

Burlington Design Advisory Board

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Burlington, VT 05401

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DESIGN ADVISORY BOARD Tuesday, April 22, 2014 Conference Room 12, City Hall, Burlington, VT AGENDA

*Each applicant has about 10 minutes to present his/her application to the board within their allotted session time. **Please note session times are approximate.***

Session I - 3:00 – 3:45 p.m.
14-0909PD: 112-114 ARCHIBALD STREET
14-0910PD: 27 BRIGHT STREET
14-0911PD: 35-39 BRIGHT STREET
14-0912PD: 47 BRIGHT STREET
(NMU, Ward 2) Mill View Housing LP

Preliminary Plat review to demolish 3 existing residential buildings (retain the duplex at 27 Bright Street) and construct 4 new residential buildings and associated site improvements. 2 existing units plus 42 new units for a 44-unit development. (Project Manager: Mary O'Neil)

BRIGHT STREET COOPERATIVE

Preliminary Plat Application
to the City of Burlington



APPLICANT: CHAMPLAIN HOUSING TRUST

April 11, 2014

Bright Street Cooperative

Prepared for: The City of Burlington DRB

Prepared by: Duncan Wisniewski Architecture (Taryn Barrett and Michael Wisniewski)

April 11, 2014

COVER LETTER

The Champlain Housing Trust (CHT), partnered with Housing Vermont (HVT), has the honor of presenting the Bright Street Cooperative preliminary plat application to the City of Burlington Development Review Board. Burlington and communities throughout Vermont have benefited from their long commitment to revitalizing neighborhoods and providing permanently affordable housing.

Housing Cooperatives have proven to bestow a sense of ownership to residents which fosters commitment and stability for the neighborhood. At this time there are no vacancies in the Flynn Avenue, House of Hildegard, Queensbury Housing, Rose Street Artists' and the Thelma Maple Housing Co-Ops in Burlington and South Burlington. The proposed Bright Street Cooperative will be the largest yet by 14 units with a total of 42 apartments.

This proposal, with a mix of buildings and unit types, establishes a strong streetscape along Bright and Archibald Streets with multiple pedestrian features and connections. The scale of the two streets and the diverse building context is respected and reflected. Underground parking hides the cars and maximizes the green space which features hardscape, gardens, play areas, clotheslines and porches.

We would like you to consider the Bright Street Cooperative for the next available Design Advisory & Design Review Board meetings.

An application fee check in the amount of \$14,010 is included. All attachments are listed in the Appendix.

Sincerely



Michael Wisniewski

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FORMS (Attached)

- ZONING PERMIT APPLICATION FORM

APPLICATION FEE: ECC \$6.9 Million = \$14,010 Fee.

- \$10 Filing Fee +
- \$300 per lot or unit = \$12,600 or,
- \$200 + \$2/\$1,000 ECC = \$14,000 or,
- \$.10/sq. ft. = \$6,433.
- *Development Review Fee: (due prior to release of DRB approval)*
- \$3/\$1,000 ECC = \$20,700 or,
- \$0.20/sq. ft. = \$12,865.

TEXT

- PROJECT OVERVIEW
- ZONING NARRATIVE

APPENDIX

- SECTION 106 HISTORIC BUILDINGS EVALUATION REPORT
- STRUCTURAL ASSESSMENT REPORT
- TRAFFIC EVALUATION FOR THE BRIGHT STREET CO-OP
- RAB LIGHTING CUT SHEETS

DRAWINGS (Bound Separately)

- 1.0 ARCHITECTURAL SITE PLAN 1:20
- 2.0 AERIAL PERSPECTIVE
- 3.0 STREET PERSPECTIVE
- 4.0 CONTEXT PHOTOGRAPHS
- 5.1 35-PLEX ELEVATIONS
- 5.2 35-PLEX ELEVATIONS
- 6.0 TRINITY ELEVATIONS
- 7.0 DUPLEX ELEVATIONS
- 8.0 ARCHITECTURAL WALL CROSS SECTIONS
- L1.0 EXISTING TREE AND FENCING DEMO DIAGRAM
- L2.0 PLANTING PLAN
- RAB SITE LIGHTING PLAN
- RAB WALKWAY LIGHTING PLANS
- RAB SITE LIGHTING SCHEDULES
- EX-1 EXISTING CONDITIONS PLAN
- SP-1 SITE PLAN
- SP-2 SITE DEMOLITION PLAN
- CD-1 CIVIL DETAILS
- CD-2 CIVIL DETAILS
- CD-3 CIVIL DETAILS
- CD-4 CIVIL DETAILS
- CD-5 CIVIL DETAILS
- CD-6 CIVIL DETAILS
- CD-7 EROSION PREVENTION & SEDIMENT CONTROL



Department of Planning and Zoning

149 Church Street, City Hall

Burlington, VT 05401-8415

Phone: (802) 865-7188

Fax: (802) 865-7195

www.burlingtonvt.gov/pz

Zoning Permit Application

Use this form for ALL zoning permit applications. See the relevant checklist for specific requirements.

PROJECT LOCATION ADDRESS: 112-114 ARCHIBALD; 27, 35-39, 47 BRIGHT STREET

PROPERTY OWNER*: c/o AMY DEMETROWITZ

*If condominium unit, written approval from the Association is also required

APPLICANT: c/o MICHAEL WISNIEWSKI

POSTAL ADDRESS: 88 KING STREET

CITY, ST, ZIP: BURLINGTON, VT 05401

DAY PHONE: 802-862-6244

EMAIL: AMY.DEMETROWITZ@CHAMPLAINHOUSINGTRUST.ORG

SIGNATURE:

I am the owner. In addition, I duly authorize the applicant (if noted) to act on my behalf for all matters pertaining to this zoning permit application.

POSTAL ADDRESS: 255 SOUTH CHAMPLAIN STREET

CITY, ST, ZIP: BURLINGTON, VT 05401

DAY PHONE: 802-864-6693

EMAIL: MICHAELW@DUNCANWISNIEWSKI.COM

SIGNATURE:

Description of Proposed Project: DEVELOP 42 NEW HOUSING UNITS TO FORM A P.U.D. AS A HOUSING COOPERATIVE. THE MAIN PEDESTRIAN ACCESS IS FROM BRIGHT STREET AND VEHICULAR ACCESS IS OFF OF ARCHIBALD STREET. THE PROJECT HAS A MIX OF UNIT TYPES, OUTDOOR SPACES, AND UNDERGROUND PARKING.

Existing Use of Property: ☐ Single Family ☒ Multi Family: #14 Units ☐ Other: _____

Proposed Use of Property: ☐ Single Family ☒ Multi Family: #44 Units ☐ Other: _____

Will 400 sq ft or more of land be disturbed, exposed and/or developed?

Yes ☒ No ☐

(If yes, you will need to provide the 'Erosion Prevention and Sediment Control Plan' questionnaire with a site plan)

For Single Family & Duplex, will total impervious area be 2500 sq ft or more?

Yes ☒ No ☐

(If yes, you will need to provide the 'Stormwater Management Plan' questionnaire with a site plan)

Are you proposing any work within or above the public right of way?

Yes ☒ No ☐

(If yes, you will need to receive prior approval from the Department of Public Works)

Estimated Construction Cost (value)*: \$6,900,000.00

(*Estimated cost a typical contractor would charge for all materials and labor, regardless of who physically completes the work)

- Within 30 days of submission, the permit application will be reviewed for completeness, and, if complete, will be processed administratively or referred to a board for review. All permit approvals or denials are subject to an appeal period (15 days for administrative permit; 30 days for board permit).
- A building (and/or electrical, mechanical, plumbing, curb cut) permit will also be required. Contact the Department of Public Works at 802-863-9094 to inquire.
- Please ask for assistance if you have any questions about filling out this form. Call the Planning and Zoning at 802-865-7188, or visit the office in the lower level of City Hall, 149 Church Street.

Office Use Only: Zone: _____ Eligible for Design Review? _____ Age of House _____ Lot Size _____

Type: SN _____ AW _____ FC _____ BA _____ COA 1 _____ COA 2 _____ COA 3 _____ CU _____ MA _____ VR _____ HO _____ SP _____ DT _____ MP _____

Check No. _____ Amount Paid _____ Zoning Permit # _____

PROJECT OVERVIEW

EXISTING SITE/DEMOLITION.

The PUD site abuts Archibald Street and Bright Street in the Old North End of Burlington and has been assembled from four parcels totaling 58,977 sf/1.35 acres. The entire site is zoned Neighborhood Mixed Use.

The site appears to be flat but slopes approximately 4' down from Archibald St. to the Northwest corner. It is presently developed along the two streets but the interior is open. Most of the perimeter is fenced.

The proposal seeks to demolish deteriorating structures at 114 Archibald Street (9 residential units), 35 Bright Street (1 unit) plus outbuilding, and 47 Bright Street (1 unit); totaling 11 residential units. The existing structures have been reviewed by Liz Pritchett of Liz Pritchett Associates and James Duggan, the Historic Preservation Review Coordinator for the Vermont Division for Historic Preservation. They have concluded that the buildings can be removed and that the new design is appropriate for the neighborhood. See attached Section 106 Historic Review.

27 BRIGHT ST.

The existing duplex with two parking spaces at 27 Bright Street will remain in its entirety with no changes. It will be subdivided from the larger PUD with a new property line aligning with the west boundary of 31 Bright St. It is fenced off from the main site and there are no shared functions or connections. Generally when referring to the PUD design in terms of units, parking spaces we are not including this property, but lot coverage is included.

NEW PROPOSED.

4 new buildings containing 42 new housing units yields a net gain of 31 units on the site. There are two duplex townhouse structures, one triplex townhouse and one three story, 35 unit structure with underground parking. The dwellings range from townhouses in the duplex and triplex to flats in the three story structure. The dwellings vary in layout and unit type ranging from 1BR to 3BR with one 4BR unit in the triplex. The 35plex contains common spaces with an independent entrance off the front porch for meetings and social functions in the cooperative and neighborhood.

All parking is in an enclosed parking structure (42 spaces) except for two surface parking spaces at the Archibald duplex for a total of 44 + 4 existing at 27 Bright St.

Proposed lot coverage, including 27 Bright St. is 58%; 80% is allowed.

CONTEXT

The neighborhood context is quite varied in both use and building type/size. It includes single family homes, small apartments, three story multifamily and commercial/industrial. The building styles include traditional from a variety of historical periods with pitched roofs as well as more recent structures with flat roofs.

Although there are some gaps and anomalies it is generally a traditional Old North End neighborhood, relatively dense and pedestrian oriented. Buildings are close to the street as well as each other. In some places parking dominates the front yard.

SITE DESIGN

Our goal from the beginning was to develop a strong streetscape on Archibald and Bright in scale with the neighborhood context, infill the interior to gain density and link the two elements with greenspace and pedestrian connections. This was made feasible by deciding to provide underground parking below the three story structure. There are only two surface spaces; therefore virtually the entire site is available for either dwellings or greenspace. Access to the garage is by means of a curb cut on Archibald St. and a two lane ramp down to the garage entrance.

The duplexes and triplex with individual front porches define the streetscape on Archibald St. and Bright St. There is a court between the Bright Duplex and Triplex which provides the pedestrian link to the 35plex through a large porch. It is the main entrance to the site as well as allowing limited emergency and maintenance access to the larger building. There is a smaller link to the rear entrance off of Archibald.

The smaller buildings each have a storage space for trash and recycling and utilize curbside service. The 35plex has a separate room to the right of the main entry and the trash removal company brings the totes curbside for removal.

The fire & emergency access design has been reviewed and approved by the Burlington Fire Department. They are requiring standpipes in the 35plex stairways.

LANDSCAPE DESIGN/OPEN SPACE

The landscape design focuses on the defining the street, pedestrian links and a variety of open space functions. Some existing trees are incorporated into the design and some will be removed.

The street edge is defined with street trees in the greenbelt and by minimizing curb cuts to one 20' drive and one 9' emergency and service entry with a bollard. The streetscape is brought into the site with a courtyard between two structures leading to the main entry porch of the 35plex.

Off the main hardscaped courtyard is an exposed aggregate patio with benches, tables, handicapped accessible barbecue and bike racks which leads to a play area and outdoor clotheslines.

Raised bed gardens and a garden shed are provided on the south side of the 35plex with some hardscape and the rear pedestrian link to Archibald. A second clothesline is provided in the southwest corner.

SITE LIGHTING & ELECTRIC/CATV/PHONE

There is existing street lighting on both Archibald and Bright Streets. Our intention is to minimize site lighting insofar as possible to just the critical pedestrian and vehicular paths. All the lights are building mounted; there are no pole mounted site lights.

The Duplex and Triplex front porches have recessed can lights controlled by the occupant. All other lights are controlled by photoeye sensors and timers. All lighting is low cutoff LED. Cut sheets and lighting analysis are included; the design meets the zoning requirements.

All utilities will be underground from existing municipal services in the street.

CIVIL

Krebs & Lansing has communicated with DPW to assure that the design meets city requirements and that there is the ability to provide water and sewer services. Last fall fire flow tests were carried to verify the design is tenable and that there is sufficient pressure for the sprinkler system.

Underground infiltration structures are used to mitigate stormwater flow. 80% lot coverage is allowed and we are proposing less than 50%. The amount of open space helps contribute to on site infiltration.

BUILDING DESIGN

The Bright Street streetscape to the left of our main entrance is primarily gabled roof, smaller residential structures; to the right of our entrance the pattern changes to flat roofed slightly larger apartments. We chose to continue this pattern with a gabled duplex on the left and a flat roofed triplex on the right. The same duplex is used on Archibald St. which is also fronted by smaller gabled structures. Each resident has a slightly elevated porch most of which face the street and the triplex has a rear patio fronting on green space.

The 35plex is three stories tall with a flat roof and is similar in scale to other neighborhood structures such as Thelma Maple Coop. Following the site configuration results in breaking it into three separate wings which helps break down its scale and mass. We emphasized this by creating a notch on the inside corner where the wings join. From the streets it will be difficult to ever see the whole building at once; one will have glimpses between buildings and the winding shape means you usually will only see one or two of the three wings at any given time. The mass is further broken down by alternating the upper and lower story tones and colors as you move around the building.

It is entered off the courtyard through a large wrap around porch which also serves as a social space. The elevator has been pulled out of the mass of the building in order to maximize the efficiency of the parking garage and we are using it as a vertical design element punctuating the building entry and courtyard.

The materials are fiber cement siding and trim; sloped roofs will be architect grade composition shingles, flat roofs will be ballasted or unballasted membrane. The 35plex roof is designed for photovoltaic panels but we will not know until well into construction if they will be added during the initial buildout. Windows will be primarily fiberglass double hung with some awning and casement. Porch railings are painted metal.

The colors will be chosen from the full range of prefinished James Hardie or Certainteed color palette with some trim be custom painted on site based on the final color palette. We have not selected a palette but the overall intent is to be quiet and muted with some bold accents as noted below.

The three building designs reflect the diversity of the neighborhood in design and massing although there will be many common eave and porch details. To provide some common identity we have chosen two elements: Each building will have a section of boldly colored, oversized fiber cement or similar lap panels marking the entry into the site or building. Each building will have oversized address numbers; the 35plexe will have a backlit address.

OTHER

A traffic study is included which indicates negligible impact.

The design will meet applicable state and federal handicapped accessibility requirements for both site and units. All units in the 35plex meet FHA requirements and 5% will meet UFAS and be fully accessible.

The retaining walls for the garage ramp, since one side is nearly on the property line, will be a steel sheet piling similar to what is at College and South Champlain St. entry to parking. The detailing for the safety fence on its top is still to be determined.

The perimeters of the site will be defined with a mixture of existing (some needing repair) and new fencing of various types. Much of the existing is either chain link or wood stockade. Both 27 and 31 Bright St. will have existing wood fencing or new to fill in the gaps. Between our garage ramp and 118-122 Archibald we need both a privacy fence and a safety barrier. As noted above, this fence has not yet been detailed.

The building designs will be highly energy efficient and we will be working closely with BED to utilize all available incentives. The 35plex roof is designed to incorporate photovoltaic panels either in this phase or the future.

ZONING NARRATIVE

The application to the Department of Planning and Zoning in the City of Burlington for the Bright Street Cooperative (known to the city as 112-114 Archibald; 27, 35-39, 47 Bright St.) is made on behalf of Champlain Housing Trust (c/o Amy Demetrowitz) by Duncan Wisniewski Architecture (Michael Wisniewski). This project falls into the permit type “COA Level III”, for a planned unit development. The proposed development consists of one 35-Plex with underground parking, two Duplexes, and one Triplex as well as the existing duplex at 27 Bright Street which will remain unchanged. Additionally there are 44 parking spaces (plus four existing at 27 Bright) and a variety of other cooperative components including a courtyard, a play set, gardens, clotheslines, and landscaping. The following is the required narrative which explains compliance with the Comprehensive Development Ordinance and an appendix of submitted forms and drawings.

1. Zoning District & Overlay District Requirements (Article 4, Section 4.4.2)

According to the Official Zoning Map three of the four PUD parcels (112-114 Archibald, 27 Bright St., and 35-39 Bright St.) are in the NMU or Neighborhood Mixed Use district. The fourth parcel (47 Bright St.) is shown in the Residential Medium Density district, however, as of January 13, 2014 the city council approved this parcel to become a part of the NMU district. The PUD boundary limits are additionally subject to the Design Review Overlay (DR) district.

The proposed Bright Street Cooperative is intended to meet the residential component of the NMU district and be a continuum of the adjacent housing types that vary from single family to multi-family housing structures. Duplex 1 & 2 and the Trinity Triplex are oriented towards the public sidewalks along Archibald and Bright Street. These smaller buildings are intended to reestablish the existing pattern of housing along the two streets. As the largest of the 4 housing structures, the 35-Plex in the interior of the site is accessed through a prominent courtyard directly off of Bright Street between Duplex 1 and Trinity. There is a secondary means of pedestrian access and vehicular access off of Archibald Street.

Dimensionally, the NMU district limits intensity to 2.0 FAR, lot coverage to 80%, and building height between 20-35 FT. The 1.37 acre lot totals 59,720 SF with a proposed building floor area of 64,450 SF for all residential buildings and floors and the shed. The estimated existing lot coverage is 19% and the proposed lot coverage is 58%, well under the limit. The height of the buildings range from 19'-8" at the Trinity to 34'-0" FT at the top of roof sheathing of the 35-Plex (not including parapets or the elevator tower). These heights were calculated from the average construction grade around the perimeter of each building to the top of the roof sheathing of a flat roof and the mid-span of roof sheathing at a sloping roof. Although there are no setback requirements from property lines within the NMU district a 15 FT required boundary between the NMU and the RM district at the north of the site is observed, as well as a minimum 12 FT boundary from the front of any structure to the curb of the public streets.

2. Conditional Uses and Major Impact (Article 3, Part 5)

The Bright Street Cooperative falls under 3.5.2 (a) Conditional Use Review as a Planned Development and (b) Major Impact Review as a development with more than 5 units. Per Appendix A - Use Table attached Multi-Family Dwelling units of 3 or more units are permitted in the NMU district. However, “duplexes as stand alone projects shall only be allowed as a result of conversion of an existing single family home”. The two duplexes proposed in this PUD mediate between the existing housing typologies found nearby and the 35-Plex at the back of the site. They also assist in providing variety in scale to the proposed project, which is in tune with the variety of building sizes throughout the rest of the local NMU district. Finally, the proposed duplexes are representative in scale to the four proposed demolished structures. Since they are part of a larger PUD the strategy of including these duplexes was accepted during the Sketch Plan process.

3. Special Uses and Performance Standards (Article 5)

See above for lot coverage, buildable area, setbacks, and building height restrictions.

- 5.4.8 Historic Buildings and Sites (pg 198). Liz Pritchett Associates has completed a Historic Buildings Evaluation Report for the buildings that are proposed to be demolished. The conclusion of the report is as follows.
 - 112-114 Archibald St. (c. 1880) “does not appear eligible for either the State or National Registries”, nor is it listed in the Vermont Historic Sites and Structures Surveys (VHSSS).
 - 39 Bright St. (c. 1860) is listed in the VHSSS, however, some elements have been altered since this listing. While other historic elements remain, the entire building is structurally inadequate and “is only marginally eligible for the National Registry.”
 - 35 Bright St. (c. 1920) is a storage building listed as “non-contributing in the VHSSS,” according to the structural report it “does not appear to be stable and is beyond repair.”
 - 47 Bright St. (c. 1875) is listed in the VHSSS survey, however, the features identified at this time were incorrect. Due to significant alterations the building “appears no longer eligible for listing in the National Registry as part of the Old North End historic district.” Similarly to the other buildings on this site the structural components require expensive repairs and the recommendation of the structural engineer is demolition and replacement.
- The determination for the effect of the Archibald to Bright Street Project is that the removal of these existing buildings and replacement with new housing is a worthy undertaking and the new designs were reviewed and approved by the Division for Historic Preservation.
- 5.4.9 Brownfield Remediation (pg 202). A portion of the property (35-39 and 47 Bright St.) has been investigated in a Phase II Environmental Site Assessment, which had identified the parcels as brownfields. The entire proposed PUD is enrolled in the BRELLA program (formerly the RCPP or Redevelopment of Contaminated Properties Program) and CHT is pursuing an EPA brownfield clean-up grant. It is the intent and the recommendation of the report to implement a Corrective Action Plan for the site to properly manage contaminated soils. A waiver is not sought after related to the brownfield qualification.
- 5.5.2 Outdoor Lighting (pg 205). See landscape site plan.
- 5.5.3 Stormwater and Erosion Control (pg 213). See civil site plan.
- 5.5.4 Tree Removal (pg 213) See landscape site plan.

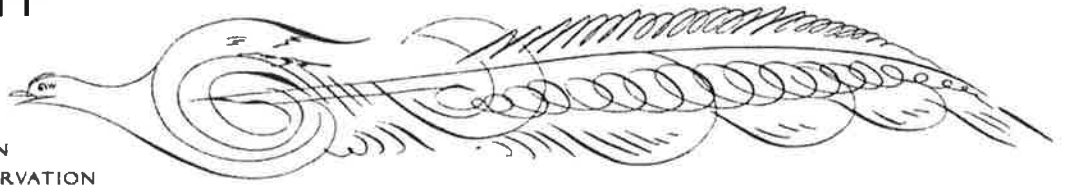
4. Land Division and Site Development Principles and Design Standards (Article 6)

The Bright Street Cooperative neighborhood will unite the 4 parcels owned by Champlain Housing Trust. 27 Bright St. will be subdivided as a separate. Site plan design standards have been taken into careful consideration. The combination of soil remediation, new grading, and increased lot coverage will result in the removal of approximately 8 trees centrally located within the site and possibly some around the perimeter near foundation excavation locations. As a result of the parking garage ramp and entrance off of Archibald St. in combination with the first floor pedestrian entrance to the 35-plex off of Bright St. existing grades will be modified. The layout of the housing types is specifically intended to fit into the existing pedestrian rhythms of Archibald and Bright Street. The front porch relationship of Duplex 1 & 2 and Trinity to the sidewalk scales the development down to the pedestrian level and will be further softened with new landscaping. The courtyard, gardens, and bicycle parking will all encourage human activity and gathering throughout the site and along the street. The outdoor lighting is limited to the minimum for function and safety and is all low cutoff LED.

While the individual buildings along Bright St. and Archibald have a variety of architectural detailing they are similar in scale (2-stories flat and gabled roofs) and use (mainly residential). Scattered around the historic North End neighborhood and nearby to the proposed PUD are also a variety of 3 story buildings and many others with large footprints. Much of the character of this end of town is derived from this diversity. The proposed buildings mimic and maintain this diversity in scale and form, with architectural details that create connectivity among the PUD and create an identity of the cooperative. Materials for the site and architecture are selected with the intent to balance budget, sustainability, and aesthetics; some of which are extruded fiberglass windows, painted fiber cement siding in a variety of textures, architectural asphalt shingles, ballasted roof, metal railings and accents, and painted composite trim.

LIZ PRITCHETT
ASSOCIATES

HISTORIC PRESERVATION
ARCHITECTURAL CONSERVATION



HISTORIC BUILDINGS EVALUATION REPORT

For

Section 106 Review

**114 Archibald Street, 35-39 Bright Street, 47 Bright Street,
Burlington, VT**

Prepared for:

Champlain Housing Trust
88 King Street
Burlington, Vermont 05401

Prepared by:

Liz Pritchett
Liz Pritchett Associates
46 East State Street
Montpelier, VT 05602

October 2013

1. Introduction

This Historic Buildings Evaluation Report for Champlain Housing Trust has been prepared by Liz Pritchett, historic preservation consultant in accordance with standards set forth in 36 C.F.R. 800, regulations established by the Advisory Council on Historic Preservation to implement Section 106 of the National Historic Preservation Act. Project review consists of identifying the project's potential impacts to historic buildings, structures, historic districts, historic landscapes and settings, and to known or potential archaeological resources. Tasks to complete this review included research of the historic resources within the project area, review of applicable files at the Division for Historic Preservation (DHP), meetings with the DHP and Champlain Housing Trust, and site visits to the project area. This report provides an inventory of historic resources in the project area, describes the undertaking, and makes a determination of the potential effect of the undertaking. This report will also be applicable for purposes of State of Vermont Act 250.

The determination of effect of the undertaking is an Adverse Effect to historic resources in the project area.

2. Description of the Proposed Project

Champlain Housing Trust (CHT) is proposing to redevelop a large site in the northeast quadrant of the Old North End. The site comprises several adjoining parcels, 114 Archibald Street, 35-39 Bright Street and 47 Bright Street. Each parcel contains a historic dwelling, and a storage building (35 Bright Street) is located on the 35-39 Bright Street parcel. Much of the property at the northwesterly portion of the site is open and consists primarily of grass lawn.

Due to the poor condition of the buildings on the site as described below, CHT intends to demolish and replace the existing structures with new buildings that will provide safe, decent, affordable housing. One major goal for the project is to improve the quality of the housing stock in this neighborhood, which has the reputation of being one of the less favorable areas in which to live in the Old North End.

The plans for the new structures are in the conceptual design phase only. (See attached Site Plan). The preliminary designs indicate one new, one to two-story dwelling fronting Archibald Street, several similarly-sized dwellings along Bright Street, and larger structures with underground parking set back at the northwest portion of the site. The intention is for the new buildings along the street to have massing that would be similar to the existing 1 ½ to 2-story historic buildings, with green space for children's play areas and gardens surrounding the structures. Additional off-street parking will be located behind the Archibald Street building.

3. Inventory and Significance of Architectural Resources

Context and History of the Project Area

Bright Street is a one-block long street that extends north-south between Riverside Avenue at the north and Archibald Street at the south. According to historic maps, Bright Street was developed in the 1860s, about ten years earlier than Archibald Street. By 1869, Beer's map indicates that two dwellings were located on the west side of the Bright Street. One, which appears to be the property with today's address of 39 Bright Street, is shown on the map as owned by Wheelock & Frederick. The 1877 Birdseye map of Burlington shows seven dwellings with four on the west side and three on the east. The 1890 Hopkins Map indicates that by the end of the 19th century the street was fully developed. At that time Mrs. C. A. Mason lived at 39 Bright Street, and 47 Bright Street was owned by M. Flannery. The white storage building at 35 Bright Street first appears on the 1926 Sanborn Fire Insurance Map listed as a store, indicating that the owner of this property contributed to the commercial activity on the street.

Archibald Street extends east-west between North Prospect on the east and Spring Street on the west. The context and history of Archibald Street is similar to Bright Street. It was developed between 1870 and 1900 to house largely middle class working families. The Winooski Mills, which employed a substantial number of people in both Burlington and Winooski, were nearby and Riverside Avenue to the north provide an easy route to jobs. Additional employment opportunities at the lumber yards and wood mills along the Burlington Waterfront were reached from this part of the city via trolley. While only four dwellings are shown on Archibald Street on the 1869 Beers Map, by 1877, a total of ten dwellings are shown on the Birdseye Map of Burlington. By 1890, Archibald Street was nearly fully developed with numerous houses lining both sides of the street. J. Whitcomb is listed as the owner of 114 Archibald Street on the 1890 Hopkins Map. St. Joseph's Convent was built at the east end of the street and St. Mary's Roman Catholic Cemetery occupied the block across the street between Archibald and Riverside Avenue.

According to research conducted by the Vermont Division for Historic Preservation, the Old North End neighborhood comprising the area in and around Bright Street, Hyde Street and North Winooski Avenue was settled by Lithuanian, Polish and Russian Jews who had fled persecution from their own countries. The neighborhood enjoyed a period of vitality through the 1920s during which there was a healthy mix of commercial and residential development. The area suffered a substantial downturn during and after the Great Depression and by the 1940s had fallen into economic decline and experienced a loss of ethnic identity.

Today both streets in the project area retain many of the historic, vernacular, one to two story, wood frame houses and commercial buildings constructed in the nineteenth and early twentieth century. Some of the commercial properties now appear vacant. Most of the buildings are in fair to good condition, but have undergone alterations such as changes

to siding, windows, fenestration patterns, and porches. In the last fifty years, some historic buildings have been taken down and replaced with new structures for housing such as the long, linear, three-story apartment building across the road from 114 Archibald Street.

Based on site visits and research conducted at the Vermont Division for Historic Preservation, some buildings on Bright and Archibald Streets, despite their alterations, appear eligible for the National Register as contributing resources to an Old North End historic district, but others, due to more substantial changes, appear no longer eligible. The Division for Historic Preservation considers the entire North End of Burlington to be eligible for listing in the National Register of Historic Places as one large historic district.

114 Archibald Street, c. 1880
Photographs 1-26

The vernacular, one and one-half story, gable front, wood frame house that faces south on the north side of Archibald Street has been substantially modified with new additions and alterations to such a degree that the original appearance of the dwelling is very difficult to read. The gable front form has been obscured by a c. 1940, two-story, flat roof porch with an enclosed railing and square, half-height posts. Modern additions that appear to have been constructed within the last 50 years include the one-story, flat roof projection off the east side of the front block, a two-story, flat roof enclosed stair tower also on the east side of the building, and a long, rectangular, gable roof rear wing with an open, unpainted stair system on the east side. The front and center blocks of the building have vinyl siding, and the rear wing has vertical board siding. Historic exterior trim has either been removed or covered with the vinyl siding, and all that remains visible includes two window surrounds on the front elevation, flat stock trim around windows and doors on the front porches, and a few sections of molded eaves details. Most of the windows are modern replacements, although two six-over-one windows are found on the east elevation. The interior integrity has also been substantially impacted due to a modified floorplan, and nearly all new wall and ceiling finishes.

According to the engineering report (see attached) prepared by J. Ina Hladky, the building is in very poor condition with a variety of significant structural problems. Due to alterations, the multi-family dwelling at 114 Archibald Street does not appear eligible for either the State or National Registers. It is not listed in the Vermont Historic Sites and Structures Survey (VHSSS).

39 Bright Street, c. 1860 – Listed in the Vermont Historic Sites and Structures Survey
Photographs 27-81

This vernacular, one and one-half story, gable front house retains its historic rectangular massing, redstone foundation, and a bay window (probably added c. 1890 or later). The front porch retains its historic roof form and molded eaves cornice, but the square half-posts and closed wood shingle apron are recent alterations. When the building was listed in

the State Register the porch had historic turned posts, and a brick chimney, also noted in the SR forms, has been removed. Two, two-over-two historic windows remain on the west end of the north elevation, and the other windows are recent one-over-one replacements as is the half-glass front door, which has been inserted into a reduced-size door opening. Clapboard siding remains on the first floor front elevation, and the other elevations have asphalt siding that resembles bricks. Window trim, except on the front elevation where it has been sheltered by the porch, is heavily weathered, cracked and split. The asphalt roof has a raking eaves and modern box cornice. Significant cracks exist in the redstone foundation. A small, one-story shed roof ell extends off the rear elevation. The visible sag in the roof ridge of the main block and rear ell indicate structural problems. The interior of the building appears to retain a historic floorplan, but the quality and appearance of the features and finishes is very poor due to age and use. Heavy layers of paint cover chipped and worn surfaces, plaster is cracked and peeling in places, and ceilings are low, especially on the second floor, which is an attic that has been converted to living space. The building is centered on a wide, deep lot with a large backyard; the lot appears to be the largest parcel on the street.

According to the report prepared by J. Ina Hladky, the entire building appears structurally inadequate because of deflecting roofs, bowed eaves lines, and other concerns. Due to the overall poor condition of the building, and extensive alterations to the front porch, siding, windows and doors, it appears the structure is only marginally eligible for the National Register as contributing to an Old North End historic district.

A. 35 Bright Street, Storage building, c. 1920 - Listed as non-contributing in the Vermont Historic Sites and Structures Survey
Photographs 27, 28, 31-36

This one-story, gable front, rectangular building has composite siding, wood trim, a raking eaves with a box cornice, asphalt shingle roofing covered with a significant amount of moss, and a concrete foundation. The substantial sag in the roof ridge suggests structural problems. A c. 1950 pedestrian door is offset to the north on the front elevation, and a hinged vertical board double door is located on the west gable end. According to the report prepared by structural engineer, J. Ina Hladky, the building does not appear to be stable and is beyond repair. The building does not exhibit distinctive architectural features and is not highly significant. It is listed as non-contributing in the VHSSS.

47 Bright Street, c. 1875 - Listed in the Vermont Historic Sites and Structures Survey
Photographs 27, 28, 38, 82-99

The vernacular, one and one-half story, gable front, wood frame dwelling at 47 Bright Street has a rectangular form and is identified as an I-house for its one-room wide main block. In 2006 the building was included in the Vermont Historic Sites and Structures Survey. However, some of the features were incorrectly identified in the survey. The

building does not have clapboard siding as stated in the survey; it has asbestos siding over asphalt siding that resembles bricks. The survey identifies windows as one-over-one; the historic windows have been replaced with one-over-one vinyl insert windows and the window trim has been replaced with flat stock casings without the typical historic projecting window sill. The porch is similarly changed with new square posts and a closed railing. The entry door off the front porch is a metal replacement. The long, one-story rear addition (not noted in the survey) may contain historic components, but its irregular fenestration patterns, variety of windows and doors, as well as an exterior concrete block chimney appear as non-significant features. The molded cornice is identified in the survey as historic; except for the I-form of the house, the cornice appears to be the only other remaining historic feature. Like the other two dwellings inventoried in this survey, the interior of 47 Bright Street does not retain significant floorplan features or finishes. Modern window and door trim, worn plaster walls, some of which have been replaced with sheetrock or T-111 paneling, and new cabinetry, define the altered interior that does not possess significance.

Structural engineer for the project, J. Ina Hladky, recommends, based on the inadequate structural components which would require expensive repairs, that the building should be demolished and replaced. In addition, due to alterations, the building at 47 Bright Street appears no longer eligible for listing in the National Register as part of an Old North End historic district.

Summary of National Register Eligibility

Based on site visits and review of the engineering report prepared by J. Ina Hladky, it appears that within the project area, only the c. 1860 house 39 Bright Street appears marginally eligible for the National Register. The multi-family, c. 1880 dwelling at 114 Archibald Street has been substantially modified with new additions and changes to windows and interior alterations to such a degree that it no longer retains sufficient architectural integrity to remain eligible for the National Register as part of a historic district. The c. 1920 storage building at 35 Bright Street does not possess historic or architectural distinction and is not eligible for National Register listing. The c. 1880 house at 47 Bright Street, due to substantial alterations, no longer retains sufficient integrity to be entered in the National Register and likely no longer qualifies for the Vermont State Register.

Regarding the seven aspects of integrity as outlined by the National Park Service to determine National Register eligibility (setting, location, design, materials, workmanship, feeling and association), it is clear the exterior integrity of all three houses is substantially compromised due to changes in the aspects of materials, workmanship, and design. These changes include new siding, windows and doors, altering door and window openings, porch modifications, and modern additions. The aspect of the original feeling or overall character has also been altered in my opinion due to the changes in materials,

workmanship and design. The other three aspects of setting, location, and association (with patterns of history in Burlington) remain largely intact.

It is only at 39 Bright Street that despite changes to windows, doors, siding and porches, the retention of the distinctive bay window, redstone foundation and historic massing appear to provide sufficient architectural integrity so that the building appears marginally eligible for the National Register as contributing to a historic district. The other two dwellings and the storage building suffer from further lack of distinction and overall compromised integrity due to impacts to four of the seven aspects of integrity (materials, design, workmanship and feeling) making these building unlikely candidates for either individual listing in the NR or as part of a historic district.

4. Determination of Potential Effect

In my professional opinion, removal of the dwellings at 114 Archibald Street, 47 Bright Street and the storage building at 35 Bright Street will have no effect on historic resources because these structures do not appear to be eligible for listing in the National Register due to alterations and lack of architectural distinction. Furthermore, due to the poor condition and further loss of integrity at 39 Bright Street since it was listed in the State Register, that resource now appears only marginally eligible for listing in the National Register. Therefore, the only property that has the potential for adverse effect by the undertaking is 39 Bright Street. The overall determination of effect of the undertaking is an adverse effect to historic resources due to the proposed demolition of the dwelling at 39 Bright Street.

Property	Listed in the SR	Eligible for the NR	Potential for Effect
114 Archibald St.	No	No	No Effect
35 Bright St.	No	No	No Effect
39 Bright St.	Yes	Marginally eligible	Adverse Effect
47 Bright St.	Yes	No	No Effect

5. Recommended Mitigation Measures

The following mitigations measure is recommended to handle the potential adverse effect of the undertaking.

Develop plans and elevations for the housing project that will assure the undertaking will comply with *The Secretary's Standards*. The new buildings should be designed with materials, massing and design elements including landscape features that blend with the surrounding environment and historic resources that are part of the Old North End, which has been determined eligible by the Vermont Division for Historic Preservation as eligible for listing as a historic district in the National Register of Historic Places.

The larger, taller buildings that are proposed to be located at the rear of the site should not dominate the view shed and should appear secondary, set back behind the more traditionally sized buildings that will front Archibald and Bright Streets adjacent to existing historic structures that currently define the character of the neighborhood.

6. Conclusion

The Archibald - Bright Street Project is a worthy undertaking that will provide decent, safe affordable housing in a neighborhood that now is considered by many to be one of the least desirable places to live in the Old North End. Many buildings are run down and suffer from deferred maintenance, needing upgrades to siding, windows, landscaping and paint. The poor condition of much of the housing stock in the neighborhood, such as the buildings in this project, makes the area unappealing. The proposed undertaking will remove blighted buildings, replacing them with appropriate new structures that will be compatible with the surrounding historic resources in the neighborhood, and provide badly needed energy efficient new housing that will improve and enhance the character of this part of the Old North End. The high cost of rehabilitation of the deteriorated buildings, all of which would require extensive structural upgrades and repairs, would not be a reasonable use of funds; removal of the existing buildings and replacing them with new housing is justified in this particular undertaking.

The determination of effect for the Archibald - Bright Street Project is an

ADVERSE EFFECT with one condition.

Condition: The plans and specifications for the new buildings and site shall be reviewed and commented on by the Division for Historic Preservation prior to the final determination of effect for the project.

This is a preliminary determination only as the overall scope of work for the undertaking is in the early stages of design. While the plans and elevations for the new buildings are being developed, the project's historic preservation consultant in consultation with the Vermont Division for Historic Preservation will review the designs to ensure that all work complies with *The Secretary of the Interior's Standards for Rehabilitation*. A final review letter for the undertaking will be submitted when all plans have been completed. No construction will start until final review for Section 106 is complete and all permits are in place.

114 ARCHIBALD STREET



1. 114 Archibald Street looking north.



