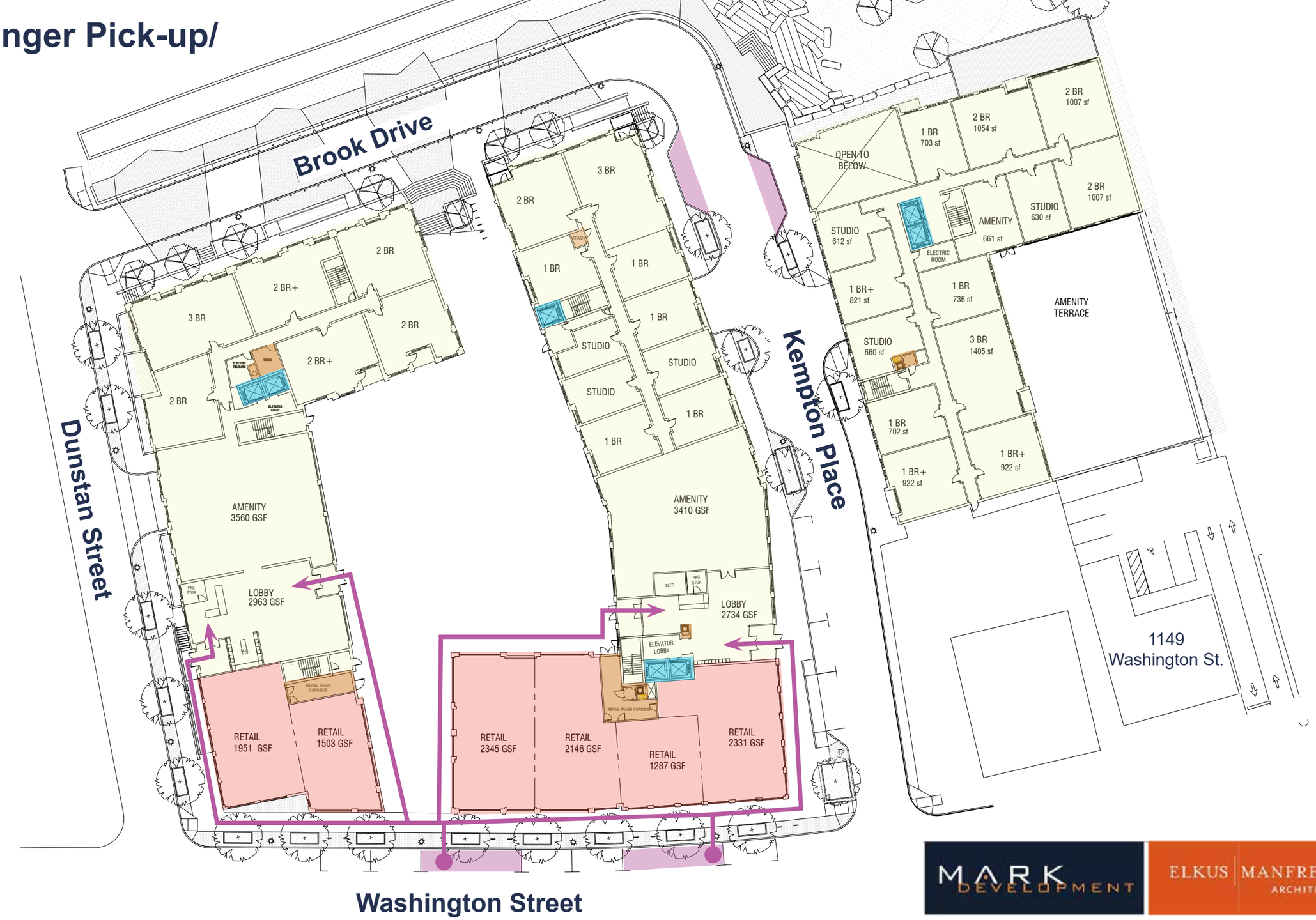
Proposed Site Plan

HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT

Plan B: Passenger Pick-up/ Drop-off

Street Level

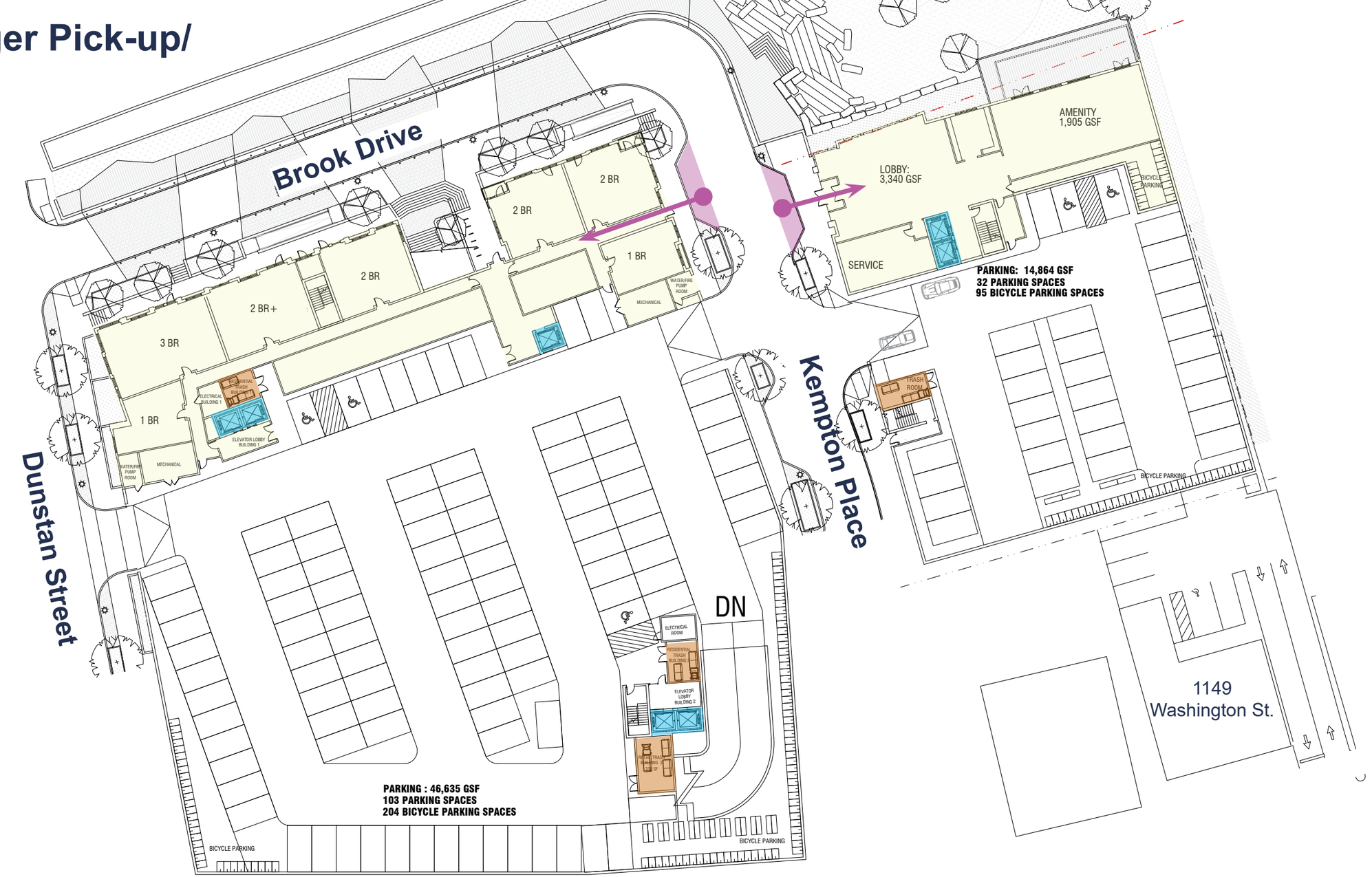


MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS

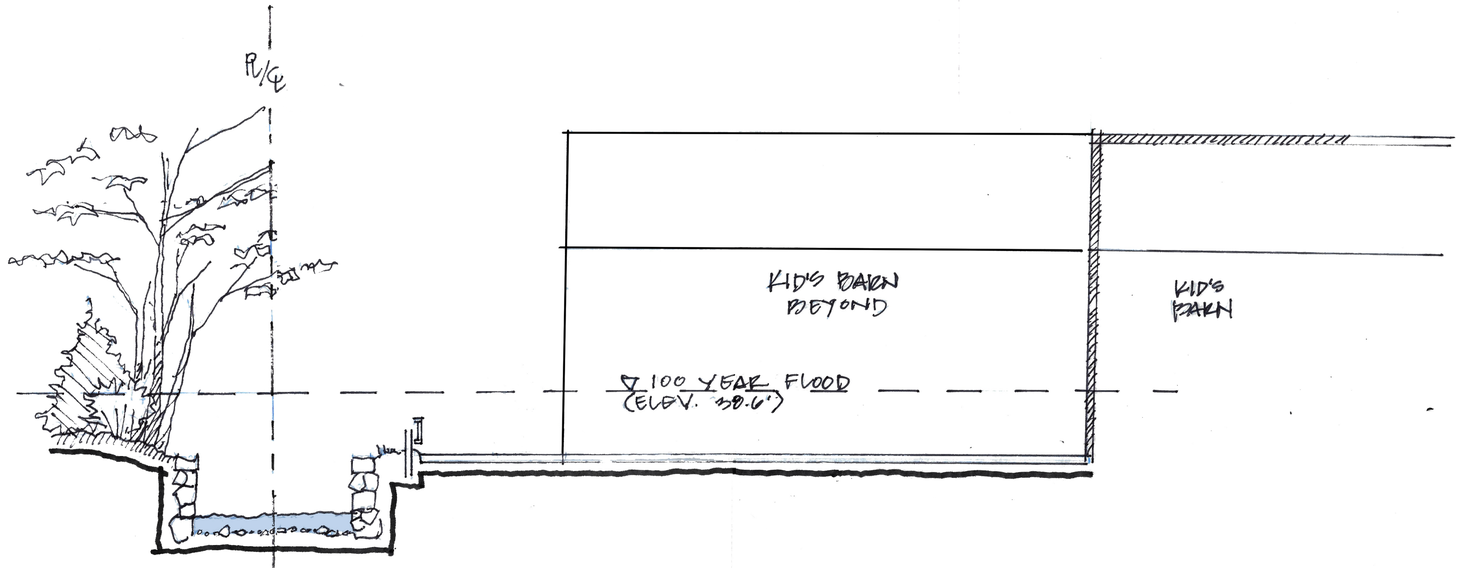
Plan B: Passenger Pick-up/ Drop-off

Level P1



MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS



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