

Burlington Development Review Board

149 Church Street, City Hall
Burlington, VT 05401

www.burlingtonvt.gov/pz/DRB

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BURLINGTON DEVELOPMENT REVIEW BOARD Tuesday January 31, 2017, 5:00 PM PUBLIC HEARING NOTICE

The Burlington Development Review Board will hold a meeting on
Tuesday January 31, 2017 at 5:00pm in Fletcher Room, Fletcher Free Library.

- 1. 17-0643CA/MA and 17-0644CA; 400 Pine Street and 30-32 Howard Street (ELM, Ward 5S) Howard Space Partnership, LLP**
Demolish 2 warehouse buildings, and construct new multi-use building. Demolish duplex and move curb cut.
(Project Manager, Mary O'Neil)
- 2. 17-0388CA/MA; 66-96 Colchester Ave, 27 Fletcher Place, and 49 Fletcher Place (I, Ward 1E) Frank vonTurkovich**
Construct 3 story residential building containing 75 apartments units. Combine and reconfigure surface parking areas.
(Project Manager, Mary O'Neil)

Plans may be viewed in the Planning and Zoning Office, (City Hall, 149 Church Street, Burlington), between the hours of 8:00 a.m. and 4:30 p.m.

Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Planning and Zoning office is considered public and cannot be kept confidential.

This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/pz/dr/Agendas or the office notice board, one week before the hearing for the order in which items will be heard.

Department of Planning and Zoning

149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
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David White, AICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Anita Wade, Zoning Clerk
vacant, Department Secretary



TO: Development Review Board
FROM: Scott Gustin
DATE: January 31, 2017
RE: 17-0632CA; 55 Colchester Ave

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: I Ward: 1E

Owner/Applicant: University of Vermont

Request: Addition of 23,350 sq. ft. to Kalkin Hall; 3 stories plus basement, existing outdoor courtyard for classrooms, study rooms, faculty offices and other spaces to support the Grossman School of Business.

Applicable Regulations:

Article 4 (Maps & Districts), Article 5 (Citywide General Regulations), Article 6 (Development Criteria & Guidelines), Article 8 (Parking)

Background Information:

The applicant is requesting approval for an addition to the existing Kalkin Hall within UVM's Central Campus. The project is relatively minor in scope and amounts to filling in an existing court yard with ~ 23,000 sf new building area. Associated walkways, outdoor sitting areas, and landscaping are also proposed.

The project site is located within the Institutional Core Campus Overlay wherein intensified development is anticipated. Given the small scope, no project phasing has been requested. Impact fees (FY '17 rates) based on the net new building area will be assessed upon project completion.

The University of Vermont is an educational institution and, therefore, is subject to only limited zoning review per 24 VSA, Sec. 4413, *Limitations on municipal bylaws*. This application may be reviewed only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements.

Recommendation: Consent approval as per, and subject to, the following findings and conditions:

I. Findings

Article 4: Maps & Districts

Sec. 4.4.4, Institutional District:

(a) Purpose

See Sec. 4.5.2 (d) *District Specific Regulations: UVM Central Campus*.

(b) Dimensional Standards & Density

See Sec. 4.5.2 (d) *District Specific Regulations: UVM Central Campus*.

(c) Permitted & Conditional Uses

See Sec. 4.5.2 (d) *District Specific Regulations: UVM Central Campus*.

Sec. 4.5.2, Institutional Core Campus Overlay Districts

(a) Purpose

The Institutional Core Campus Overlay Districts are intended to provide for reasonable future growth for institutions within the core of their respective campuses without further intrusion into surrounding residential neighborhoods. Increased development scale and intensity than would be found in adjacent residential areas and to provide for a variety of uses associated with higher education, health care, and cultural and research centers. The proposed addition to Kalkin Hall is consistent with this intent. **(Affirmative finding)**

(b) Areas Covered

The proposed construction is located within the UVM Central Campus overlay. **(Affirmative finding)**

(d) District Specific Regulations: UVM Central Campus (ICC-UVM)

1. Transitional Buffer

None of the proposed construction is located within the transitional buffer. **(Affirmative finding)**

2. Lot Coverage

Most of the new construction is taking place over existing impervious surface. Therefore, the net increase in lot coverage is small at just 730 sf. The undergraduate student housing approved in 2015 resulted in lot coverage of 49.57% within the core campus overlay. No updated total lot coverage is noted and must be. That said, lot coverage clearly remains below the 65% permissible in the ICC-UVM overlay. **(Affirmative finding as conditioned)**

3. Setbacks

Only 15' front setbacks within the transitional buffer apply within this core campus overlay zone. As noted above, none of the proposed work is located within the transitional buffer. **(Affirmative finding)**

4. Surface Parking

No new surface parking is included in this project. **(Affirmative finding)**

5. Building Height

While it is within the core campus overlay, the proposed building addition is not located within the ICC-UVM Height Overlay. As such, the addition is limited to the height of the tallest existing structure within the core campus overlay as of January 1, 2008. The proposed addition is nowhere near the height of the tallest building within the core campus overlay. It is just 45' tall to the midpoint of its gable roof and appears to match the height of the existing building. **(Affirmative finding)**

6. Density

The non-residential density equivalent set forth in Sec. 5.2.7 (a) 2 does not apply within the ICC-UVM overlay. **(Affirmative finding)**

7. Uses

Within the ICC-UVM overlay district, post-secondary schools shall be permitted uses. The existing post-secondary school use will remain. No change in use is proposed. **(Affirmative finding)**

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Sec. 4.5.2.

Sec. 5.2.4, Buildable Area Calculation

This criterion does not apply to properties in the I zone. **(Not applicable)**

Sec. 5.2.5, Setbacks

See Sec. 4.5.2.

Sec. 5.2.6, Building Height Limits

See Sec. 4.5.2.

Sec. 5.2.7, Density and Intensity of Development Calculations

See Sec. 4.5.2.

Sec. 5.5.1, Nuisance Regulations

Nothing in this proposal appears to have any bearing on the city's nuisance regulations. **(Affirmative finding)**

Sec. 5.5.2, Outdoor Lighting

Some new outdoor lighting is included in this proposal. It is limited to walkway and entryway lighting. Fixture cutsheets depict acceptable cutoff LED fixtures, and a photometric analysis depicts acceptable illumination levels along the walkway and for the new building entry.

(Affirmative finding)

Sec. 5.5.3, Stormwater and Erosion Control

The very small net increase in impervious surface will result in minimal stormwater runoff. The core campus area is served by existing stormwater infrastructure with capacity to handle this nominal increase.

As more than 400 sf of earth disturbance is included in this proposal, an erosion prevention and sediment control plan has been submitted for review and approval by the Stormwater Administrator. **(Affirmative finding)**

Article 6: Development Review Standards

Part 1, Land Division Design Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

The project site contains no significant natural features. It largely consists of an existing court yard and some grassy areas. **(Affirmative finding)**

(b) Topographical alterations

Not applicable per 24 VSA, Sec. 4413.

(c) Protection of important public views

Not applicable per 24 VSA, Sec. 4413.