2. Context view of Archibald Street looking northeast; 114 Archibald Street on left.



3. Context view; Archibald Street looking southeast from location in front of 114 Archibald Street.



4. Context view; looking east from 114 Archibald Street.



5. Context view looking southwest from 114 Archibald Street toward large, modern, 3-story apartment house.



6. Context view from 114 Archibald Street looking west.



7. House directly west of 114 Archibald Street.



8. View looking northwest of 114 Archibald Street.



9. West elevation of 114 Archibald Street.



10. Additional view of the west elevation.



11. View looking south along the east elevation of 114 Archibald Street.



12. Detail of east elevation; note bowed roof at eaves and variety of adjacent roof slopes.



13. Two historic six-over-one windows on the east elevation.



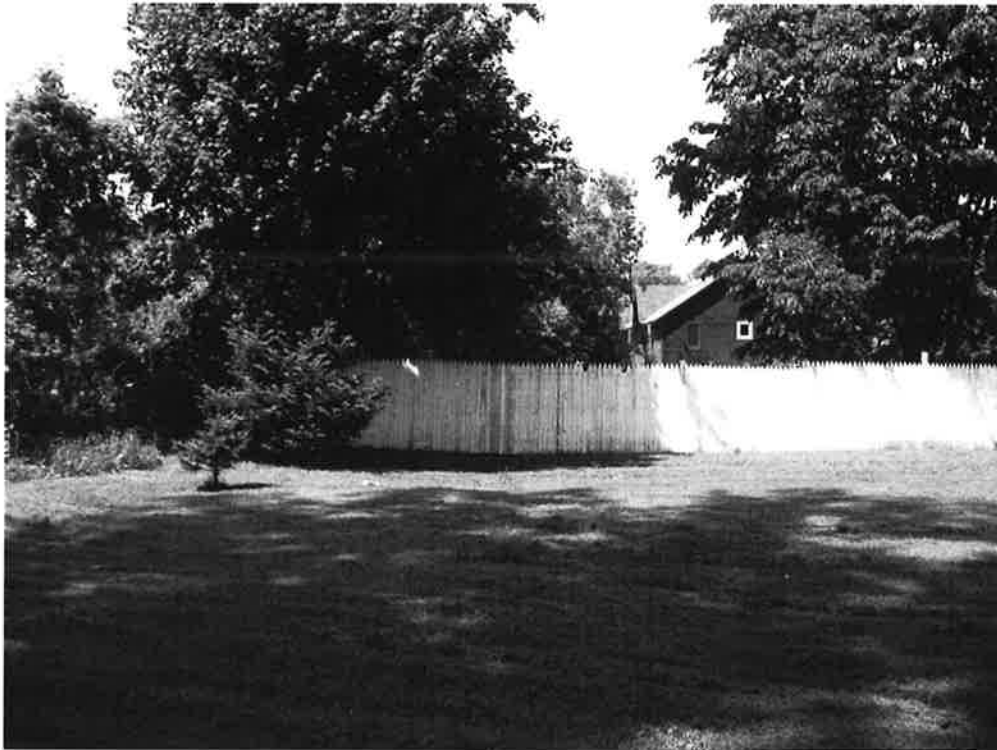
14. View of modern rear addition looking northwest.



15. View looking south showing east elevation of 114 Archibald Street.



16. Rear (north) elevation of the modern rear addition.



17. View to north showing lawn to the north of the rear addition of 114 Archibald Street.



18. Additional view of open space at site, here looking easterly toward buildings on Bright Street. The rear section of 35-39 Bright Street is barely visible on the left beyond the white fence.



19. The window trim details around the two windows on the front elevation of the building are among the few remaining historic features on the building;



20. The front entry door is also historic, dating from around c. 1950.



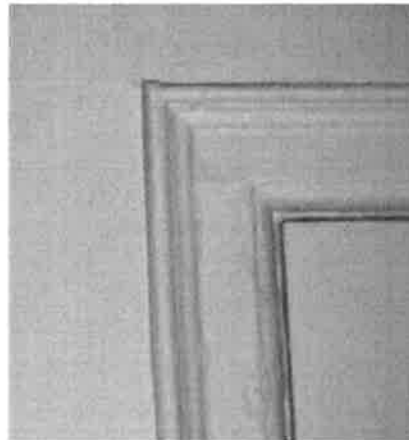
21. First floor unit in historic front portion of building; note that overall, historic features and finishes have been replaced, and floorplan configurations have also been changed.



22. The front units on both floors retain historic kitchen cabinets; note modern ceiling tiles.



23. Another view of a kitchen with all new features and finishes.



24. Historic kitchen cabinet (left) and a remnant of historic door trim (right) on one interior door.



25. The second story front porch (left), door to porch (right).



26. The stone and concrete foundation in the basement.

35-39 BRIGHT STREET



27. Context view looking northwest on Bright Street.
35 Bright St., left (storage shed), 39 Bright St., center (house); 47 Bright St., right (green house).



28. Context view of Bright Street looking northwest. Note white gabled shed near center of photograph which is part of 35-39 Bright Street.



29. Context view of Bright Street looking south east; east side of street just south of Riverside Ave.



30. East side of Bright Street at south end of street.



31. Storage shed, north and front (east) elevation. Note significant sag in roof.



32. (Left) View of south wall on left which is bowing out.



33. (Right) Hole in roof eaves found at the north elevation.



34. Rear (west) gable end.



35. Composite / Homasote siding.



36. View of site between the white shed and 39 Bright Street, showing the depth of the parcel.



37. View of west end of parcel that is a maintained lawn.



38. 39 Bright Street (left) and 47 Bright Street (right).



39. Front and south side of 39 Bright Street.



40. & 41. View of porch with detail of front entry showing historic porch cornice, clapboards and remains of an early door surround. Also note replacement flat trim at raking cornice of main block above, replacement porch posts and entry door within a partially infilled historic door opening.



42. Detail of historic bay window.



43. North elevation with two historic two-over-two windows at the far right. Note early redstone foundation.



44. (Left) North roof slope has a significant sag.

45. (Right) former clean-out remains in the foundation for a chimney on the north elevation that has been removed.



46. View looking northeast of the rear and south elevations. Structural concerns are evident in the shed roof of the rear ell which is sagging at the center of the west end roof eaves.



47. Detail of the southwest corner of the rear ell and main block. All porch features are new.



48. & 49. Details of the replacement box cornice on both the rear ell and main block.



50. (Left) a substantial crack is visible in the south side foundation near the bay window; cracks also exist in the bay window (right) foundation.



51. Detail of the wood trim on the bay window.



52. The bay window front elevation looking west.



53. (Left) The bay window cornice is in poor condition in many areas such as above.



54. (Right) The bay window has replacement vinyl sash and storms.



55. Front porch looking south.



56. Vinyl windows and wood clapboards at front porch.



57. (Left) Front porch railing and posts are new.



58. (Right) Detail of front elevation window and trim.



59. Typical window and trim on side elevations in very poor condition.



60. Detail of weathered trim and single pane window.



61. Additional view of typical vinyl window and storm, and deteriorated trim.



62. Additional view of window trim and sash.



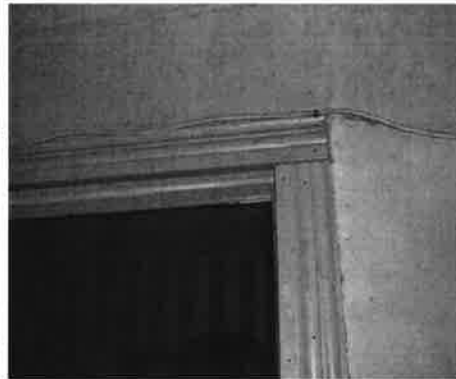
63. Framing in the basement reveals original joists with later sistered lumber.



64. The stone and concrete basement foundation.



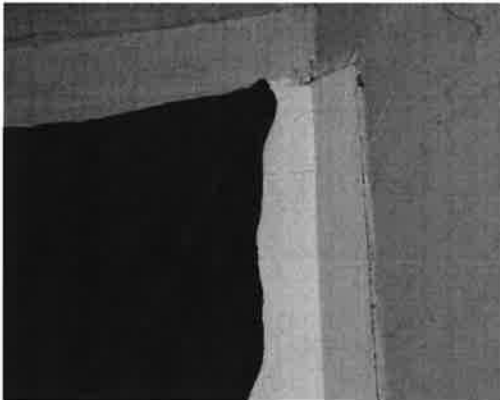
65. Interior view of replacement front entry door and flat stock trim.



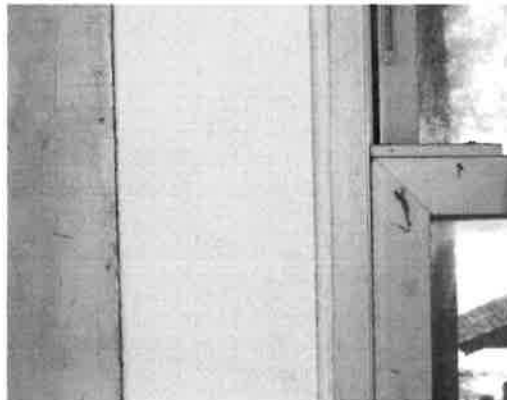
66. & 67. View within front bedroom off entry hall of modern door and trim.



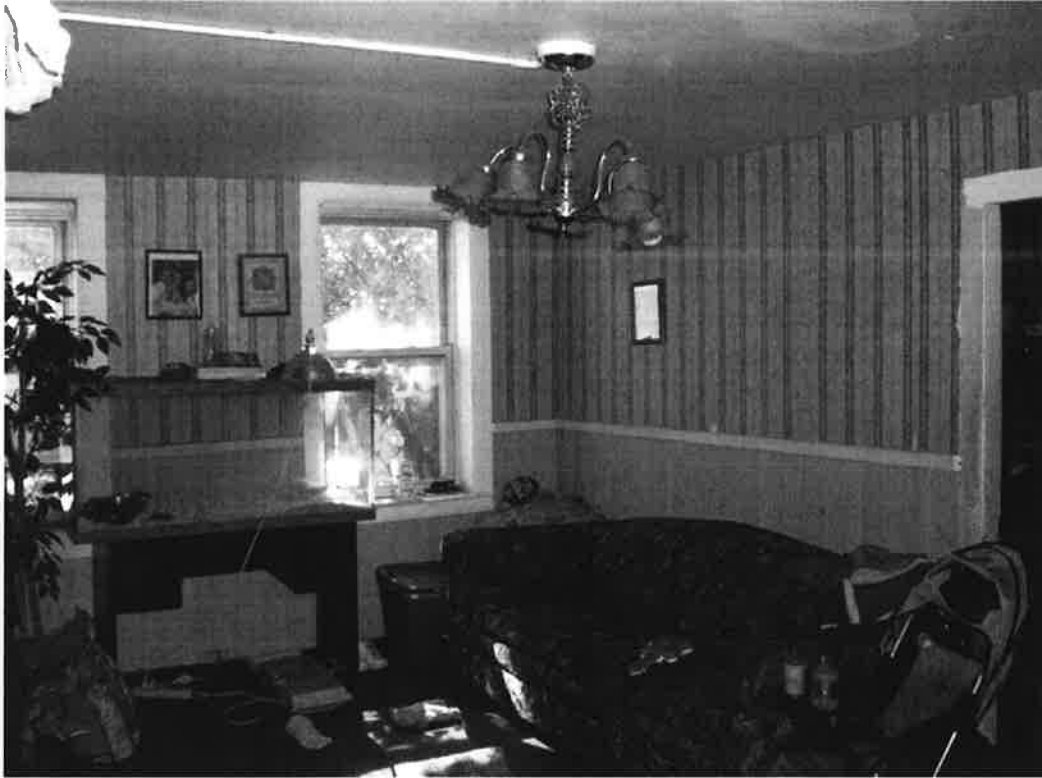
68. Front bedroom view (mostly obscured with curtains) of bay window.



69. (Left) Layers of plaster abut the flat trim around the bay window.



70. (Right) Bay window flat stock trim and vinyl sash.



71. Typical interior view of worn features and finishes, here looking southwest in the living room.



72. & 73. Typical views of window (left) and interior door trim (right). Note the many layers of paint.



74. Typical view of the worn vertical board wainscoting and door trim.



75. View of kitchen in rear ell looking west.



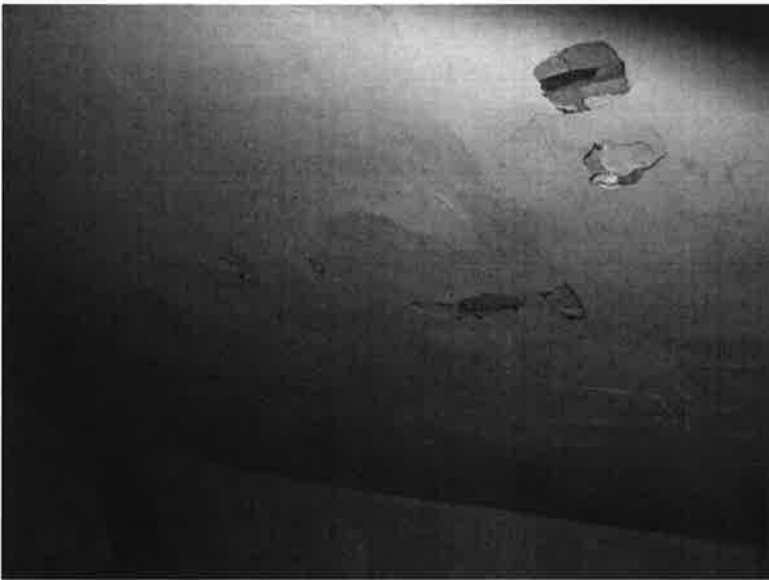
76. Looking down stairs to first floor of main block.



77. Second floor looking west from top of stairs. Note worn features and finishes.



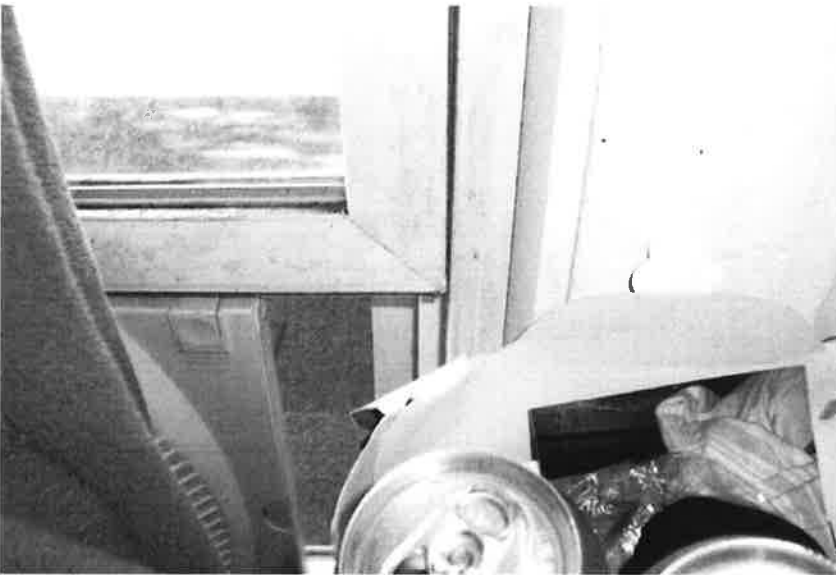
78. Looking east at top of stairs.



79. The plaster ceilings on the second floor are failing.



80. Typical view of replacement trim and window on second floor.



81. Additional view of a second floor window.

47 BRIGHT STREET



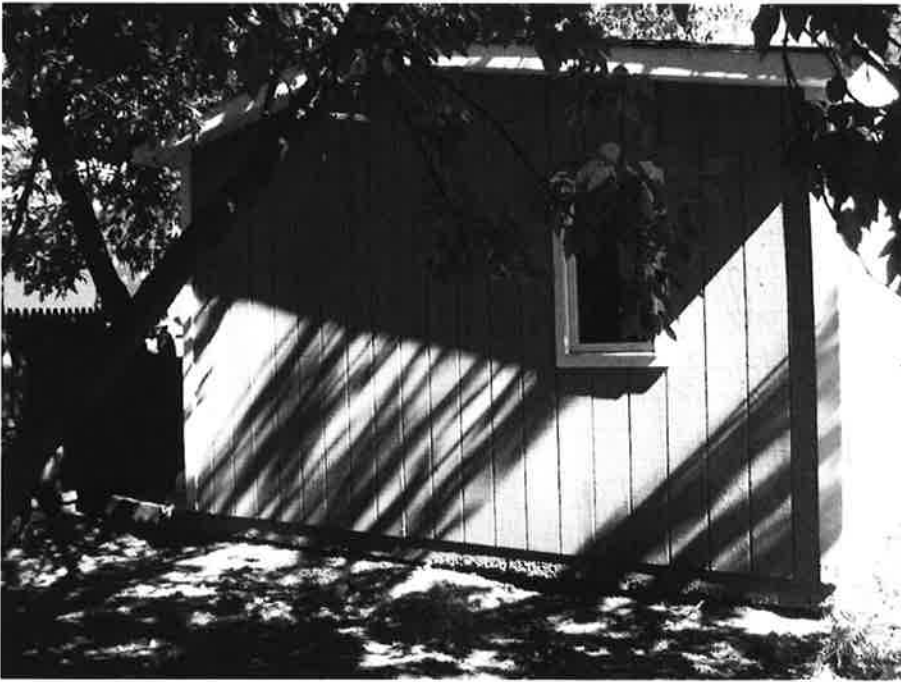
82. 47 Bright Street. Front elevation. Note replacement windows and front door, asbestos shingle siding, intrusive concrete block chimney on south elevation.



83. South elevation of 47 Bright Street. Rear additions and concrete block chimney appear to be non-significant additions, and the side porch appears to have been replaced with new posts and closed railing.



84. Additional view of the south elevation of the rear additions.



85. West end of westerly addition has T-111 siding.



86. North elevation showing asphalt siding under asbestos siding. Peaked window lintels may be historic.



87. & 88. View of two historic windows on the north elevation.



89. The molded cornice appears to be historic.



90. & 91. Front porch ceiling and frieze band appears old; other elements including posts are new.



92. Remnants of older door trim including a peaked lintel remain in a modified opening with a new door.



93. The kitchen has modern cabinetry.



94. (Left) Stairs to the second floor from the kitchen.



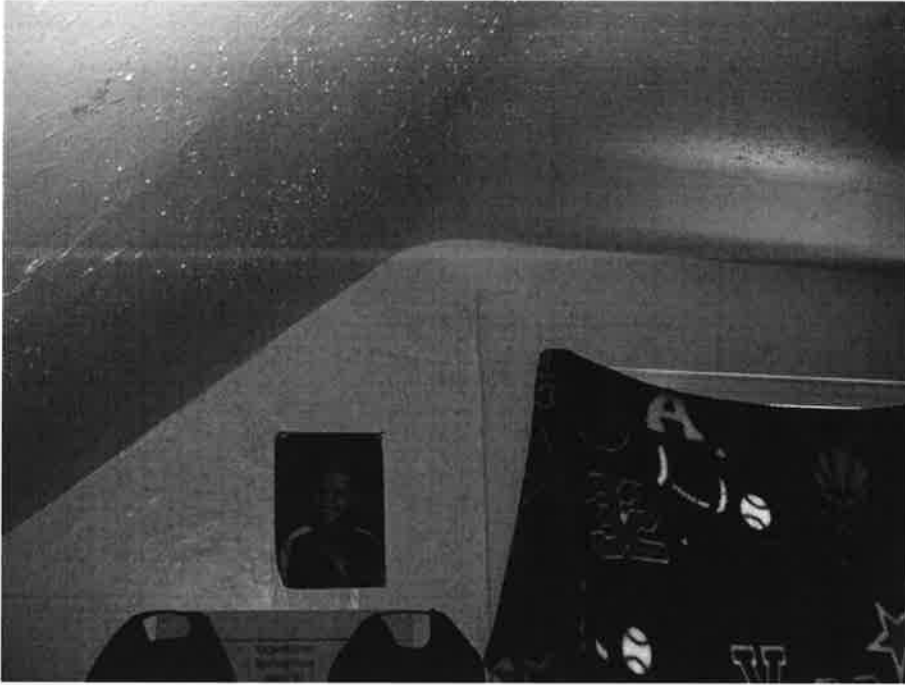
95. (Right) Door from kitchen to front bedroom. Note 1/4" wall paneling.



96. Interior view of west end appendage looking southwest.



97. Second floor has worn features and finishes.



98. Detail of the cracked and worn wall and ceiling finishes on the second floor.



99. The stone foundation in the basement.

J. Ina Hladky, Structural Engineering, Inc.

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Email: inahladky@gmail.com

October 10th, 2013

Ms. Lee McKim Buffinton

Real Estate Development Administrator

Champlain Housing Trust

88 King Street

Burlington, VT 05401

Re: Bright Street and Archibald Street Structural Assessment

Dear Ms. Buffington,

In accordance with your request, I have performed a structural assessment of 3 buildings located on Bright Street and Archibald Street in Burlington, Vermont. My findings are described on pages 2 through 8.



J. Ina Hladky p.E.

114 Archibald Street

This building consists of a small, two-story, rectangular original building that has received several additions over the years of various sizes, styles, and quality. The only place where the framing of the building could be observed was the first floor framing of the original house in the basement. The original floor joists were undersized so wood and steel ally columns were added at different locations without any footings and without proper attachments to the beams or joists. In general, the floor framing is inadequate and would need reframing, and the basement walls would need to be repaired at several locations.

There seems to be a lack of foundation under some parts of the building, especially at the decks and entrances.

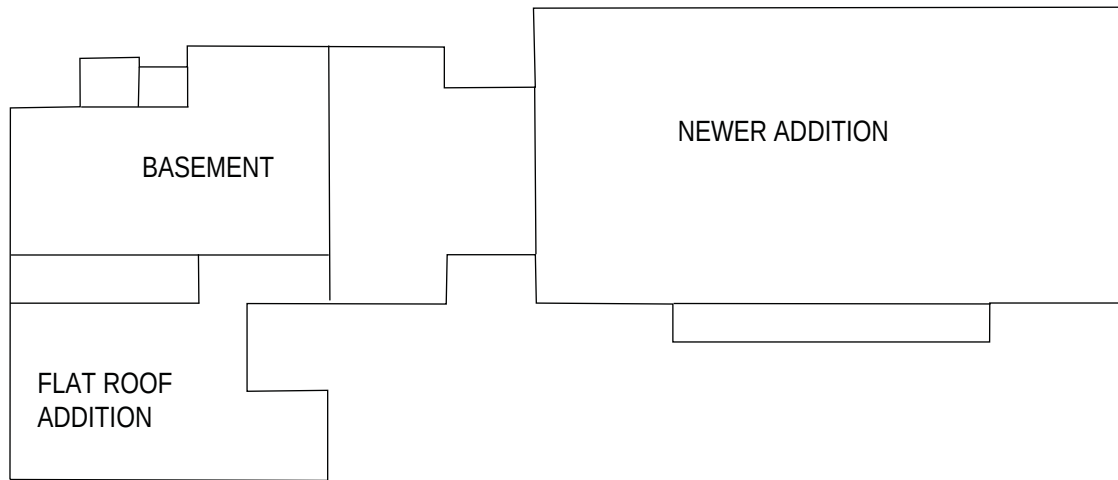
The second floor framing and roof framing were inaccessible. As the second floor dips and pitches down and up in all directions, it would appear that the second floor framing is inadequate, as well. I am afraid that the connections between the floor joists, beams, and posts are failing.

Based on visual observation of the roof, the roof would need a lot of reinforcing, especially the flat portions of the roof that are most definitely under-designed.

The newer rear addition does not appear to have any major structural issues.

I would strongly recommend tearing down the building and constructing a new one in its place because, as it stands, the current structure would need to undergo extensive repairs.

114 ARCHIBALD STREET



35 Bright Street

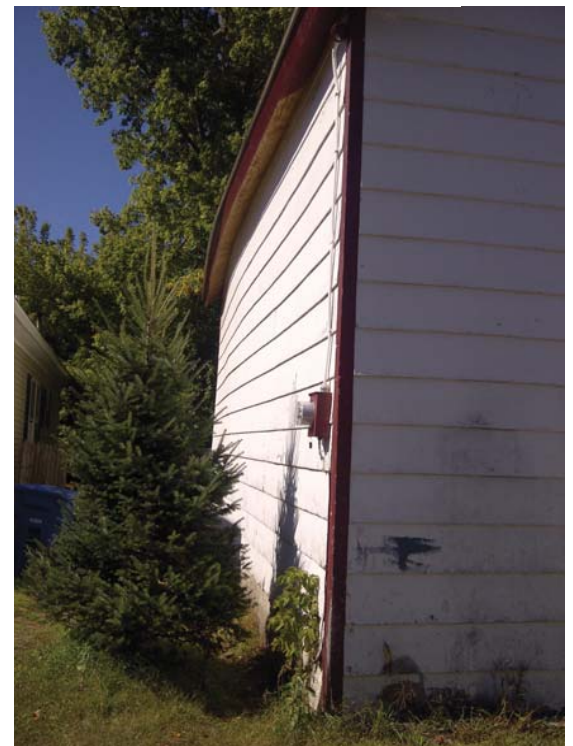
This building is a rectangular one-story structure 16 feet wide and 30 feet long. This building was not accessible so my review is based on visual observations of the building from the outside. The walls are bowing out (pictures 1 and 2), the roof has a significant dip in the middle of the ridge (picture 3), and it appears that there are no frost walls (picture 1) or other type of sound foundations. This building does not appear to be stable and is beyond repair; it should be torn down.



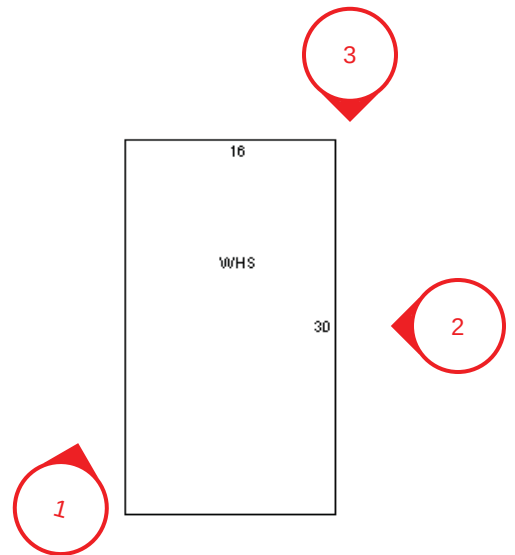
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39 Bright Street

The main part of the building is a two-story structure with the second story in the attic. The rear part of the building is a one-story structure with a flat roof. The whole building has a full basement. Only the first floor framing was visible in the basement. The framing is in very bad shape, floor joists are under-designed, and there is a steel beam in the back part of the building that is supposed to cut the floor joists' span in half, but one end of the beam is not supported at all. The columns have no footings, joists have been cut or otherwise compromised, and the whole floor is pitching in different directions.

The second floor framing was not visible, but the floors have so much deflection that could be observed from below that it is clear the floor framing is inadequate. The ceiling height in the attic is low; the roof's rafters are visibly deflecting. The flat roof is seriously under-designed (picture #1).

There are cracks in the basement wall, with the most visible being under the bay window (see picture #2). At another spot, the wall was patched (picture #3), but not enough.

The entry porch roof and floor framing, as well as the foundations, are inadequate (partially seen on picture #4).

The building should be torn down and replaced with a new structure because such major repairs would be necessary to make the building structurally sound as to be prohibitively expensive.

A close-up photograph of a brick wall. The upper portion of the wall is made of light-colored bricks. Below this, there is a section where the white paint has peeled away, revealing the underlying brickwork and some reddish-brown mortar. Green leaves and vines are hanging down from the top of the frame, partially obscuring the wall. The bottom of the image shows a dense patch of green weeds and plants growing at the base of the wall.

A photograph of a small, single-story brick house with a white porch and a chimney. The house is surrounded by trees and a wooden fence. A large orange pumpkin decoration is visible in the foreground.

47 Bright Street

This building seems to have originally been a two-story structure with crawlspace. The second story is within the roof framing. There appear to be several additions on one side and in the back. These additions are slab-on grade with flat roof structure. The structural framing of this building could not be observed, but based on the visual inspections of the building from both outside and inside, it is clear that the whole structure is inadequate. The high roof ridge is dipping, eaves are bowing out, and the low roofs are deflecting (see pictures 1-3). The second floor is pitching in different directions. It appears that there is a beam clear spanning the front room and supporting the floor joists above. This beam is drooping significantly in the middle.

The foundations could not be observed, but it appears that the low additions lack any foundations (picture 4).

My recommendation, based on the inadequate structural components which would require extensive repairs, is that the building should be demolished and replaced with a new one.

47 BRIGHT STREET



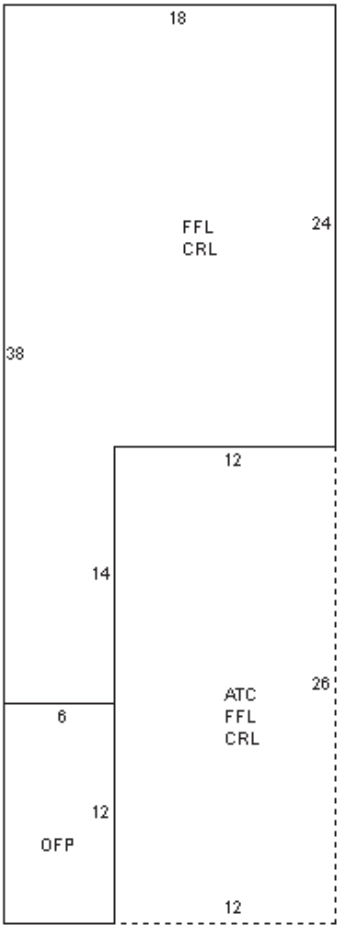
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Memorandum

To: Amy Demetrowitz, Champlain Housing Trust
 From: Lucy Gibson, P.E., Dubois and King
 Date: 4/1/14
 Re: Traffic Evaluation for the Bright Street Co-op

Introduction

This memo assesses the traffic generated by a 42-unit affordable housing complex located on Bright Street in Burlington, Vermont planned by the Champlain Housing Trust. The new project will include demolition of 11 existing units, resulting in a total of 31 net new housing units. Current and future projected automobile trips were calculated using guidelines outlined by the Institute of Transportation Engineers (ITE) Trip Generation Manual. Other considerations, such as the project's urban location, parking configuration, and selected design features are also evaluated.

Project Location

The project site is situated on Bright Street in Burlington's historic Old North End. The site is surrounded by Riverside Avenue to the north, Archibald Street to the south, Bright Street to the east, and Intervale Avenue to the west. Its urban location allows residents to live in close proximity to numerous destinations such as convenience stores, restaurants, bus stops, and public parks.



Figure 1: Project Location

Project Description

The planned 42-unit housing complex will offer affordable housing to Burlington residents of diverse incomes, household sizes, and socioeconomic backgrounds. The project will include the demolition of 11 existing units and the construction of 42 new units with 12 one-bedroom units, 24 two-bedroom units, 5 three-bedroom units, and 1 four-bedroom unit. The units will be housed in four separate buildings: one containing 35 units, another containing 3 units, and two duplexes.

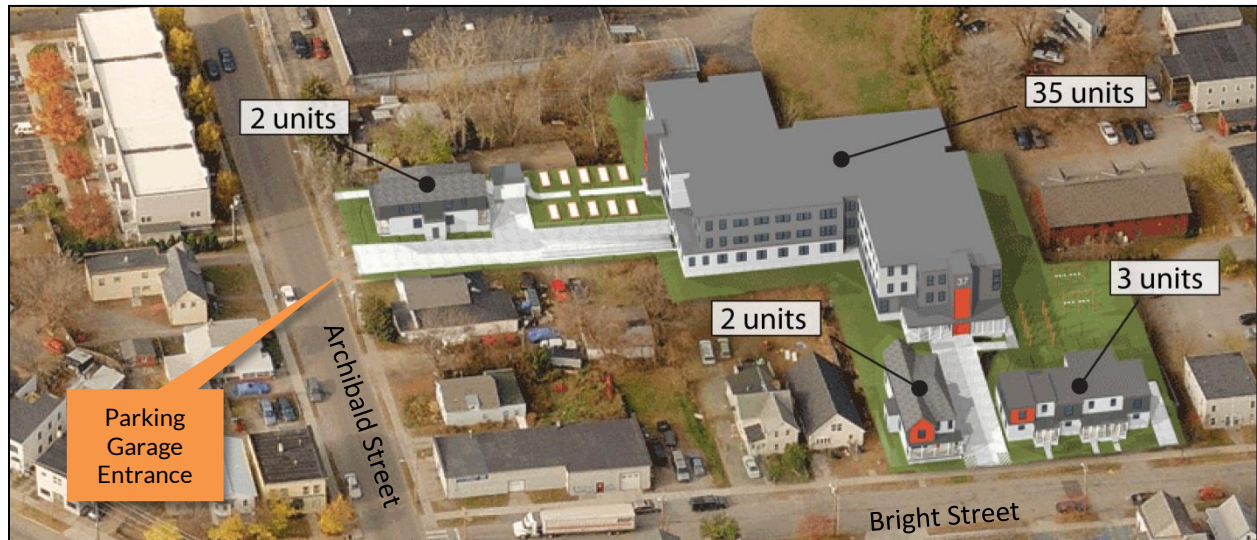


Figure 2: Rendering of Bright Street Co-op (Source: Champlain Housing Trust)

The project will feature energy efficient construction, underground parking, shared outdoor space, and will promote a “co-op” style of management whereby future tenants will assume some managerial duties of the complex. The parking garage will provide one space per unit, or a total of 42 parking spaces, with an access from Archibald Street. There is a service entrance on Bright Street, and a court that will not typically be used by vehicles, but provides access for emergency vehicles. Construction is expected to commence in late 2014 and conclude by the summer of 2015.

Parking

Parking for the development will be located in a garage beneath the building containing 35 units. A ramp will extend from Archibald Street, run adjacent to the duplex building, and extend into the parking garage. On street parking is also available on Bright Street and Archibald Street in addition to numerous surrounding streets in the Old North End.

Projected Increase in Traffic

Vehicle trips were calculated for both the existing 11 units and the future 42 total units on Bright Street using the ITE Trip Generation Manual. Traffic generated from developments in more urban locations such as Bright Street are often overestimated. The following table summarizes the existing and future traffic generated from the site, and provides the total number of new trips generated over the AM peak, PM peak, and over a 24 hour time period. This analysis shows a net increase of 15 vehicle trips during the

morning peak hour, and 19 during the afternoon peak hour. However, the data used to develop trip generation rates in this guide has been collected in suburban locations reliant on the use of automobiles.

Condition	Land Use	Size	24 Hour Volume	AM Peak		PM Peak	
				Entering	Exiting	Entering	Exiting
Existing	Apartments ITE Code 220	11	73	1	5	4	3
Future	Apartments ITE Code 220	42	249	4	17	17	9
Net New	-	31	176	3	12	13	6

Table 1: ITE Trip Generation; Existing, Future, and Net New

The average annual daily traffic (AADT) on Archibald Street directly east and west of its intersection with Bright Street is provided for context. The project could increase traffic by 176 trips over the course of the day, which will be negligible on a street that currently has traffic of more than 4,000 vehicles per day.

	Location	AADT
Archibald Street	East of Bright Street	4,500
Archibald Street	West of Bright Street	4,300

Table 2: Average Annual Daily Traffic on Archibald Street

Mitigating Factors: Urban Context, Automobile Ownership

A number of other factors specific to the Bright Street project will likely result in fewer automobile trips than projected by the ITE calculations including the site's urban context and the demographics of its residents. Because the housing complex will be located in the compact urban environment of the Old North End, vehicles are not necessarily required to complete common trips such as going to the store to buy groceries, visiting a friend, or traveling to and from work. The neighborhood also has pedestrian and bicycle infrastructure such as sidewalks and bike lanes, in addition to frequent public transit service that make non-automobile trips a viable and efficient form of transportation. In addition residents of this neighborhood generally have lower median incomes and lower rates of automobile ownership relative to the City of Burlington and Chittenden County as a whole. It is likely that future residents of the Bright Street Co-op will own fewer cars and drive less in part because of economic constraints.

Conclusion

Existing and future traffic generated by the Bright Street Co-op, calculated using the ITE Trip Generation Manual, will be a negligible increase on the local street network. The site's urban location and the low rates of automobile ownership of its tenants indicate that the future traffic will actually be considerably less than projected using the ITE rates.

SLIM12Y

12, 18 and 26 Watt SLIM wallpacks are ultra efficient and deliver impressive light distribution with a compact low-profile design that's super easy to install as a downlight or uplight.

Color: Bronze

Weight: 4.5 lbs

LED Info

Watts: 12W
 Color Temp: 3000K (Warm)
 Color Accuracy: 82
 L70 Lifespan: 100000
 LM79 Lumens: 1,019
 Efficacy: 72 LPW

Driver Info

Type: Constant Current
 120V: 0.12A
 208V: 0.08A
 240V: 0.07A
 277V: 0.06A
 Input Watts: 14W
 Efficiency: 85%

Technical Specifications

UL Listing:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

IP Rating:

Ingress Protection rating of IP66 for dust and water.

LED:

Multi-chip, long-life LED.

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

Driver:

Constant Current, Class 2, 100-277V, 50/60 Hz., 4KV surge protection, 350mA, 100-240VAC 0.3-0.15 Amps, 277VAC 0.15Amps, Power Factor 99%.

THD:

10.4% at 120V

Input Watts:

14W.

Output Lumens:

1,019.

Color Accuracy (CRI):

82 CRI

Correlated Color Temp. (Nominal CCT):

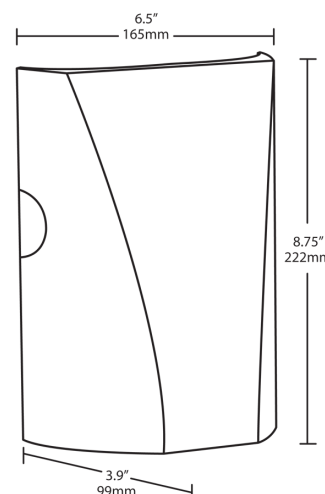
3000K

Cold Weather Starting:

The minimum starting temperature is -40°F/-40°C.

Ambient Temperature:

Suitable for use in 40°C (104°F) ambient temperatures.



Thermal Management:

Superior heat sinking with internal Air-Flow fins.

Housing:

Precision die-cast aluminum housing.

Mounting:

Heavy-duty mounting bracket with hinged housing for easy installation.

Recommended Mounting Height:

Up to 8 ft.

HID Replacement Range:

The SLIM12 can be used to replace 70W MH based on delivered lumens.

Lens:

Tempered glass lens.

Reflector:

Specular thermoplastic.

Gaskets:

High-temperature silicone.

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

ADA Compliant:

SLIM™ is ADA Compliant.

DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.



SLIM12Y - continued

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines for the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2011.

Green Technology:

Mercury and UV free, and RoHS compliant.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label.

Patents:

The design of the SLIM™ is protected by patents in U.S. Pat D681,864, and pending patents in Canada, China, Taiwan and Mexico.

Country of Origin:

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

Buy American Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

Recovery Act (ARRA) Compliant:

This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

Trade Agreements Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

GSA Schedule:

Suitable in accordance with FAR Subpart 25.4.

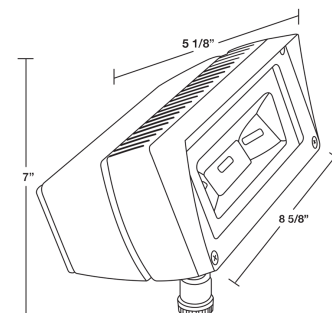


FFLED18Y

Rectangular shaped LED floodlight designed to replace 70W Metal Halide. Patent Pending airflow technology ensures long LED and driver lifespan. Use for building facade lighting, sign lighting, LED landscape lighting and instant-on security lighting.