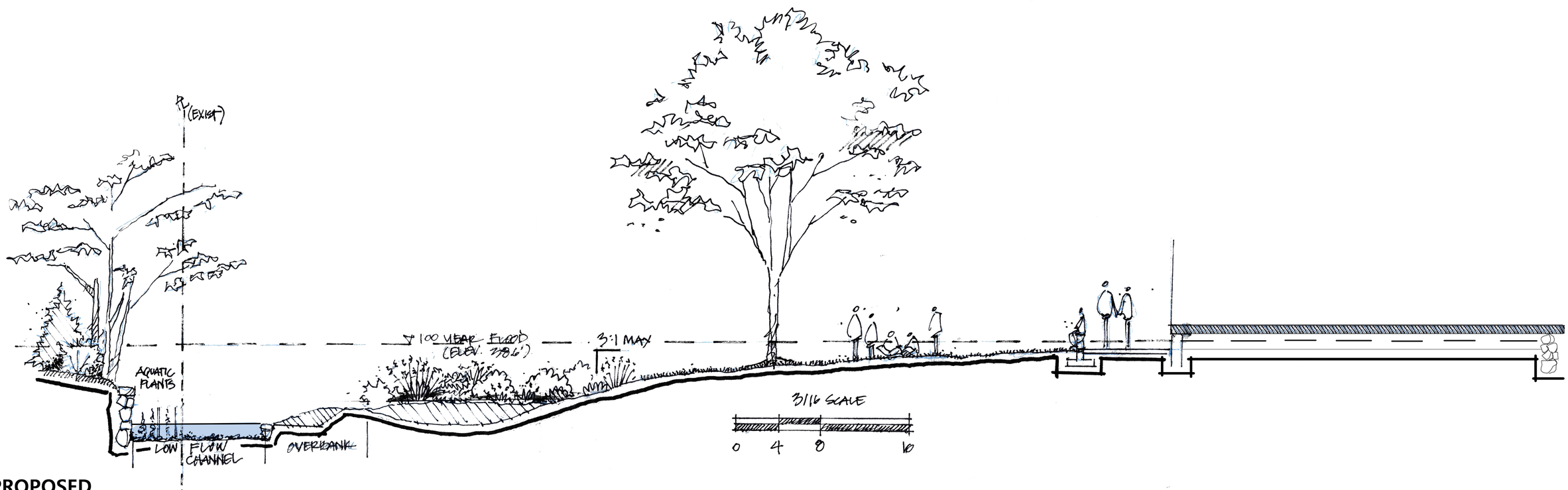
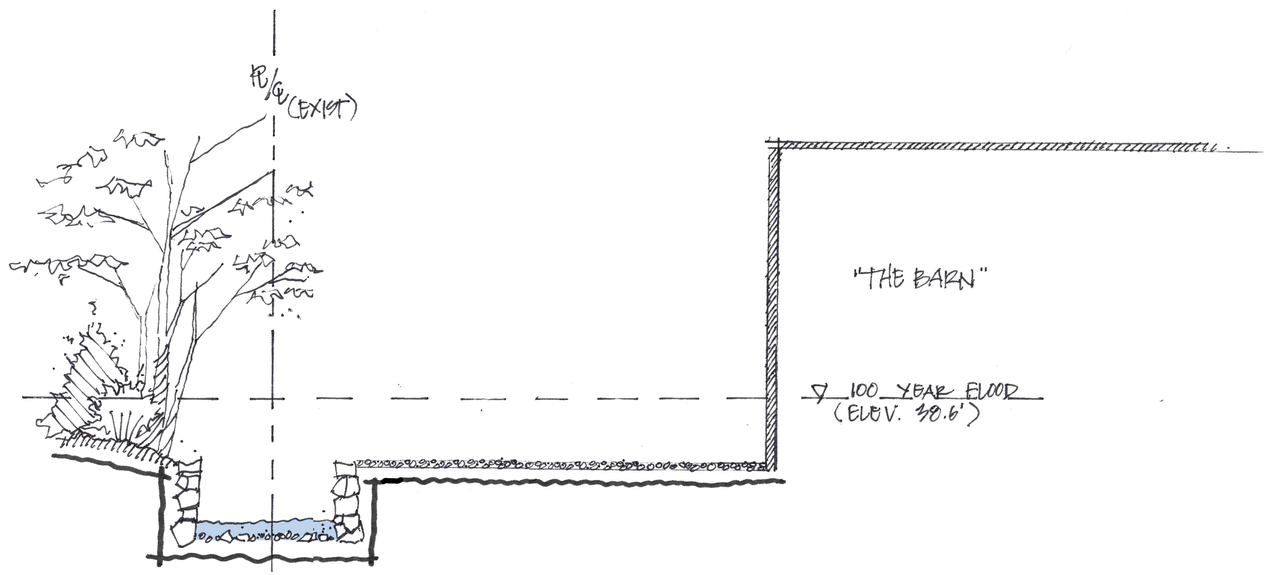


PROPOSED

CHEESE CAKE BROOK - SECTION B-B



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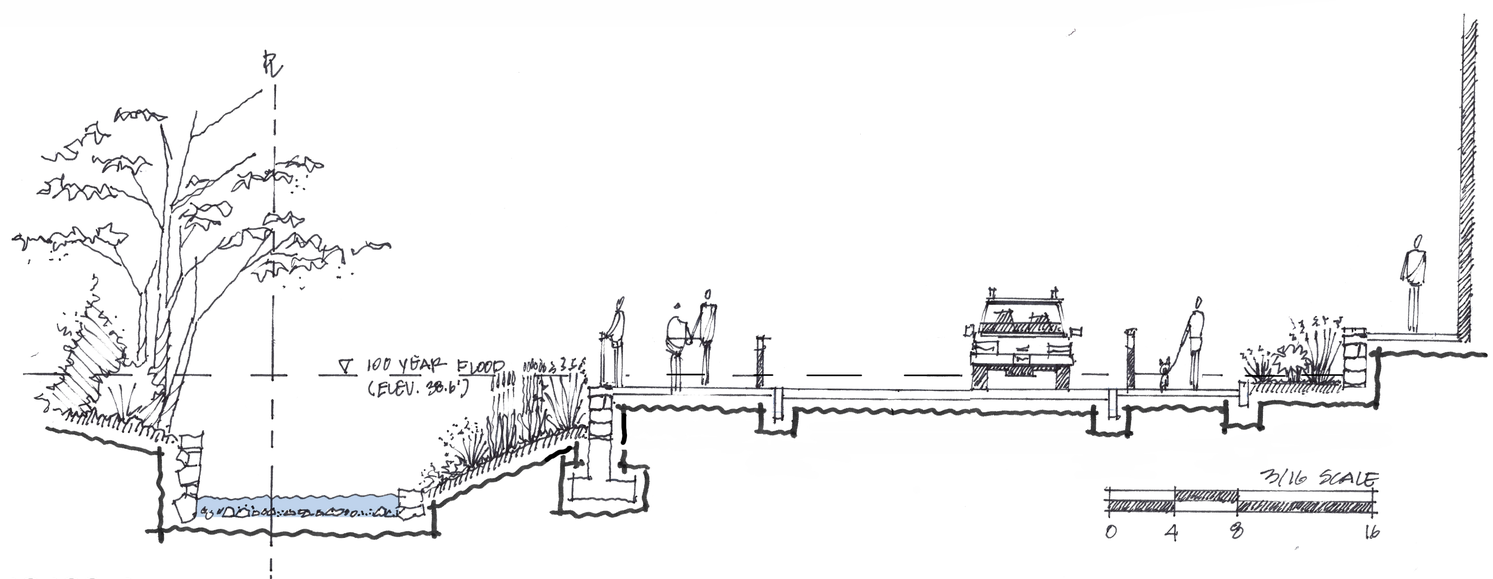