(d) Protection of important cultural resources

Not applicable per 24 VSA, Sec. 4413.

(e) Supporting the use of alternative energy

Not applicable per 24 VSA, Sec. 4413.

(f) Brownfield sites

Not applicable per 24 VSA, Sec. 4413.

(g) Provide for nature's events

Not applicable per 24 VSA, Sec. 4413. Chapter 26: Wastewater, Stormwater, and Pollution Control is a separate city ordinance that governs stormwater and erosion control standards. As a result, the project still must comply with the standards of Chapter 26. As required, an erosion prevention and sediment control plan has been provided. **(Affirmative finding)**

(h) Building location and orientation

The proposed addition is located within the University's Central Campus and does not directly front on any public street. A new primary building entrance is included in the addition and will face southward with a direct connection to the campus' existing walkway network. **(Affirmative finding)**

(i) Vehicular access

Not applicable per 24 VSA, Sec. 4413.

(j) Pedestrian access

Not applicable per 24 VSA, Sec. 4413.

(k) Accessibility for the handicapped

Not applicable per 24 VSA, Sec. 4413. Applicable accessibility requirements under the City's building code continue to apply. **(Affirmative finding as conditioned)**

(l) Parking and circulation

No changes to parking or circulation are included in this proposal. **(Affirmative finding)**

(m) Landscaping and fences

A landscaping plan has been provided. Details are simple and consist of new planting beds and some new hardscaping such as sitting areas and patio space. **(Affirmative finding)**

(n) Public plazas and open space

Not applicable.

(o) Outdoor lighting

See Sec. 5.5.2.

(p) Integrate infrastructure into the design

Any new utility lines serving the proposed construction must be buried. No additional mechanical equipment, dumpsters, or similar items are evident in the proposed site plan. Existing mechanical enclosures will remain. **(Affirmative finding)**

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

(a) Relate development to its environment

1. Massing, Height, and Scale

The proposed addition will affect both the mass and scale of Kalkin Hall. The 3-story addition will transform the L-shaped building into a more rectangular shape. While the scale of the structure will increase, it remains modest in comparison to some of the larger buildings on campus. As proposed, the addition will be discernable from the original structure, and massing will be broken up into distinct buildings sections. The outward appearance of a rectangular box is avoided. The proposed height is acceptable as noted in Sec. 4.5.2 (d) 5. **(Affirmative finding)**

2. Roofs and Rooflines

Not applicable per 24 VSA, Sec. 4413.

3. Building Openings

Not applicable per 24 VSA, Sec. 4413.

(b) Protection of important architectural resources

Not applicable per 24 VSA, Sec. 4413.

(c) Protection of important public views

Not applicable per 24 VSA, Sec. 4413.

(d) Provide an active and inviting street edge

Not applicable per 24 VSA, Sec. 4413.

(e) Quality of materials

Not applicable per 24 VSA, Sec. 4413.

(f) Reduce energy utilization

Not applicable per 24 VSA, Sec. 4413.

(g) Make advertising features complimentary to the site

Signs are noted on the project plans; however, they are not specifically included in this application. All outdoor signs are subject to separate zoning permit review. **(Affirmative finding as conditioned)**

(h) Integrate infrastructure into the building design

Rooftop mechanical equipment will be fully enclosed within a rooftop penthouse. **(Affirmative finding)**

(i) Make spaces safe and secure

All building and life safety code, as defined by the building inspector and fire marshal, shall be implemented in the construction of this building addition. **(Affirmative finding as conditioned)**

Article 8: Parking

Sec. 8.1.8, Minimum Off-Street Parking Requirements

This project is incorporated into the 2014-2019 update of the Joint Institutional Parking Management Plan as approved by the Development Review Board May 19, 2014. **(Affirmative finding)**

Sec. 8.2.5, Bicycle Parking Requirements

The proposed development will require 1 long-term bicycle parking space (1 per 20,000 sf) and 5 short-term bicycle parking spaces (3 per 5,000 sf). The project plans depict sheltered bike parking spaces with 10-space capacity. **(Affirmative finding)**

II. Conditions of Approval

1. **Prior to release of the zoning permit**, updated lot coverage percentage for the total UVM Central Campus core overlay shall be provided, subject to staff review and approval.
2. At least **7 days prior to issuance of a certificate of occupancy**, impact fees based on the net new building square footage shall be paid to the Department of Planning & Zoning.
3. All new utility lines shall be buried.
4. All outdoor signs require separate zoning permits.
5. The Applicant/Property Owner is responsible for obtaining all necessary Zoning Permits and Building Permits through the Department of Public Works as well as other permit(s) as may be required.
6. All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.
7. Standard permit conditions 1-15.

SEC. 8.1.8 MINIMUM OFF-STREET PARKING REQUIREMENTS

Table 21 summarizes projects that may be built by 2019; because many elements of these planned projects are currently undefined, approximate square footages and associated employment were estimated based on a number of assumptions.¹⁶ This is a conservative estimate, as it includes all projects that could potentially be constructed within the 2019 timeframe; in reality, it is likely that not all projects will be developed or pursued by then. The new facilities Gross Square Footage (GSF) estimated for these projects were added to the existing campus facilities described in Section 8.1.4 to calculate minimum parking requirements per the Ordinance.

TABLE 21: UVM PLANNED PROJECTS 2014-2019

Building Project	Primary Use	Change in GSF	Change in # of Beds	Change in # Parking Spaces
Multi-Purpose Event Center ¹	Athletic	200,000	0	0
STEM ²	Administrative/Academic	100,000	0	0
Kalkin Addition	Administrative/Academic	21,750	0	0
61 Summit Street ³	Administrative/Academic	5,300	0	16
UVM Rescue Building	Administrative/Academic	3,400	0	-38
Billings ⁴	Administrative/Academic	0	0	0
Housing Master Plan – Phase I ⁵	Residential	250,000	up to 730	0
Athletic Recreation Center	Athletic	58,000	0	0
Virtue Field Outdoor Seating ⁶	Athletic	6,165	0	0
Total New GSF		656,615	730	-22
Demolition Project	Primary Use			
Angell Hall ²	Administrative/Academic	-11,079	0	0
Housing Master Plan – Phase II ⁵	Residential	-77,936	-391	0
Total Demolished GSF		-89,015	-391	0
Net Change GSF		555,600	339	-22

Notes: (1) Assumes new 6,500 to 7,500-seat facility.

(2) Total STEM project will include the renovation of Cook and Votey Buildings, the demolition of Angell Lecture Center, and the addition of a new 100,000 square-foot facility.

(3) Additional square footage in new pavilion addition; renovation of existing building will not add new space.