Color: Bronze

Weight: 4.8 lbs



LED Info

Watts: 18W
 Color Temp: 3000K (Warm)
 Color Accuracy: 84
 L70 Lifespan: 100000
 LM79 Lumens: 1,422
 Efficacy: 64 LPW

Driver Info

Type: Constant Current
 120V: 0.2A
 208V: 0.15A
 240V: 0.13A
 277V: 0.11A
 Input Watts: 22W
 Efficiency: 81%

Technical Specifications

Lumen Maintenance:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

IP Rating:

Ingress Protection rating of IP65 for dust and water.

NEMA Type:

7H x 6V Beam Spread.

Airflow:

Patent pending Airflow technology heat sink for superior cooling.

LEDs:

18 Watt high performance LEDs.

Driver:

Constant Current, Class 2, 100 - 277V, 50 - 60 Hz, 100 - 277VAC 0.4 Amps.

THD:

10.6% at 120V

Surge Protection:

6kV

Ambient Temperature:

Suitable for use in 40°C ambient temperatures.

Cold Weather Starting:

The minimum starting temperature is -40°F/-40°C.

Thermal Management Housing:

Die-cast aluminum housing, lens frame and mounting arm.

Mounting:

Heavy-duty mounting arm with O ring seal & stainless steel screw.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for (SSL) Products, ANSI C78.377-2008.

Equivalency:

The FFLED18 is Equivalent in delivered lumens to a 70W Metal Halide.

Reflector:

Semi-specular anodized aluminum.

Gaskets:

High-temperature silicone gaskets.

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Green Technology:

Mercury and UV free.

IESNA LM-79 & LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy Lighting Facts label.



Tech Help Line: 888 RAB-1000

Email: sales@rabweb.com

On the web at: www.rabweb.com

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Note: Specifications are subject to change without notice

Page 1 of 2

FFLED18Y - continued

California Title 24:

FFLED18 complies with California Title 24 building and electrical codes.

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Patents:

The FFLED design is protected by U.S. Pat. D643,147, Canada Pat. 140798, China Pat. ZL201130171304.1, Mexico Pat. 36757 and pending patent in Taiwan.

UL Listing:

Suitable For Wet Locations. Suitable for mounting within 1.2M(4FT) of the ground.



NDLED4R-50Y-S-W

High-end, new construction LED downlights in 4" and 6" make installation a breeze when you're framing out a space from the ground up or when you have access from the top of the ceiling.

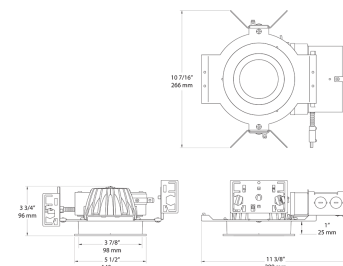
Color: White trim specular silver cone Weight: 0.0 lbs

LED Info

Watts: 0W
Color Temp: 3000K (Warm)
Color Accuracy: N/A
L70 Lifespan: 100000
LM79 Lumens: 0
Efficacy: N/A

Driver Info

Type: Sold Separately
120V: N/A
208V: N/A
240V: N/A
277V: N/A
Input Watts: 0W
Efficiency: N/A



Technical Specifications

UL Listed:

Suitable for wet locations covered ceiling.

Photometrics:

Photometrics are based on prorated reports. Contact the RAB Lighting Design department for the most up-to-date data.

Housing:

Professional-grade, die-cast aluminum construction.

Trim Ring:

White powder coated die cast trim ring.

Trim Cone:

Specular silver round trim cone.

Drop Ceiling Installation:

NDLED can be installed in drop ceiling tiles when using optional c-channel bars and following local construction codes.

Aperture Size:

4" Trim Module.

Dimming:

Dimmable. Requires rough-in with dimming driver.

Optics:

50° beam spread with specular thermoplastic optics and Nanostructure lens technology for smooth light output and high efficiency.

Easy Installation:

The EZ-Connector makes installation easy.

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Country of Origin:

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

Buy American Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

Recovery Act (ARRA) Compliant:

This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

Trade Agreements Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

GSA Schedule:

Suitable in accordance with FAR Subpart 25.4.



ND4R12F

Easy to install 4" and 6" rough-in with die-cast aperture ring, removable driver, thermal protector and adjustable butterfly brackets. This rough-in is designed to make new construction recessed downlighting easy

Color: N/A

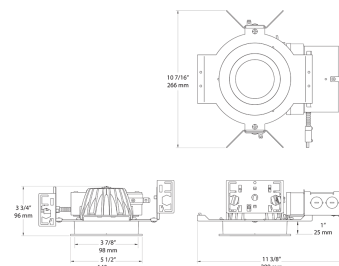
Weight: 0.0 lbs

LED Info

Watts: 12W
 Color Temp: Sold Separately
 Color Accuracy: N/A
 L70 Lifespan: N/A
 LM79 Lumens: 0
 Efficacy: 0 LPW

Driver Info

Type: Constant Current
 120V: 0.123A
 208V: 0.08A
 240V: 0.07A
 277V: 0.06A
 Input Watts: 0W
 Efficiency: N/A



Technical Specifications

UL Listed:

Suitable for wet locations covered ceiling.

Photometrics:

Photometrics are based on prorated reports. Contact the RAB Lighting Design department for the most up-to-date data.

Driver:

On/Off Non-Dimming, Constant Current, Class 2, 100-277V, 50/60Hz, 4KV Surge Protection, 350mA, 100-240VAC 0.3-0.15A 277VAC 0.15A, Power Factor 99%, THD ≤ 20%.

Dimming Driver:

Dimmer must be compatible to the driver.

Ambient Temperature:

Suitable for use in 55°C ambient temperatures.

Cold Weather Starting:

The minimum starting temperature is -40°F/-40°C.

Equivalency:

DLED 12W is equivalent to 75W R30.

Aperture Size:

4" Rough-In.

Drop Ceiling Installation:

NDLED can be installed in drop ceiling tiles when using optional c-channel bars and following local construction codes.

Butterfly Brackets:

The Butterfly bracket allows to mount with the following 1/4 x 1/2" bar stock, C Channel, 1/2" conduit, or nailer bars.

Easy Installation:

The EZConnector makes installation easy.

Thermal Protector:

Thermal protector included. Disables power if temperature exceeds safe operation levels.

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Country of Origin:

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

Buy American Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

Recovery Act (ARRA) Compliant:

This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

Trade Agreements Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

GSA Schedule:

Suitable in accordance with FAR Subpart 25.4.

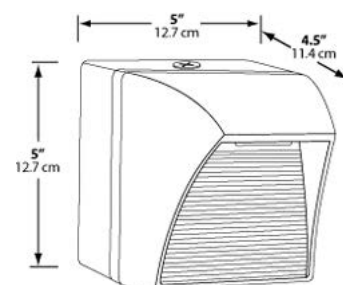


WPLED5Y

LED 5W Wallpacks. 3 cutoff options. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5 Year Warranty.

Color: Bronze

Weight: 2.0 lbs



LED Info

Watts: 5W
Color Temp: 3000K (Warm)
Color Accuracy: 88
L70 Lifespan: 100000
LM79 Lumens: 128
Efficacy: 24 LPW

Driver Info

Type: Constant Current
120V: 0.18A
208V: 0.18A
240V: 0.18A
277V: N/A
Input Watts: 5W
Efficiency: 94%

Technical Specifications

UL Listing:

Suitable for wet locations in downlight position only.
Suitable for mounting within 1.2m (4ft) of the ground.

Lifespan:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

IP Rating:

Ingress Protection rating of IP66 for dust and water.

Patents:

The WPLED design is protected by patents pending in the U.S., Canada, China, Taiwan and Mexico.

LEDs:

5W, high-output, long-life LED.

Drivers:

Constant current, Class 2, 100 - 240VAC, 50 - 60 Hz, 0.18 Amps.

Fixture Efficacy:

24 Lumens per Watt

Ambient Temperature:

Suitable for use in 40°C ambient temperatures.

Surge Protection:

1 KV

Cold Weather Starting:

The minimum starting temperature is -40°F/-40°C.

Thermal Management:

Integral cast aluminum mounting pad for optimum heat sinking to ensure cool operation with maximum LED life and light output.

Housing:

Precision die cast aluminum housing and mounting plate. 1 1/2" backbox with three 1/2" conduit entry points.

Gaskets:

High temperature silicone gaskets.

Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Color Accuracy:

88 CRI

Color Temperature (Nominal CCT):

3000K

Color Consistency:

3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Uniformity:

RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Equivalency:

The WPLED5 is Equivalent in delivered lumens to a 13W CFL or 60W incandescent.

Green Technology:

Mercury and UV free.



WPLED5Y - continued

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

California Title 24:

WPLED5 complies with California Title 24 building and electrical codes.

Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish.

Country of Origin:

Designed by RAB in New Jersey and assembled in the USA by RAB's IBEW Local 3 workers.

Buy American Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Buy American Act.

Recovery Act (ARRA) Compliant:

This product complies with the 52.225-21 "Required Use of American Iron, Steel, and Manufactured Goods-- Buy American Act-- Construction Materials (October 2010).

Trade Agreements Act Compliant:

This product is a COTS item manufactured in the United States, and is compliant with the Trade Agreements Act.

GSA Schedule:

Suitable in accordance with FAR Subpart 25.4.



Department of Planning and Zoning

149 Church Street
Burlington, VT 05401

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Nic Anderson, Zoning Clerk

Elsie Tillotson, Department Secretary



MEMORANDUM

To: The Design Advisory Board

From: Mary O'Neil, AICP, Senior Planner

RE: ZP 14-0909PD 112-114 Archibald Street

14-0910PD 27 Bright Street

14-0911PD 35-39 Bright Street

14-0912PD 47 Bright Street

Date: May 13, 2014

File: ZP 14-0909PD 112-114 Archibald Street

14-0910PD 27 Bright Street

14-0911PD 35-39 Bright Street

14-0912PD 47 Bright Street

Zone: NMU **Ward:** 2

Date application accepted: April 14, 2014

Staff Site visit: May 6, 2014

Applicant/ Owner: Michael Wisniewski of Duncan Wisniewski Architects/Champlain Housing Trust in partnership with Housing Vermont

Request: Preliminary Plat review to demolish 3 existing residential buildings (retain the duplex at 27 Bright Street) and construct 4 new residential buildings and associated site improvements. Two existing units at 27 Bright Street plus 42 new units for a 44-unit development.



Background:

112-114 Archibald Street

- o 14-0026SP; 112-114 Archibald Street, Sketch Plan Review, August 6, 2013.
- o Request to operate an automotive garage, body and fender service and used car sales at 114 ½ Archibald Street, **Denied**, September 1964. (Had been operating without a permit.) Front building identified as a fish market.

27 Bright Street

Not proposed to be altered.

35-39 Bright Street

- o No zoning permits on file for this property.

47 Bright Street

- o **Zoning Permit 98-475**; Installation of a stockade style fence across the front property line of the single family home. Approved May 1998.
- o **Zoning Permit 97-593**; Construction of a single story attached rear shed, measuring 13'10" x 20' on existing concrete slab for the existing single family home. Materials to be T-111. Approved July 1997.

Overview: Champlain Housing Trust, partnered with Housing Vermont seeks to combine four parcels (58,977 sf) with 14 existing residential units; redevelop the site retaining one duplex (27 Bright Street) with construction of four new buildings providing 44 residential units, 42 of them new. Proposed for demolition are 114 Archibald St. (9 residential units), 35 Bright Street (1 unit) plus outbuildings, and 47 Bright Street (1 unit.) New development will include construction of 2 duplex townhouses, one triplex, and one three story, 35 unit structure on the interior. The development will provide a net gain of 31 new residential units. All parking is proposed for an enclosed parking structure, except for 2 surface parking spaces at the Archibald duplex, for a total of 44 + 4 at existing (unaltered) 27 Bright Street.

Article 6: Development Review Standards

Part 1, Land Division Design Standards

Sec. 6.1.2 Review Standards

The Bright Street Cooperative neighborhood will combine the four parcels owned by Champlain Housing Trust. 27 Bright Street will be subdivided as a separate lot, per the submission narrative, yet continue to be operated by CHT.

Part 2, Site Plan Design Standards

Sec. 6.2.2. Review Standards

(a) Protection of important natural features

There are no important natural features on the subject properties. Green space is generally open grassy area with scattered trees. Approximately 8 trees are proposed for removal, located within the site and possibly some around the perimeter near foundation excavation locations. See plan

L1.0 for tree and fencing demo diagram. A landscaping/planting plan has been submitted (see Plan L2.0.) The species proposed within the greenbelt on Bright Street will require consultation and approval of the City Arborist. **Affirmative finding as conditioned.**

(b) Topographical alterations

The site slopes slightly downward from east to west. Slight modification to the grade will be required to facilitate the development. Due to the parking garage ramp and entrance off of Archibald Street, in combination with the first floor pedestrian entrance to the 35 plex off of Bright Street, existing grades will be modified. **Affirmative finding as conditioned.**

(c) Protection of important public views

There are no significant public views from or through the property. Not applicable.

(d) Protection of important cultural resources

Two properties are currently listed on the Vermont State Register of Historic Resources. See Section 5.4.8, below.

(e) Supporting the use of alternative energy

The roof of the 35-plex is designed for photo-voltaic panels, but it is not known until further build-out if funding will allow their inclusion. In any case, they are encouraged. **Affirmative finding.**

(f) Brownfield sites

The property is included on the Vermont DEC Hazardous Site List as a brownfield with PAH contamination. The development is enrolled in the BRELLA program (formerly the RCPP or Redevelopment of Contaminated Properties Program and CHT is pursuing and EPA brownfield clean-up grant. A Corrective Action Plan will be required by DEC for PAH impacted soils on the site prior to development. **Affirmative finding as conditioned.**

(g) Provide for nature's events

As reviewed by the Conservation Board, the project proposes 100% infiltration with no connection to the City stormwater system.

Although there is only an access drive and 2 on-grade parking spaces, an area of snow storage (or a plan for removal) will be required. The garden shed at Archibald Street prohibits consideration at the end of that parking area; and the raised wall abutting the access driveway at the boundary line makes snow storage there improbable.

There are several open porches that will provide respite from inclement weather for building residents. **Affirmative finding as conditioned.**

(h) Building location and orientation

Street front buildings along the periphery of the development line up with adjacent structures and reinforce the existing streetscape. The large 35-unit center building is located in the interior behind these new street front buildings. This location avoids disruption of the existing street edge and mitigates the mass of this building as perceived from the street. **Affirmative finding.**

(i) Vehicular access

One vehicular access point, from Archibald Street, will be provided into the site. A curb cut and driveway exist under current conditions but will be modified to accommodate the proposed development. Adequate access for emergency vehicles and fire apparatus must also be assured; the applicant provides that the fire marshal has approved both with consideration of the access alley from Bright Street that includes a mountable curb and concrete paving. This approval shall be required in writing. **Affirmative finding as conditioned.**

(j) Pedestrian access

All of the new street edge buildings have front walkways that connect to the public sidewalk system. The interior building will connect to the public sidewalk system via new interior walkways. The newly modified driveway appears to preserve the continuity of the public sidewalk across it. It is not clear if the hashed marks that parallel the entrance drive are intended to be another pedestrian path or are illustrated for another matter. See Plan L2.0. **Affirmative finding.**

(k) Accessibility for the handicapped

The narrative says: "The design will meet applicable state and federal handicapped accessibility requirements for both site and units. All units in the 35plex meet FHA requirements and 5% will meet UFAS and be fully accessible." Additional explanation of the availability of h/c parking will be required. **Affirmative finding as conditioned.**

(l) Parking and circulation

All new parking will be located under the central building. Two surface parking spaces are proposed behind the duplex at 112-114 Archibald Street; there are four existing parking spaces at 27 Bright Street. As details of the interior parking garage have not been submitted, the sufficiency of interior circulation cannot be assessed.

Exterior bicycle parking is illustrated on plan L2.0. It is not clear how many bicycles this outside parking equipment will accommodate. Interior bicycle parking is also shown (behind the elevator) with 12 spaces identified.

A multi unit building is required to provide the following:

Long Term Bike Parking: ¼ units

Short Term Bike Parking: 1/10 units

For the total of 44 units, the requirement will be:

11 long term bike parking spaces (44/4) and

4 short term bike parking spaces (44/10).

It appears that the plan meets the bicycle parking requirement. **Affirmative finding.**

(m) Landscaping and fences

Ample garden space will be provided in the form of raised beds throughout the project site. A detailed landscaping plan has been submitted with preliminary plat plans. See plan L1.0 for existing tree and fencing demo diagram, and plan L2.0 for a proposed planting plan. Existing fencing will be retained and gaps filled in with wood fencing around 27 and 31 Bright Street. A privacy fence and safety barrier will be installed near the garage entrance ramp. That design has not been determined. The graduated grade of the entrance ramp is proposed to be supported with steel sheet piling similar to what is adjacent to the parking garage entrance off College Street near South Champlain Street. The applicant will need to define the grade change.

The City Arborist has also expressed concern about proposed lilacs in the greenbelt along Bright Street, and will confer with the applicant about a suitable alternative. **Affirmative finding as conditioned.**

(n) Public plazas and open space

No public plazas are proposed, however significant outside area is planned for the use of the residents. A significant courtyard is proposed near Bright Street, with ample eastern and southern exposure to the sun with shading provided by new trees and neighboring buildings. The garden beds, patios, and walkways accessed from the Archibald Street sidewalk will provide pleasant grounds for resident enjoyment and passive activity. Several clotheslines and play areas are also identified on the plan (See L2.0.) Much opportunity is afforded for residential pleasure on the grounds of the newly developed site. **Affirmative finding.**

(o) Outdoor lighting

Light specs, a photometric, and lighting plan has been submitted. Lighting is proposed to be full cut-off, and building mounted. The duplex and triplex front porches have recessed can lights to be controlled by occupants. All other lights are proposed to be controlled by photoeye sensors and timers. All lighting is low cutoff LED; there are no pole mounted lights.

Lighting at building entrances exceeds standards of the ***Outdoor Lighting Manual for Vermont Municipalities***, Table 2, p. 10: *Building Entry – active use, 5 footcandles average maintained.*

Measurements on the lighting plan illustrate entryway lighting between 10 fc (duplex 2 on Archibald Street) to 13 fc (east entry, 35 plex) to 17 fc (duplex 1, Bright Street.)

Walkway lighting appears to meet the standards. Light levels for within the parking garage are not provided, and need to be to confirm compliance with Sec. 5.5.2 (f) 5.

The lighting plan for entryways will need to be tweaked to meet Sec. 5.5.2 of the CDO.

Affirmative finding as conditioned.

(p) Integrate infrastructure into the design

Utility lines are proposed to be undergrounded from existing municipal services in the street.

The submission narrative states that the smaller buildings each have a storage space for trash and recycling and will utilize curbside service. The 35plex has a separate room to the right of the main entry and the trash removal company will bring the totes curbside for removal.

Mechanical equipment (such as HVAC) details must be provided. **Affirmative finding as conditioned.**

Part 3, Architectural Design Standards

(a) Relate development to its environment:

The smaller buildings proposed to front Archibald and Bright Street are of a scale and character that may successfully be integrated into the existing streetscape. With individual front porches on the duplex and triplex, these buildings relate to the existing neighborhood personality. With the location of the larger building on the interior of the parcel, coupled with underground parking, the building mass is diminished and the site retains an enormous amount of green space for resident use.

1. Massing, Height and Scale:

With the proposed duplex and triplex fronting Archibald and Bright Streets, the building mass remains consistent along both streetscapes. The larger (35 plex) building, situated in the center of the proposed parcel, will be less apparent due to the location; however its height is not without precedent in the neighborhood. Immediately across the street from the Archibald Street frontage exists a newer three story residential structure, fronting the street. This plan, however, minimizes the building mass as perceived from the public ROW. The 35plex has an elongated, winding footprint which will be visually available as glimpsed through other properties and not in its entirety. “Notches” where each of the three wings joins break up the building mass and provide visual interest. **Affirmative finding.**



2. Roofs and Rooflines.

The duplexes are proposed to have compound gabled roofs, while the triplex and the 35 plex to have flat roofs. Both are familiar and available within the immediate block. **Affirmative finding.**

3. Building Openings

The duplexes and the triplex will have easily identifiable entrances to at least on unit fronting on the public street. Additional entrances are provided off pedestrian paths (or courtyard) on which they front. Both the south elevation (Archibald Street) and the east elevation (Bright Street) of the 35 plex have clearly identifiable entrances off pedestrian walkways.

Window openings maintain consistent patterns and proportions appropriate to the proposed residential use. The window pattern is varied, as broken up between wings of the 35 plex, and provides interest to the architecture. No awnings or canopies have been identified that may encroach into the public right-of-way, which would require an encroachment permit issued by the dept. of public works. Canopies on the rear 35 plex are within the project development area.

The buildings are setback from the property line, so no restriction on window or door openings is anticipated to be required to fire safety code restrictions. **Affirmative finding.**

Triplex, front elevation



(b) Protection of Important Architectural Resources:

The applicant has engaged a Historic Preservation consultant (Liz Pritchett) to assess the area of potential impact, any historic properties involved, and to determine the impact on each. Her report is attached. In short, the Determination of Potential Effect as reported:

In my professional opinion, removal of the dwellings at 114 Archibald Street, 47 Bright Street and the storage building at 35 Bright Street will have no effect on historic resources because these structures do not appear to be eligible for listing in the National Register due to alterations and lack of architectural distinction. Furthermore, due to the poor condition and further loss of integrity at 39 Bright Street since it was listed in the State Register, that resource now appears only marginally eligible for listing in the National Register. Therefore, the only property that has the potential for adverse effect by the undertaking is 39 Bright Street. The overall determination of effect of the undertaking is an adverse effect to historic resources due to the proposed demolition of the dwelling at 39 Bright Street.

Property	Listed in the SR	Eligible for the NR	Potential for Effect
114 Archibald St.	No	No	No Effect
35 Bright St.	No	No	No Effect
39 Bright St.	Yes	Marginally eligible	Adverse Effect
47 Bright St.	Yes	No	No Effect

And the conclusion of the report:

The determination of effect for the Archibald - Bright Street Project is an

ADVERSE EFFECT with one condition.

Condition: The plans and specifications for the new buildings and site shall be reviewed and commented on by the Division for Historic Preservation prior to the final determination of effect for the project.

This is a preliminary determination only as the overall scope of work for the undertaking is in the early stages of design. While the plans and elevations for the new buildings are being developed, the project's historic preservation consultant in consultation with the Vermont Division for Historic Preservation will review the designs to ensure that all work complies with *The Secretary of the Interior's Standards for Rehabilitation*. A final review letter for the undertaking will be submitted when all plans have been completed. No construction will start until final review for Section 106 is complete and all permits are in place.

A final review letter will be required upon final plat submission. **Affirmative finding as conditioned.**

(c) Protection of Important Public Views:

There are no public views from these parcels. Not applicable.

(d) Provide an active and inviting street edge:

Duplex 1 and 2 both provide engaging streetfronts, with triple windows at the first floor street level and wrap around porches slightly off grade. Windows are regularly spaced, and indicative of interior use. The buildings actually have 2 building fronts as designed, because rear facades serve the second unit, and open to public courtyards and interior lot common spaces.

The 35plex, although not immediately fronting the street, has attractively designed facades facing both streetfronts, albeit setback substantially from the street. Visual interest is provided by material placement, alteration to the corniceline, siding changes, rhythm of window placement, window sizes, and articulated porches. The elevator shaft provides an interesting design element distinctive to the plan. **Affirmative finding.**

(e) Quality of materials:

Proposed materials are fiber cement siding and trim; sloped roofs to be shingles; flat roofs membrane. Colors will be chosen from either the James Hardie or Certainteed Color palette. Windows will be fiberglass double hung with some awning and casement. Porch railings are proposed to be painted metal.

As the buildings at 35 and 27 Bright are proposed for demolition, no material specifications have been provided. A final determination from the Vt. Division for Historic Preservation will be required relative to the defined adverse impact of the development, as previously noted.

Affirmative finding as conditioned.

(f) Reduce energy utilization:

The narrative defines the plan for highly energy efficient buildings designs. The development will be required to meet all energy efficiency standards as defined by Burlington Electric, and will be available for incentives.

The 35 plex roof will be designed to incorporate solar panels, although preliminary development plans cannot assure that solar will be incorporated immediately.

The smaller building sizes fronting Archibald and Bright Street do not suggest the need for shadow studies. The interior location (and spatial separation from neighboring building) of the 35 plex do not raise immediate concern about shadow cast. Ample opportunity remains here, and at adjoining building sites, for the utilization of passive and active solar utility. **Affirmative finding.**

(g) Make advertising features complementary to the site:

Any signage will require a separate sign permit.

The street identification number (“37”) is not permitted due to size and height. Sign installation height in the NMU is limited to 14’, or the ceiling height of the first floor. Additionally, parallel signs are limited to 2 sf. per linear foot of building frontage. As the east frontage is broken into different planes, a total will need to be calculated of all parallel building plans fronting Bright Street to determinate appropriate signage size. **Affirmative finding if conditioned.**

(h) Integrate infrastructure into the building design:

See Section 6.2.2. (p), above.

(i) Make spaces secure and safe:

The proposed buildings will be sprinklered. Development will be required to meet all applicable building and life safety code as defined by the building inspector and the fire marshal.

For this multi unit building, an intercom system is recommended for residential safety.

Affirmative finding.

Section 5.4.8 (d)

Two buildings within the project area are listed on the Vermont State Register of Historic Resources. Both are proposed to be demolished. A consultant’s report has been included with the submission materials. Although she conditions her remarks upon final review and consultation with the Vermont Division for Historic Preservation, in general the report reflects the failed condition of both buildings, and the greater public benefit of the prospect of newer, cleaner, safer, affordable housing in the neighborhood.

Herein are the standards for review:

(d) Demolition of Historic Buildings:

The purpose of this subsection is:

- . To discourage the demolition of a historic building, and allow full consideration of alternatives to demolition, including rehabilitation, adaptive reuse, resale, or relocation;
- . Provide a procedure and criteria regarding the consideration of a proposal for the demolition of a historic building; and,
- . To ensure that the community is compensated for the permanent loss of a historic resource by a redevelopment of clear and substantial benefit to the community, region or state.

1. Application for Demolition.

For demolition applications involving a historic building, the applicant shall submit the following materials in addition to the submission requirements specified in Art. 3:

- A. A report from a licensed engineer or architect who is experienced in rehabilitation of historic structures regarding the soundness of the structure and its suitability for rehabilitation;*

This is enclosed.

- B. A statement addressing compliance with each applicable review standard for demolition;*

- C. Where a case for economic hardship is claimed, an economic feasibility report prepared by an architect, developer, or appraiser, or other person experienced in the rehabilitation and adaptive reuse of historic structures that addresses:*

(i) the estimated market value of the property on which the structure lies, both before and after demolition or removal; and,

(ii) the feasibility of rehabilitation or reuse of the structure proposed for demolition or partial demolition;

Both the structural engineer and the 36-CFR certified preservation consultant concurred that the poor condition of both buildings, coupled with the loss of integrity and level of alteration make rehabilitation economically unviable. Both concur that the best solution would be to remove the structures and allow redevelopment to occur, conditioned upon compatibility with the context of the neighborhood.

- D. A redevelopment plan for the site, and a statement of the effect of the proposed redevelopment on the architectural and historical qualities of other structures and the character of the neighborhood around the sites;*

This application proposes redevelopment of the site.

and,

- E. Elevations, drawings, plans, statements, and other materials which satisfy the submission requirements specified in Art. 3, for any replacement structure or structures to be erected or constructed pursuant to a development plan.*

Attached.

2. Standards for Review of Demolition.

Demolition of a historic structure shall only be approved by the DRB pursuant to the provisions of Art. 3, Part 5 for Conditional Use Review and in accordance with the following standards:

- A. The structure proposed for demolition is structurally unsound despite ongoing efforts by the owner to properly maintain the structure; or,*
- B. The structure cannot be rehabilitated or reused on site as part of any economically beneficial use of the property in conformance with the intent and requirements of the underlying zoning district; and, the structure cannot be practicably moved to another site within the district; or,*
- C. The proposed redevelopment of the site will provide a substantial community-wide benefit that outweighs the historic or architectural significance of the building proposed for demolition.*

And all of the following:

- D. The demolition and redevelopment proposal mitigates to the greatest extent practical any impact to the historical importance of other structures located on the property and adjacent properties;*
- E. All historically and architecturally important design, features, construction techniques, examples of craftsmanship and materials have been properly documented using the applicable standards of the Historic American Building Survey (HABS) and made available to historians, architectural historians and others interested in Burlington's architectural history; and,*
- F. The applicant has agreed to redevelop the site after demolition pursuant to an approved redevelopment plan which provides for a replacement structure(s).*
 - (i) Such a plan shall be compatible with the historical integrity and enhances the architectural character of the immediate area, neighborhood, and district;*
 - (ii) Such plans must include an acceptable timetable and guarantees which may include performance bonds/letters of credit for demolition and completion of the project; and,*
 - (iii) The time between demolition and commencement of new construction generally shall not exceed six (6) months.*

This requirement may be waived if the applicant agrees to deed restrict the property to provide for open space or recreational uses where such a restriction constitutes a greater benefit to the community than the property's redevelopment.

The applicants have not offered to deed restrict the property. However as a public housing project, a substantial community benefit would be realized by the redevelopment of the subject parcels, providing 44 residential units (42 in four new buildings, and 31 of them new.)

Affirmative finding as conditioned.

3. Deconstruction: Salvage and Reuse of Historic Building Materials.

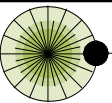
The applicant shall be encouraged to sell or reclaim a structure and all historic building materials, or permit others to salvage them and to provide an opportunity for others to purchase or reclaim the building or its materials for future use. An applicant may be required to advertise the availability of the structure and materials for sale or salvage in a local newspaper on at least three (3) occasions prior to demolition.

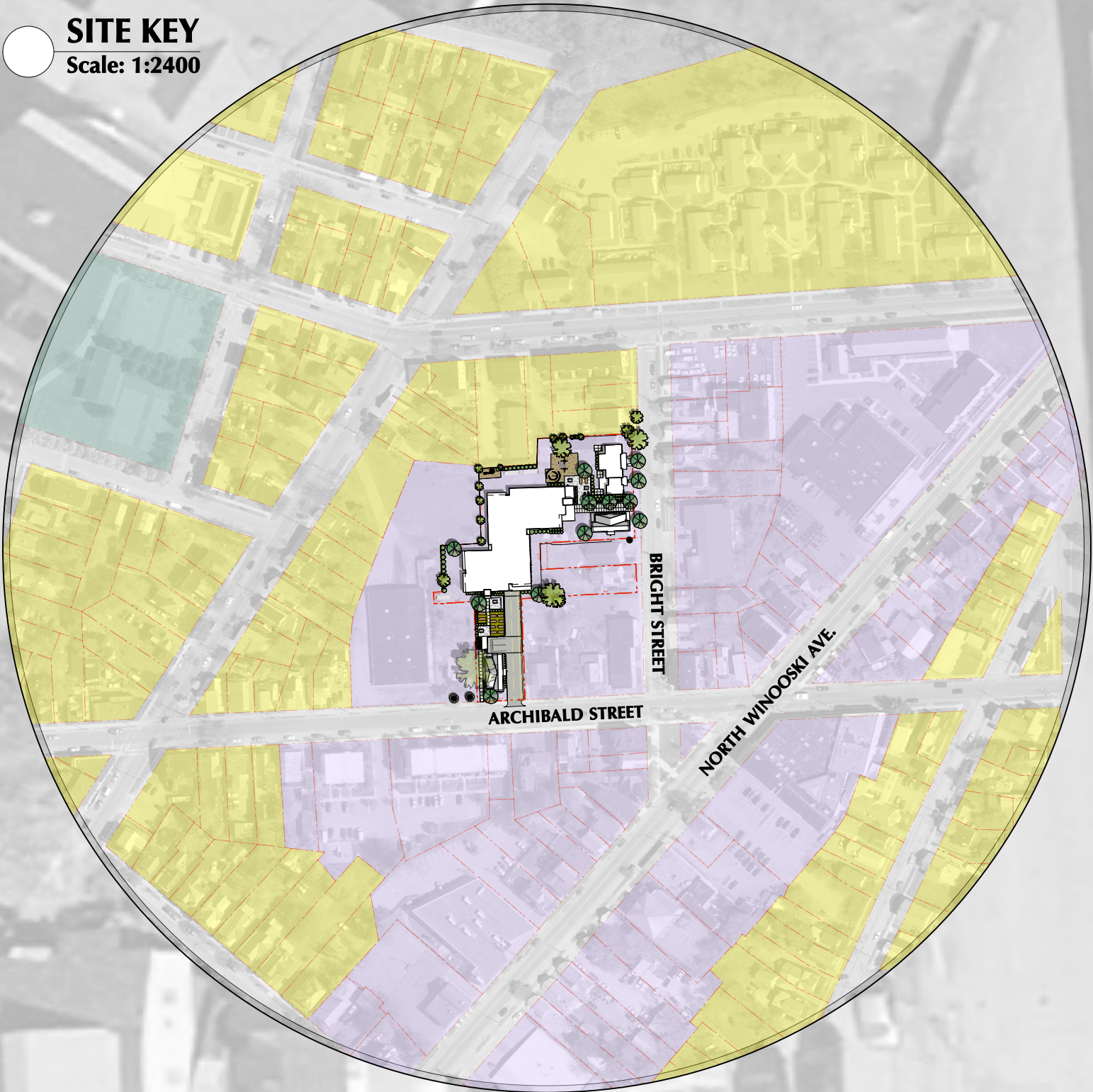
As noted.

Recommended Conditions of Approval

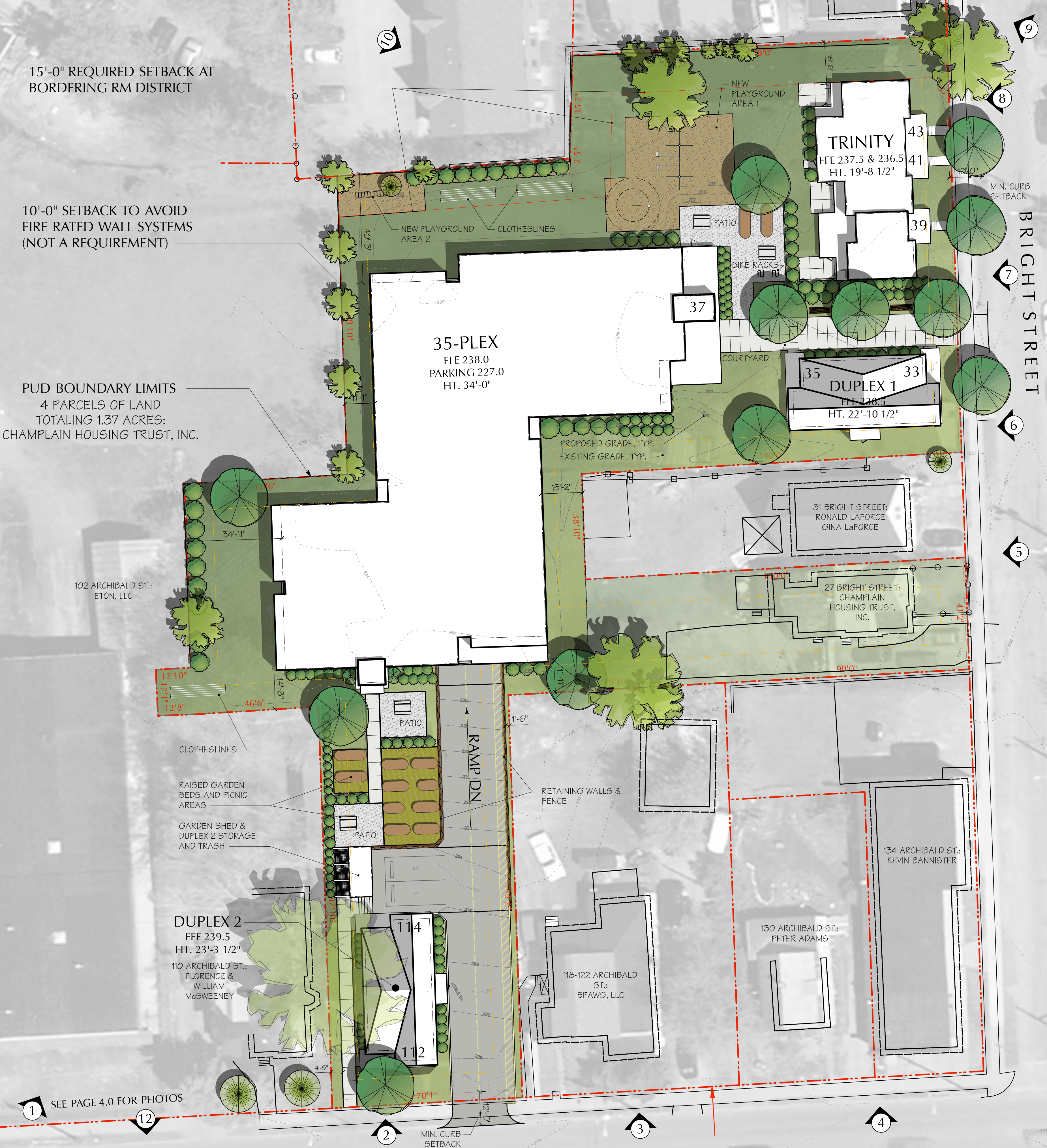
1. The tree species proposed within the greenbelt on Bright Street will require consultation and approval of the City Arborist.

2. Redevelopment shall be conditioned upon Chapter 26 conformance; EPSC and Stormwater Plan approval by the City Stormwater Administrator.
3. A Corrective Action Plan will be required by DEC for PAH impacted soils on the site prior to development.
4. An area of snow storage (or a plan for removal) will be required.
5. The Fire Marshal shall approve of proposed emergency access areas on the site plan.
6. The availability of handicap parking will be requested of the applicant.
7. A plan of the parking level will be provided to allow assessment of circulation, back up distances and parking space sizes.
8. 11 long term and 4 short term bicycle parking spaces shall be provided on-site. Details and location shall be submitted prior to review by the DRB.
9. Mechanical equipment (such as HVAC) details must be provided.
10. A final review letter from a preservation consultant with concurrence from the Vermont Division for Historic Preservation relative to project impacts will be a requirement prior to issuance of a zoning permit.
11. Signage will be required to comply with Article 7 of the CDO.
12. The applicant will define the anticipated height of the steel sheet piling adjacent to the garage entrance, and the proposed barrier rail.
13. The applicant is encouraged, as appropriate, to sell or reclaim a structure and all historic building materials, or permit others to salvage them and to provide an opportunity for others to purchase or reclaim the building or its materials for future use.
14. Standard Permit Conditions 1-15.