PROPOSED

CHEESE CAKE BROOK - SECTION A-A

Proposed Site Plan

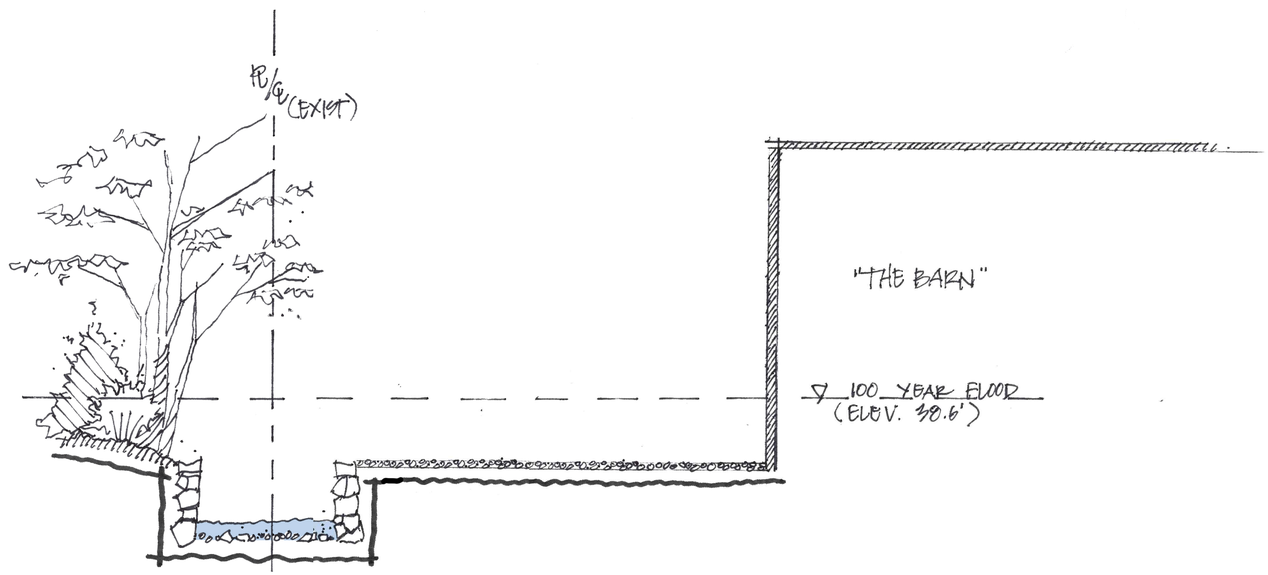
HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT

Proposed Site Amenities - Brook Drive

HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT



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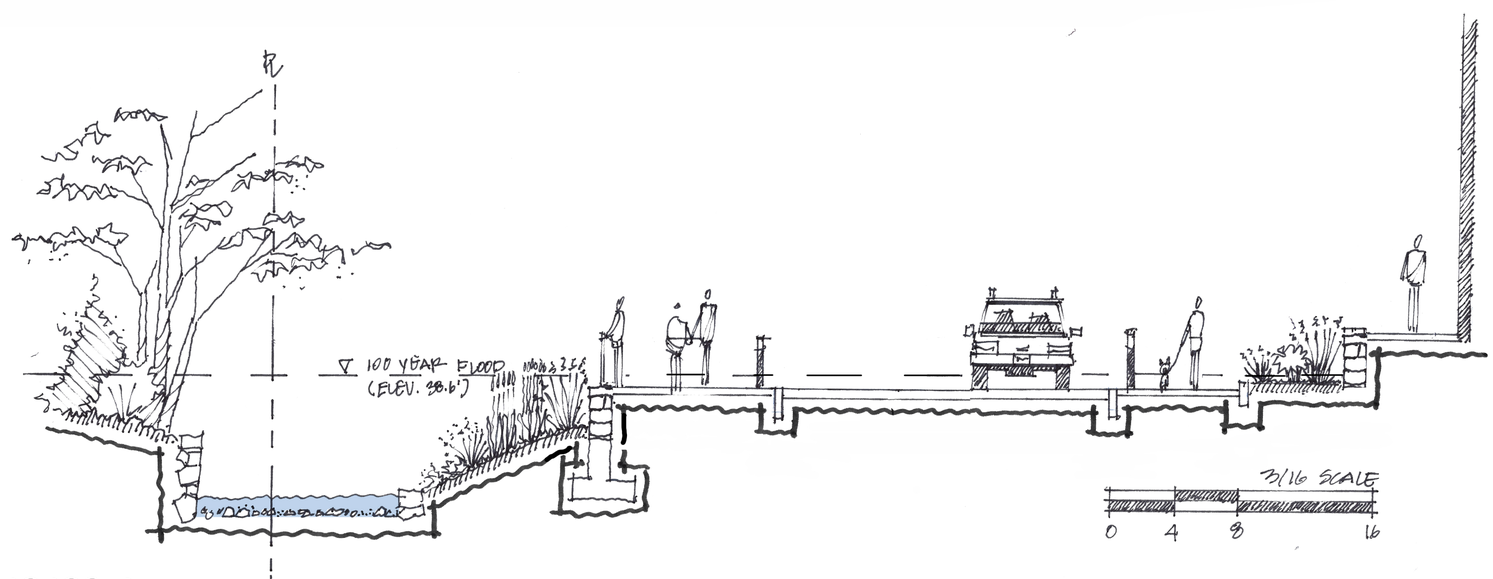