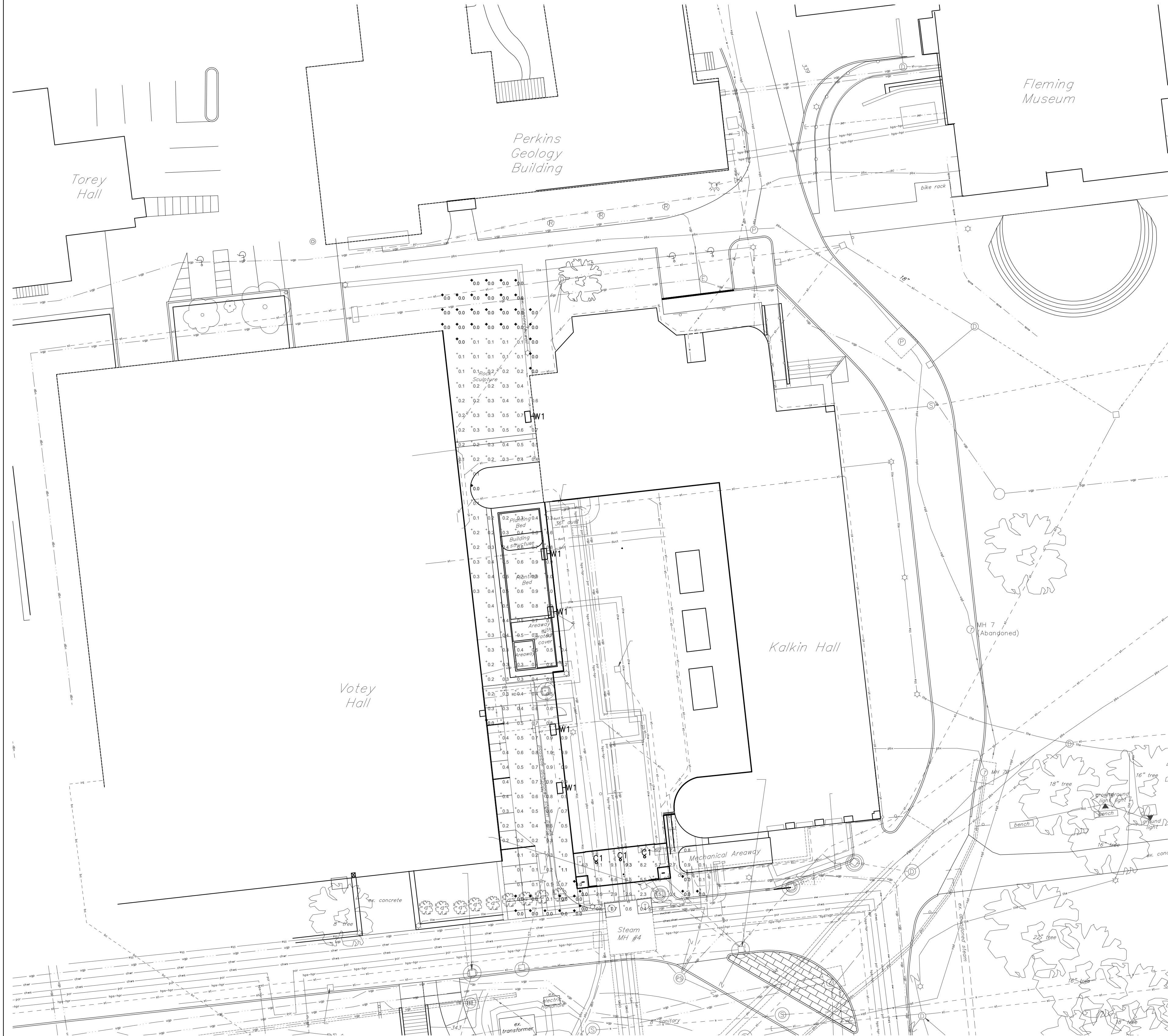
(4) Renovation; does not include any new additional space.

(5) Approximate square footage for new housing south of Main Street near Harris-Millis and Marsh-Austin-Tupper Residence Halls; assume that Chittenden, Buckham, and Wills Residence Halls (up to 391 beds) will be demolished within five years, with replacement occurring more than five years in the future.

(6) Includes the following accessory buildings: bathrooms, lockers, and a concession stand.

In the next five years, UVM expects a number of new projects with minimal changes to the parking inventory. These projects include ones that carried over from the last five-year projection: the Multi-Purpose Event Center, STEM Initiative, and the Athletic Recreation Center. In addition to these projects, UVM has several projects currently in design, including the Kalkin Addition, 61 Summit Street, and the Rescue Building. The Virtue Field Outdoor Seating has obtained a municipal permit. Billings, the Athletic Recreation Center, and the Housing Master Plan – Phase I project are also expected in the next five years.

¹⁶ Planned projects are not assumed to generate any new employment.

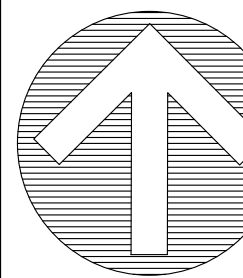


SITE PHOTOMETRIC PLAN
SCALE: 1" = 20'



LIGHTING FIXTURE SCHEDULE								
QTY	TYPE	MANUFACTURER & MODEL NO.	DESCRIPTION	LAMPS	WATTS	LUMENS	VOLTS	REMARKS
3	C1	PHILLIPS P6RD15NUVB-P6RD835V B-P6RDW	6" RECESSED CAN	LED	15.6	1500	277	FIXED OUTPUT SHALLOW CAN 4 1/2" MAXIMUM HEIGHT
5	W1	LUMARK XTOR1A-PC2	EXTERIOR WALL PACK	LED	7	772	120/ 277	MOUNT AT 20' AFG

STATISTICS				
Description	Symbol	Avg	Max	Min
Main Entry	+	2.9 fc	9.3 fc	0.0 fc
Walkway	+	0.4 fc	1.1 fc	0.0 fc



REVISIONS	

SITE PHOTOMETRIC PLAN

SCALE
AS NOTED

DATE
1/24/17

DRAWN BY
RMR

CHECKED BY
ASG

SE200

DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaires provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for facade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

SPECIFICATION FEATURES

Construction
Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and medium design. The small housing is available in 7W, 18W and 26W. The medium housing is available in the 38W model. Patented secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three half-inch, NPT threaded conduit entry points. The universal back box supports both the small and medium forms and mounts to standard 3-1/2" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 5" wide pole for site lighting application. Not recommended for car wash applications.

Optical
Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff illumination. Available in seven lumen packages; 5000K and 4000K CCT.

Electrical
LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 7W, 18W, 26W and 38W series operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C models available. Crosstour luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Three half-inch NPT threaded conduit entry points allow for thru-branch applications.

wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz or 347V 60Hz models.

Finish
Crosstour is protected with a Super durable TOIC carbon bronze or summit white polyester powder coat paint. Super durable TOIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life.

Warranty
Five-year warranty.