BRIGHT STREET COOPERATIVE PUD	
NUMBER OF UNITS	COVERAGE CALC. TABLE
35-PLEX 42 LOWER LEVEL PARKING SPACES 12 = 1 BR DWELLING UNITS 20 = 2 BR DWELLING UNITS 3 = 3 BR DWELLING UNITS	53,970 SF LOT SIZE
TRINITY 2 = 3 BR DWELLING UNITS 1 = 4 BR DWELLING UNITS	EXISTING COVERAGE 3061 SF 112-114 ARCHIBALD ST 1401 SF 35-39 BRIGHT ST 943 SF 47 BRIGHT ST 950 SF MISC. FOUNDATIONS 4,934 SF VEHICULAR HARDSCAPE 87 SF PEDESTRIAN HARDSCAPE 11,376 SF <u>TOTAL AREA</u> 21.1 % PERCENTAGE COVERED
DUPLEX 1 2 = 2 BR DWELLING UNITS	PROPOSED COVERAGE 14,950 SF 35-PLEX 2,486 SF TRINITY 1,442 SF DUPLEX 1 1,442 SF DUPLEX 2 148 SF SHED 4,570 SF VEHICULAR HARDSCAPE 3,751 SF PEDESTRIAN HARDSCAPE 28,789 SF <u>TOTAL AREA</u> 58.5 % PERCENTAGE COVERED
DUPLEX 2 2 SURFACE PARKING SPACES 2 = 2 BR DWELLING UNITS	
PARKING	
42 PARKING GARAGE <u>2 SURFACE SPACES</u> 44 TOTAL	
27 BRIGHT STREET	
1 EX'G DUPLEX (2 UNITS) 4+/- EX'G PARKING SPACES	5,750 SF PROPOSED LOT 2,774 SF EXISTING LOT COVERED 48.2% PERCENTAGE COVERED
NOTES	KEY
1. BUILDING HTS. ARE BASED OFF AVERAGE GRADE AROUND FOUNDATION.	 EXISTING TREE
2. THIS PROPERTY FALLS INTO THE DESIGN REVIEW OVERLAY DISTRICT.	 PROPOSED TREE
	 PROPOSED BUSH



PROPOSED SITE PLAN
Scale: 1" = 20 ft



BRIGHT STREET COOPERATIVE

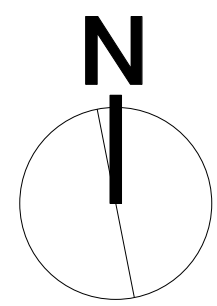
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PRELIMINARY PLAT

Duncan
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ARCHITECTURE

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BURLINGTON, VERMONT 05401
T: 802.864.6693



DATE: 04.11.14
1.0



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2.0



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BURLINGTON, VT

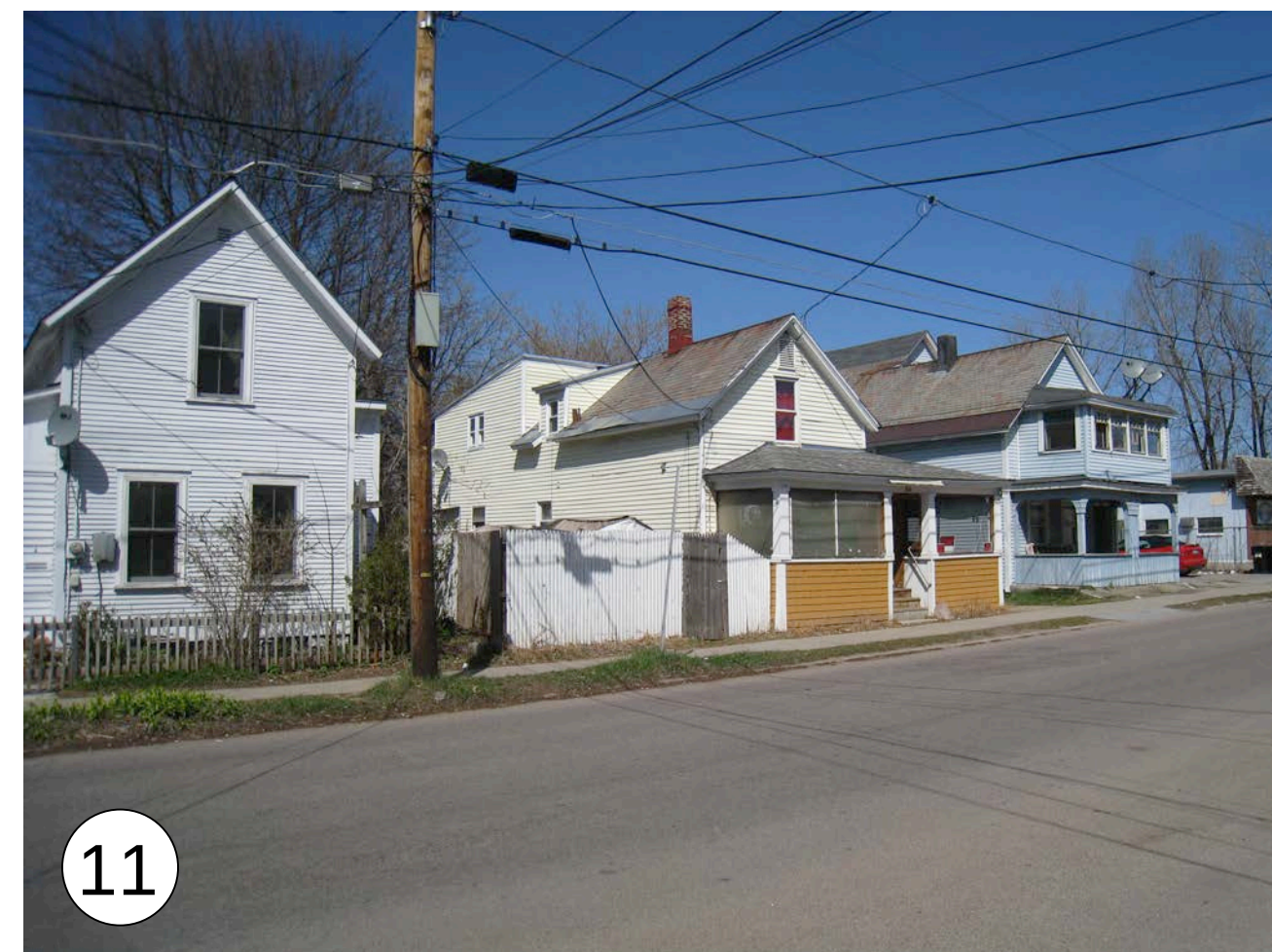
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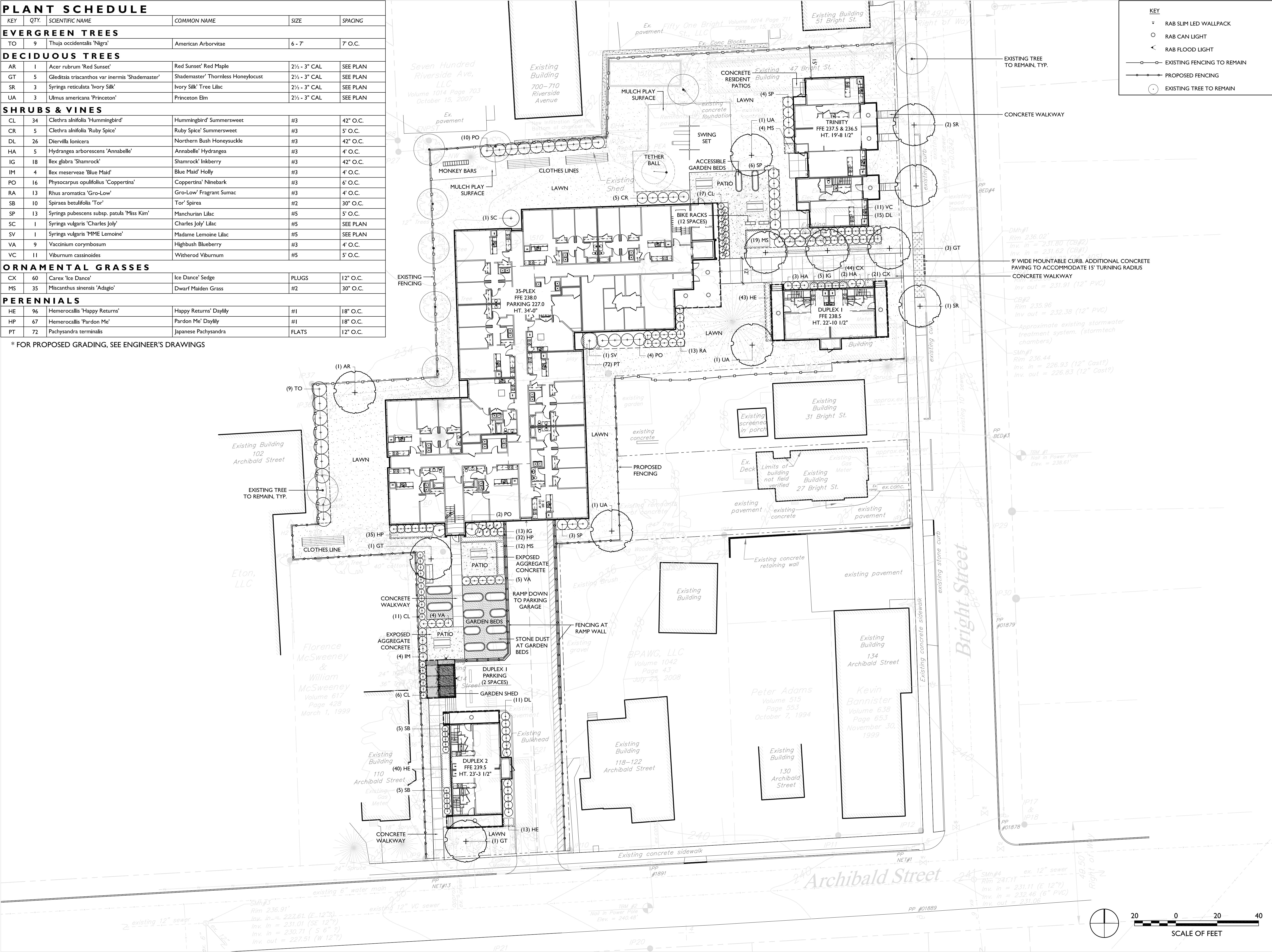
255 SOUTH CHAMPLAIN STREET
BURLINGTON, VERMONT 05401
T: 802.864.6693

DATE: 04.11.14

4.0

PLANT SCHEDULE					
KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING
EVERGREEN TREES					
TO	9	Thuja occidentalis 'Nigra'	American Arborvitae	6 - 7'	7' O.C.
DECIDUOUS TREES					
AR	1	Acer rubrum 'Red Sunset'	Red Sunset' Red Maple	2½ - 3" CAL	SEE PLAN
GT	5	Gleditsia triacanthos var inermis 'Shademaster'	Shademaster' Thornless Honeylocust	2½ - 3" CAL	SEE PLAN
SR	3	Syringa reticulata 'Ivory Silk'	Ivory Silk' Tree Lilac	2½ - 3" CAL	SEE PLAN
UA	3	Ulmus americana 'Princeton'	Princeton Elm	2½ - 3" CAL	SEE PLAN
SHRUBS & VINES					
CL	34	Clethra alnifolia 'Hummingbird'	Hummingbird' Summersweet	#3	42" O.C.
CR	5	Clethra alnifolia 'Ruby Spice'	Ruby Spice' Summersweet	#3	5' O.C.
DL	26	Diervilla lonicera	Northern Bush Honeysuckle	#3	42" O.C.
HA	5	Hydrangea arborescens 'Annabelle'	Annabelle' Hydrangea	#3	4' O.C.
IG	18	Ilex glabra 'Shamrock'	Shamrock' Inkberry	#3	42" O.C.
IM	4	Ilex meserveae 'Blue Maid'	Blue Maid' Holly	#3	4' O.C.
PO	16	Physocarpus opulifolius 'Coppertina'	Coppertina' Ninebark	#3	6' O.C.
RA	13	Rhus aromatica 'Gro-Low'	Gro-Low' Fragrant Sumac	#3	4' O.C.
SB	10	Spiraea betulifolia 'Tor'	Tor' Spirea	#2	30" O.C.
SP	13	Syringa pubescens subsp. patula 'Miss Kim'	Manchurian Lilac	#5	5' O.C.
SC	1	Syringa vulgaris 'Charles Joly'	Charles Joly' Lilac	#5	SEE PLAN
SV	1	Syringa vulgaris 'MME Lemoine'	Madame Lemoine Lilac	#5	SEE PLAN
VA	9	Vaccinium corymbosum	Highbush Blueberry	#3	4' O.C.
VC	11	Viburnum cassinoides	Witherod Viburnum	#5	5' O.C.
ORNAMENTAL GRASSES					
CX	60	Carex 'Ice Dance'	Ice Dance' Sedge	PLUGS	12" O.C.
MS	35	Miscanthus sinensis 'Adagio'	Dwarf Maiden Grass	#2	30" O.C.
PERENNIALS					
HE	96	Hemerocallis 'Happy Returns'	Happy Returns' Daylily	#1	18" O.C.
HP	67	Hemerocallis 'Pardon Me'	Pardon Me' Daylily	#1	18" O.C.
PT	72	Pachysandra terminalis	Japanese Pachysandra	FLATS	12" O.C.

* FOR PROPOSED GRADING, SEE ENGINEER'S DRAWINGS



WAGNERHODGSON

LANDSCAPE ARCHITECTURE

T802.864.0010 F802.864.6267 www.wagnerhodgson.com

BRIGHT STREET COOPERATIVE

PLANTING PLAN

REVISIONS

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DRAWING NO.

JOB NO. 412

SCALE 1" = 20'-0"

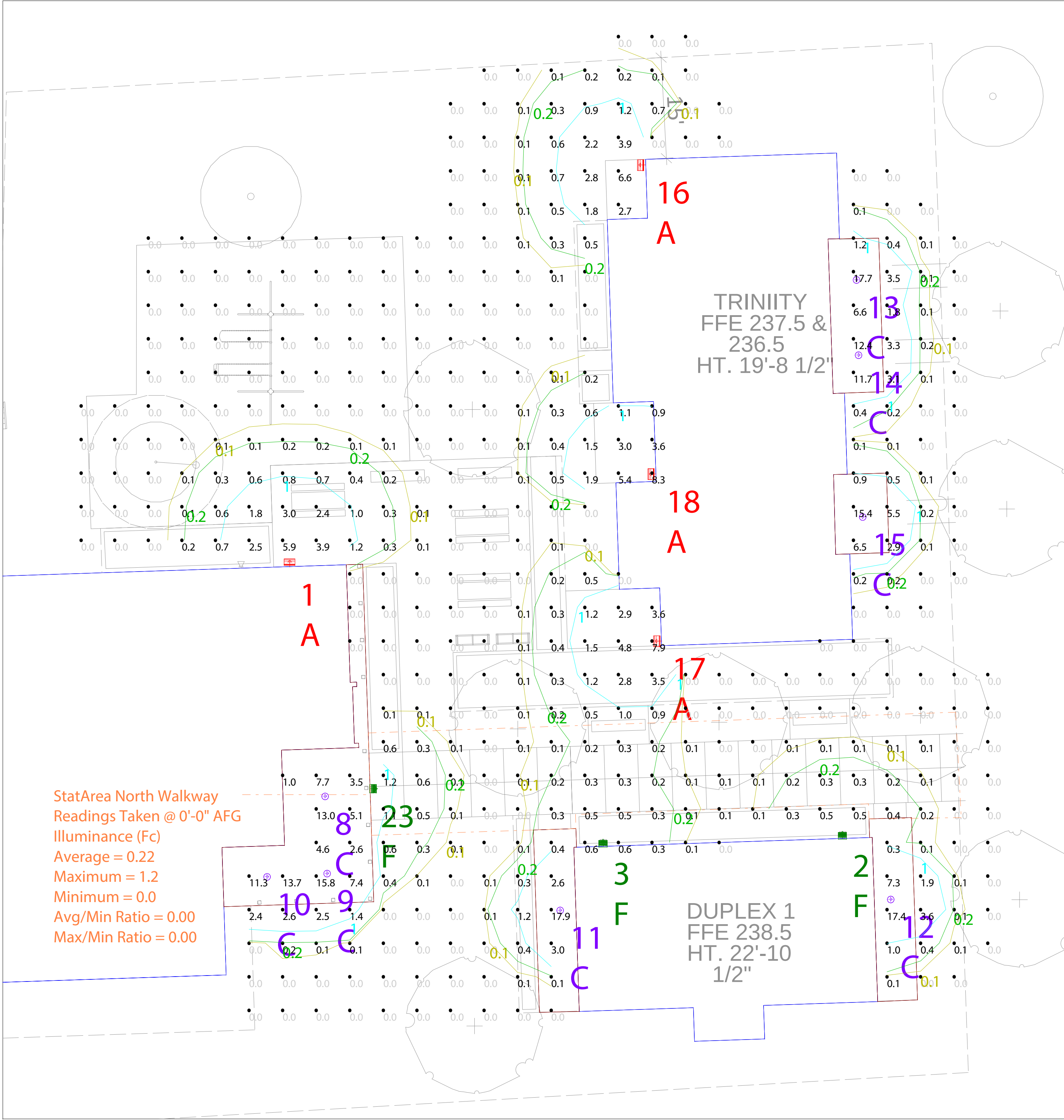
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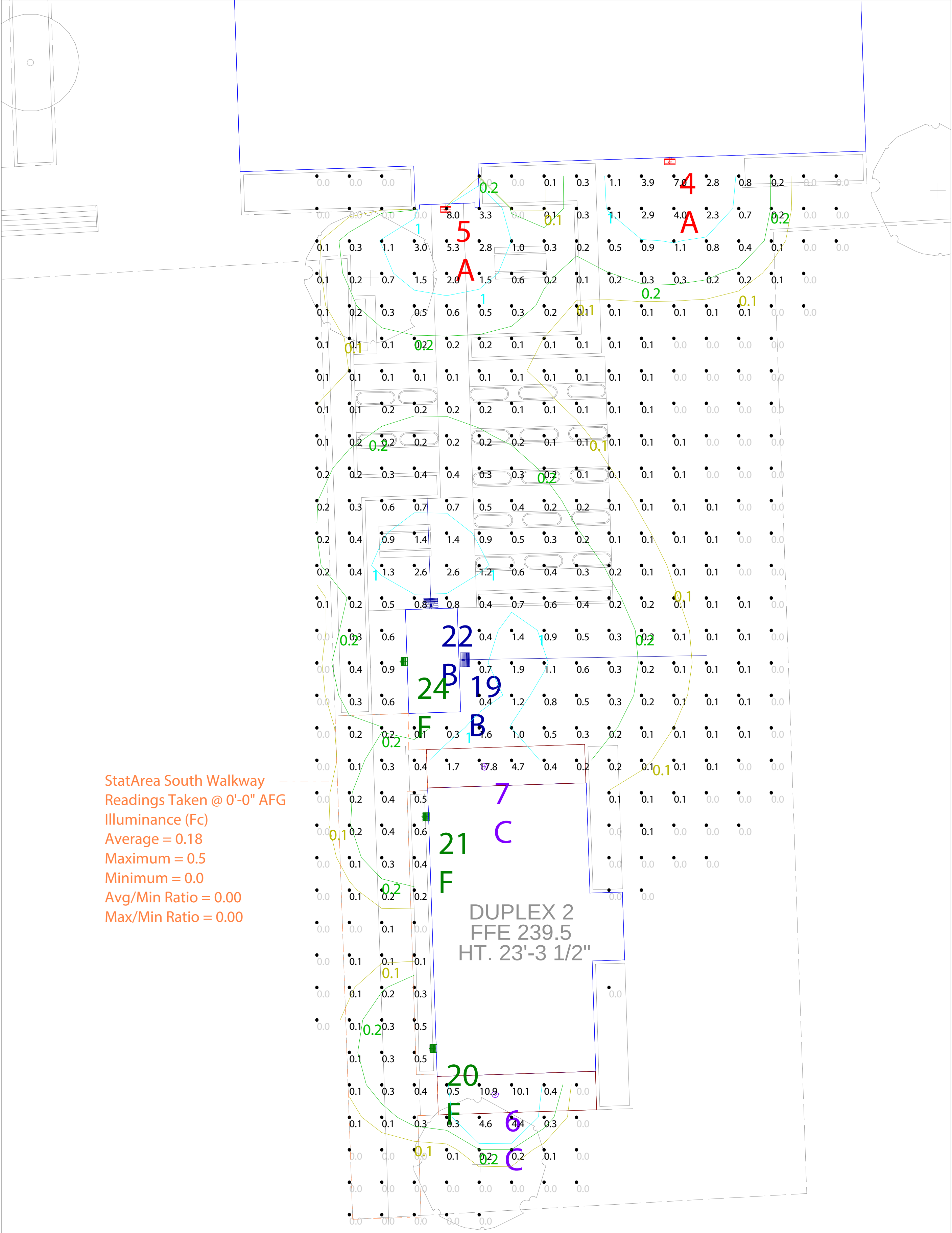


Scale: 1 inch= 20 Ft.

		RAB Lighting 170 Ludlow Avenue Northvale, NJ 07647 Tel: (888) 722-1000 Fax: (888) 722-1232 WWW.RABWEB.COM		Prepared For: Holbrook Associated 35 Reservoir Park Drive Rockland, MA 02370 Tel: 888-839-1576		Job Name: Bright Street Cooperative Burlington, VT Lighting Layout Version C		Scale: as noted		This information is confidential and the sole property of RAB Lighting. It is not to be reproduced or distributed to others without the written permission of RAB Lighting. The calculation and results thereof as shown in this report are based on information provided by the customer. Therefore design parameters such as surface reflectances, size, mounting height, depreciation factors, orientation and tilt must be verified. RAB Lighting disclaims all implied warranties with regard to actual installed light levels as compared to those based on inaccurate or incomplete data. RAB LIGHTING NEITHER WARRANTS NOR REPRESENTS THE APPROPRIATENESS, COMPLETENESS OR SUITABILITY OF DESIGN ILLUSTRATION FOR SATISFYING ANY APPLICABLE REGULATORY CODE REQUIREMENTS. NOT FOR CONSTRUCTION.	
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Scale: 1 inch= 10 Ft.



Scale: 1 inch= 10 Ft.

Luminaire Schedule											
Symbol	Tag	Qty	Label	Arrangement	Lum. Lumens	LLF	Description	Lum. Watts	Arr. Watts	Total Watts	Filename
	A	6	SLIM12Y	SINGLE	1019	1.000	LED Slim Wallpack 12W 3000K	14.3	14.3	85.8	SLIM12Y-Warm - ITL73995.IES
	B	2	FFLED18Y	SINGLE	1432	1.000	LED Floodlight 18W 3000K	22.1	22.1	44.2	FFLED18Y - Warm - ITL78797.IES
	C	10	NDLED4R-50Y-S-W +ND4R12F	SINGLE	841	1.000	LED Downlight 12W 3000K	14.3	14.3	143	NDLED4R-50Y-S-W - Warm - ITL76511MOD.ies
	F	6	WPLED5Y	SINGLE	128	1.000	LED Wallpack 5W 3000K	5.3	5.3	31.8	WPLED5Y-Warm - LSI27623.IES

Calculation Summary											
Label	Description	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpclR	PtSpctb	
CalcPts Ground Plane	Readings Taken @ 0'-0" AFG	Illuminance	Fc	0.68	17.9	0.0	N.A.	N.A.	5	5	
StatArea North Walkway	Readings Taken @ 0'-0" AFG	Illuminance	Fc	0.22	1.2	0.0	N.A.	N.A.			
StatArea South Walkway	Readings Taken @ 0'-0" AFG	Illuminance	Fc	0.18	0.5	0.0	N.A.	N.A.			

Expanded Luminaire Location Summary									
LumNo	Tag	Label	X	Y	Z	Orient	Tilt	Roll	
1	A	SLIM12Y	202.053	320.681	8	90	0	0	
2	F	WPLED5Y	284.357	280.308	11	90	0	0	
3	F	WPLED5Y	248.71	279.134	11	90	0	0	
4	A	SLIM12Y	120.358	167.127	8	270	0	0	
5	A	SLIM12Y	85.845	159.788	8	270	0	0	
6	C	NDLED4R-50Y-S-W +ND4R12F	93.416	23.001	7.5	0	0	0	
7	C	NDLED4R-50Y-S-W +ND4R12F	91.754	73.438	7.5	0	0	0	
8	C	NDLED4R-50Y-S-W +ND4R12F	207.274	286.321	8	0	0	0	
9	C	NDLED4R-50Y-S-W +ND4R12F	207.569	274.83	8	0	0	0	
10	C	NDLED4R-50Y-S-W +ND4R12F	198.632	274.338	8	0	0	0	
11	C	NDLED4R-50Y-S-W +ND4R12F	242.275	269.343	7.5	0	0	0	
12	C	NDLED4R-50Y-S-W +ND4R12F	291.495	270.968	7.5	0	0	0	
13	C	NDLED4R-50Y-S-W +ND4R12F	286.398	363.218	7.5	0	0	0	
14	C	NDLED4R-50Y-S-W +ND4R12F	286.705	352.015	7.5	0	0	0	
15	C	NDLED4R-50Y-S-W +ND4R12F	287.319	327.922	7.5	0	0	0	
16	A	SLIM12Y	254.803	380.313	7.5	180	0	0	
17	A	SLIM12Y	257.227	309.417	8	180	0	0	
18	A	SLIM12Y	256.366	334.297	8	180	0	0	
19	B	FFLED18Y	88.387	89.905	8	1	78	0	
20	F	WPLED5Y	84.109	30.03	11	180	0	0	
21	F	WPLED5Y	82.934	65.735	11	180	0	0	
22	B	FFLED18Y	83.568	98.184	8	92	65	0	
23	F	WPLED5Y	214.33	287.438	8	0	0	0	
24	F	WPLED5Y	79.58	89.633	8	180	0	0	
Total Quantity: 24									



A : SLIM12Y



B : FFLED18Y



C : NDLED4R-50Y-S-W +ND4R12F



F : WPLED5Y

NOTES:

* CALCULATED VALUES DO NOT INCLUDE CONTRIBUTIONS FROM EXISTING LIGHT SOURCES

* The light loss factor (LLF) is a product of many variables, only lamp lumen depreciation (LLD) has been applied to the calculated results unless otherwise noted. The LLD is the result (quotient) of mean lumens / initial lumens per lamp manufacturers' specifications.

* Illumination values shown (in footcandles) are the predicted results for planes of calculation either horizontal, vertical or inclined as designated in the calculation summary. Meter orientation is normal to the plane of calculation.

* The calculated results of this lighting simulation represent an anticipated prediction of system performance. Actual measured results may vary from the anticipated performance and are subject to means and methods which are beyond the control of RAB Lighting, Inc.

* Mounting height determination is job site specific, our lighting simulations assume a mounting height (insertion point of the luminaire symbol) to be taken at the top of the symbol for ceiling mounted luminaires and at the bottom of the symbol for all other luminaire mounting configurations.

* RAB Lighting, Inc. luminaire and product designs are protected under U.S. and International intellectual property laws. Patents issued or pending apply.



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Prepared For:
Holbrook Associated
35 Reservoir Park Drive
Rockland, MA 02370
Tel: 888-839-1576

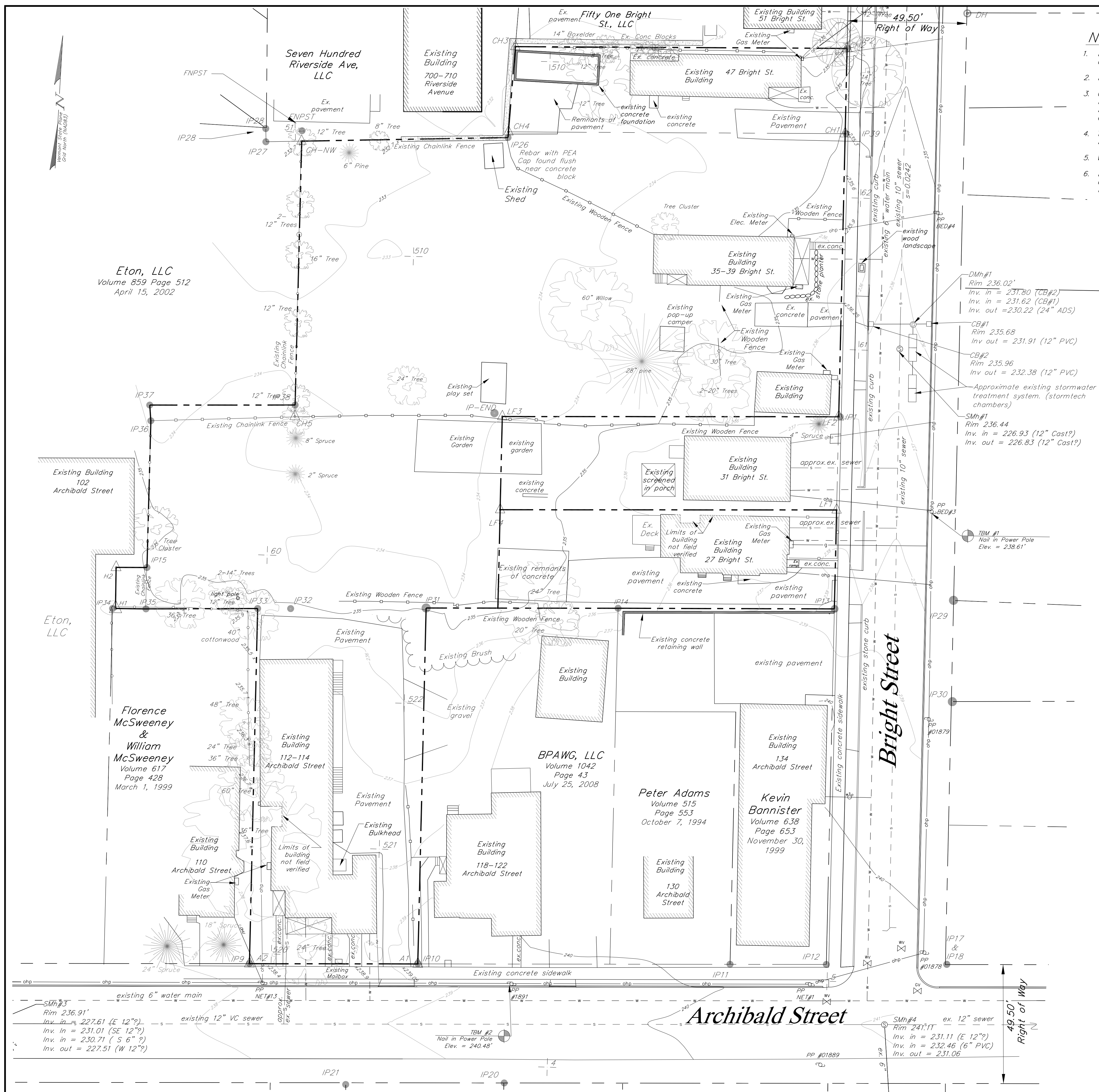
Job Name:
Bright Street Cooperative
Burlington, VT
Lighting Layout
Version C

Scale: as noted

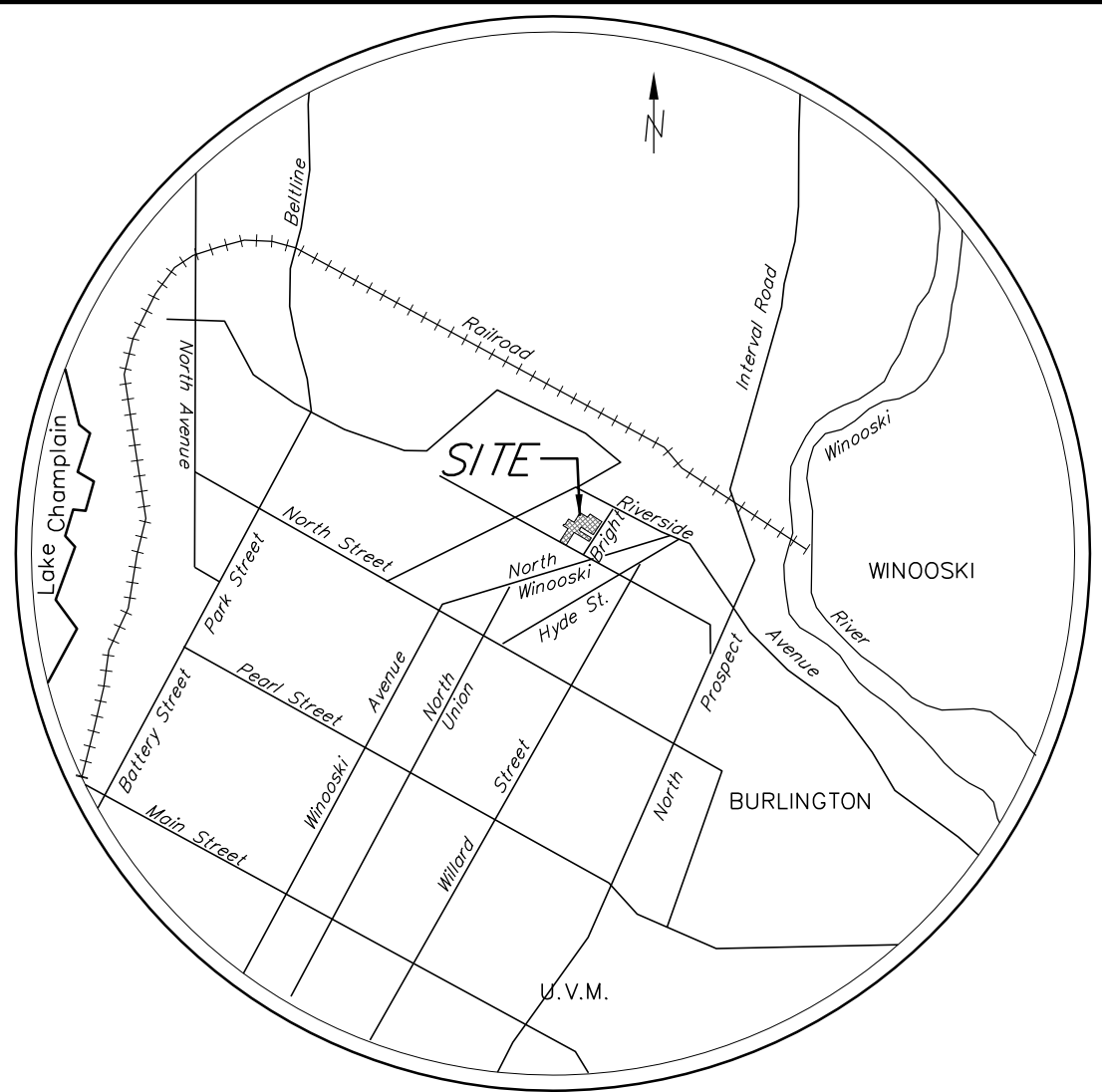
Date: 4/8/2014

Drawn By: BEL

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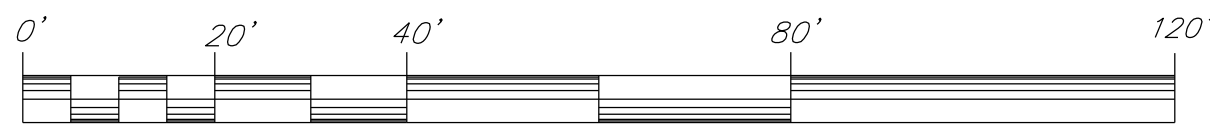
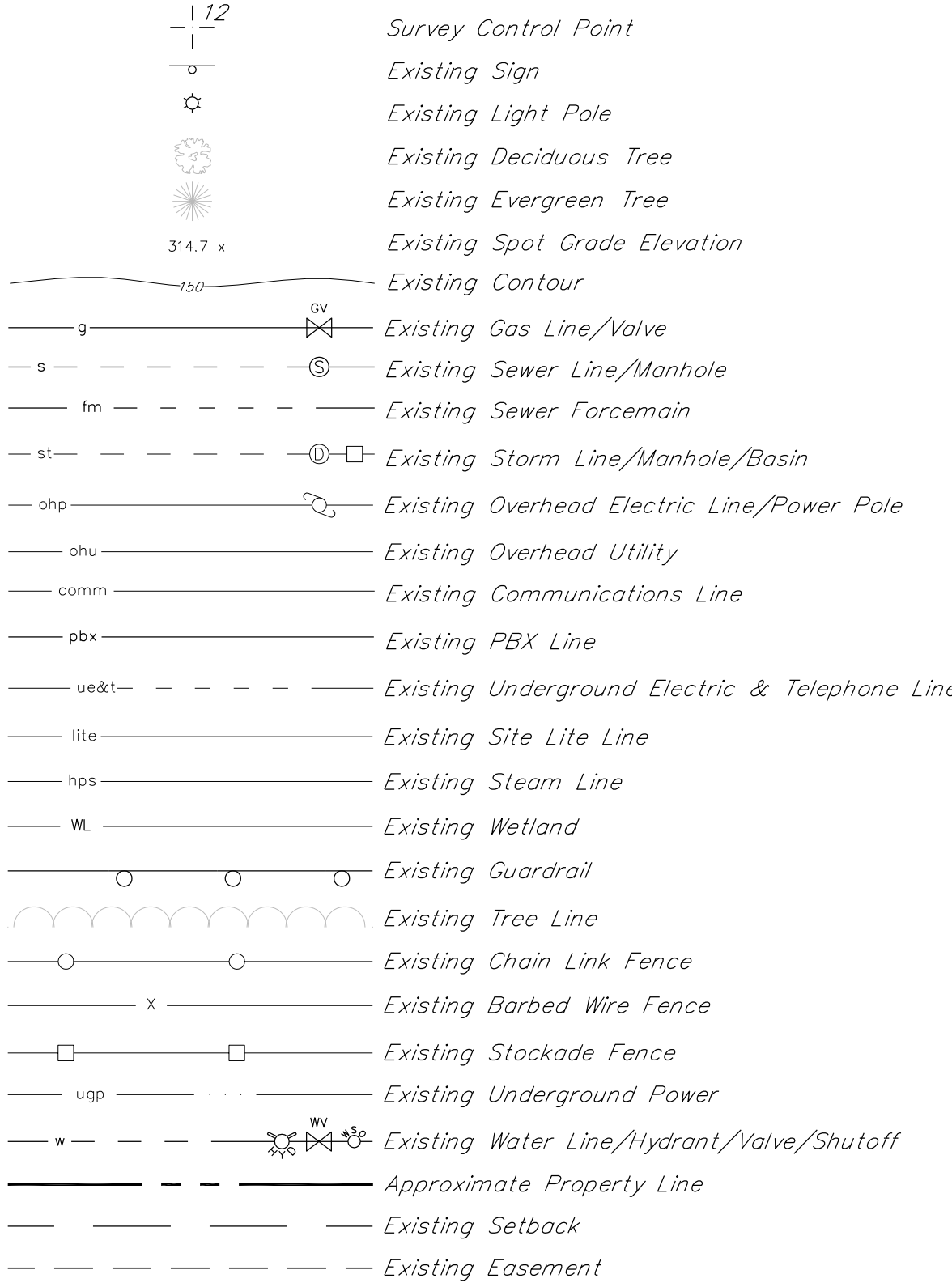
- ## Notes:
1. Existing topographic information is from a field survey completed by Krebs & Lansing in October of 2013.
 2. Elevations are based on the NAVD 88 vertical datum.
 3. Utilities shown on this plan are based on visible evidence found in the field. Underground utilities are not warranted to be exact or complete. Contact Dig Safe prior to any excavation.
 4. This is not a boundary survey. See Boundary Survey prepared by Krebs and Lansing Engineers for boundary information.
 5. Waterline information is based on City of Burlington Mapping.
 6. Existing gas service lines shown on this plan are approximate and not complete. Contact VGS for complete and accurate information regarding existing gas lines.