PROPOSED

CHEESE CAKE BROOK - SECTION A-A

Character Images - Brook Drive

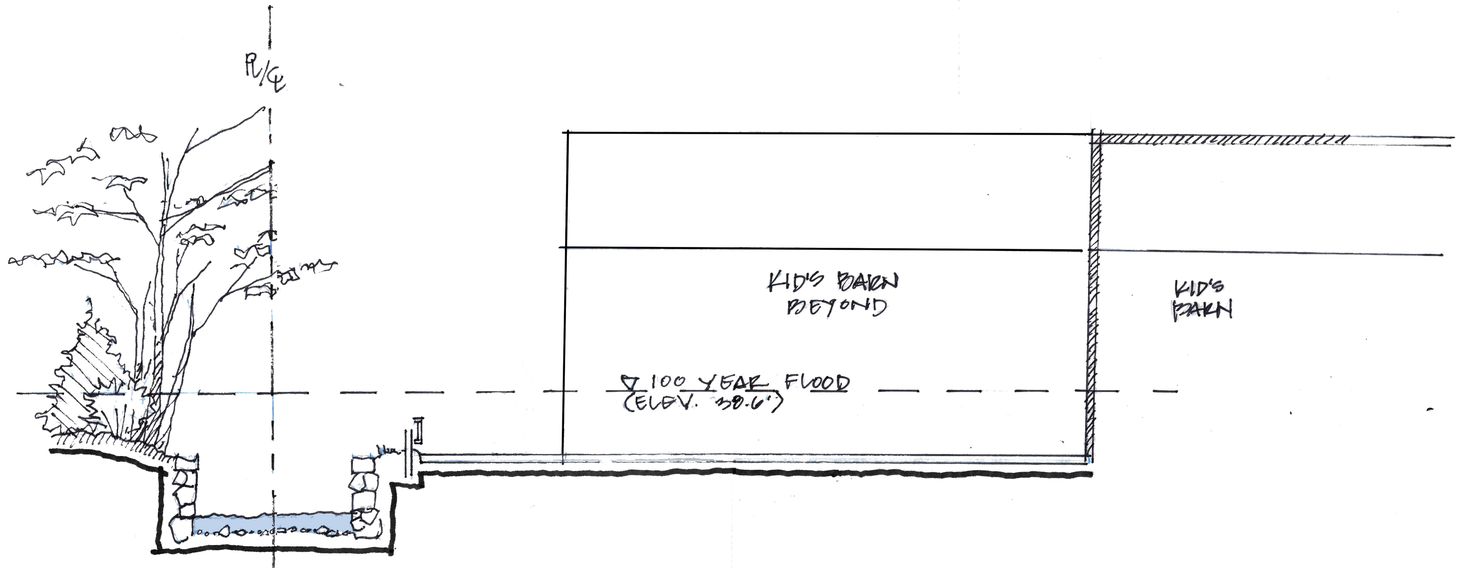
HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT

Proposed Site Amenities - Public Green Space

HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT



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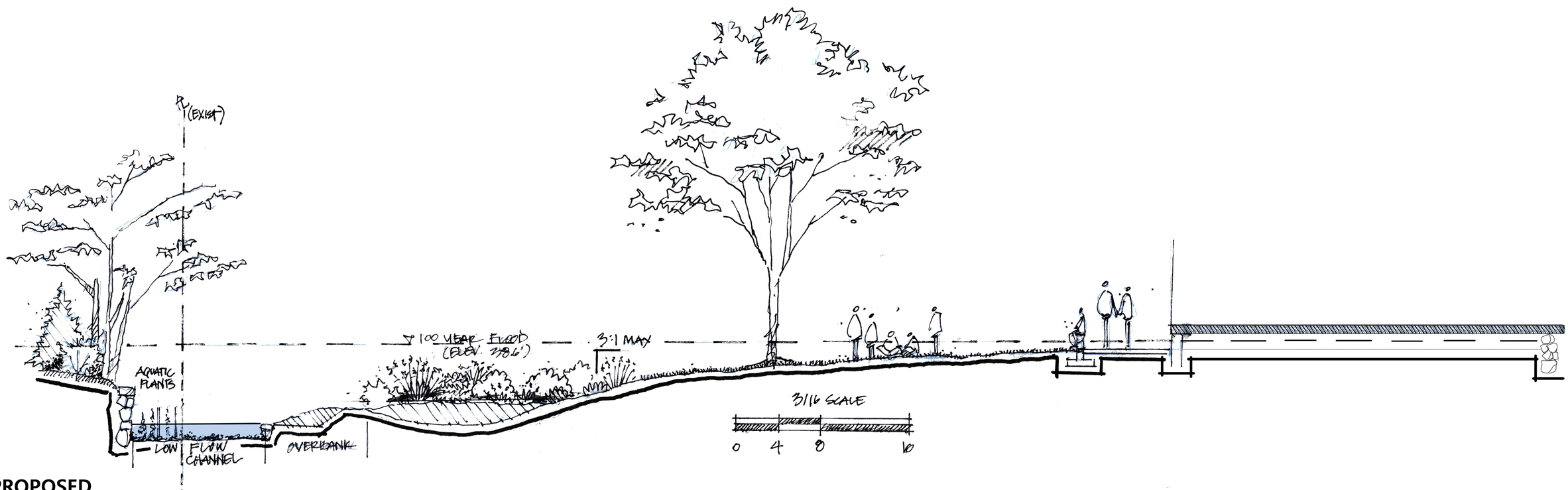