Lumark

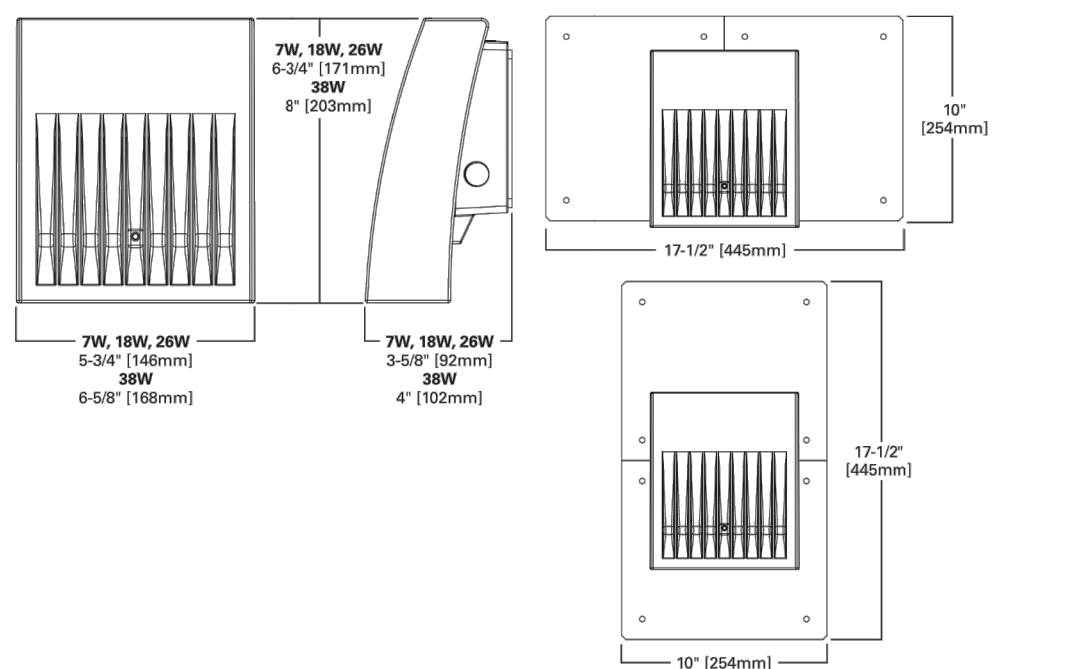
Catalog #	Type
Project	W1
Comments	Date
Prepared by	



XTOR CROSSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING

DIMENSIONS



CERTIFICATION DATA
UL/ULI, Wet Location Listed
LM79 / LM80 Compliant
ROHS Compliant
ADA Compliant
NOM Compliant Models
IP66 Ingressed Protection Rated
Title 24 Compliant

TECHNICAL DATA
40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA
Effective Projected Area (Sq. Ft.):
XTORIA, XTOR2B, XTOR3B=0.34
XTOR4B=0.45

SHIPPING DATA:
Approximate Net Weight:
3.7 ~ 5.25 lbs. [1.7 ~ 2.4 kgs.]

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LUMENS - CRI/CCT TABLE

LED Information	XTORIA	XTOR2B	XTOR2B-W	XTOR3B	XTOR3B-W	XTOR4B	XTOR4B-W
Delivered Lumens (Wall Mount)	772	2,135	2,103	2,751	2,710	4,269	4,205
Delivered Lumens (With Flood Accessory Kit)¹	468	1,495	1,472	2,099	2,068	3,168	3,121
B.L.U.G. Rating ²	B0-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B2-U0-G0	B2-U0-G0
CCT (Kelvin)	5,000	5,000	4,000	5,000	4,000	5,000	4,000
CRI (Color Rendering Index)	65	70	70	70	70	70	70
Power Consumption (Watts)	7W	18W	18W	26W	26W	38W	38W

NOTES: 1 Includes shield and view. 2 B.L.U.G. Rating does not apply to floodlighting.

CURRENT DRAW

Voltage	Model Series			
	XTORIA	XTOR2B	XTOR3B	XTOR4B
120V	0.05A	0.15A	0.22A	0.34A
208V	0.03A	0.09A	0.13A	0.17A
240V	0.03A	0.09A	0.13A	0.17A
277V	0.03A	0.07A	0.10A	0.15A
347V	0.025A	0.06A	0.082A	0.12A

ORDERING INFORMATION

Sample Number: XTOR2B-W-WT-PC1	Series	LED Kelvin Color	Housing Color	Options (Add as Suffix)	Accessories (Order Separately)
XTORIA=Small Door, 7W	XTORIA	Blank=Night White	Blank=Carbon Bronze	PC1=Photocontrol 120V ¹	WG/XTOR-Wire Guard ¹
XTOR2B=Small Door, 18W	XTOR2B	Standard=5000K	Standard	PC2=Photocontrol 208-277V ²	XTORFLD-TNN=Trunion Floodlight Kit *
XTOR3B=Small Door, 26W	XTOR3B	W=Neutral White, 4000K	WT=Summit White	347V=347V ³	XTORFLD-KNC-WT=Kruskale Floodlight Kit, Summit White *
XTOR4B=Medium Door, 38W	XTOR4B		BL=Black	HA=50°C High Ambient *	XTORFLD-TNN-WT=Trunion Floodlight Kit, Summit White *
			BZ=Bronze		EW/XTOR-Escutcheon Wall Plate, Carbon Bronze
			AP=Grey		EW/XTOR-WT-Escutcheon Wall Plate, Summit White
			GM=Graphite Metallic		

NOTES:

1. 3E, 3B, and 4B models only.
2. Photocontrols are factory installed.
3. Order PC1 for 347V models.
4. Thru-branch wiring not available with HA option or with 347V.
5. Wire gasket for wall/surface mount. Not for use with floodlight kit accessory.
6. Floodlight kit accessory supplied with knuckle (KNC) or trunion (TRN) base, small and large top vision and small and large impact shields.

STOCK ORDERING INFORMATION

7W Series	18W Series	26W Series	38W Series
XTORIA=7W, 5000K, Carbon Bronze	XTOR2B=18W, 5000K, Carbon Bronze	XTOR3B=26W, 5000K, Carbon Bronze	XTOR4B=38W, 5000K, Carbon Bronze
XTORIA-WT=7W, 5000K, Summit White	XTOR2B-W=18W, 4000K, Carbon Bronze	XTOR3B-W=26W, 4000K, Carbon Bronze	XTOR4B-W=38W, 4000K, Carbon Bronze
XTORIA-PC1=7W, 5000K, 120V PC, Carbon Bronze	XTOR2B-WT=18W, 5000K, Summit White	XTOR3B-WT=26W, 5000K, Summit White	XTOR4B-WT=38W, 5000K, Summit White
	XTOR2B-PC1=18W, 5000K, 120V PC, Carbon Bronze	XTOR3B-PC1=26W, 5000K, 120V PC, Carbon Bronze	XTOR4B-PC1=38W, 5000K, 120V PC, Carbon Bronze
	XTOR2B-W-PC1=18W, 4000K, 120V PC, Carbon Bronze		XTOR4B-W-PC1=38W, 4000K, 120V PC, Carbon Bronze

EATON
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P: 973-488-8800
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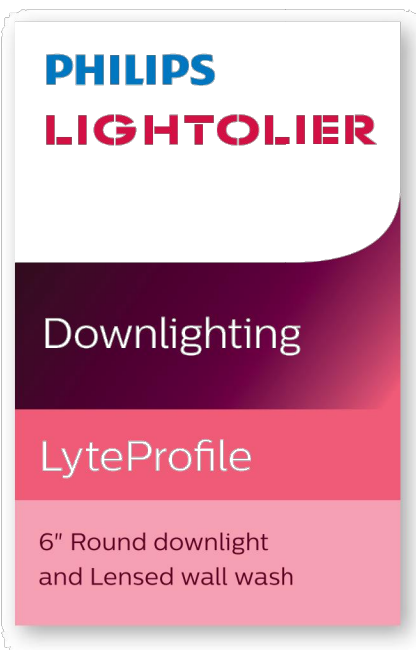
Specifications and dimensions subject to change without notice.