Location Map

N. T. S.

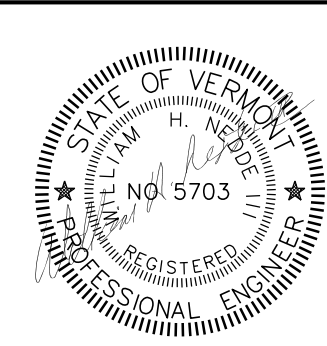
Legend



Bar Scale

$$\underline{\quad\quad} = 20'$$

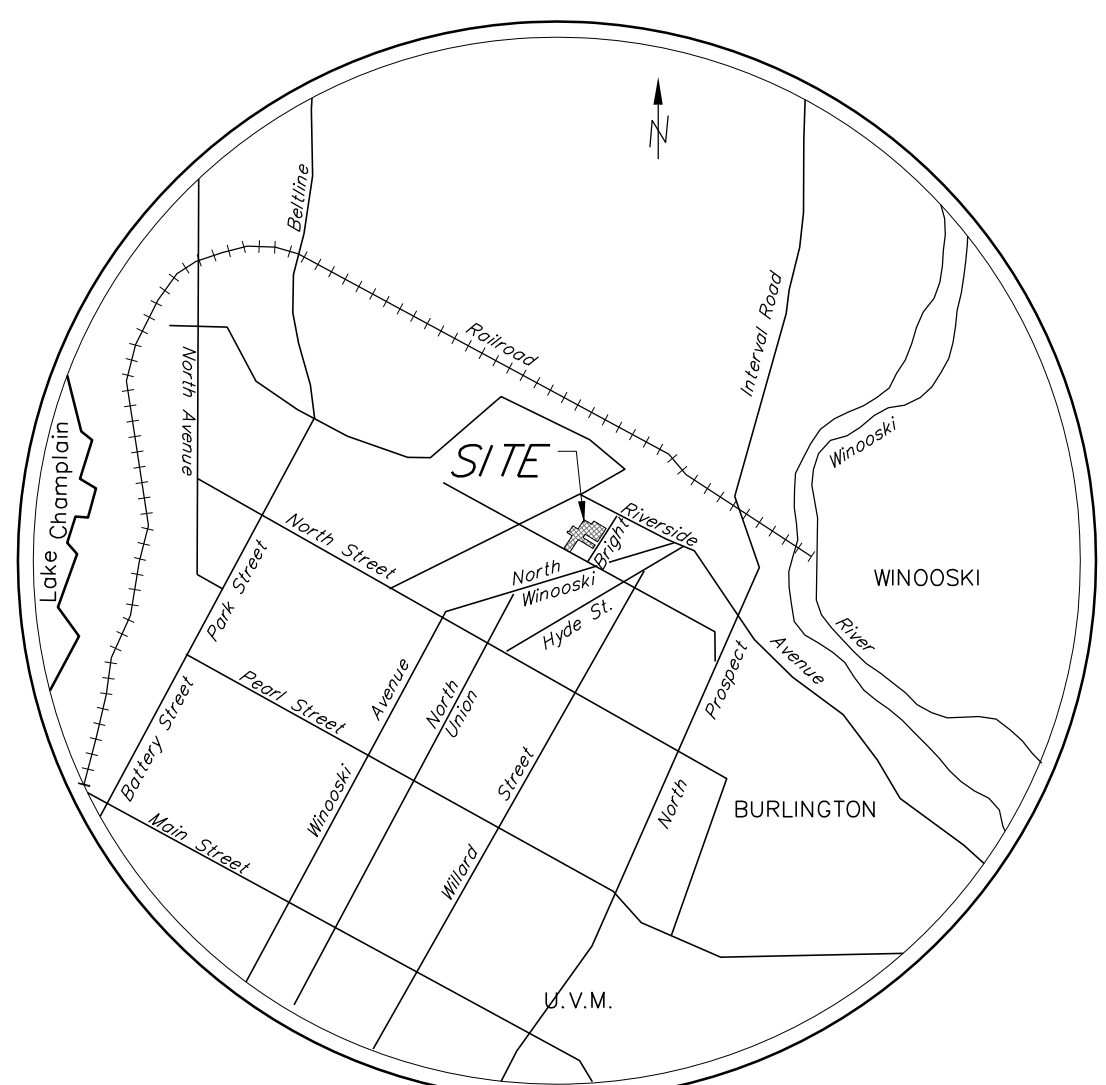
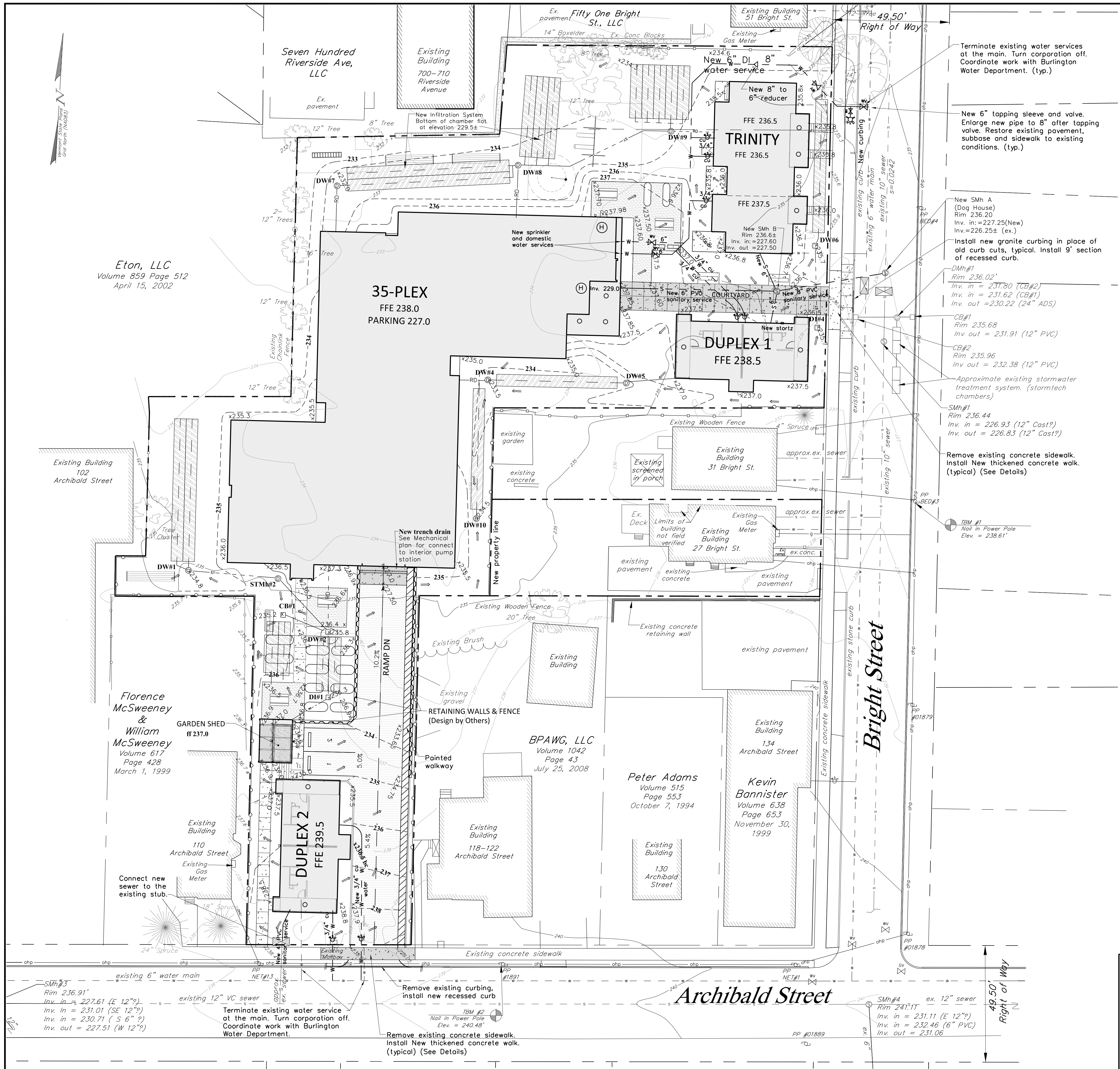
Date revised	Description	Checked	Date
Survey	<u>RAK/RAW</u>	Existing Conditions Plan Champlain Housing Trust Inc.	
Drawn	<u>RAW</u>		
Checked	<u>IAJ</u>		
Scale	<u>1" = 20'</u>		
Date	<u>April 4, 2014</u>		
Project	<u>13220</u>	<u>Bright Street</u>	<u>Burlington, Vermont</u>
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446		78-464	© Krebs & Lansing 2013 EX-1



PERMIT REVIEW ONLY

10K-46-

EX-1



Location Map
N.T.S.

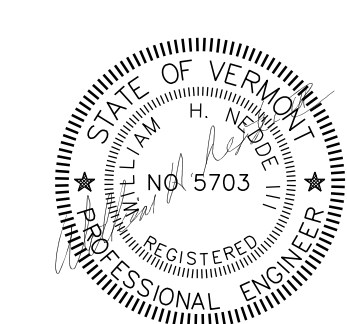
Legend

- Pre-construction Excavation
- New Deciduous Tree
- New Evergreen Tree
- Finish Grade Spot Grade Elevation
- Finish Grade Direction of Flow
- Finish Grade 5-foot Contour Interval
- Finish Grade 1-foot Contour Interval
- New Gas Line/Valve
- New Sewer Line/Manhole
- New Sewer Forcemain
- New Storm Line/Manhole/Basin
- New Underdrain
- New Roof Drain
- New Water Line/Hydrant/Valve/Shutoff
- New PBX Line
- New Underground Power
- New Clearing Limits
- New Chain Link Fence
- New Stockade Fence
- Construction Fence
- Barrier Fence
- Silt Fence
- New concrete
- New Structural concrete
- New concrete (exposed aggregate)
- New pavement and subbase

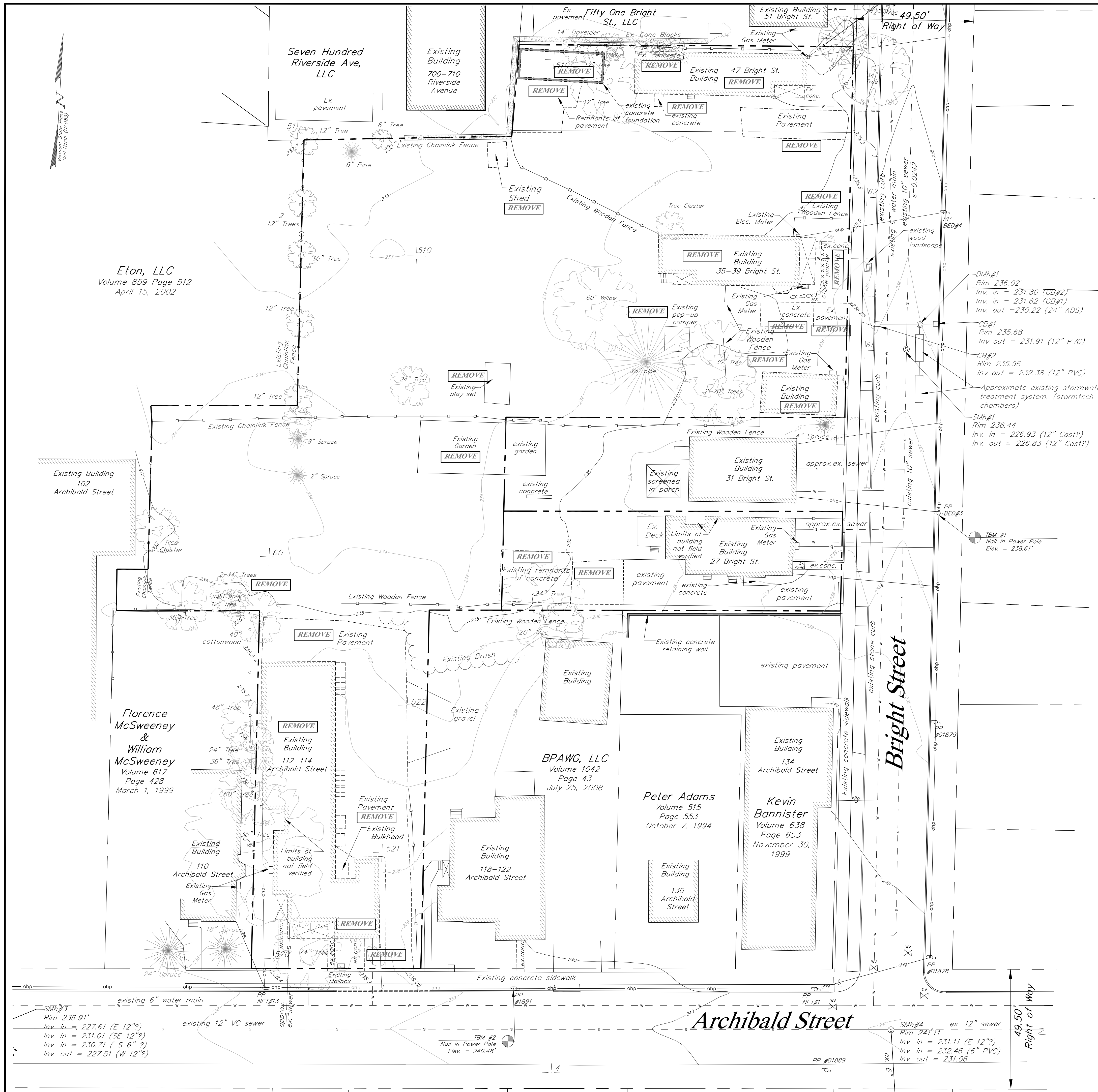
See Notes On Sheet EX-1:



Date revised	Description	Checked	Date
Design	WHIN		
Drawn	TJB		
Checked			
Scale	1" = 20'		
Date	April 4, 2014		
Project	13220	Bright Street	Burlington, Vermont
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446			
SP-1			

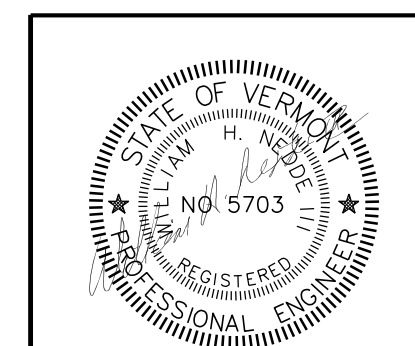
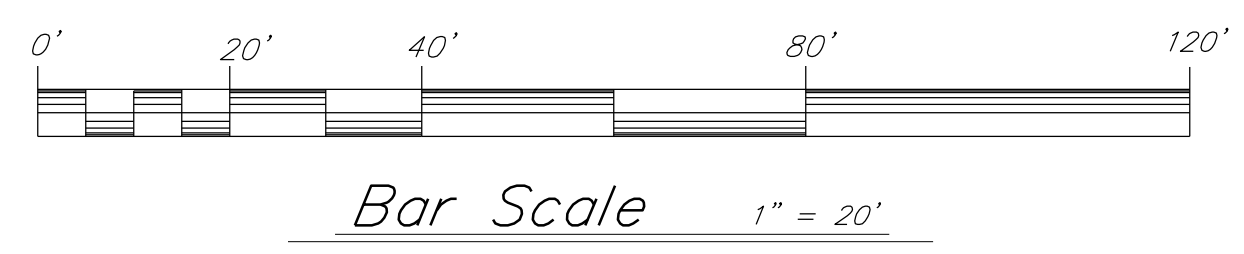


PERMIT REVIEW ONLY



Demolition Notes

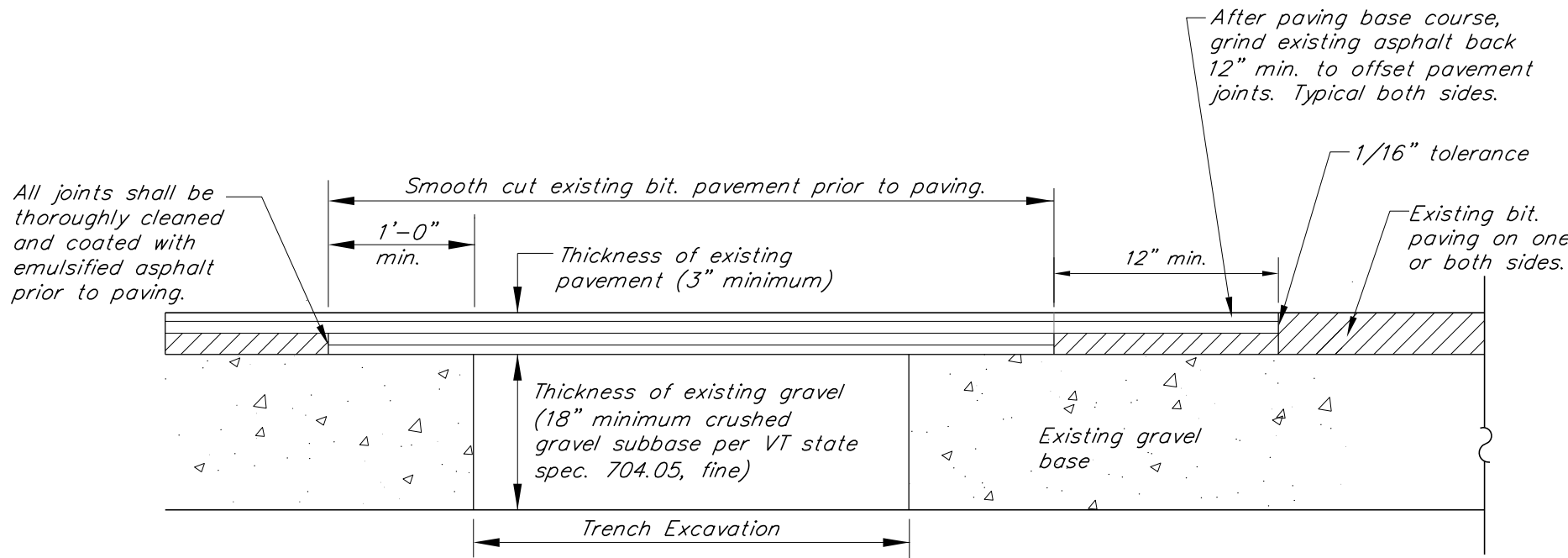
1. The location of underground electrical lines which service the site lights are not shown on the Civil Plans. Other electrical lines may exist which are not shown on this plan.
2. Refer to specifications for detailed scope of demolition work.
3. Prior to disrupting existing utilities, Contractor shall be responsible for confirming status of all utilities to be abandoned.
4. All abandoned utilities outside 6 ft. of the new building footprints shall be cut, capped, and abandoned in-place unless the removal of the abandoned utility is required during construction. All abandoned utilities within 6 ft. of the new building footprints shall be removed. All abandoned manholes, catch basins, and utility vaults shall be demolished and removed. Plug open ends of all abandoned pipes or conduits with concrete or water tight end cap. See Structural Plans for backfill requirements for all items removed from within the influence of the new building footprints. Use sand fill (703.03) for all demolition backfill outside the influence of the new building footprints (95% standard proctor compaction).
5. The Contractor shall establish snow fence protection barrier at the drip edge of all existing trees to remain within 10 ft. of construction disturbance.
6. All excess fill, stumps, rock, topsoil, waste, and other material is the exclusive property of the Contractor and shall be removed from the property and disposed of in a State approved disposal location.
7. Contractor shall maintain water and sanitary services to all existing buildings to remain.
8. Contractor shall demolish and remove all existing infrastructure necessary to construct the new project as designed. This plan does not show every item to be demolished and may not accurately show the limits of the items to be partially demolished.
9. See Specifications for recycling requirements for site and building.
10. This drawing refers to Civil Site Engineering items, located outside the building, only.
11. See Landscape Architect plans for demolition of existing trees, other existing vegetation and fencing.



Date revised	Description	Checked	Date
Designed	WHN		
Drawn	TJB		
Checked			
Scale	1" = 20'		
Date	April 4, 2014		
Project	13220	Bright Street	Burlington, Vermont
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446		Rev-464	SP-2

Construction Notes

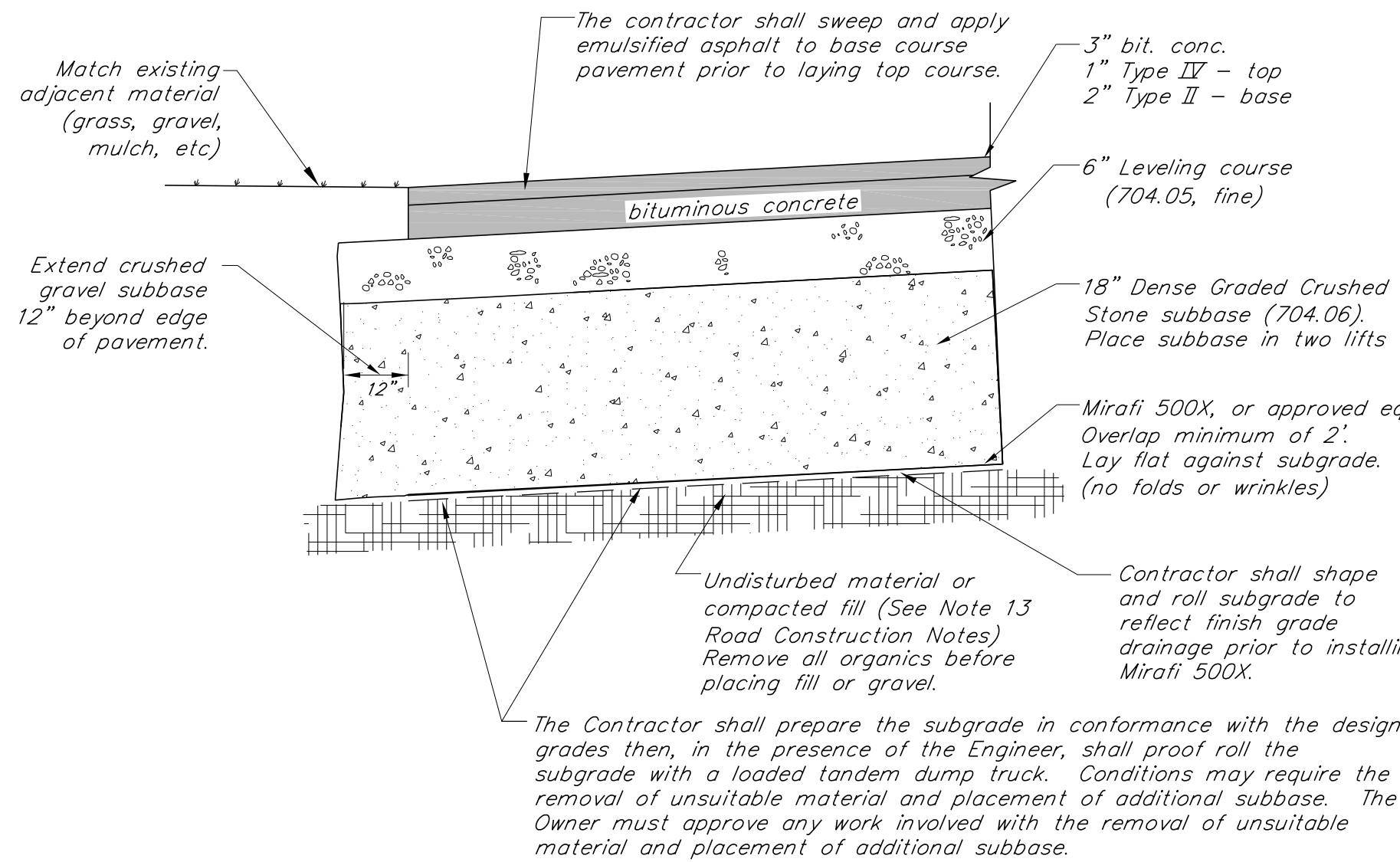
- The methods and materials of construction shall conform to the latest standards of the City of Burlington and the State of Vermont. All work shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by Engineer. All work shall be done in a workmanlike manner and completed in the time specified by Owner.
- The Contractor shall be responsible for all work and materials shown and required to make the job complete. These drawings do not show every fitting or appurtenance. Materials shall be as specified on the drawings. Manufacturer's product specifications shall be submitted for all materials to the Engineer for approval prior to installation.
- The location and size of existing underground utilities is not warranted to be exact or complete. The Contractor shall field locate all utilities and shall contact the affected utility company, the Engineer and the City of Burlington prior to making any hook ups. The Contractor shall be solely responsible for all existing utilities and their uninterrupted services. All off-site backfill, sheeting and shoring, dewatering, clearing and grubbing, erosion control, dust control, traffic control, grading, and all incidentals shall be included as part of the required work.
- Repair of all disturbed areas, grading, seeding, mulching, repair of roads and curbs, paving, and other incidentals are included as part of the required work. All disturbed areas shall be loamed and mulched until permanent ground cover is established.
- The Contractor shall verify all horizontal control and temporary bench marks before use.
- The workmen and public shall be protected by the Contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flag men. All barricades left in position overnight are to be properly lighted. Kerosene pots are not acceptable. When work narrows the usable pavement, flag men shall be employed to aid the flow of traffic so that there will be no undue delays. The Contractor shall be held responsible for the safety of all workmen and the general public and all damages to property occurring from or upon the work occasioned by negligence or shall be held responsible for the safety of all workmen and the general public and all damages to property occurring from or upon the work occasioned by negligence or day or night within the working area. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652, and applicable to VOSHA regulations.
- Definition of "Preconstruction Excavation" for these contract documents shall be:
The site contractor shall expose utility and obtain all necessary information, including but not limited to, invert elevation, size, depth, pipe type, joint location, etc. Contractor shall transit survey the location and elevations of the utility. Contractor shall provide the engineer with sketches indicating horizontal and vertical information of pipe or conduit type and size, cross-section information, concrete encasement information (top and bottom elevations, width, etc.), joint location, etc. of each required existing underground utility. Accuracy of horizontal location is within 1 foot, and accuracy of vertical elevation is within 0.02 ft. (1/4"). Coordinate all excavation with City, Owner, and Engineer. Preconstruction excavations shall occur prior to ordering structures and prior to utility construction, to facilitate redesign if necessary.
- Contractor shall contact Dig Safe prior to any excavation.
- All new storm extending from catch basin structures shall be laid with a laser to elevation and slope as shown on the plans.
- The Contractor shall sawcut all existing pavement to be removed. The Contractor shall minimize the pavement area disturbance. Contractor shall be responsible for all pavement repair and restoration necessary to complete the work.
- The Contractor shall be responsible for all construction layout.
- Temporary silt fence shall be erected prior to any clearing or construction. Fencing may be erected in phases, but in no case shall construction of clearing proceed fencing. Special areas may be designated by the Owner for preservation of existing trees. These areas shall be the Contractor's responsibility to insure no damage is done to designated trees.
- Existing plantings are located in general areas as shown on the plans. Contractor shall protect plantings scheduled to remain so as not to damage these or their root systems.
- Contractor shall comply with all permits and approvals issued for this project.
- Contractor shall sign on as the Co-Permittee for the State of Vermont Erosion Prevention and Sediment Control permit for the project.
- Slope stability upon unsaturated soil conditions. If during construction saturated soils are encountered, contact the Engineer immediately.



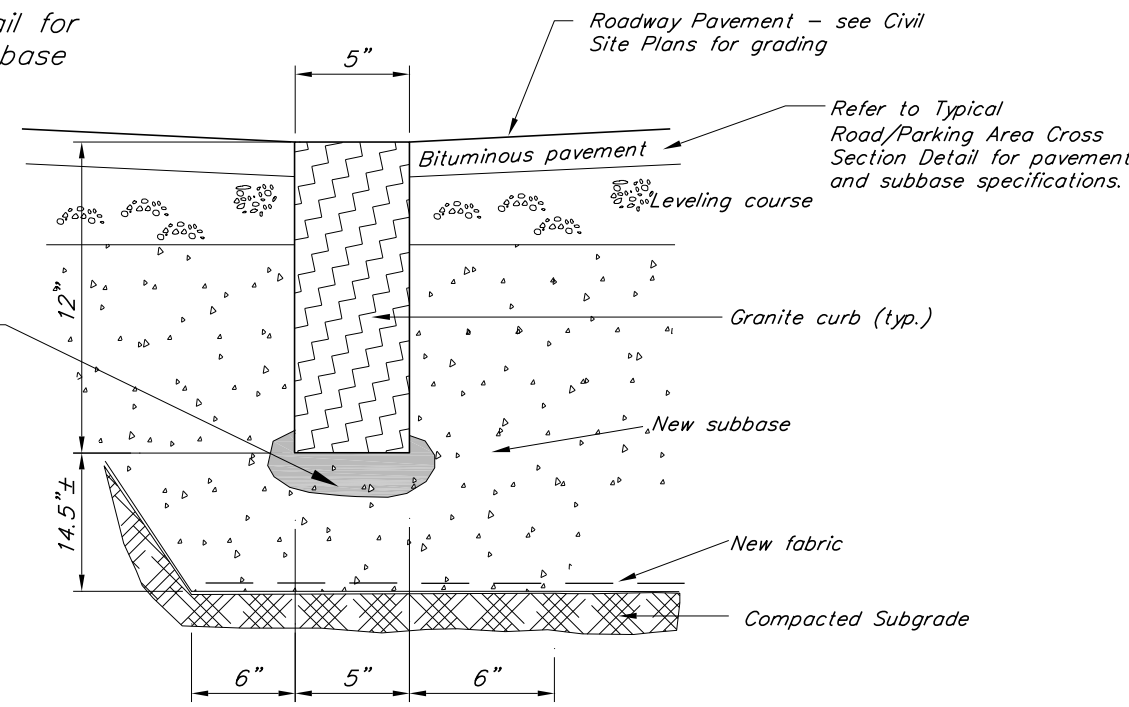
- Set up and maintain signs and other safety control devices.
- Reshape hole and patch area by cutting with a concrete saw into square or rectangular shape and cut side faces vertically. Reshape downward solid material and around hole to sound pavement.
- Backfill trench in 6" lifts and compact each lift to 95% of maximum density of optimum moisture content as determined by ASTM D698 standard proctor.
- Remove all loose material and thoroughly sweep the hole area clean of mud and standing water.
- Apply liquid asphalt tack to vertical faces in a uniform manner. Do not puddle tack coat on bottom of hole.
- Fill top of hole with type IV bituminous concrete and compact in lifts no more than 2" thick. Each lift should be thoroughly compacted with a vibratory plate compactor or a portable roller. Experience has shown that 15 to 20 passes with a vibratory roller and mix temperature above 250°F (121°C) are necessary to ensure good compaction. Hand tamp should only be used for small areas (less than 1 s.f.).
- Clean up area. Do not leave excess fill or excavated material on the pavement. Remove safety signs.

Replacement of Existing Road Subbase and Bituminous Pavement

N.T.S.

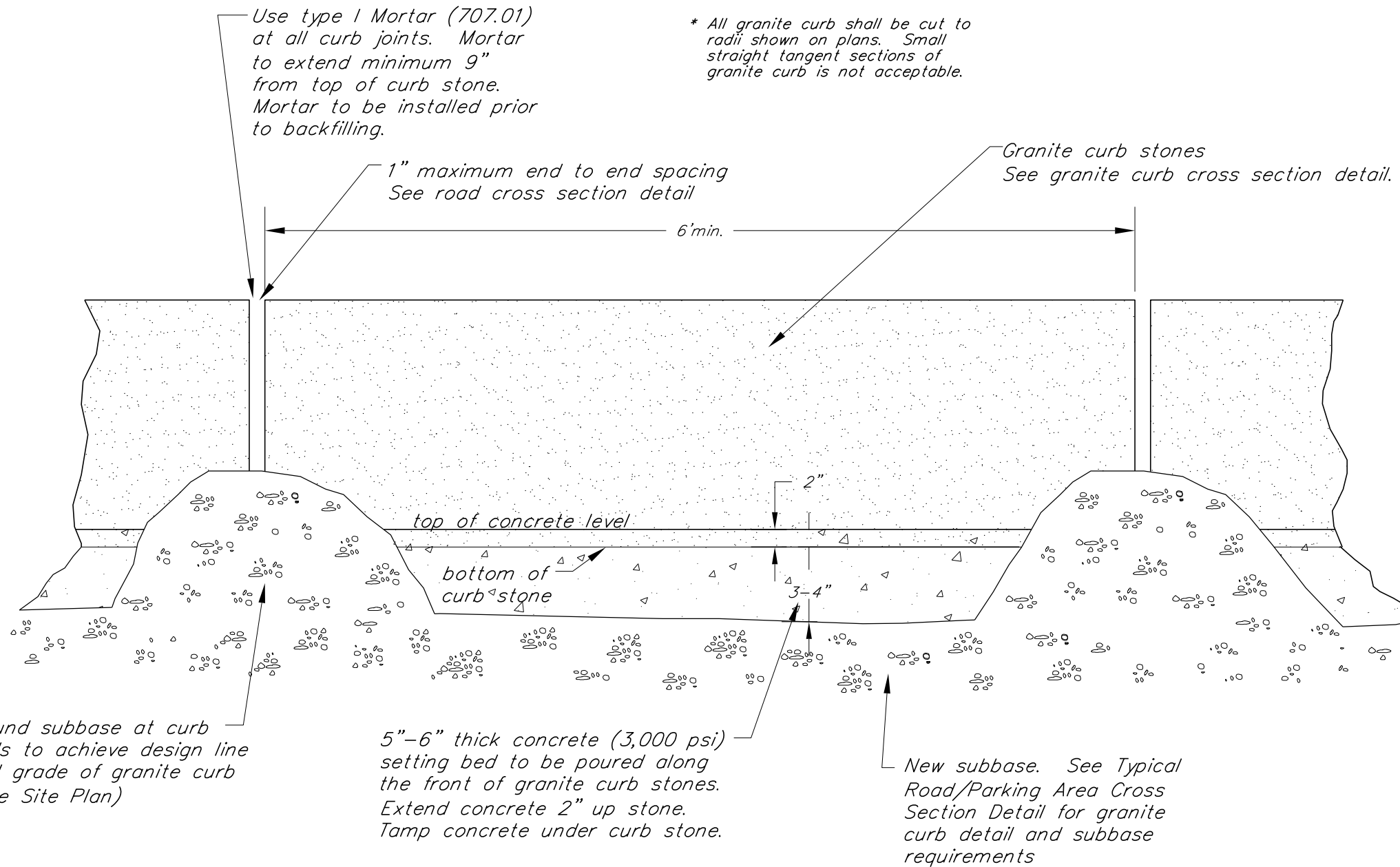


Refer to Typical Road/Parking Area Cross Section Detail for pavement and subbase specifications.



Flush Granite Curb

N.T.S.



Typical Granite Curb Section Detail

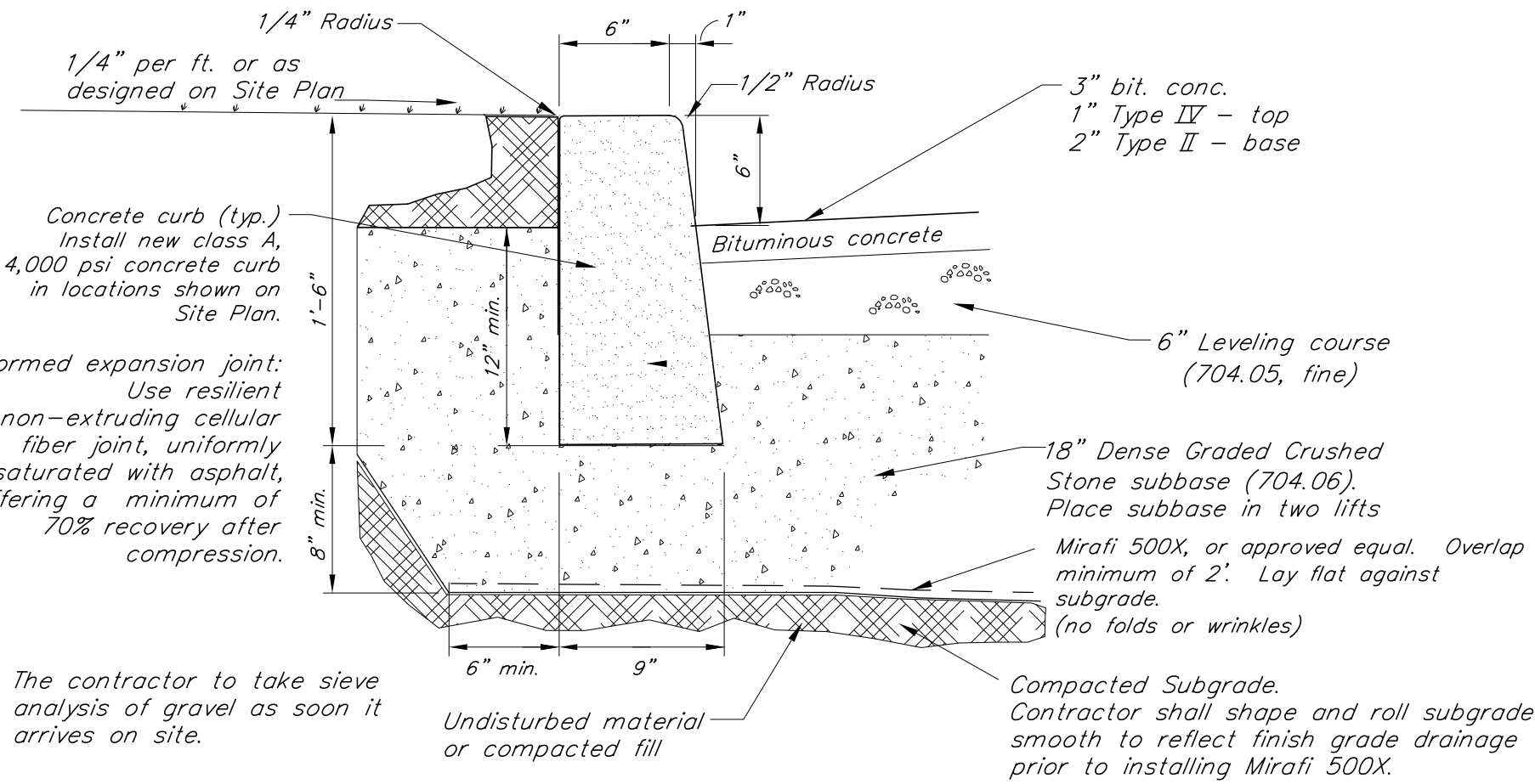
N.T.S.

Concrete Curb

- Broom finish concrete
- All joints to be tool finished
- Expansion/contraction joints every 20' with 1/2" joint filler
- Score 1/3 total depth at 10' intervals
- Apply 2 coats of Euclid Everclear VOX cure/seal compound to all concrete surfaces, per the manufacturer's specifications.

All concrete used in the construction of concrete curb shall be air entrained (5 - 7 %) and made with Portland cement. The concrete shall meet section 501 of the State of Vermont Standard Specification for Class 4 concrete and have min. 28 day compressive strength of 4,000 psi.

Provide a 6' taper at end of curb.



Travel over gravel with any vehicle tracking soil prior to placement of pavement is prohibited.

If gravel is contaminated after placement, the Contractor shall be responsible removal of all contaminated gravel and paying for all recommended sieve analysis as determined by the Engineer.

With Concrete Curb

Typical Road/Parking Area Cross Section Detail

N.T.S.

Road Construction Notes

(All references to road shall apply to parking areas as well.)