PROPOSED

CHEESE CAKE BROOK - SECTION B-B

Character Images - Public Green Space

HALVORSON Tighe&Bond STUDIO

MARK DEVELOPMENT

DUNSTAN EAST
Newton, Massachusetts

9:00 AM - JUNE 21 - SHADOW STUDY
FEBRUARY 28, 2020

MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS

DUNSTAN EAST
Newton, Massachusetts

12:00 PM - JUNE 21 - SHADOW STUDY
FEBRUARY 28, 2020

MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS

DUNSTAN EAST
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DUNSTAN EAST
Newton, Massachusetts

9:00 AM - MARCH / SEPTEMBER 21 - SHADOW STUDY
FEBRUARY 28, 2020

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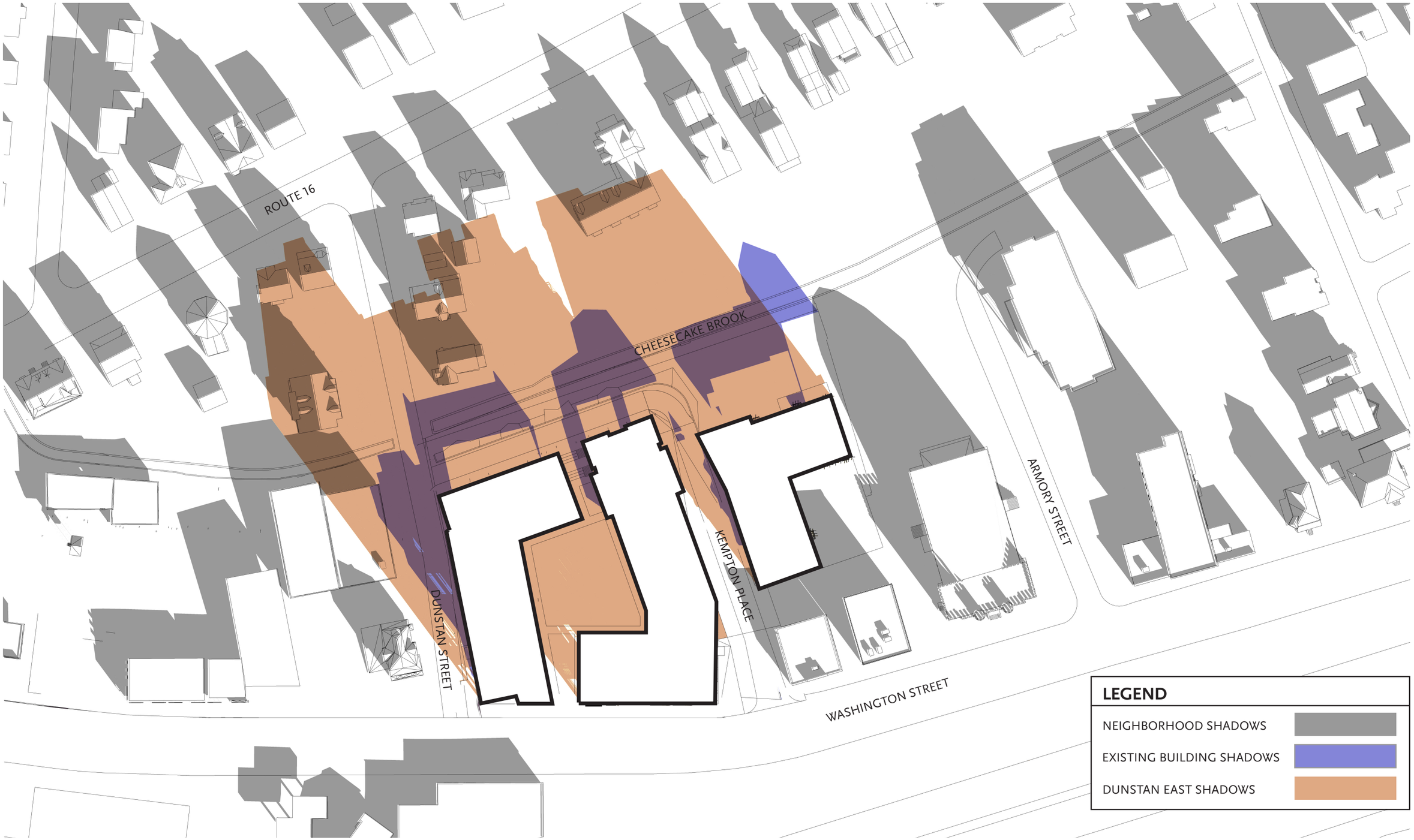