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XTOR CROSSTOUR LED

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
25°C	> 92%	290,000
40°C	> 92%	290,000
50°C	> 91%	270,000
XTOR2B Model		
25°C	> 89%	240,000
40°C	> 88%	212,000
50°C	> 87%	198,000
XTOR3B Model		
25°C	> 91%	280,000
40°C	> 91%	270,000
50°C	> 88%	240,000
XTOR4B Model		
25°C	> 89%	222,000
40°C	> 87%	198,000
50°C	> 87%	184,000



Project: _____
Location: _____
Cat.No: _____
Type: **C1**
Lamps: _____ Qty: _____
Notes: _____

LyteProfile LED Downlights are designed for new construction and include downlight and wall wash distributions. They are highly energy efficient with up to 100 lm/W, provide a full 60° cutoff, and feature an impressively, shallow 4.5" housing.

Complete Product = Frame-in kit + Light engine + Reflector Order each separately

Ordering guide: **Frame-in kit¹**

Example: P6RD15N210UVBEM

Series	Style	Lumens	Installation	Dimming	Input voltage	Version	Options
P6R	D	10 1,000 lm 15 1,500 lm 20 2,000 lm 25 2,500 lm	N Non-IC New construction N Non-IC New construction	Z10 0-10V Dimming L Lutron Z10 0-10V Dimming L Lutron	U Universal (120/277V) 3 347V²	VB Version B	EM Emergency³

Ordering guide: **Light engine**

Example: P6RD835VB

Series	Style	CRI	CCT	Version
P6R	D	8	27 2700K 30 3000K 35 3500K 40 4000K	VB Version B

For 90 CRI, contact factory.

Ordering guide: **Reflector**

Example: P6RDCCP

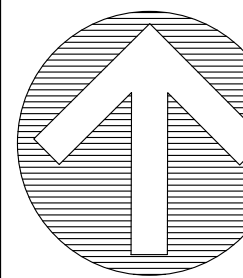
Series	Style	Reflector	Flange
P6R	D Downlight LW Lensed wall wash	CL Clear CC Comfort clear D Clear diffuser (applied) W White (painted)	Blank White (painted) P Polished (matches aperture) Blank White (painted)

1. Mounting Bars need to be ordered separately, see Options and Accessories on page 2 for Mounting Bar options.
2. 347V configurations are not available with the emergency option.

Note: Refer to page 2 for Energy Star certification details.



LyteProfile_P6R_Downlight_05/15 page 1 of 9



UNIVERSITY OF VERMONT
KALKIN HALL ADDITION
CROSSMAN SCHOOL OF BUSINESS



Pearson Associates Inc.
MECHANICAL & ELECTRICAL ENGINEERS
P.O. BOX 610, STOWE, VERMONT 05672-0610
TEL: (802) 253-9800
www.pearsonassociates.com

BLACK RIVER DESIGN ARCHITECTS

REVISIONS

Rev	Description	Date

SITE LIGHT CUTSHEET

SCALE
AS NOTED

DATE
1/24/17

DRAWN BY
RMR

CHECKED BY
ASG

SE201

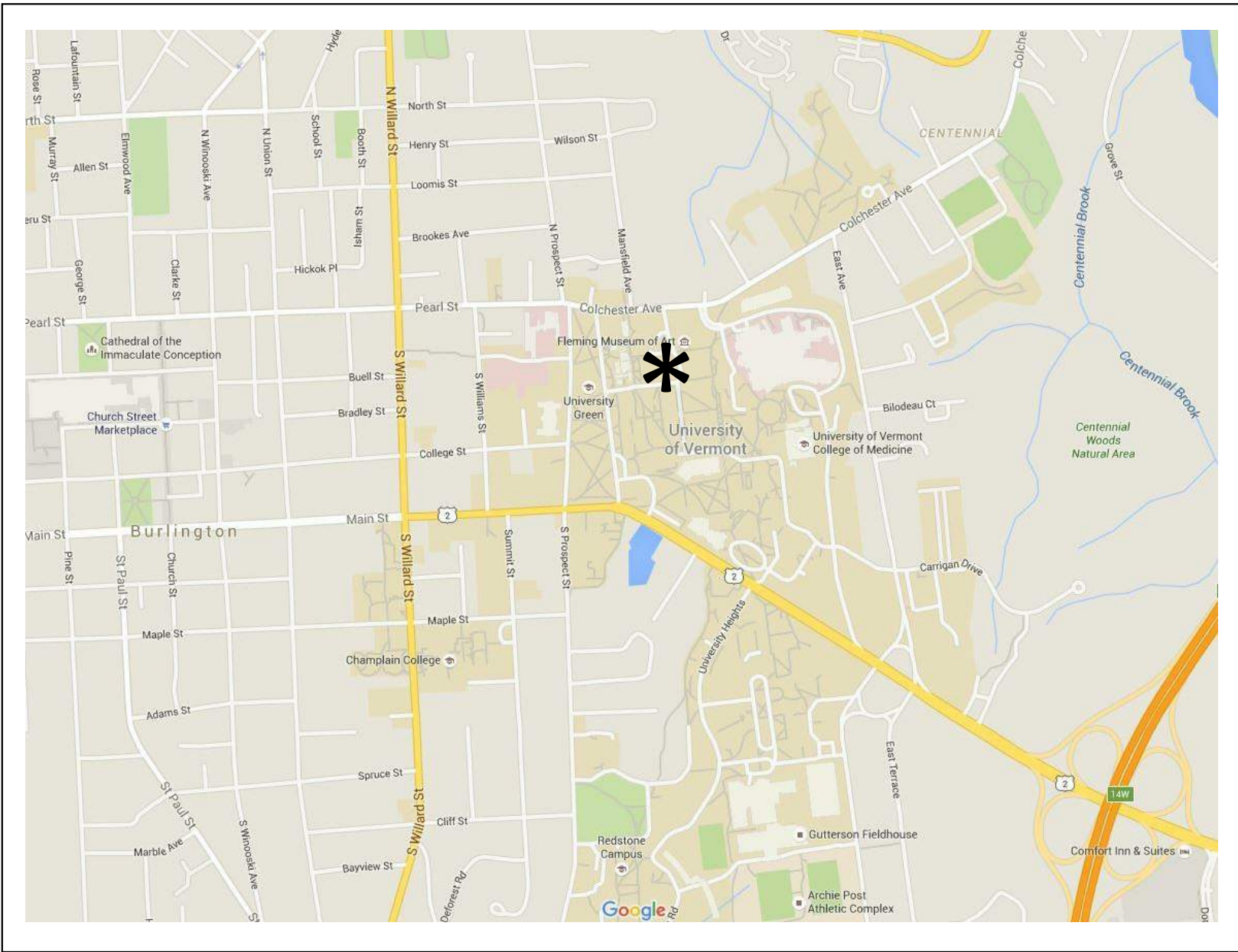
UNIVERSITY OF VERMONT KALKIN HALL ADDITION