- New road shall be constructed to the line and grade shown on the drawings. The road and utility locations shall be as typically detailed unless otherwise shown.
- All road and parking construction shall be completed in accordance with the Vermont Agency of Transportation "Standard Specifications for Construction" 2011, hereafter called Vermont Highway Specifications, specifications found on these plans, and project specifications. In case of conflict, the more stringent specification shall apply as determined by the Engineer.
- The Contractor shall follow Vermont Highway Specifications (2011) Section 203.11 for placing and spreading embankments.
- Fill material for road embankment shall meet Note #13 below and be approved by the Engineer. Fill shall be placed in 12" lifts, wetted and compacted with satisfactory compaction equipment to 95% of maximum density (Standard Proctor).
- Road in fill sections shall be placed and compacted a minimum of 3 feet above top of any utility to be installed before trench is excavated for pipe placement. In trenches and cut sections, the Contractor shall provide all necessary sheeting, shoring and bracing to maintain compliance with all OSHA/VOSHA regulations.
- Methods for construction of subgrade shall conform to Vermont Highway Specifications (2011) 203.12 or as determined by the Engineer.
- Any subgrade or subbase disturbed by Contractor, or rendered unsuitable by construction machinery, shall be removed and replaced with approved granular backfill at the Contractor's expense. The subgrade shall be compacted to attain at least 95% of the maximum density (Standard Proctor) before placing road or embankment materials.
- The Owner will pay for on site soils testing (compaction, sieve, and proctor). The Contractor shall pay for failing tests.
- Sand borrow and cushion shall conform to Vermont Highway Specifications (2011) 703.03. Granular borrow shall conform to the Vermont Highway Specifications 703.04.
- Gravel subbase for pavement shall conform to Vermont Highway Specifications (2011) 704.06, Dense Graded Crushed Stone. Substitute materials identified in VAOT Specifications Section 301 - Subbase are not allowed.
- Leveling course shall conform to Vermont Highway Specifications (2011) 704.05, fine grading. Shoulders shall conform to Section 704.12, Aggregate for Shoulders. Substitute materials identified in VAOT Specifications Section 301 - Subbase are not allowed.
- Bituminous concrete pavement shall conform to Vermont Highway Specifications (2011) Section 404 and 406. Binder course shall be Type I + II, and finish wearing course shall be Type III, IV, or as detailed.
- Embankment fill for all impervious areas, EXCLUDING BUILDINGS, shall be a sieve specification as follows:

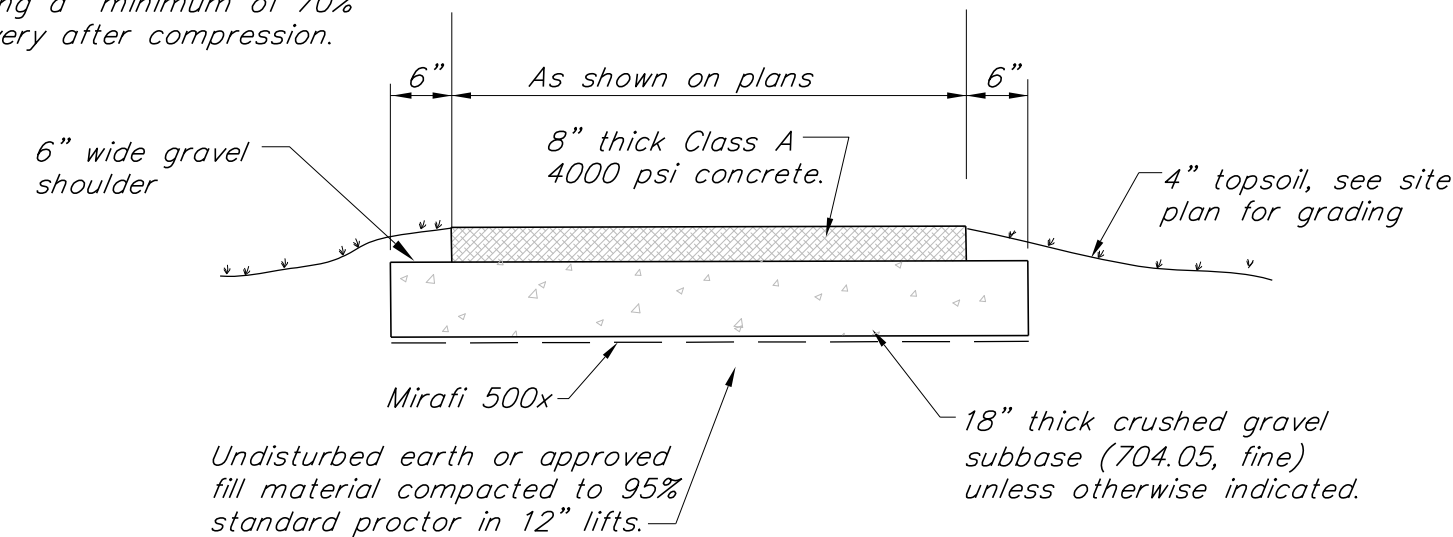
Sieve	% Finer
4"	100
2"	85-100
#4	60-100
#200	30 maximum
- Dense graded crushed stone, crushed gravel and sand borrow shall not be contaminated by work. Construction traffic shall not travel over exposed areas of this material.
- Contractor is responsible for all pavement markings (i.e. parking striping, handicap markings, stop bars, etc.) shown or implied on the Plans. This includes both new and replacement of existing.
 - Paint for pavement markings shall be Hydraplast Waterborne Traffic Paint by Franklin Paint Company. It shall be reflective, VOC compliant, fast drying, 100% acrylic waterborne traffic paint.
 - Traffic paint shall be applied with a uniform thickness and at a rate such that no pavement is visible after drying. Additional paint application will be required if underlying pavement is visible.

Date revised		Description	Checked	Date
Design	WHN			
Drawn	DMR			
Checked				
Scale	N.T.S.			
Date	April 3, 2014			
Project	13220	Bright Street		
PERMIT REVIEW ONLY		Civil Details		
Champlain Housing Trust Inc.		Burlington, Vermont		
KREBS & LANSING Consulting Engineers, Inc.		164 Main Street, Colchester, Vermont 05446		
The Vermont State Engineer's Office		Krebs & Lansing		
Professional Engineer		CD-1		

- *Broom finish concrete with tooled edges.*
- *Expansion joints shall be spaced 20 ft. on center unless otherwise indicated on Site Plan.*
- *Score control joints 1-1/4" depth at intervals equal to width of sidewalk.*
- *Apply 2 coats of Euclid Evercure VDX cure/seal compound to all concrete surfaces, per the manufacturer's specifications.*
- *Concrete construction shall conform to section 618.03 of the current VAOT Standard Specifications for Construction*

All concrete used in the construction of concrete sidewalk shall be air entrained and made with Portland cement. The concrete shall meet section 501 of the State of Vermont Standard Specification for Class A concrete and have 28 day compressive strength of 4,000 psi.

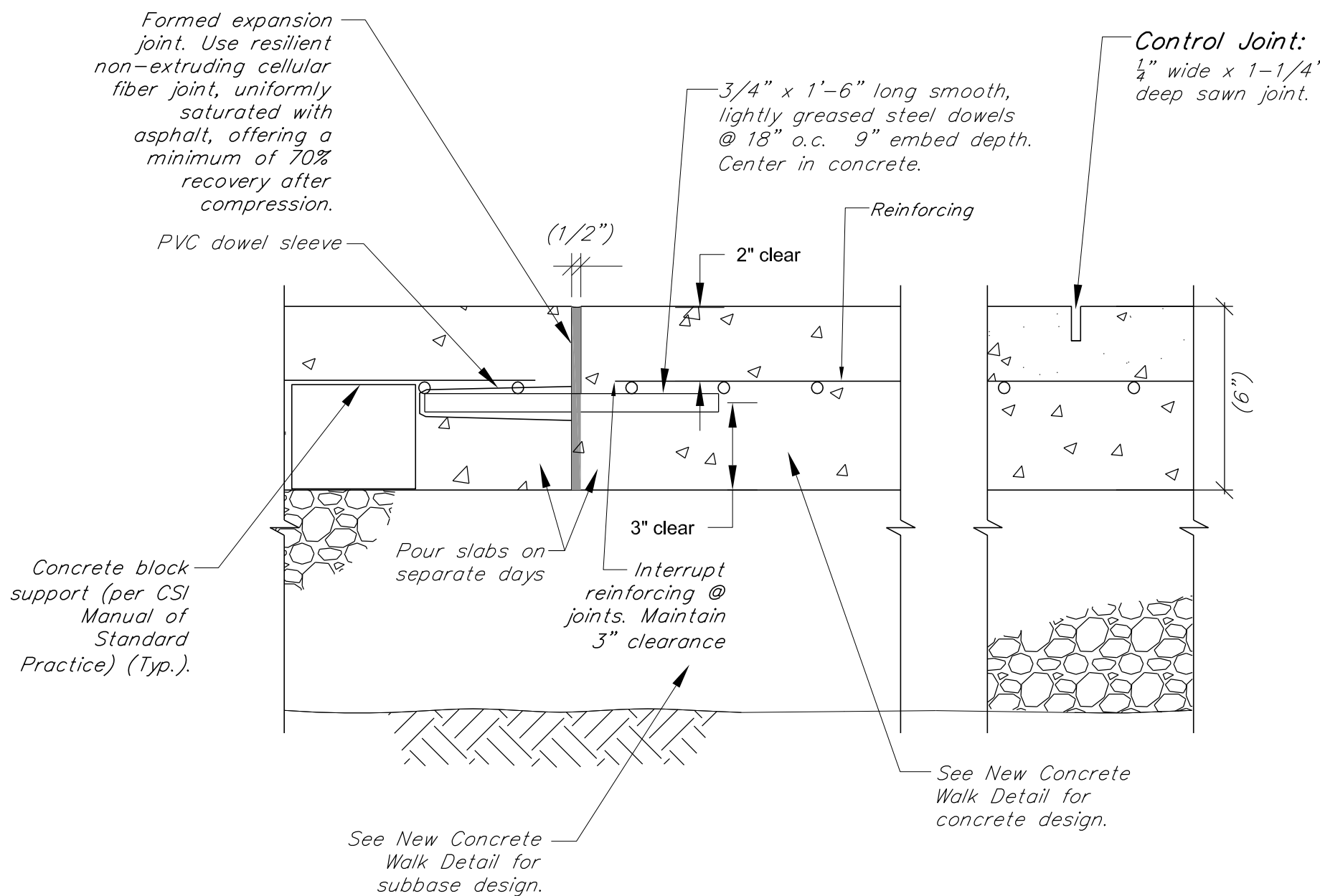
Joint filler shall be resilient non-extruding cellular fiber joint, uniformly saturated with asphalt, offering a minimum of 70% recovery after compression.



Cross Section

New Thickened Concrete Walk Detail

N. T. S.

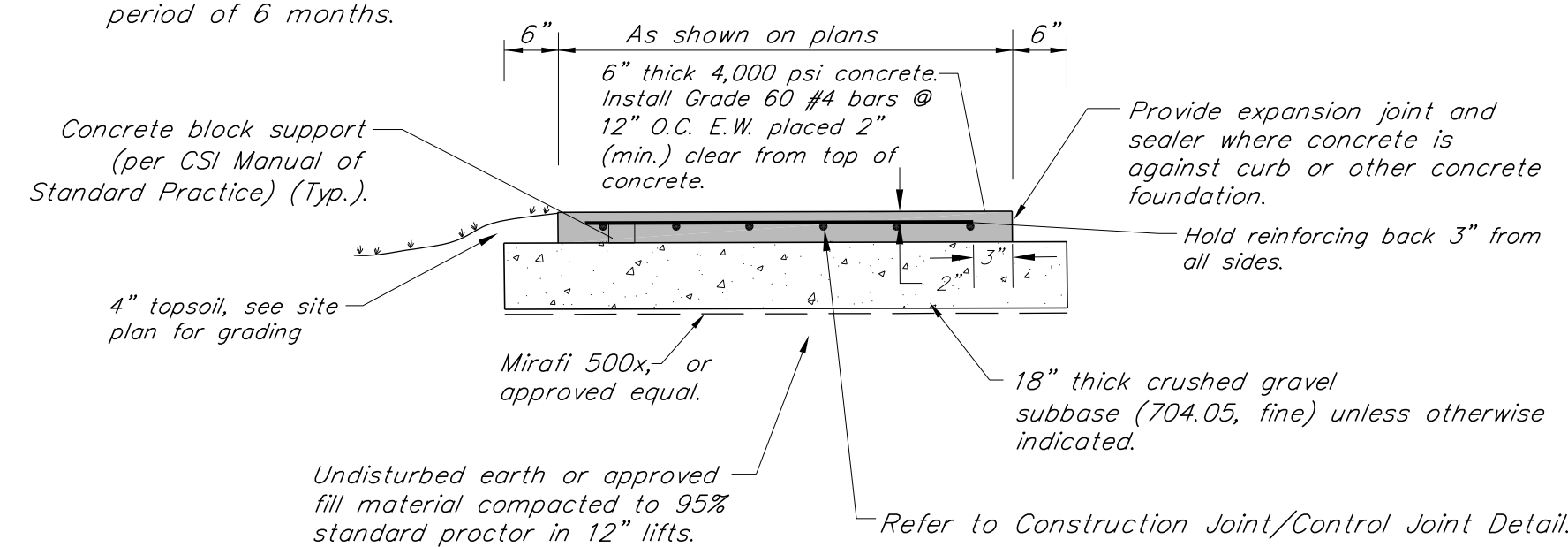


Concrete Construction Joint/Control Joint Detail

All concrete used in the construction of concrete sidewalk shall be air entrained (5 - 7 %) and made with Portland cement. The concrete shall meet section 501 of the State of Vermont Standard Specification for Class A concrete and have 28 day compressive strength of 4,000 psi.

*Note:
Owner or Contractor is not
allowed to place deicing
materials on newly poured
concrete sidewalk for a
period of 6 months.*

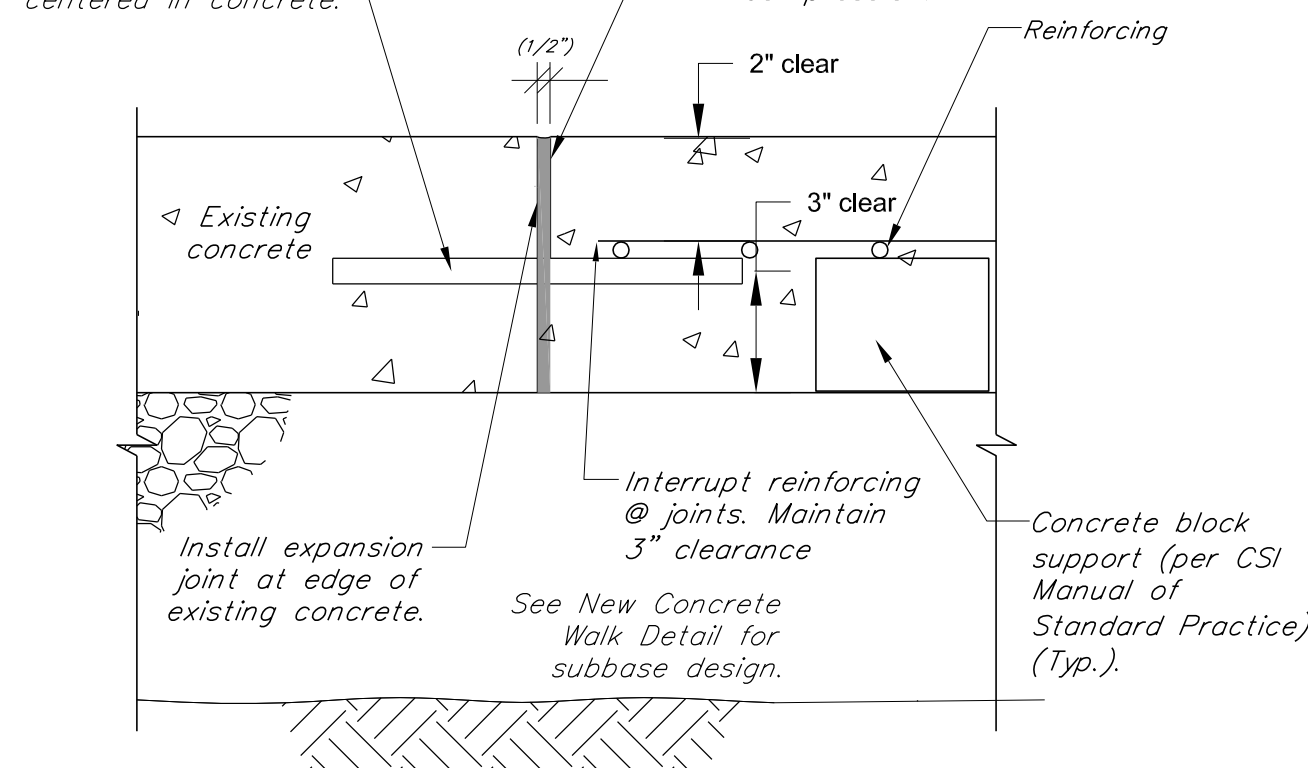
- Broom finish concrete with tool ed edges
- Construction joints shall be spaced max. 24' in all directions. See Site Plan for layout.
- Score control joints 1-1/4" depth at intervals equal to width of sidewalk.
- Apply 2 coats of Euclid Everclear VOX cure/seal compound to all concrete surfaces, per the manufacturer's specifications.
- Concrete construction shall conform to section 618.03 of the current VAOT Standard Specifications for Construction



Cross Section
New Concrete Walk Detail
(For Concrete Walks 7 ft. Wide or Greater)
N.T.S.

Drill and insert #4 x 1'-6" long smooth, steel dowels @ 18" o.c. 9" embed depth. Dowels to be level and centered in concrete.

Formed expansion joint. Use resilient non-extruding cellular fiber joint, uniformly saturated with asphalt, offering a minimum of 70% recovery after compression.

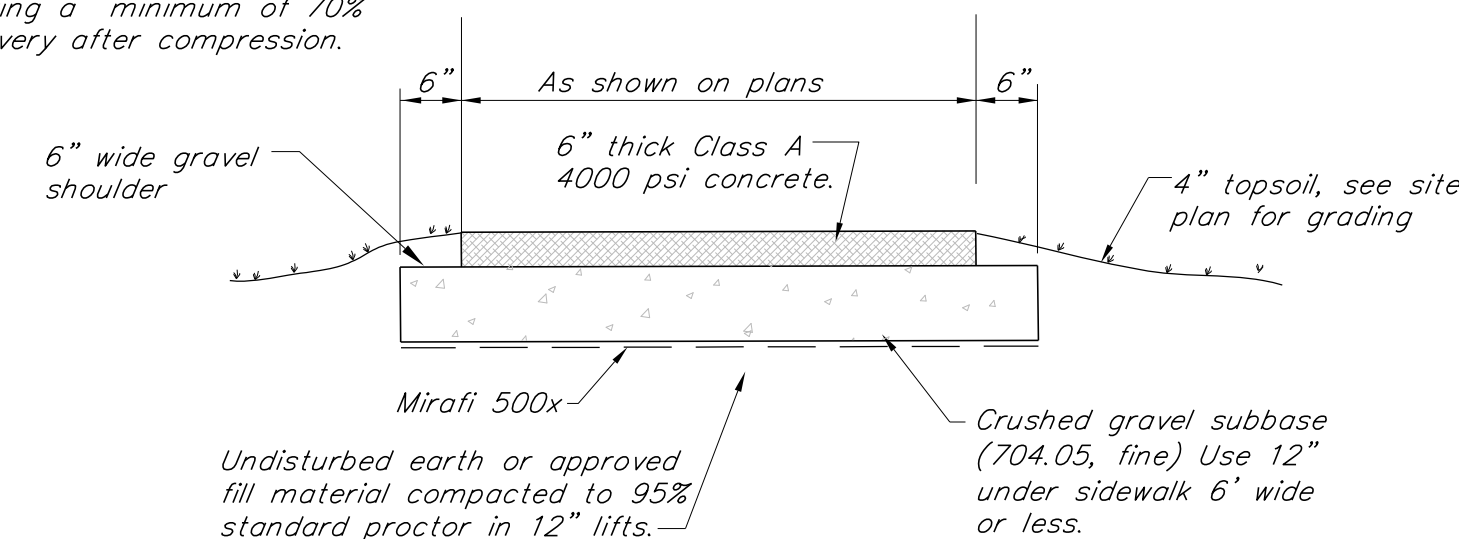


Concrete Slab Joint Detail for
Connection to Existing Concrete

M.T.S.

All concrete used in the construction of concrete sidewalk shall be air entrained and made with Portland cement. The concrete shall meet section 501 of the State of Vermont Standard Specification for Class A concrete and have 28 day compressive strength of 4,000 psi.

Joint filler shall be resilient non-extruding cellular fiber joint, uniformly saturated with asphalt, offering a minimum of 70% recovery after compression.



Cross Section

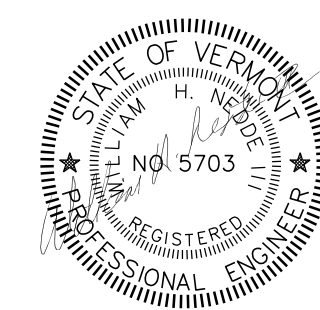
New Concrete Walk Detail

(For Concrete Walks 6ft. Wide or Less)

N.T.S.

- Broom finish concrete with tooled edges.
- Expansion joints shall be spaced 20 ft. on center unless otherwise indicated on Site Plans.
- Score control joints 1-1/4" depth at intervals equal to width of sidewalk.
- Apply 2 coats of Euclid Everclear VOX cure/seal compound to all concrete surfaces, per the manufacturer's specifications.
- Concrete construction shall conform to section 618.03 of the current VAOT Standard Specifications for Construction

Date revised	Description	Checked	Date
Design <i>WHN</i>	<i>Civil Details</i>		
Drawn <i>DMR</i>			
Checked	<i>Champlain Housing Trust Inc.</i> <i>Bright Street</i>		
Scale <i>N.T.S.</i>			
Date <i>April 3, 2014</i>			
Project <i>13220</i>			
	<i>Bright Street</i>	<i>Burlington, Vermont</i>	
<i>KREBS & LANSING Consulting Engineers, Inc.</i>		The name Bright-Consulting	Krebs & Lansing 2014
<i>164 Main Street, Colchester, Vermont 05446</i>		Printing date	<i>CD-2</i>



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164 Main Street, Colchester, Vermont 05446

File name	© Krebs & Lansing
Bright-Detels.deq	2014
Printing date	CD-2

Construction Notes

The Contractor will be responsible for all construction of water main, storm and sanitary sewer systems as shown on the plans. The Contractor will be responsible for all necessary adapters, fittings, etc. to make connections to the existing and proposed units. The Contractor shall be responsible for all work shown or implied on the plans and/or referenced in the specifications and permits. The Contractor shall submit, for approval by the Engineer, all types of materials and products used.

Water Main (Applies to new domestic water mains and services) (See also Fire Service Main Notes)

- The pipe for water main shall be CL52 ductile iron. Ductile iron fittings shall conform to AWWA C110, 350 pounds working pressure. Valves shall be manufactured to meet all requirements of AWWA specification C509.
- All pipe shall be installed in accordance with AWWA C600. The pipe shall be kept free of foreign matter and debris during installation. When the process of pipe laying has stopped, any open ends of pipe shall be plugged. There shall be a minimum of 6'-0" (1.82 m) cover over all pipe and service lines. Any pipe deflection shall not exceed fifty (50%) percent of recommended manufacturer's maximum deflection. Backfill materials and procedures shall be as detailed on the drawings. The Contractor shall be responsible for any and all sheeting and/or shoring necessary to comply with OSHA - VOSHA regulations.
- The testing of the water main shall consist of the testing of all installed pipe, services and hydrants in accordance with AWWA C600. The testing shall consist of a pressure test and leakage test. All testing shall be done with potable water and in the presence of the Engineer and a representative from the Burlington Water Department. The pressure test consists of maintaining a minimum internal pipe pressure of 200 psi (140,620 kg/m²) for two (2) hours. If the pressure drops more than 5 psi (3515 kg/m²) in the first hour, this constitutes failure of the test for the particular section of pipe. Failure of any test section will necessitate repair and/or replacement of the failed section.
- Chlorinating of the system shall be accomplished after the water main has been successfully pressure tested and thoroughly flushed. Disinfecting shall be in accordance with AWWA C-651. The disinfecting process shall be deemed acceptable only after two samples of water from the flushed disinfected main shows no evidence of bacteriological contamination. Use minimum 25 mg/l chlorine concentration for 24 hours. The concentration must remain above 10 mg/l. Tablet disinfecting is not acceptable.
- The water main shall be thoroughly flushed with a minimum flow velocity of 2.5 ft/s to flush foreign materials out of the valves and hydrants. Prior to flushing, the Contractor shall contact the Owner, Fire Department in the municipality, the District Water Supply company, and the Engineer.

Fire Service Main

- The pipe for water main shall be CL52 ductile iron. Ductile iron fittings shall conform to AWWA C110, 350 pounds working pressure. Valves shall be manufactured to meet all requirements of AWWA specification C509.
- All pipe shall be installed in accordance with AWWA C600. The pipe shall be kept free of foreign matter and debris during installation. When the process of pipe laying has stopped, any open ends of pipe shall be plugged. There shall be a minimum of 6'-0" cover over all pipes and service lines. Any pipe deflection shall not exceed fifty (50%) percent of recommended manufacturer's maximum deflection. Backfill materials and procedures shall be as detailed on the drawings. The Contractor shall be responsible for any and all sheeting and/or shoring necessary to comply with OSHA - VOSHA regulations.
- The testing of the water main shall consist of the testing of all installed pipe, services and hydrants in accordance with NFPA 24. The testing shall consist of a pressure test and leakage test. All testing shall be done with potable water and in the presence of the Engineer. The pressure test consists of maintaining a minimum internal pipe pressure of 200 psi (140,620 kg/m²) for two (2) hours. The amount of leakage at the joints shall not exceed 2 qt/hr per 100 gaskets or joints, irrespective of pipe diameter. If the pressure drops more than 5 psi (3515 kg/m²) in the first hour, this constitutes failure of the test for the particular section of pipe. Failure of any test section will necessitate repair and/or replacement of the failed section.
- Chlorinating of the system shall be accomplished after the water main has been successfully pressure tested and thoroughly flushed. Disinfecting shall be in accordance with AWWA C-651. The disinfecting process shall be deemed acceptable only after two samples of water from the flushed disinfected main shows no evidence of bacteriological contamination. Use minimum 25 mg/l chlorine concentration for 24 hours. The concentration must remain above 10 mg/l. Tablet disinfecting is not acceptable.
- Acceptable water main flushing requirements are provided below. Prior to flushing, the Contractor shall contact the Owner, Fire Department in the municipality, the District Water Supply company, and the Engineer.

Underground piping, from the water supply to the system riser, and lead-in connections to the system riser shall be completely flushed before the connection is made to downstream fire protection system piping.

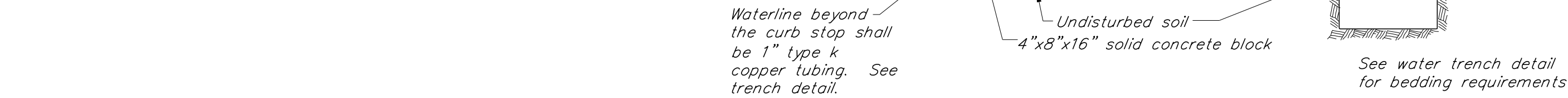
The flushing operation shall be continued for a sufficient time to ensure thorough cleaning.

The minimum rate of flow shall be not less than one of the following:

- Hydraulically calculated water demand flow rate of the system, including any hose requirements. (provided by the mechanical/sprinkler consultant)
- Flow necessary to provide a velocity of 10 ft/sec (3.1 m/sec) in accordance with the table below.
- Maximum flow rate available to the system under fire conditions.

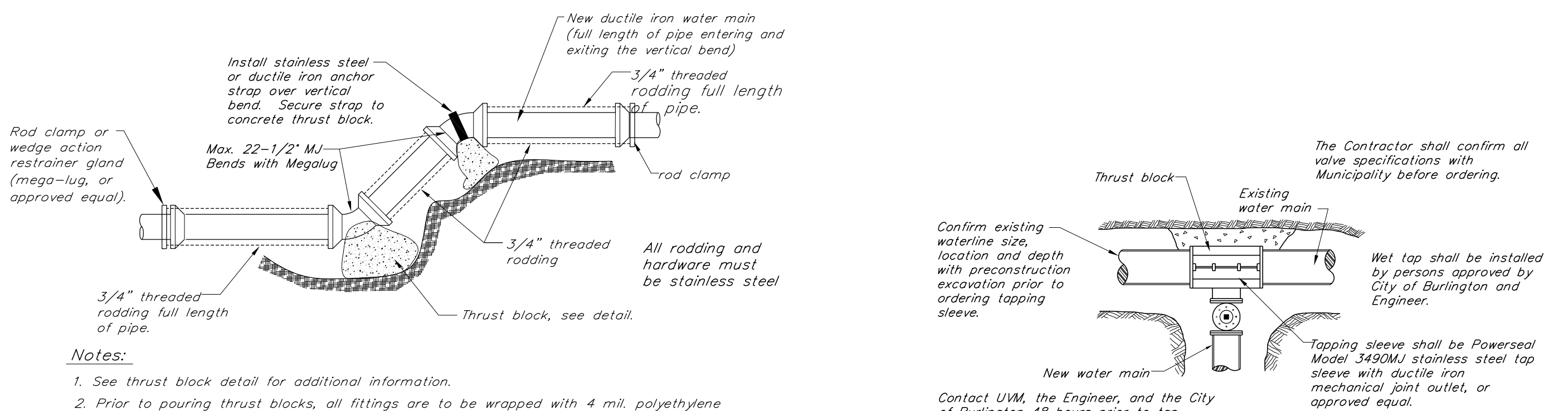
Flow Required to Produce a Velocity of 10 ft/sec (3 m/s) in Pipes

Pipe Size		Flow Rate	
In.	mm	gpm	L/min
4	102	390	1,476
6	152	880	3,331
8	203	1,560	5,905
10	254	2,440	9,235
12	305	3,520	13,323



Water Service Detail

N.T.S.

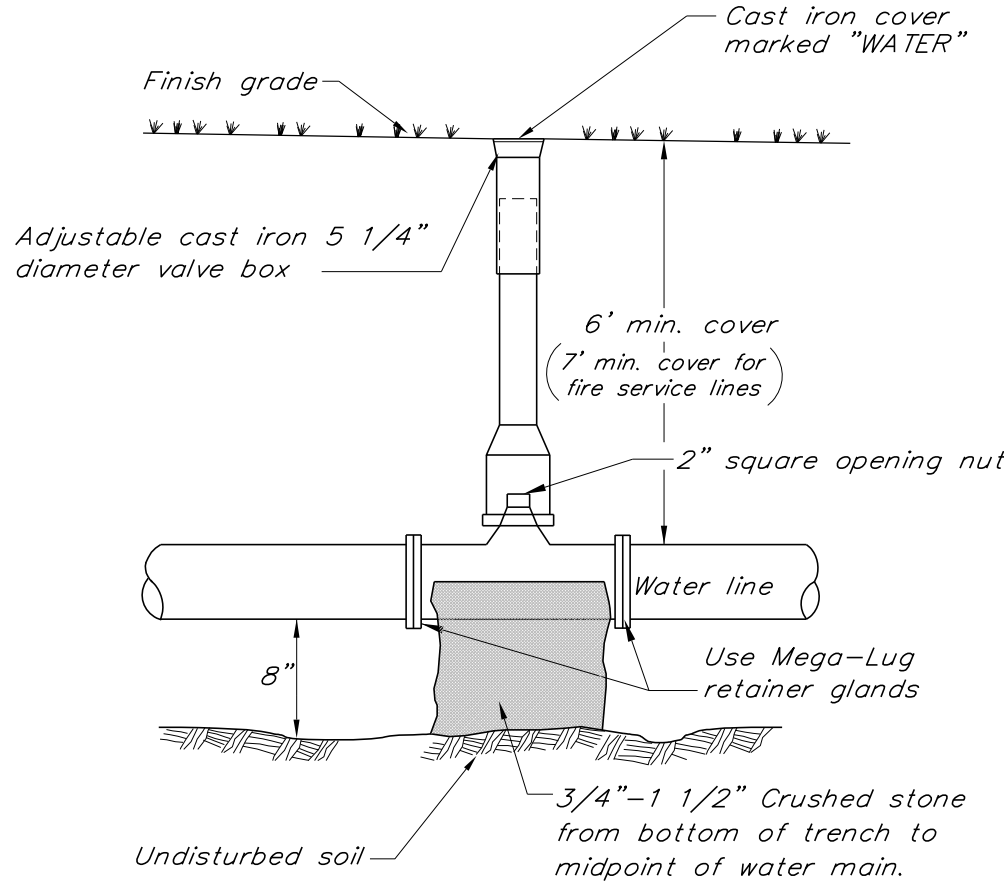


Vertical Bend Thrust Block Restraint Detail

N.T.S.

*The Contractor shall confirm all hydrant * specifications with Municipality before ordering.

- Gate valves shall be A.W.W.A. C 509 Standard Gate Valves with mechanical joints of sizes as required on the plans. All valves shall be of cast or ductile.
- All valves shall be of cast or ductile iron body, parallel brass seats, non-rising stems, inside screw, double disk construction with "O" Ring Stem Seals.
- The gate valves shall open counter-clockwise and be designed for a working pressure of 200 psi. Verify open direction with City of Burlington Water Department.
- All valves to be equipped with a valve box for a minimum of 6 feet (6') of cover material.



Typical Resilient Seat Gate Valve

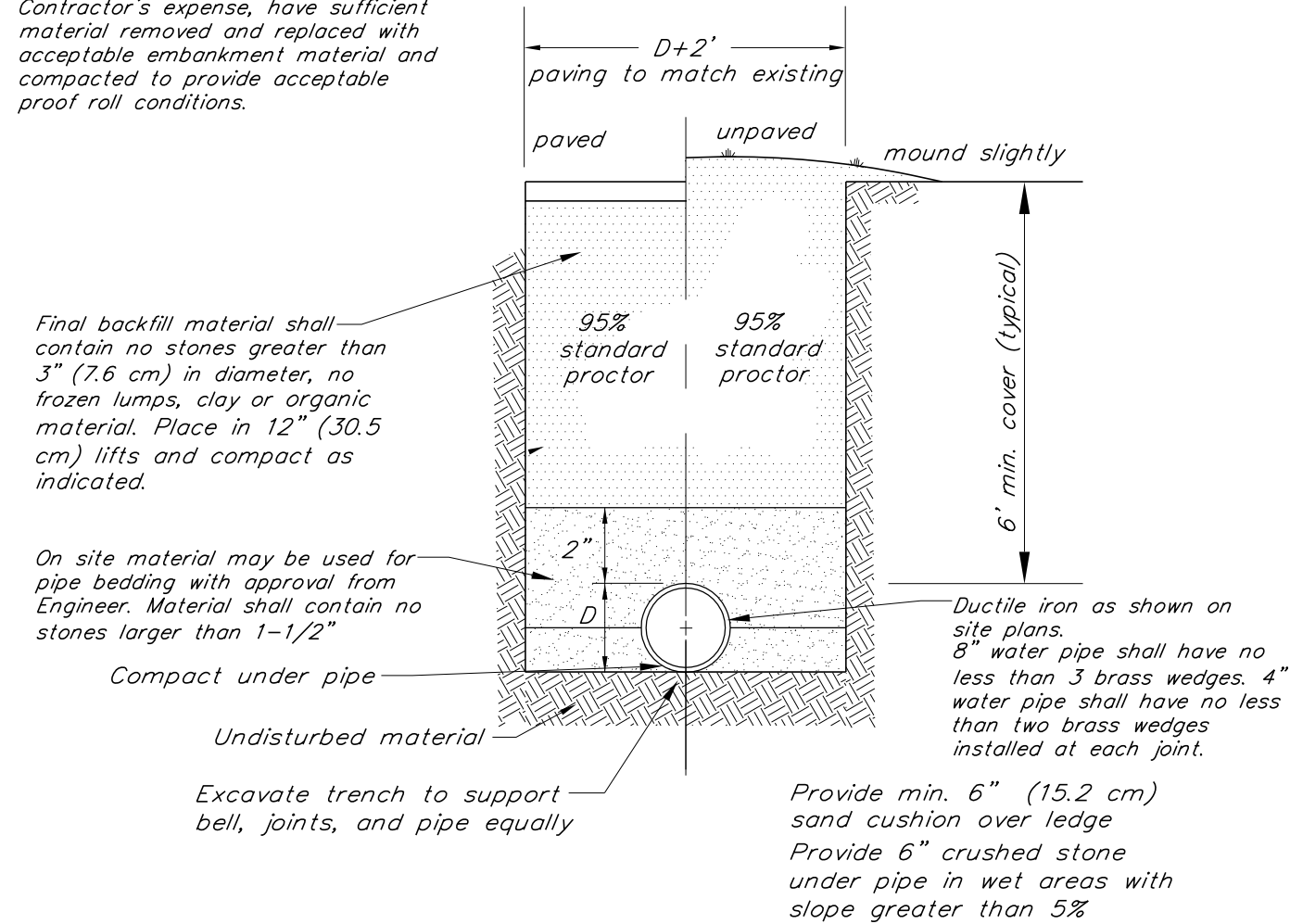
N.T.S.

General Water Main Notes:

- Four-inch and six-inch pipe shall have no less than 2 brass wedges installed at each joint. Eight-inch pipe shall have no less than 3 wedges installed at each joint.
- The Contractor shall coordinate the termination/shutdown of the existing water service with the Burlington Water Department and the Civil Engineer.
- These plans provide design and details of water main beyond 5 ft. outside the building.
- These plans provide design and details of water main beyond 5 ft. outside the building. The Site Contractor shall be responsible for extending the waterline to the plumbing connection within the building. (See Mechanical/Plumbing Engineers plans for scope, design and specifications within 5 ft. of the building.)
- Contractor shall provide all necessary fittings and appurtenances to complete the waterline construction work. This includes temporary fittings and gauges necessary to safely complete the flushing activities required prior to making connections with building plumbing.

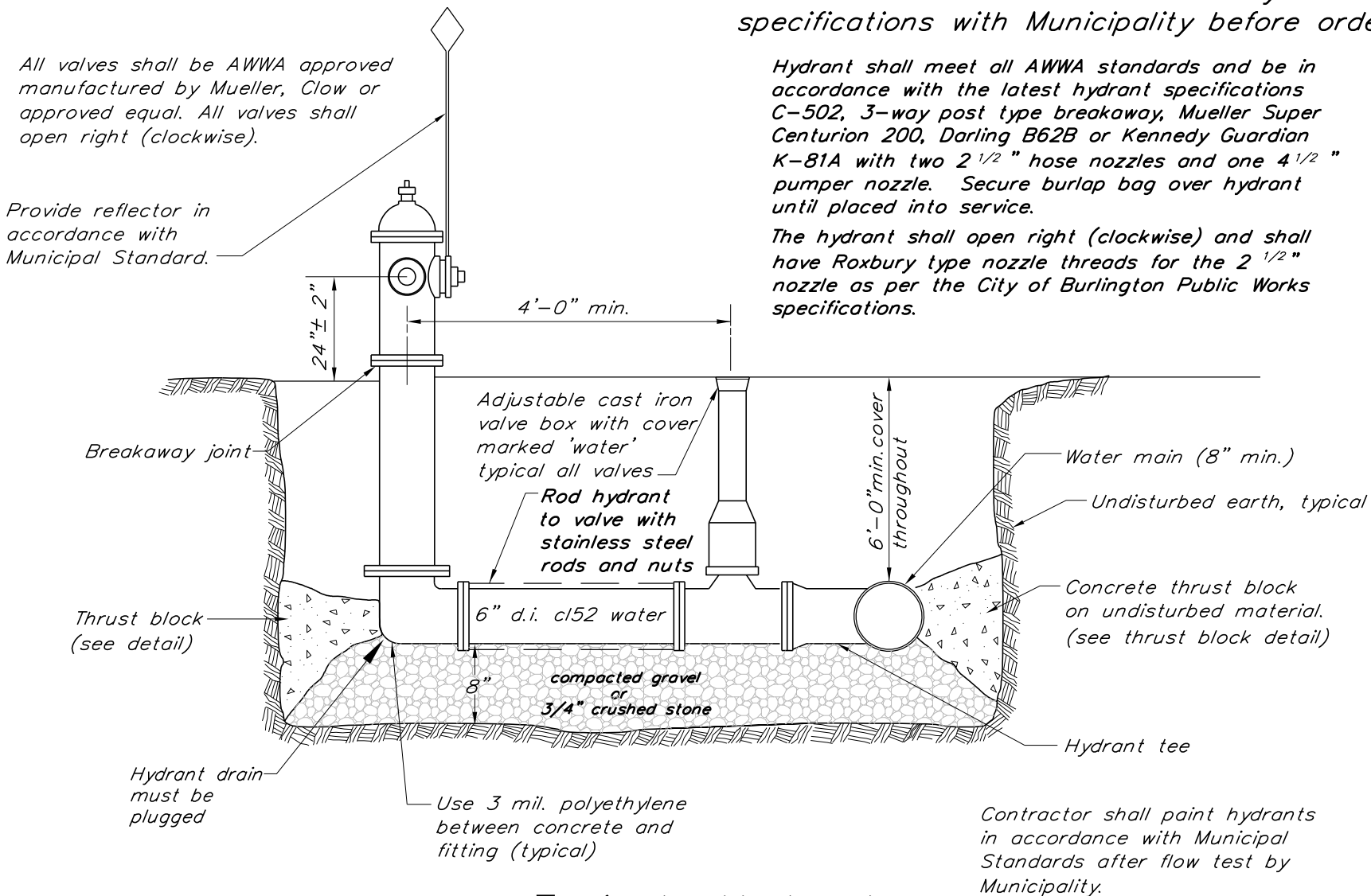
Backfill material under roads or paved areas must pass subgrade proof roll. Any trench area that does not successfully proof roll shall, at the Contractor's expense, have sufficient material removed and replaced with acceptable embankment material and compacted to provide acceptable proof roll conditions.