DUNSTAN EAST
Newton, Massachusetts

9:00 AM - DECEMBER 21 - SHADOW STUDY
FEBRUARY 28, 2020

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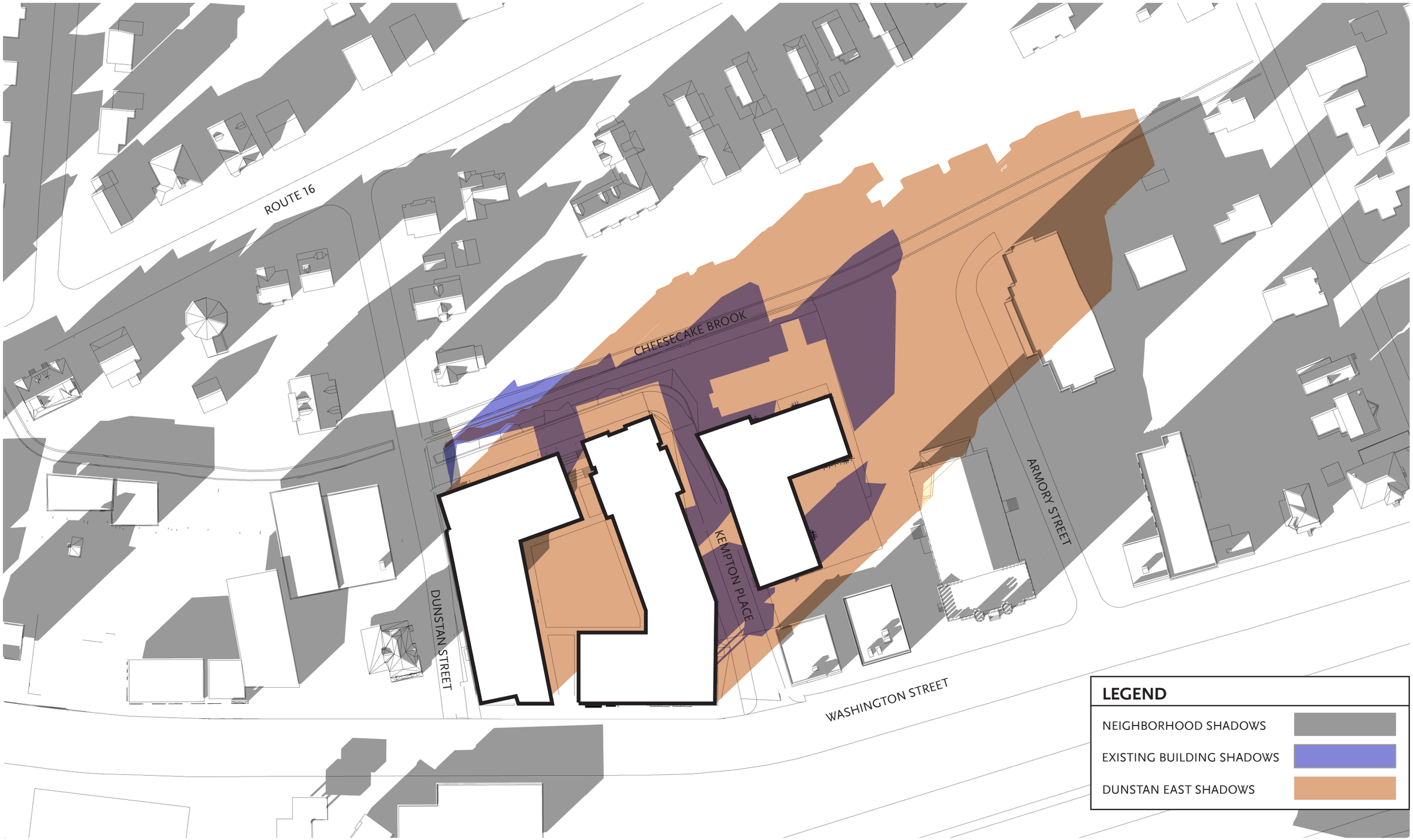