55 COLCHESTER AVE, BURLINGTON VERMONT 05405



DRAWING INDEX

A	COVER	A561	PLAN DETAILS	M400	MECHANICAL SECTIONS, ELEVATIONS AND DETAILS
C100	OVERALL SITE PLAN	A562	PLAN DETAILS	M500	HVAC FIRE & SMOKE DAMPER SCHEMATICS
C101	SITE PLAN	A700	DOOR NOTES AND ELEVATIONS	M501	MECHANICAL DETAILS (SHEET 1 OF 3)
C102	SITE ALTERNATES	A701	DOOR SCHEDULE	M502	MECHANICAL DETAILS (SHEET 1 OF 4)
C200	OVERALL EXISTING CONDITIONS PLAN	A702	DOOR SCHEDULE	M503	MECHANICAL DETAILS (SHEET 1 OF 5)
C201	EXISTING CONDITIONS PLAN	A711	EXTERIOR GLAZING ASSEMBLY ELEVATIONS	P100	PLUMBING PIPING PLAN - LOWER LEVEL
C300	DEMOLITION SITE PLAN	A712	INTERIOR STOREFRONT ELEVATIONS	P101	PLUMBING PIPING PLAN - FIRST FLOOR
C400	EROSION PREVENTION AND SEDIMENT CONTROL - PRECONSTRUCTION PLAN	A800	ENLARGED PLANS	P102	PLUMBING PIPING PLAN - SECOND FLOOR
C401	EROSION PREVENTION AND SEDIMENT CONTROL - SUMMER 2017	A900	LOWER LEVEL - FINISH PLAN	P103	PLUMBING PIPING PLAN - THIRD FLOOR
C402	EROSION PREVENTION AND SEDIMENT CONTROL - WINTER 2017-2018	A901	FIRST FLOOR - FINISH PLAN	P104	PLUMBING PIPING PLAN - PENTHOUSE
C403	EROSION PREVENTION AND SEDIMENT CONTROL - SUMMER 2018	A902	SECOND FLOOR - FINISH PLAN	P201	ENLARGED PLUMBING PLANS
C500	CIVIL DETAILS	A903	THIRD FLOOR - FINISH PLAN	P300	PLUMBING SCHEDULES AND DETAILS
C501	CIVIL DETAILS	A910	FINISH SCHEDULE	PID-1	AIR HANDLER SYSTEM P&ID
C502	CIVIL DETAILS	A911	FINISH SCHEDULE	PID-2	ENERGY RECOVERY SYSTEM P&ID
C503	CIVIL DETAILS	A920	INTERIOR ELEVATION	PID-3A	SIMPLIFIED CHILLED WATER SYSTEM FLOW DIAGRAM
C504	LOW RISK SITE HANDBOOK FOR EROSION PREVENTION & SEDIMENT CONTROL	S001	GENERAL NOTES	PID-4	VFD CONTROL INTERFACE WIRING DIAGRAM
L100	LANDSCAPE PLAN	S100	LOWER LEVEL & FOUNDATION PLAN	PID-5	HEATING SYSTEM P&ID
AD100	DEMOLITION PLANS	S101	FIRST FLOOR FRAMING PLAN	E100	ELECTRICAL SCHEDULES & LEGENDS
AD101	DEMOLITION PLAN	S102	SECOND FLOOR FRAMING PLAN	E200	LOWER LEVEL ELECTRICAL DEMO PLAN
AD102	ROOF DEMOLITION PLAN	S103	THIRD FLOOR FRAMING PLAN	E201	FIRST FLOOR ELECTRICAL DEMO PLAN
A001	GENERAL NOTES & PARTITION TYPES	S104	PENTHOUSE & LOW ROOF FRAMING PLAN	E202	SECOND FLOOR ELECTRICAL DEMO PLAN
A002	TYPICAL MOUNTING HEIGHTS	S105	HIGH ROOF FRAMING PLAN	E203	THIRD FLOOR ELECTRICAL DEMO PLAN
A010	CODE PLANS & CODE SUMMARY	S201	COLUMN SCHEDULE	E204	PENTHOUSE ELECTRICAL DEMO PLAN
A021	PHASING PLANS	S202	SECOND FLOOR SHELF ANGLE PLAN	E300	LOWER LEVEL POWER PLAN
A030	PERSPECTIVE VIEWS	S203	THIRD FLOOR SHELF ANGLE PLAN	E301	FIRST FLOOR POWER PLAN
A031	PERSPECTIVE VIEWS	S204	PENTHOUSE SHELF ANGLE PLAN	E302	SECOND FLOOR POWER PLAN
A100	LOWER LEVEL - FLOOR PLAN	S300	SECTIONS	E303	THIRD FLOOR POWER PLAN
A101	FIRST FLOOR - FLOOR PLAN	S301	SECTIONS	E304	PENTHOUSE POWER PLAN
A102	SECOND FLOOR - FLOOR PLAN	S302	SECTIONS	E400	LOWER LEVEL LIGHTING PLAN
A103	THIRD FLOOR - FLOOR PLAN	S303	SECTIONS	E401	FIRST FLOOR LIGHTING PLAN
A104	PENTHOUSE - ATTIC PLAN	S304	SECTIONS	E402	SECOND FLOOR LIGHTING PLAN
A200	LOWER LEVEL - REFLECTED CEILING PLAN	S305	SECTIONS	E403	THIRD FLOOR LIGHTING PLAN
A201	FIRST FLOOR - REFLECTED CEILING PLAN	S306	SECTIONS	E404	PENTHOUSE LIGHTING PLAN
A202	SECOND FLOOR - REFLECTED CEILING PLAN	S307	SECTIONS	E500	LOWER LEVEL SYSTEMS PLAN
A203	THIRD FLOOR - REFLECTED CEILING PLAN	S400	TYPICAL DETAILS	E501	FIRST FLOOR SYSTEMS PLAN
A300	ROOF PLAN	S401	TYPICAL DETAILS	E502	SECOND FLOOR SYSTEMS PLAN
A301	ROOF DETAILS	M001	HVAC ZONE PLANS - ALL LEVELS	E503	THIRD FLOOR SYSTEMS PLAN
A302	ROOF DETAILS	M100	MECHANICAL DUCTWORK PLAN - LOWER LEVEL	E504	PENTHOUSE SYSTEMS PLAN
A400	BUILDING ELEVATIONS	M101	MECHANICAL DUCTWORK PLAN - FIRST FLOOR	E600	PANEL SCHEDULES
A401	SECTION ELEVATIONS	M102	MECHANICAL DUCTWORK PLAN - SECOND FLOOR	E601	PANEL SCHEDULES
A402	SECTION ELEVATIONS	M103	MECHANICAL DUCTWORK PLAN - THIRD FLOOR	E700	EXISTING ONE-LINE PANEL DIAGRAM
A500	EXTERIOR ASSEMBLIES	M104	MECHANICAL DUCTWORK PLAN - PENTHOUSE	E701	ONE-LINE DIAGRAM
A501	WALL SECTIONS	M104A	MECHANICAL DUCTWORK PLAN OUTSIDE AIR AND EXHAUST - PENTHOUSE	E800	ELECTRICAL DETAILS
A502	WALL SECTIONS	M200	MECHANICAL PIPING PLAN - LOWER LEVEL	E801	ELECTRICAL DETAILS
A503	SECTION DETAILS	M201	MECHANICAL PIPING PLAN - FIRST FLOOR	SE100	ELECTRICAL SITE PLAN
A531	SECTION DETAILS	M202	MECHANICAL PIPING PLAN - SECOND FLOOR	FP100	LOWER LEVEL FIRE SUPPRESSION PLAN
A532	SECTION DETAILS	M203	MECHANICAL PIPING PLAN - THIRD FLOOR	FP101	FIRST FLOOR FIRE SUPPRESSION PLAN
A560	PLAN DETAILS	M204	MECHANICAL PIPING PLAN - PENTHOUSE	FP102	SECOND FLOOR FIRE SUPPRESSION PLAN
		M300	MECHANICAL SCHEDULES & NOTES (SHEET 1 OF 2)	FP103	THIRD FLOOR FIRE SUPPRESSION PLAN
		M301	MECHANICAL SCHEDULES & NOTES (SHEET 2 OF 2)	FP104	PENTHOUSE FIRE SUPPRESSION PLAN