The Contractor shall be responsible for complying with OSHA - VOSHA regulations.



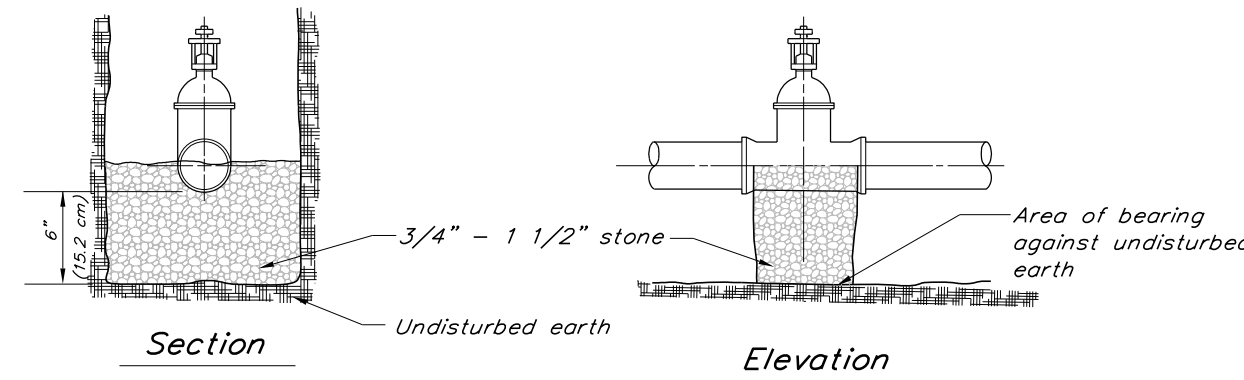
Typical Water Trench Detail

N.T.S.



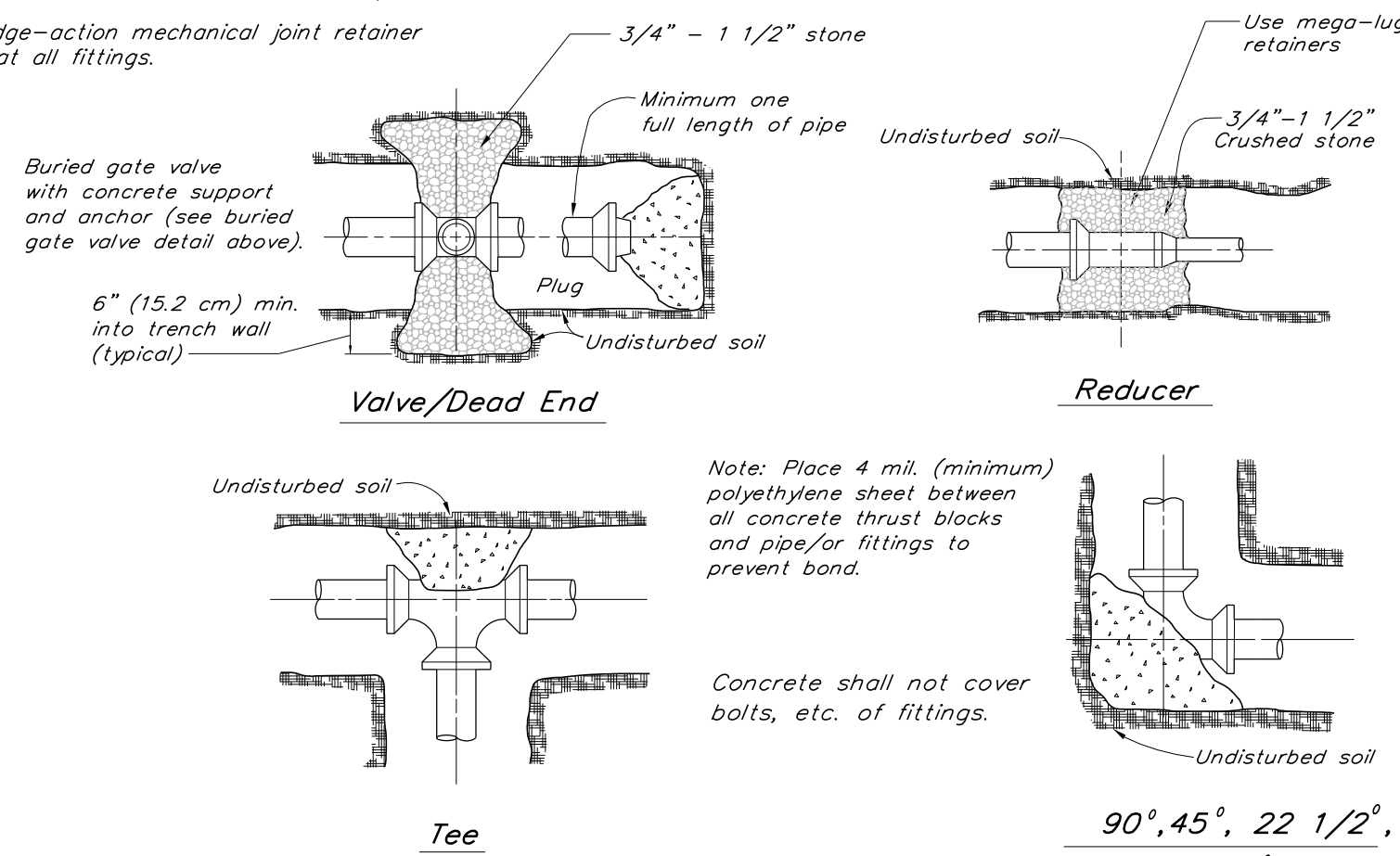
Typical Hydrant

(City of Burlington)
N.T.S.



Note

- A thrust block shall be installed at all water main bends, end caps, and tees.
- Precast thrust blocks are NOT acceptable.
- Redi-mix concrete (2,500 psi min) must be used for thrust blocks. Sacrete is NOT acceptable.
- Use wedge-action mechanical joint retainer glands at all fittings.



Minimum Area of Bearing Surface of Concrete Thrust Block (in square feet)

3"				4"				6"				8"				12"				SOIL CONDITION	SAFE BEARING LOAD(PSF)
ENDS & TEES	90° ELR	45° ELR	22.5° ELR	ENDS & TEES	90° ELR	45° ELR	22.5° ELR	ENDS & TEES	90° ELR	45° ELR	22.5° ELR	ENDS & TEES	90° ELR	45° ELR	22.5° ELR	ENDS & TEES	90° ELR	45° ELR	22.5° ELR		
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	0.5	2.0	2.5	1.5	1.0	4.0	5.5	3.0	1.5	Sound shale	10,000
1.0	1.0	1.0	0.5	1.5	2.0	1.0	0.5	3.0	4.0	2.0	1.0	4.5	6.5	3.5	2.0	10.0	14.0	7.5	4.0	Cemented gravel & sand	4,000
1.0	1.0	1.0	0.5	2.0	0.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	Coarse & fine compact sand	3,000
1.5	2.5	1.5	1.0	2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	Medium clay (can be soaked)	2,000
3.0	4.5	2.5	1.5	5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	Soft clay	1,000

Maximum water pressure = 200 PSI (140,620 kg/m²)

Thrust Block Details

N.T.S.

Date revised	Description	Checked	Date
Design	WHN		
Drawn	DMR		
Checked			
Scale	N.T.S.		
Date	April 3, 2014		
Project	13220	Bright Street	Burlington, Vermont
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446			
PERMIT REVIEW ONLY		By:	© Krebs & Lansing 2014 CD-3

1. *All water lines and sewer lines shall be thoroughly tested by the Contractor in accordance with the Environmental Protection Rules (09/29/07), and the Chapter 21 Water Supply Rules (the more stringent rule shall apply).*
2. *All private or municipal waterlines shall be tested by the Contractor in accordance with the procedures outlined in AWWA C600 and/or NFPA 24.*
3. *No water main shall be closer than ten (10) feet to any sanitary sewer or sanitary manhole and five (5) feet to any catch basin or storm sewer line. Provide minimum of 18" vertical separation between water main and storm/sanitary sewer crossing.*
4. *The Contractor shall be responsible for construction as-builts to service locations, and any water main fittings. As-builts shall be recorded in accordance with the outlined procedures.*
5. *The Contractor shall be responsible for contacting Engineer at least 24 hours prior to starting construction on any portion of the exterior water or sanitary systems. This notification requirement shall continue to the completion of the water and sanitary systems.*
6. *Utility Testing. The Contractor shall be responsible for scheduling water and sanitary testing, with the Engineer and the Municipality Public Works Department, at a minimum of 24 hours prior to the test. Based on availability of Engineer's staff, the Engineer shall accommodate the testing schedule within 24 hours of the Contractor requested test date/time.*
7. *The Contractor shall pre-test water for 2 hours. The Contractor shall notify Engineer immediately if pre-test failed.*
8. *The Contractor shall immediately contact the Engineer if pre-scheduled testing and/or water/sewer construction is canceled. If Contractor does not contact Engineer and Engineer visits the site, the Contractor shall be responsible for Engineer's fees/mileage for site visit.*
9. *The Contractor shall coordinate water construction with the City of Burlington. The Contractor shall leave thrust blocks and other required sections of new line exposed until City has inspected and approved it.*

1. *The location of sewer mains in relation to water mains shall be in accordance with the "Recommended Standards for Sewage Works" so-called Ten State Standards and Water Supply Rules.*
2. *Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. If this distance cannot be obtained, then the pipes shall be installed according to EPR, Chapter 1, Appendix 1-A-0.3(1)(11) a or b.*
3. *18" separation shall be maintained whether water is over or under sewer. If this distance cannot be obtained, then the pipes shall be installed according to EPR Chapter 1, 11b.*



Sewers crossing water mains shall be laid beneath the water main with at least 18 inches vertical clearance between the outside of the sewer and the outside of the water main. When it is possible to maintain the 18" vertical separation:

- 1.) the crossing shall be arranged so that one full length of sewer is centered above or below the water line with sewer joints as far as possible from water joints;
- 2.) the sewer pipe must be constructed to water main standards for a minimum distance of 20 feet either side of the crossing or a total of three pipe lengths, whichever is greater;
- 3.) the section constructed to water standards must be pressure tested to maintain 50 psi for 15 minutes without leakage prior to backfilling beyond one foot above the pipe to assure water tightness;
- 4.) where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.

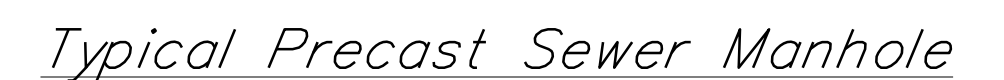


The pipe for storm sewer shall be as shown on the plans and detailed below:
All pipe shall be laid to the line and grade as shown on the plans.

- | | | |
|-------------------|--|---|
| <i>HDPE</i> | - Smooth Walled Corrugated
High Density Polyethylene Pipe | - Pipe shall be silt tight and conform to AASHTO M294*, Type S.
(ADS N12 or approved equal) |
| <i>PVC SDR 35</i> | - Polyvinyl chloride pipe | - Pipe shall conform to ASTM Specification D-3034 or F679, (PVC)
Sewer Pipe and Fittings, SDR35. |

PVC SDR 35 pipe shall not be installed when the temperature drops below 32° F or goes above 100° F unless prior approval is obtained from the Engineer. Extra care is required when handling PVC pipe during cold weather. PVC pipe shall not be stored outside and exposed to prolonged periods of sunlight as pipe discoloration and reduction in pipe impact strength will occur. If PVC pipe is to be stored on site for 1 month or longer it shall be covered with canvas or other opaque material.

1. *All sewer lines and manholes shall be thoroughly tested by the Contractor in accordance with the Environmental Protection Rules (09/29/07).*
2. *All sanitary manholes shall be vacuum tested in the presence of the Engineer. The structure shall be tested prior to backfill. Test procedures and pressure shall be determined jointly by the local approval agency and the Engineer. Failure of any vacuum test shall necessitate repair and/or replacement of the structure and retest. Water testing manholes is not acceptable.*
3. *All sanitary mains shall be air tested in the presence of the Engineer. At a minimum, the test pressure shall be 4 pounds per square inch at the highest point along the test for 4 minutes.*
4. *Utility Testing. The Contractor shall be responsible for scheduling sanitary testing at a minimum of 24 hours prior to the test. Based on availability of Engineer's staff, the Engineer shall accommodate the testing schedule within 24 hours of the Contractor requested test date/time.*
5. *The Contractor shall immediately contact the Engineer if pre-scheduled testing and/or water/sewer construction is canceled. If Contractor does not contact Engineer and Engineer visits the site, the Contractor shall be responsible for Engineer's fees/mileage for site visit.*

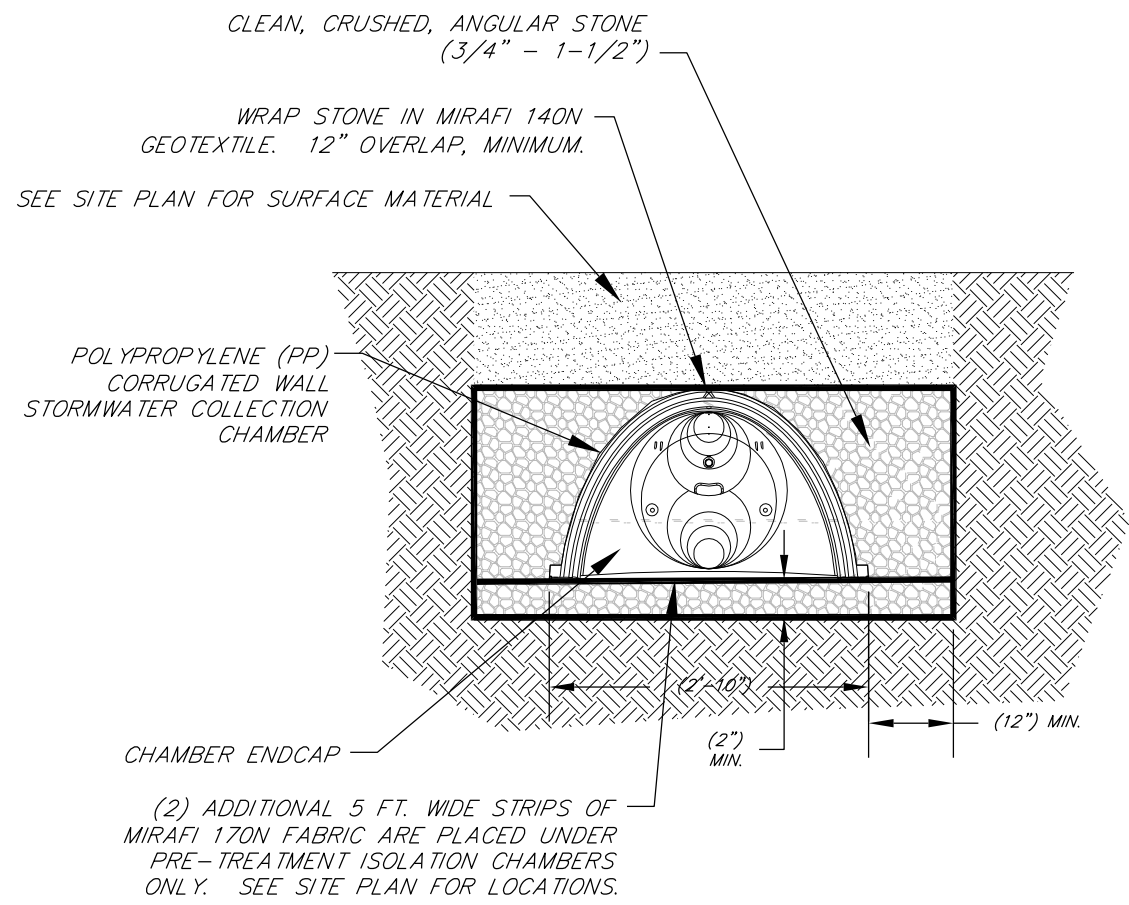


				
	<i>Date revised</i>	<i>Description</i>	<i>Checked</i>	<i>Date</i>
	Design <i>WHN</i>	<i>Civil Details</i>		
	Drawn <i>DMR</i>			
	Checked	<i>Champlain Housing Trust Inc.</i>		
	Scale <i>N. T.S.</i>			
	Date <i>April 3, 2014</i>			
Project <i>13220</i>	<i>Bright Street</i>	<i>Burlington, Vermont</i>		
PERMIT REVIEW ONLY	<i>KREBS & LANSING Consulting Engineers, Inc.</i>		File name Bright-Detach.dwg	Krebs & Lansing 2014
	<i>164 Main Street, Colchester, Vermont 05446</i>		Plotting date	

Stormwater infiltration chambers detailed on this plan are based on specifications for the StormTech SC-310 system.

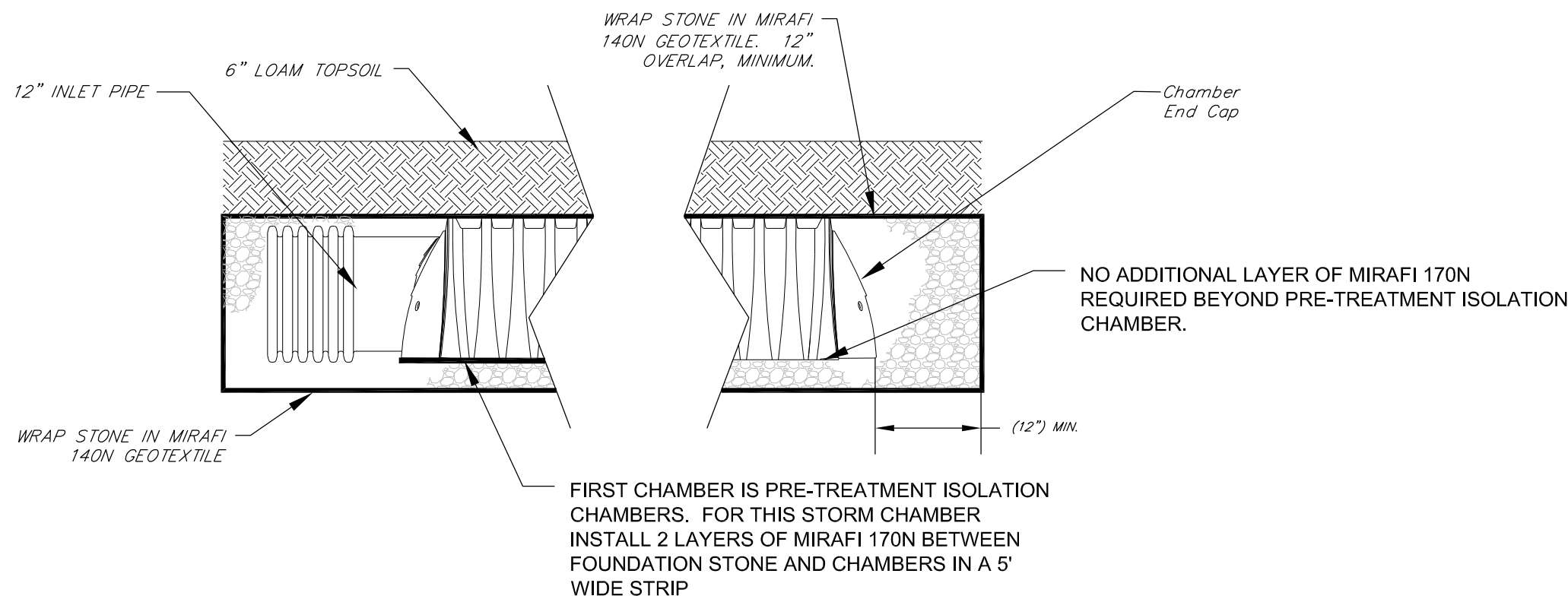
Infiltration System Construction Notes:

All upstream/upslope construction shall be complete and stabilized prior to allowing runoff from entering any infiltration systems. "Stabilized" shall mean paved surfaces, washed crushed stone, or vegetated areas that have established a dense and vigorous vegetative cover.



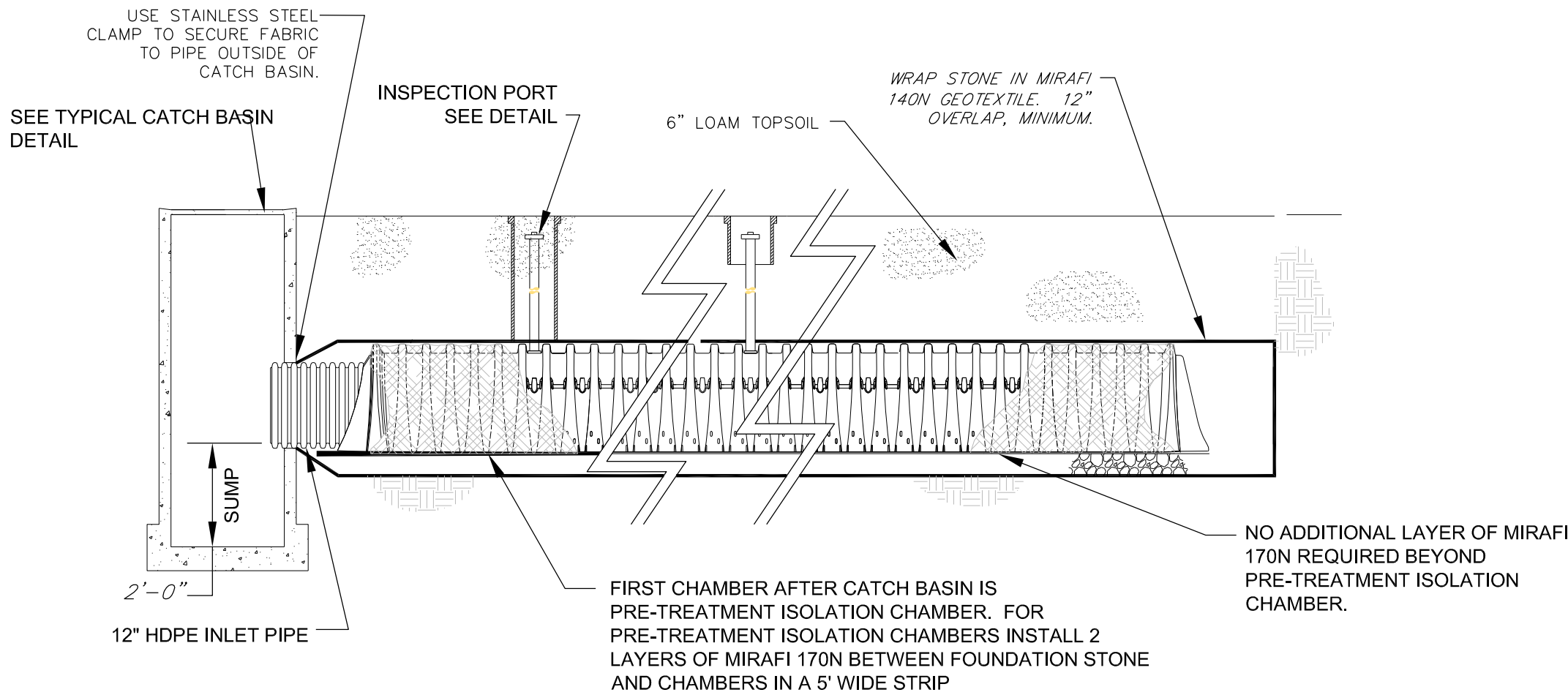
Typical Infiltration Trench Cross Section

N.T.S.



Typical Infiltration Row Inlet and End
(System Southeast of Storage Facility)

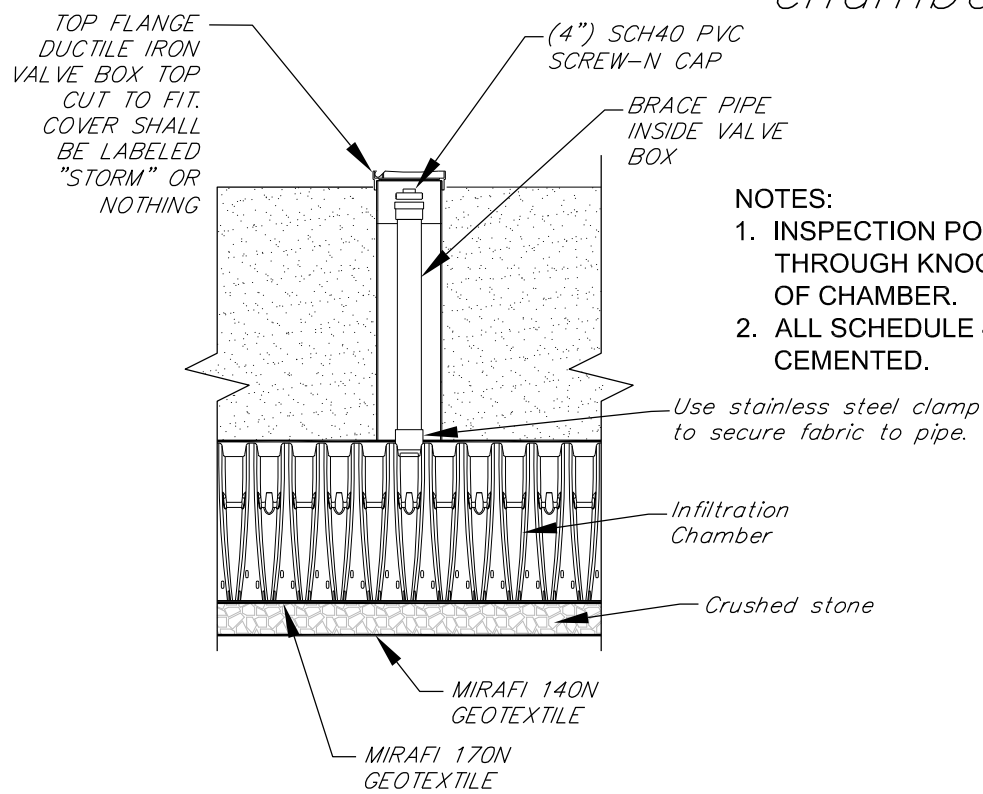
N.T.S.



Overall Trench Cross Section
(System Southeast of Storage Facility)

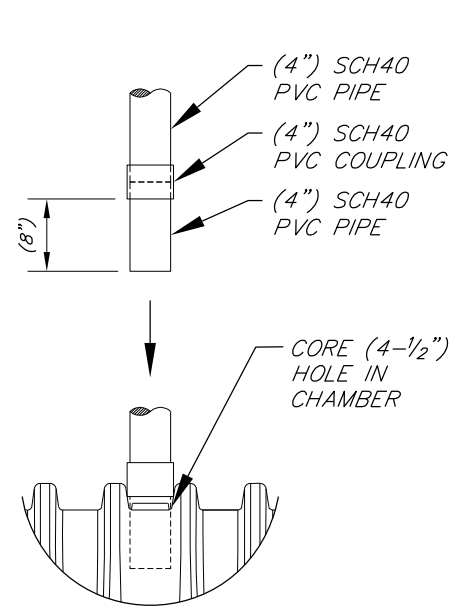
N.T.S.

Inspection ports shall be installed in all pre-treatment isolation chambers and in the first chamber outside the catch basin when no isolation chamber is specified.



Typical Inspection Port Cross Section

N.T.S.



CONNECTION DETAIL
NTS

SIGN MATERIALS:

THE SIGN BASE MATERIALS USED FOR REGULATORY SIGNS MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

12" X 18"	24" X 24"	36" X 48"
18" X 24"	24" X 36"	48" X 60"
0.060"	0.080"	0.100"

FLAT SHEET ALUMINUM

ALL PANELS SHALL HAVE RETROREFLECTIVE BACKGROUNDS

ALL SIGN POSTS SHALL BE SQUARE TUBE GALVANIZED STEEL PLACED IN GALVANIZED STEEL ANCHORS – SEE POST AND ANCHOR SELECTION CHART

GENERAL NOTES:

- All square tube steel posts and anchors shall be formed into a size and shape in such a manner that neither flash nor weld shall interfere with the telescoping properties, nor damage the galvanizing.
- Anchor may be driven or set into a dug hole and backfilled. If driven, a driving cap shall be used. The dug hole installation method shall be utilized in areas with poor soil conditions or as directed by the engineer. Backfill shall be compacted as directed by the engineer.
- The tops of sign posts shall be at or near the top of sign. The post shall not extend above the top of sign.
- Sign posts shall be installed a minimum of one foot below ground, inside the anchor. The length of anchor exposed above ground shall not exceed four inches.
- All dimensions shown in inches.

POST AND ANCHOR SELECTION CHART

POST SIZE (IN.)	POST THICKNESS (IN.)	POST WEIGHT (LBS/FT.)	POST GAGE	SECTION MODULUS (IN. ³)	ONE POST SV	TWO POST SV	THREE POST SV	POSTS PERMITTED IN 8' PATH	ANCHOR SIZE (IN.)	ANCHOR GAGE	MINIMUM ANCHOR LENGTH
1.75	.083	1.88	14	0.222	45	90	135	TWO	2.00	12	30
2.00	.109	2.42	12	0.393	80	160	240	TWO	2.25	12	48
2.50	.109	3.35	12	0.673	137	274	411	ONE	3.00	7	48

NOTES:

- All sign posts shall have 7/16 inch holes every one inch on center (all four sides).
- The number of sign posts permitted within an eight foot path assumes that the sign assembly is not protected by guardrail or is located within a guardrail's deflection distance determined per the current "American Association of State Highway and Transportation Officials" (AASHTO) roadside design guide. additional posts may be installed using slip bases that meet "national cooperative highway research program" (NCHRP) report 350 or the AASHTO "Manual For Assessing Safety Hardware" (mash). The appropriate resource shall be determined as described in the mash publication.
- To use the selection value (SV) columns in the table above, multiply a sign's surface area in square feet (H X L) by the sign's height in feet measured from the ground to the centroid of the sign assembly (H). This result must be less than or equal to the corresponding selection value. Note, that for signs with multiple posts, the largest height dimension shall be used to calculate the post selection value.
- The design criteria utilized in sign post and anchor selection is as follows: wind speed of 70 mph (10 year mean recurrence interval), wind pressure of 19 psf, steel minimum yield of 55,000 psi, and an allowable stress of 1.4 (0.60 fy).

Roadway Sign and Post Details

N.T.S.

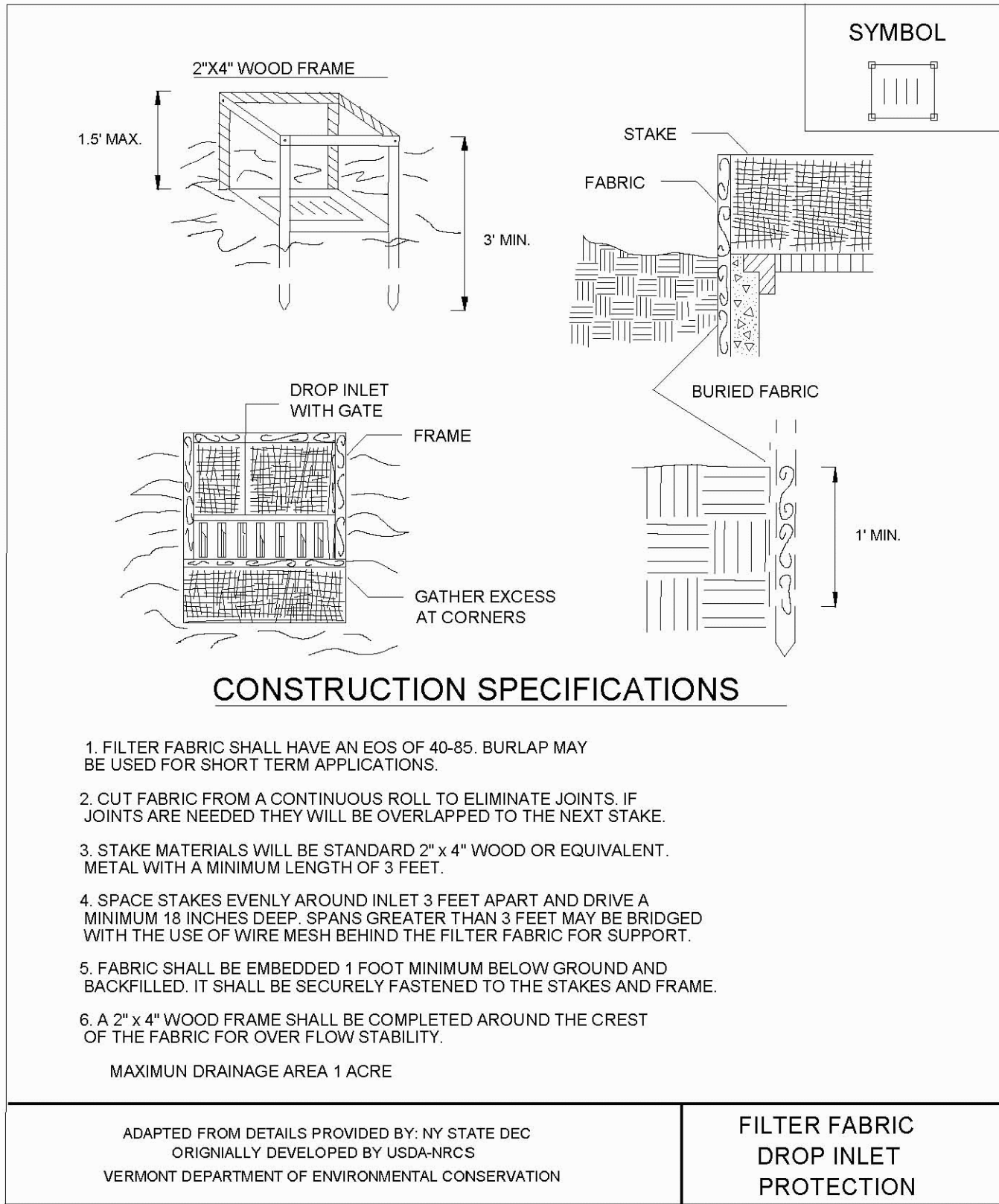
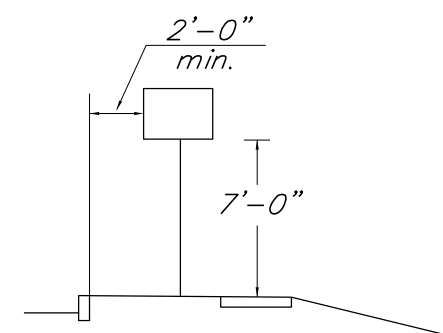
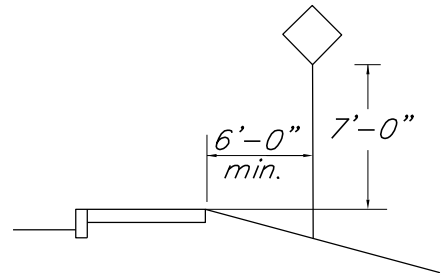
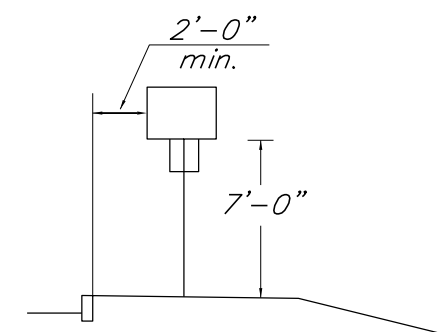


Figure 5.3b Storm Drain Inlet Protection: Filter Fabric



IF SUFFICIENT CLEARANCE IS NOT AVAILABLE BETWEEN CURB AND SIDEWALK MOUNT SIGN BEHIND SIDEWALK AS SHOWN AT TOP. CHECK FOR ADEQUATE R.O.W.



Roadway Sign Height Details

N.T.S.

	Date revised	Description	Checked	Date
	Design	WHN		
	Drawn	DMR		
	Checked			
	Scale	N.T.S.		
	Date	April 3, 2014		
Project		13220	Bright Street	Burlington, Vermont
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446				
PERMIT REVIEW ONLY		No other Detail sheets Drawing date		© Krebs & Lansing 2014 CD-5

Erosion Prevention and Sediment Control Notes

- Contractor shall be responsible for complying with all State and Local erosion prevention and sediment control standards and permit requirements during construction.
 - The limit of disturbance shall be clearly defined by Contractor's surveyor prior to clearing. Erosion and sediment control devices shall be established to trap sediment on site.
 - All erosion control shall be placed as shown on the drawings or as ordered by the Engineer. The Contractor shall maintain the erosion control measures until the Engineer is satisfied that permanent ground cover is established and that further measures are not required. It shall be the responsibility of the Contractor to employ appropriate erosion control as shown on these drawings and any other measures as necessary to trap sediment on site.
 - All areas of disturbance shall be permanently or temporarily stabilized as soon as possible and within 48 hours of final grading. All areas of disturbance shall be at least temporarily stabilized within 7 days of initial disturbance. Any disturbance after 7 consecutive days of exposed soil shall be stabilized daily unless the following exceptions apply:
 - Stabilization is not required if earthwork is to continue in the area in the next 24 hours and there is no precipitation forecast in the next 24 hours.
 - Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 ft. or greater (e.g. house foundation excavation, utility trenches). Stabilization measures shall include mulch and netting, erosion control matting, crushed stone, gravel, or pavement.
 - Refer to the Low Risk Site Handbook for Erosion Prevention and Sediment Control for acceptable methods of stabilization.
 - The Contractor shall use water for dust control. **There will be a ZERO tolerance for dust**
 - The Contractor shall provide inlet protection around all catch basins (existing or new) that collect construction site stormwater runoff. Crushed stone inlet protection may be used in non-paved areas.
 - A stabilized construction entrance (See Detail) shall be installed and maintained at all construction access locations.
 - All paved roads used by construction vehicles shall be swept daily during periods of active construction, or at a greater frequency, if dirt or gravel is tracked from the site. The swept debris shall be immediately removed from the curb face if applicable.
 - All temporary erosion and sediment control measures shall be removed within 30 days after final stabilization or after the measures are no longer needed, unless otherwise authorized.
 - All sediment removed from sediment control practices shall be placed in an approved soil disposal area.
 - All areas that do not have established vegetation by October 15th must be stabilized in accordance with the Winter Construction Requirements listed on this sheet.
 - After permanent seeding the Contractor shall be responsible for watering, if necessary, to ensure adequate vegetative growth.
 - Water from dewatering activities that flows off site must be clear. Water must not be pumped into storm sewers, lakes, or wetlands unless the water is clear.
 - The Contractor shall be responsible for all inspection and maintenance of the erosion prevention and sediment control practices for the project. Inspections and corresponding reports shall be performed at a minimum, once a week and after every precipitation event that results in a discharge from the site.
- Contractor shall call 540-1748 or email Megan Mair (mmair@ci.burlington.vt.us) at least 24 hours prior to initiating earth disturbance and submit name, cell phone number, and email contact information of the erosion control coordinator for the project.