DUNSTAN EAST
Newton, Massachusetts

3:00 PM - DECEMBER 21 - SHADOW STUDY
FEBRUARY 28, 2020

MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS

LEGEND

PUBLIC AND RETAIL TERRACE

PRIVATE RESIDENTIAL AMENITY TERRACE

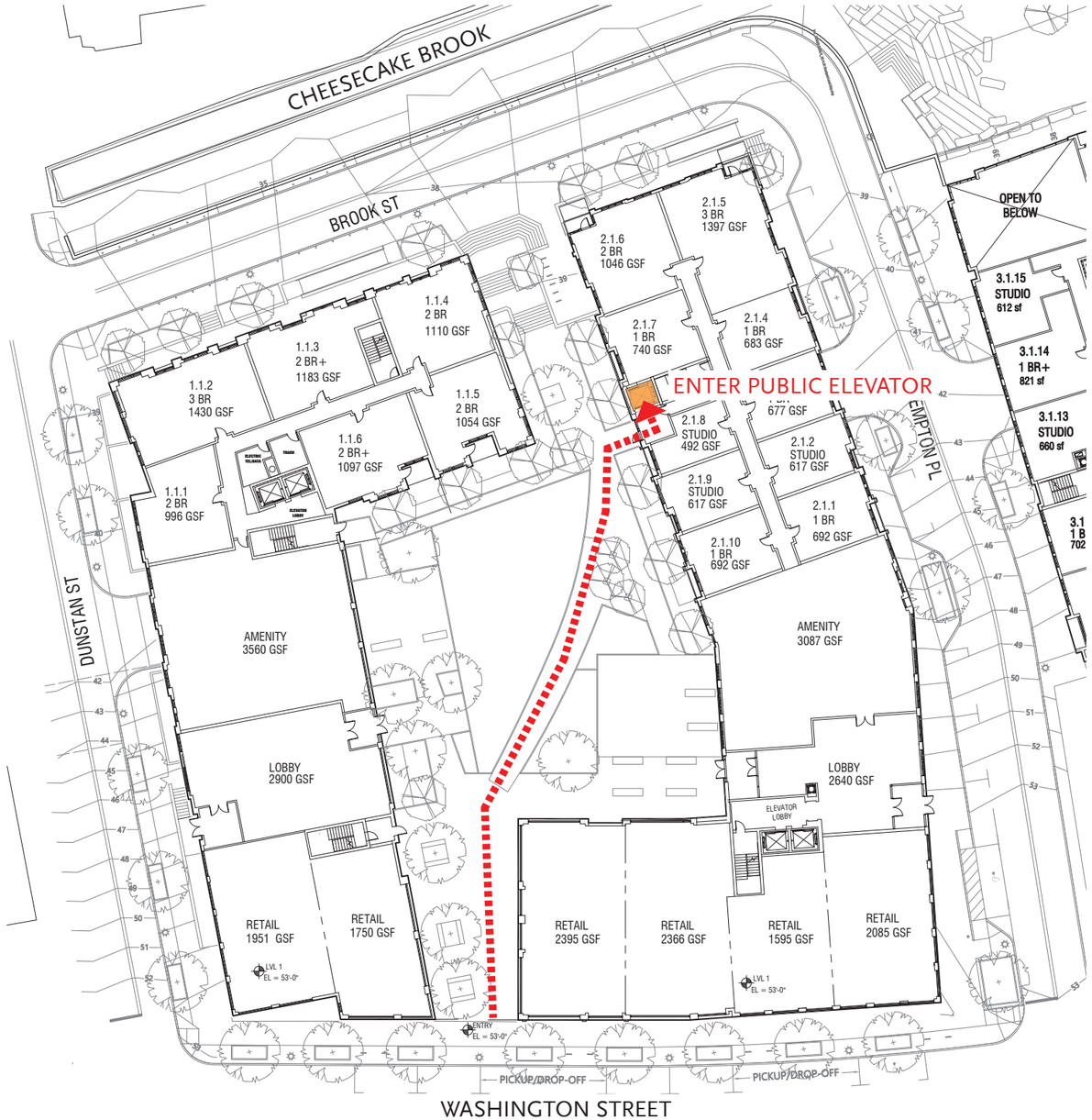
PRIVATE RESIDENTIAL UNIT PATIO

DUNSTAN EAST
Newton, Massachusetts

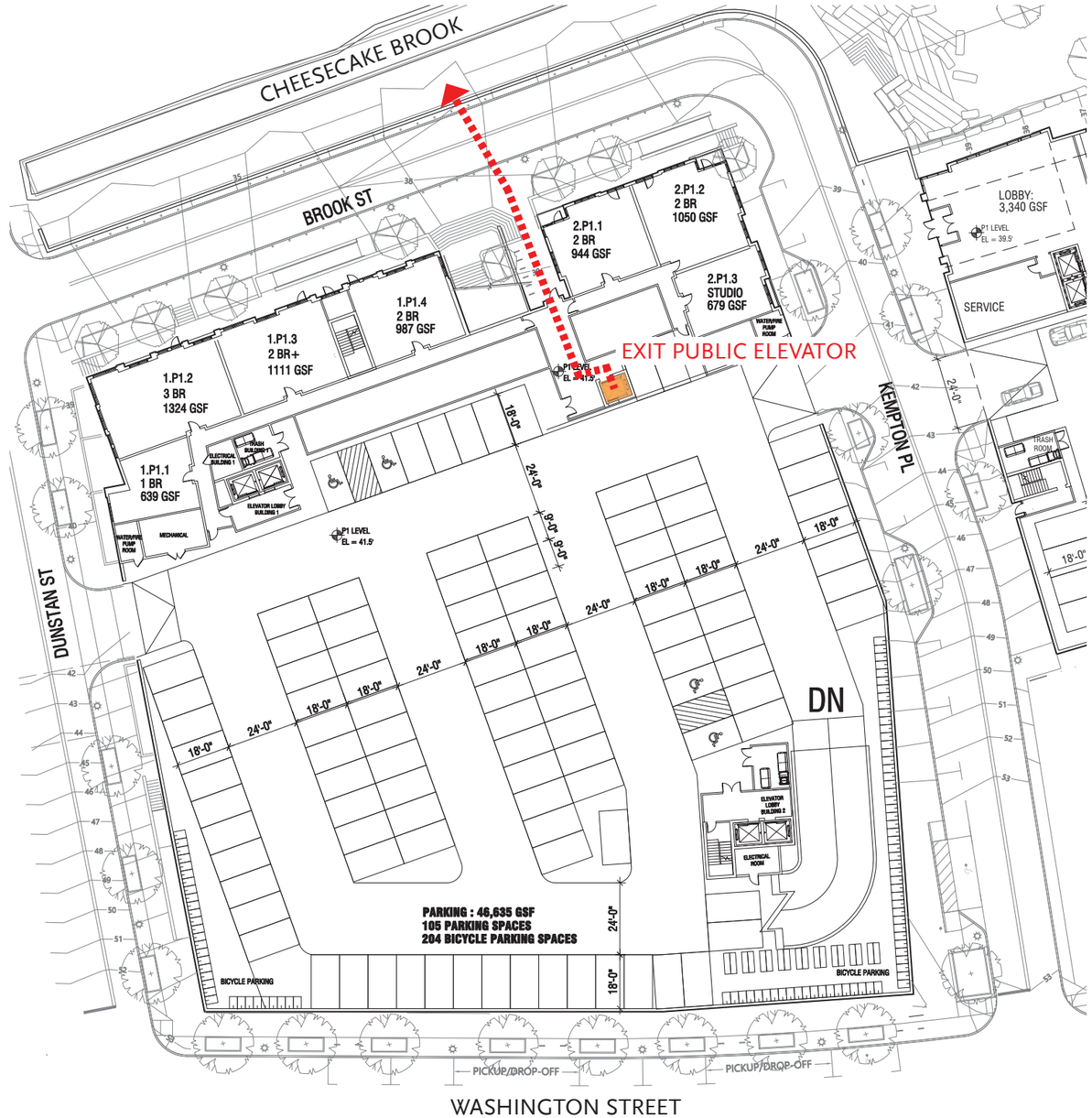
COURTYARD USE DIAGRAM
APRIL 16, 2020

MARK DEVELOPMENT

ELKUS | MANFREDI ARCHITECTS



LEVEL 1 PLAN



PARKING LEVEL PLAN