The perimeter of the site and all BMPs will be inspected at the end of each workday to ensure that sediment will not leave the site. If sediment has traveled beyond the site boundary, it shall be swept up or otherwise removed and deposited on-site in an upgradient area at the end of each workday.

Winter Construction Requirements (October 15th - April 15th)

- For areas to be stabilized by vegetation, seeding shall be completed no later than September 15th to ensure adequate growth and cover.
- If seeding is not completed by September 15th, additional non-vegetative protection must be used to stabilize the site for the winter period. This includes the use of Erosion Control Matting or netting of a heavy mulch layer.
- Where mulch is used for temporary stabilization it must be applied at double the standard rate, or a minimum of 3 inches with an 80%-90% cover.
- Stabilized Construction Entrances shall be enlarged to provide for snow stockpiling.
- Limits of disturbance shall be moved or replaced to reflect any revised boundaries of winter work.
- A snow management plan shall be prepared with adequate storage and control of meltwater, requiring cleared snow to be stored down slope of all areas of disturbance and out of stormwater treatment structures.
- A minimum 25 foot buffer shall be maintained from perimeter controls such as silt fence.
- Drainage structures must be kept open and free of snow and ice dams.
- Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.
- To ensure cover of disturbed soil in advance of a melt event, areas of disturbed soil must be stabilized at the end of each work day, with the following exceptions:
 - If no precipitation within 24 hours is forecast and work will resume in the same disturbed area within 24 hours, daily stabilization is not necessary.
 - Disturbed areas that collect and retain runoff, such as house foundation or open utility trenches.
- Prior to stabilization, snow or ice must be removed to less than 1 inch thickness.
- Use stone to stabilize areas such as the perimeter of buildings under construction or where construction vehicle traffic is anticipated. Stone paths should be 10-20 feet wide to accommodate vehicular traffic.

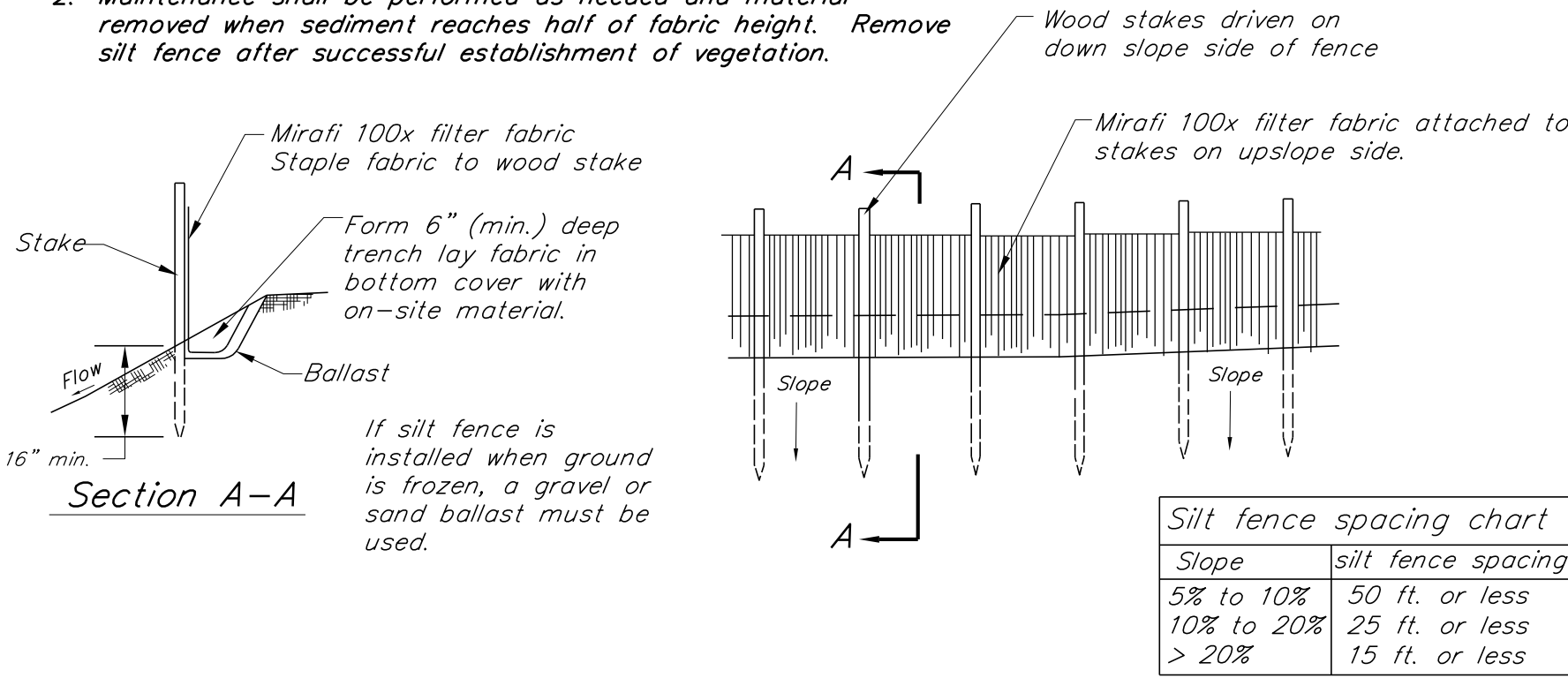
General Grading and Site Work Notes

- All area disturbed and all areas within the clearing limits shall be graded and covered with a minimum of 4" of compacted loam topsoil. The areas to be loamed shall be free and clear of roots, waste material and other deleterious material. Topsoil shall be spread and lightly compacted to a depth of 4". Topsoil shall be approved by the Engineer.
- All cut slopes shall be no steeper than 3h on 1v. All fill slopes shall be no steeper than 2.5h on 1v.
- Temporary silt fence shall be erected prior to any clearing or construction. Fencing may be erected in phases, but in no case shall construction of clearing proceed fencing. Special areas may be designated by the Owner for preservation of existing trees. These areas shall be the Contractor's responsibility to insure no damage is done to designated trees.
- Existing plantings are located in general areas as shown on this plan. Contractor shall protect plantings so as not to damage these or their root systems.
- Slope stability based upon unsaturated soil conditions. If during construction saturated soils are encountered, contact the Engineer immediately

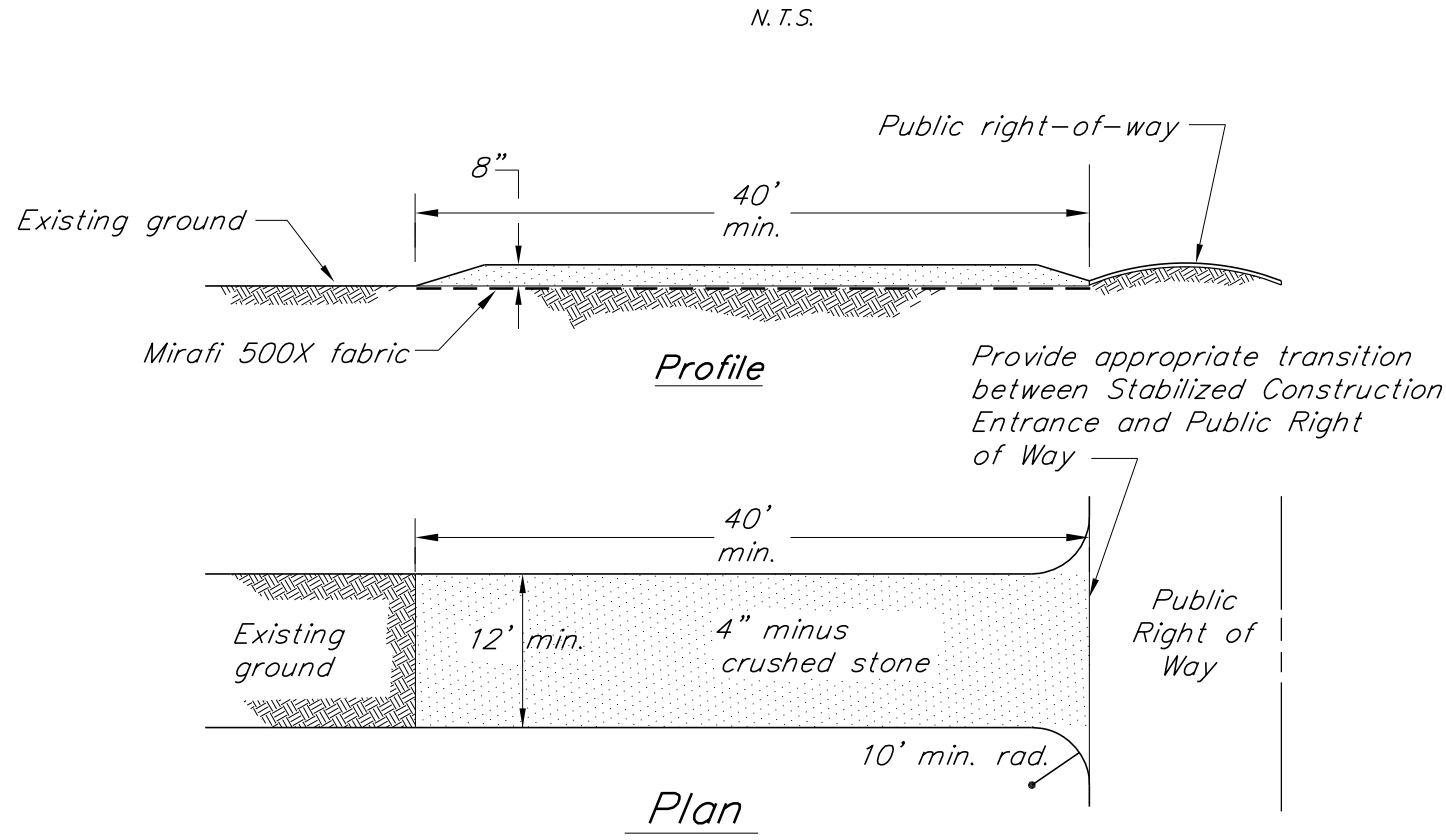
Construction Limit Barriers

- Temporary chain-linked construction fence shall be used to delineate construction limits where practical.
- Orange construction fence or snow fence shall be used to demarcate short-term construction activities as well as around the drip line of any existing trees to remain.
- 3" thick orange polyester mesh webbing may also be used to demarcate construction limits except within 50 feet of any stream, lake, pond or wetland. For this project, polyester mesh webbing should not be used in areas that are proximate to pedestrian or vehicular traffic.

- NOTE:**
- Contractor shall be responsible for the installation, maintenance, and removal of silt fence in all locations shown on the plans.
 - Maintenance shall be performed as needed and material removed when sediment reaches half of fabric height. Remove silt fence after successful establishment of vegetation.



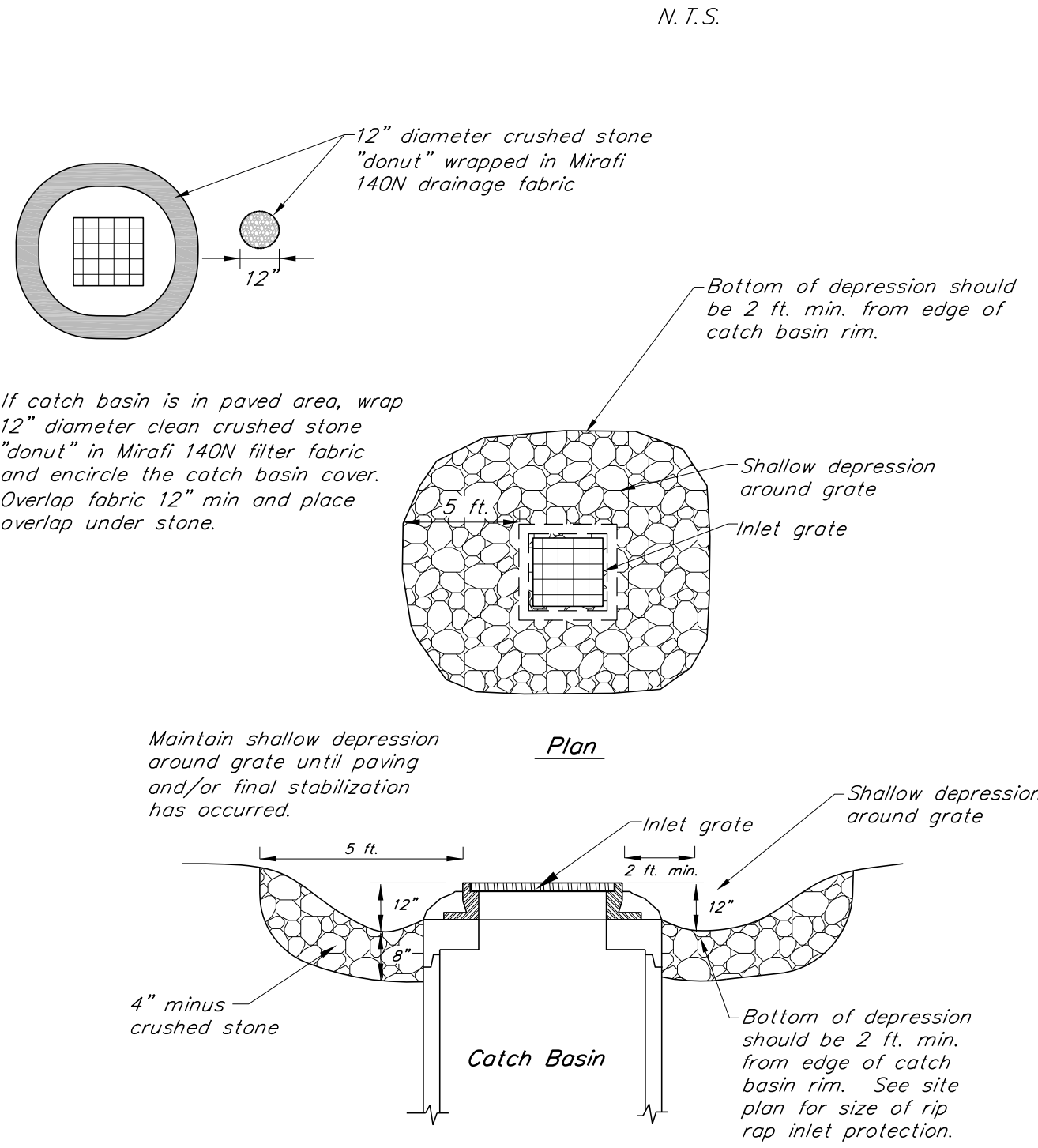
Typical Temporary Silt Fence



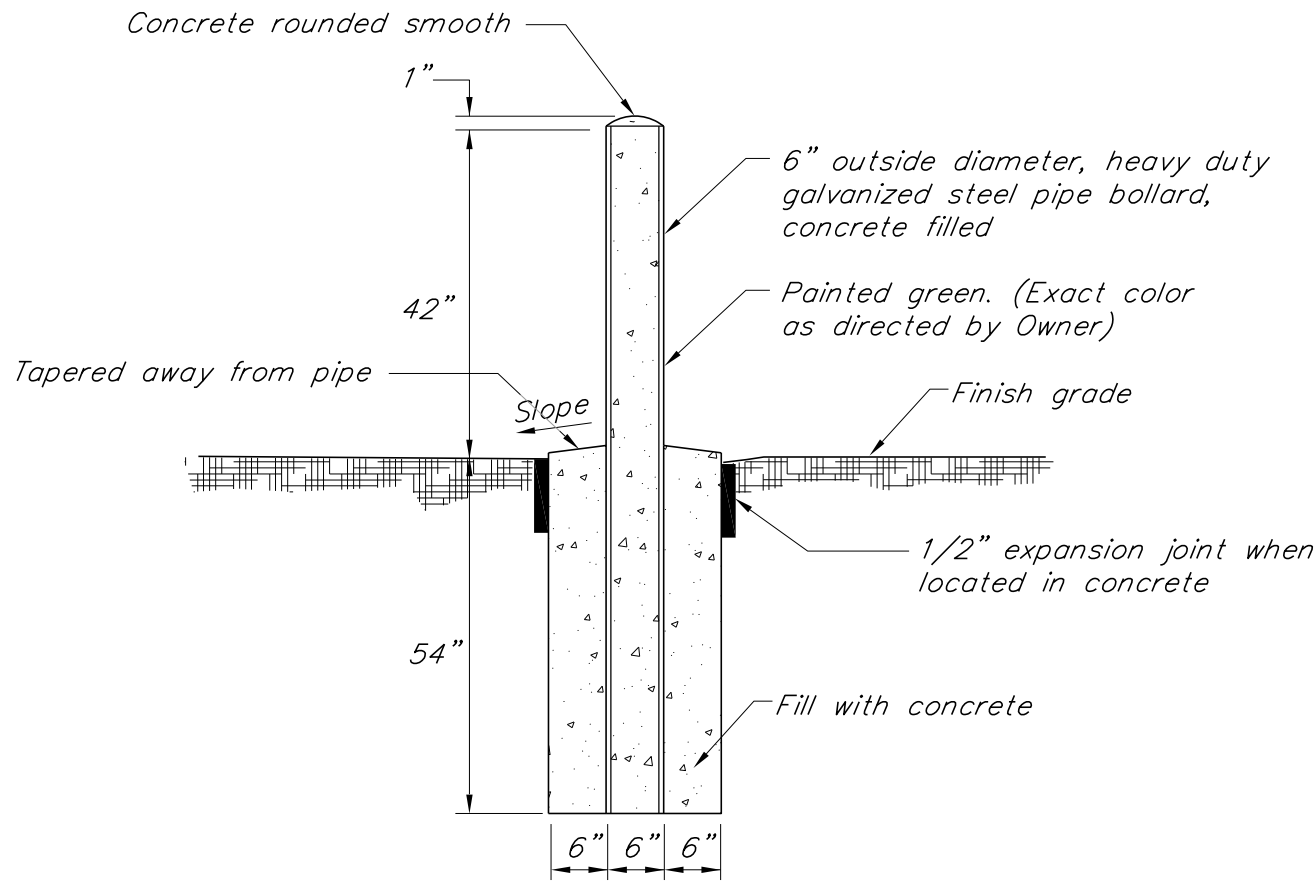
Note:

- Contractor shall be responsible for the installation, maintenance, and removal of a stabilized construction entrance at each construction entrance for the project. The Construction Stabilized Entrance and its continued maintenance shall be a minimum measure to prevent tracking of sediment off-site.
- Contractor to use Mirafi 500x under stone for temporary construction roads.
- Stabilized construction entrances shall be repaired when voids are 80% filled with sediment. Repair shall include adding additional 4" minus crushed stone and/or removal of contaminated stone.

Temporary Stabilized Construction Entrance



Catch Basin Inlet Protection



Bollard Detail

Soil and Seeding Notes

- Topsoil shall be screened and shall have a minimum 4" depth unless additional depth is specified on the plans. Topsoil shall be natural, fertile, friable soil representative of local productive soil and free of clay lumps, stones, subsoil or other foreign matter, not frozen or muddy. Acidly range PH 5-7 not less than three (3) percent humus. Samples will be required for approval. All soil testing costs will be paid by Contractor.
- Commercial fertilizer shall be a complete plant food containing nitrogen (50% organic) phosphoric acid and potash. Soil tests will indicate composition required.
- Hydro seeding is the preferred practice for turf establishment. Specifications are:
Fertilizer: 19-19-19 75 lbs per 1,000 gallons of water
Lime: 100 lbs. per 1,000 gallons of water
Seed: 6 lbs per 1,000 square feet.
71.46% Min. Futuro 3000 Per Rye Grass Germ: 90%
14.81% Min. Dynasty Tall Fescue Germ: 90%
9.74% Min. Creeping Red Fescue Germ: 90%
2.32% Max. Crab
1.61% Max. Inert
0.06% Max. Weed
Mulch: 300 lbs. per 1,000 gallons of water.
Tactile: 5 lbs. per 1,000 gallons of water.
- The grass seed may be applied by hand method at a rate of 6 lbs. per 1,000 sq. ft.
- Areas having soil compaction as a result of construction shall be rato-tilled prior to seeding.
- If hand seeding, only straw mulch is to be used and secured by netting either organic or inorganic. If inorganic is used, it must be removed before the first mowing.
- Starter fertilizer shall be applied at the normal rate at the time of seeding. Fertilizer application will not be allowed in sensitive areas and adjacent to drainage ways as determined by the Engineer.
- Watering is to be done by the Contractor to maintain proper growth. Contractor shall supply the water and all apparatus necessary to apply the water (i.e. hoses, sprinklers, etc.).
- Staking of all topsoiled areas to control foot traffic will be required. Acceptable staking materials will be grade stakes and twine or string with flagging attached for visibility. Contractor is responsible to maintain stakes throughout the warranty period.
- A guarantee through the first growing season is required with any sparse or bare areas larger than 1 sq. ft. to be redone.
- The Contractor shall test topsoil to determine proper application rate of lime and fertilizer. Submit tests to Engineer for approval.
- Seeding is permitted from May 15 - June 15, and August 15 - September 15. Other seeding is possible at other times with prior approval from the Engineer.

CONSTRUCTION STAKEOUT NOTES

The Contractor shall be responsible for all construction stakeout for the project. The Engineer shall provide the Contractor an AutoCAD R2000 drawing of the site design. The drawing will include horizontal and vertical survey control. Additional survey control will be the responsibility of the Contractor.

- The Contractor shall be responsible for using proper survey equipment and having properly trained personnel to use this information. Any Contractor that does not have proper equipment or personnel shall subcontract the work to a competent consultant.
- The horizontal control datum may be based on a coordinate system that is unique for this project. Project north may not refer to astronomic or magnetic north.
- The Contractor shall check the integrity of survey control points by occupying a control point checking distance to back sight and checking distance and angle to another control point prior to any construction stakeout. The contractor shall not proceed with stakeout if either measured distances or angles do not match calculated values.
- Graphical images of infrastructure in the AutoCAD drawing may not be in an accurate representation of its size. It is the Contractor's responsibility to verify size and shape of all items to be staked out.
- After completion of radial stakeout with the survey transit, the Contractor shall check each stakeout point as necessary to verify the horizontal and vertical position of the point and that it is correct in relationship to the rest of the project.
- The Contractor shall complete all construction stakeout to an accuracy of 0.1 feet (excluding building stakeout).

North American Green S75BN

Material Content

Straw	100% (.50 lbs/sq.yd.) (.27 kg/m2)
Netting	Leno woven, 100% biodegradable jute fiber
Weight	approximately 1.64 lbs/1000 s.f.
Thread	Biodegradable
Installed as per manufacturer's specifications.	

Material Specifications

Erosion control blanket shall be a machine-produced mat of 100% agricultural straw.

The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with natural fiber netting having an approximate 1/2" X 1/2" mesh and be sewn together with biodegradable thread.

Straw erosion control blanket shall be S75BN as manufactured by North American Green, Inc. (812-867-6632) or equivalent. Erosion control blanket shall have the following properties:

Erosion Control Matting

	Date revised	Description	Checked	Date
Design	WHN			
Drawn	DMR			
Checked				
Scale	N.T.S.			
Date	April 3, 2014			
Project	13220	Bright Street		
		Burlington, Vermont		
		KREBS & LANSING Consulting Engineers, Inc.		
		164 Main Street, Colchester, Vermont 05446		
		The owner shall retain all rights in the design and drawings. No part of this design and drawings shall be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the engineer.		
		CD-6		

The Low Risk Site Handbook for Erosion Prevention and Sediment Control

Table of Contents

Section 1: Introduction

Section 2: The Requirements

Section 3: Additional Resources

Example Site Inspection Form

How to calculate slope

Approximate Slope Conversions

Area in acres

How to estimate disturbance area

Acknowledgments

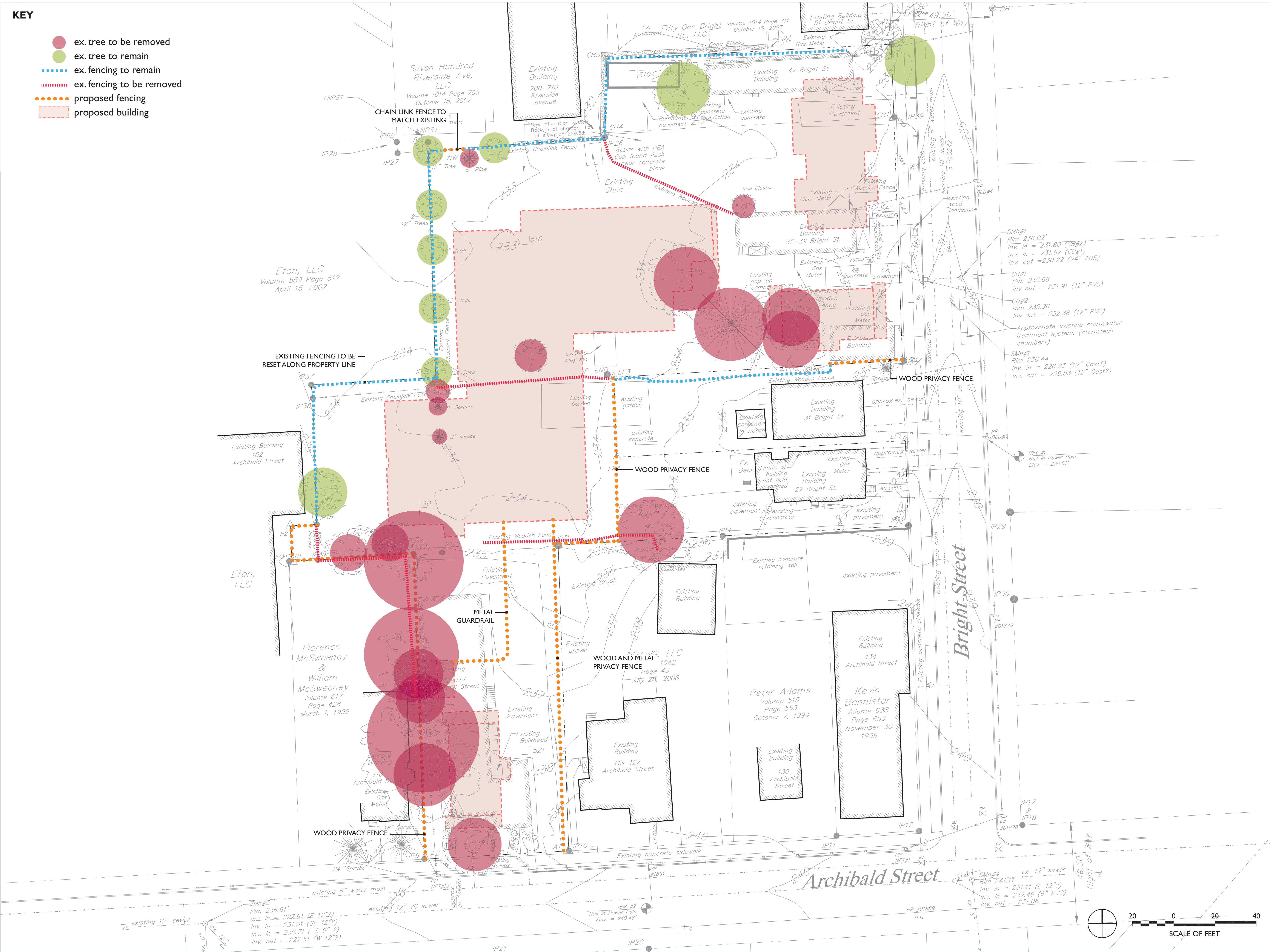
Contractor shall employ as many of these best management practices to prevent soil from leaving the construction site. If evidence is found of soil leaving the construction site, the Engineer shall direct Site Contractor to implement additional best management practices at no additional cost to Owner.



Date revised	WHN	Description	Checked	Date
Designed	WHN	Low Risk Site Handbook for Erosion Prevention & Sediment Control Champlain Housing Trust Inc. Bright Street Burlington, Vermont		
Drawn	DMR			
Checked				
Scale	N.T.S.			
Date	April 3, 2014			
Project	13220			
KREBS & LANSING Consulting Engineers, Inc. 164 Main Street, Colchester, Vermont 05446		Burlington, Vermont 13202 UNES/10/04/04 13204 CD-7		

KEY

- ex. tree to be removed
- ex. tree to remain
- ex. fencing to remain
- ex. fencing to be removed
- proposed fencing
- proposed building



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EXISTING TREE &
FENCING DEMO
DIAGRAM

REVISIONS



EAST ELEVATION

Scale: 1/8" = 1'-0"

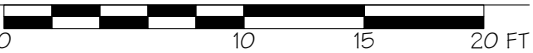
WINDOW SCHEDULE						
MARK	DESCRIPTION	ROUGH OPNG	R.O. HEAD HT.	EXT. COLOR	TRIM	
A	IFDH3056	3'0 1/2" x 5'6 1/2"	7'9"	TBD-LIGHT/DARK	5/4x6 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
B2	IFDH3640 2W	7'0 1/2" x 4'0 1/2"	7'0"	TBD-LIGHT/DARK	5/4x5 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
C2	IFDH2656 2W	5'0 1/2" x 5'6 1/2"	7'9"	TBD	5/4x5 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
C3	IFDH2656 3W	8'0 1/2" x 5'6 1/2"	7'9"	TBD	5/4x5 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
D	IFDH4066	4'0 1/2" x 6'6 1/2"	7'9 1/2"	TBD	5/4x5 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
E	CUSTOM	5'0 1/2" x 8'0"	8'0"	TBD	5/4x5 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
F1	CUSTOM	3'4 1/2" x 2'9 1/2"	2'8 1/2"	TBD	NO TRIM / PVC SILL	
F3	CUSTOM	3'4 1/2" x 5'7 1/2"	5'7 1/2"	TBD	NO TRIM / PVC SILL	
G	CUSTOM	3'4" x #####	5'2 1/4"	TBD	5/4xVARIES JAMB TRIM / 5/4x6 HEAD & SILL TRIM	



SOUTH ELEVATION

Scale: 1/8" = 1'-0"

NOTE: COLORS SHOWN INDICATE LIGHTNESS AND DARKNESS ONLY, HUE AND SATURATION TO BE DETERMINED.



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A5.1



WEST ELEVATION

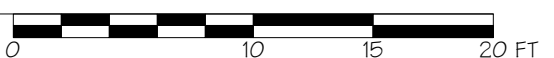
Scale: 1/8" = 1'-0"



NORTH ELEVATION

Scale: 1/8" = 1'-0"

NOTE: COLORS SHOWN INDICATE LIGHTNESS AND DARKNESS ONLY, HUE AND SATURATION TO BE DETERMINED.



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A5.2



FRONT ELEVATION

Scale: 1/4" = 1'-0"



RIGHT ELEVATION

Scale: 1/4" = 1'-0"



BACK ELEVATION

Scale: 1/4" = 1'-0"

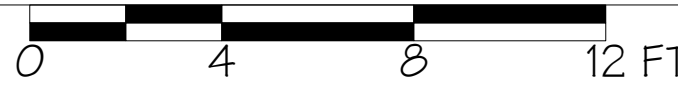
NOTE: COLORS SHOWN INDICATE LIGHTNESS AND DARKNESS ONLY, HUE AND SATURATION TO BE DETERMINED.



LEFT ELEVATION

Scale: 1/4" = 1'-0"

WINDOW SCHEDULE						
MARK	DESCRIPTION	ROUGH OPNG	R.O. HEAD HT.	EXT. COLOR	TRIM	
A1	IPDH4056	4'0 1/2" x 5'6 1/2"	6'11 1/4"	TBD-LIGHT	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
A2	IPDH4056	4'0 1/2" x 5'6 1/2"	7'7 1/4"	TBD-DARK	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
A3	IPDH4056	4'0 1/2" x 5'6 1/2"	7'7 1/4"	TBD-DARK	NO TRIM / PVC SILL	
A4	IPDH4056	4'0 1/2" x 5'6 1/2"	7'7 1/4"	TBD-LIGHT	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
B	IPDH3050	3'0 1/2" x 5'0 1/2"	7'3 1/2"	TBD-LIGHT	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
C	IFAWN3030	3'0 1/2" x 3'0 1/2"	7'3 1/4"	TBD-LIGHT	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
D	IPDH2646	2'6 1/2" x 4'6 1/2"	7'7 1/4"	TBD-LIGHT	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
E	IPDH2050	2'0 1/2" x 5'0 1/2"	7'7 1/4"	TBD-DARK	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	
F	IPDH2040	2'0 1/2" x 4'0 1/2"	6'7 1/4"	TBD-DARK	5/4x4 JAMB TRIM / 5/4x6 HEAD TRIM / PVC SILL	



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6.0



RIGHT ELEVATION

Scale: 1/4" = 1'-0"

LEFT ELEVATION DUPLEX 2



FRONT ELEVATION

Scale: 1/4" = 1'-0"

BACK ELEVATION DUPLEX 2



LEFT ELEVATION

Scale: 1/4" = 1'-0"

RIGHT ELEVATION DUPLEX 2



BACK ELEVATION

Scale: 1/4" = 1'-0"

FRONT ELEVATION DUPLEX 2

Scale: 1/4" = 1'-0"

NOTE: COLORS SHOWN INDICATE LIGHTNESS AND DARKNESS ONLY, HUE AND SATURATION TO BE DETERMINED.
NOTE: DUPLEX 2 SIMILAR, GRADES MAY VARY.

WINDOW SCHEDULE					
MARK	DESCRIPTION	ROUGH OPNG	R.O. HEAD HT.	EXT. COLOR	TRIM
A	IPDH2956 3W	8'0 1/2" x 15'6 1/2"	8'11 1/4"	TBD-LIGHT	5/4x5 JAMB TRIM / FIBER CEMENT PANEL AT HEAD & BELOW PVC SILL
B	IPDH4056	4'0 1/2" x 5'6 1/2"	7'7 1/4"	BLACK	NO TRIM, PVC SILL
C	IPDH4056	4'0 1/2" x 5'6 1/2"	6'11 1/4"	TBD-LIGHT	5/4x5 JAMB TRIM / 5/4"x6 HEAD TRIM / PVC SILL
C'	IPDH4056	4'0 1/2" x 5'6 1/2"	7'7 1/4"	TBD-DARK	5/4x5 JAMB TRIM / 5/4"x6 HEAD TRIM / PVC SILL
D	IPDH2056	2'0 1/2" x 5'6 1/2"	7'7 1/4"	TBD-DARK	5/4x5 JAMB TRIM / 5/4"x6 HEAD TRIM / PVC SILL
E	IPDH2050	2'0 1/2" x 5'0 1/2"	6'11 1/4"	TBD-LIGHT	5/4x5 JAMB TRIM / 5/4"x6 HEAD TRIM / PVC SILL
E'	IPDH2050	2'0 1/2" x 5'0 1/2"	7'7 1/4"	TBD-LIGHT	5/4x5 JAMB TRIM / 5/4"x6 HEAD TRIM / PVC SILL

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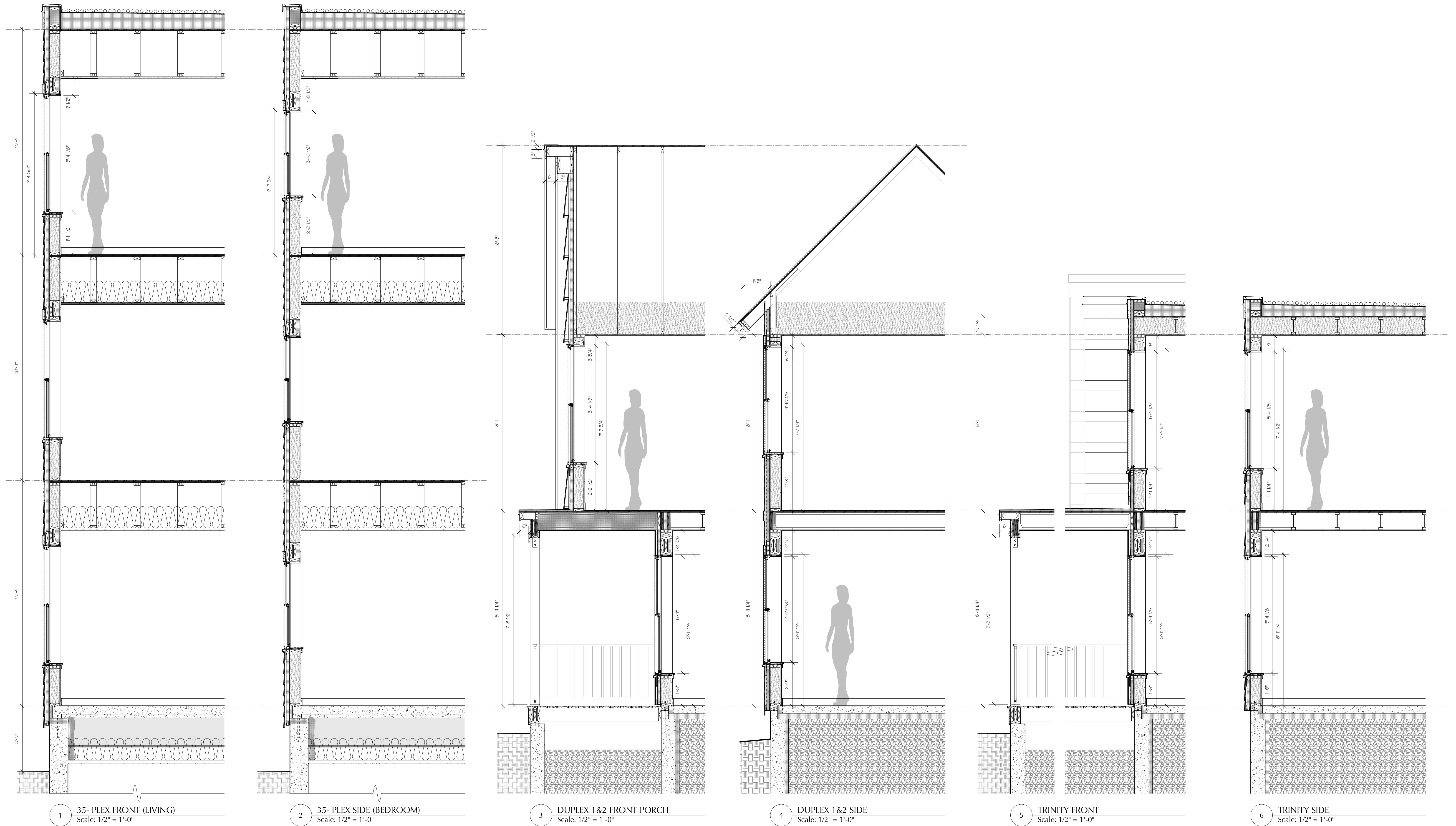
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7.0



SCHEMATIC ARCHITECTURAL WALL CROSS SECTIONS

NOTE: WINDOW AND TRIM LOCATIONS AND SIZES WILL ADJUST DURING DESIGN DEVELOPMENT TO MATCH CLAPBOARD LAYOUT.

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