LOCATION MAP

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firesafe@gmavt.net

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KALKIN HALL ADDITION
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REVISIONS

NO.	DESCRIPTION

COVER

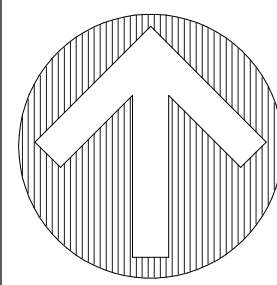
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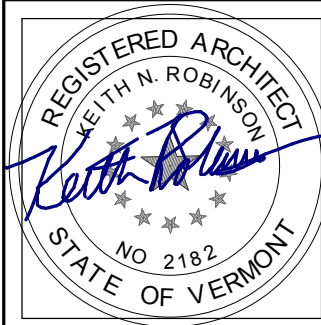
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MAV, CN

CHECKED BY
KNR

A



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REVISIONS

NO.	DESCRIPTION

LANDSCAPE PLAN

SCALE
As indicated

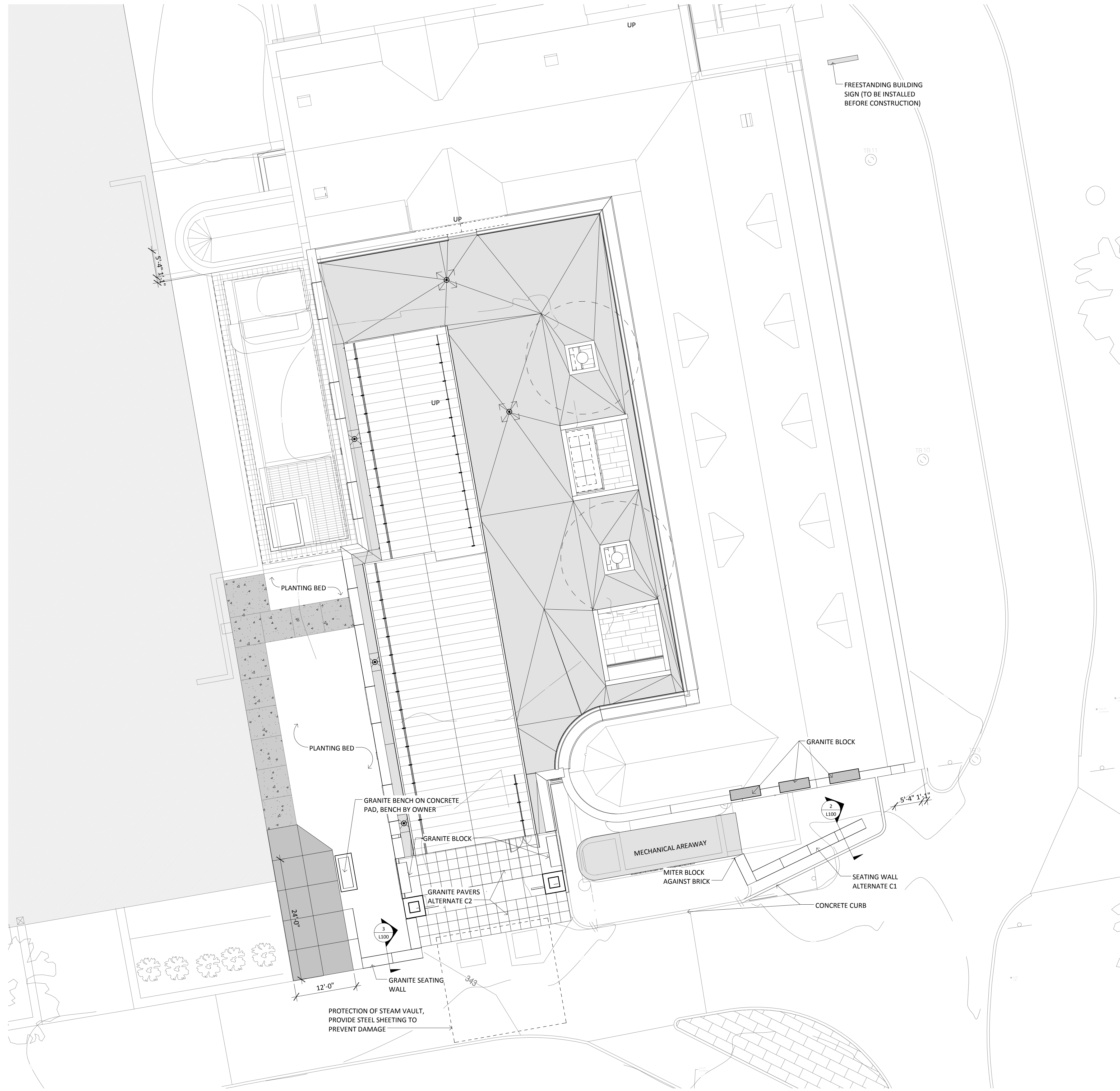
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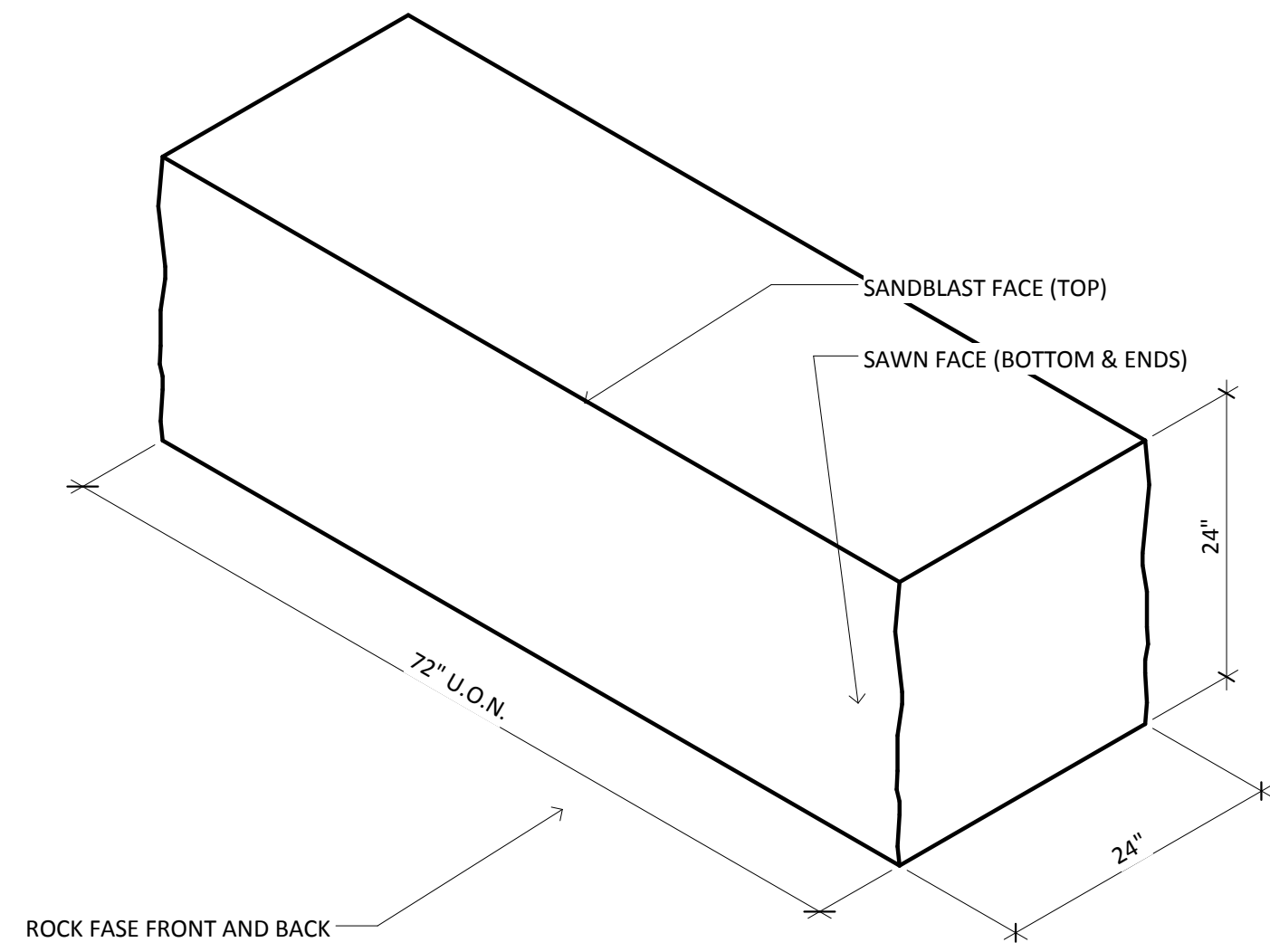
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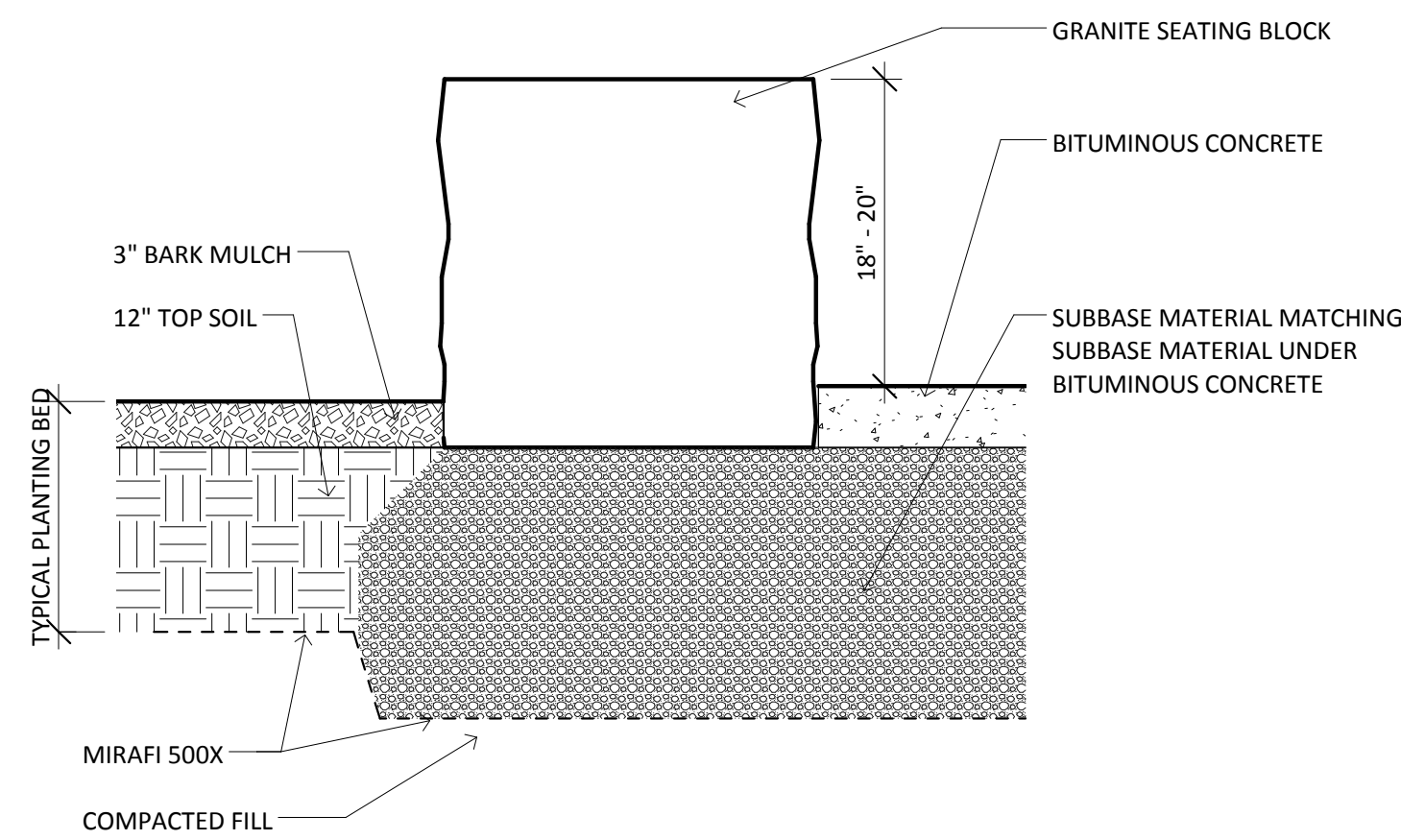
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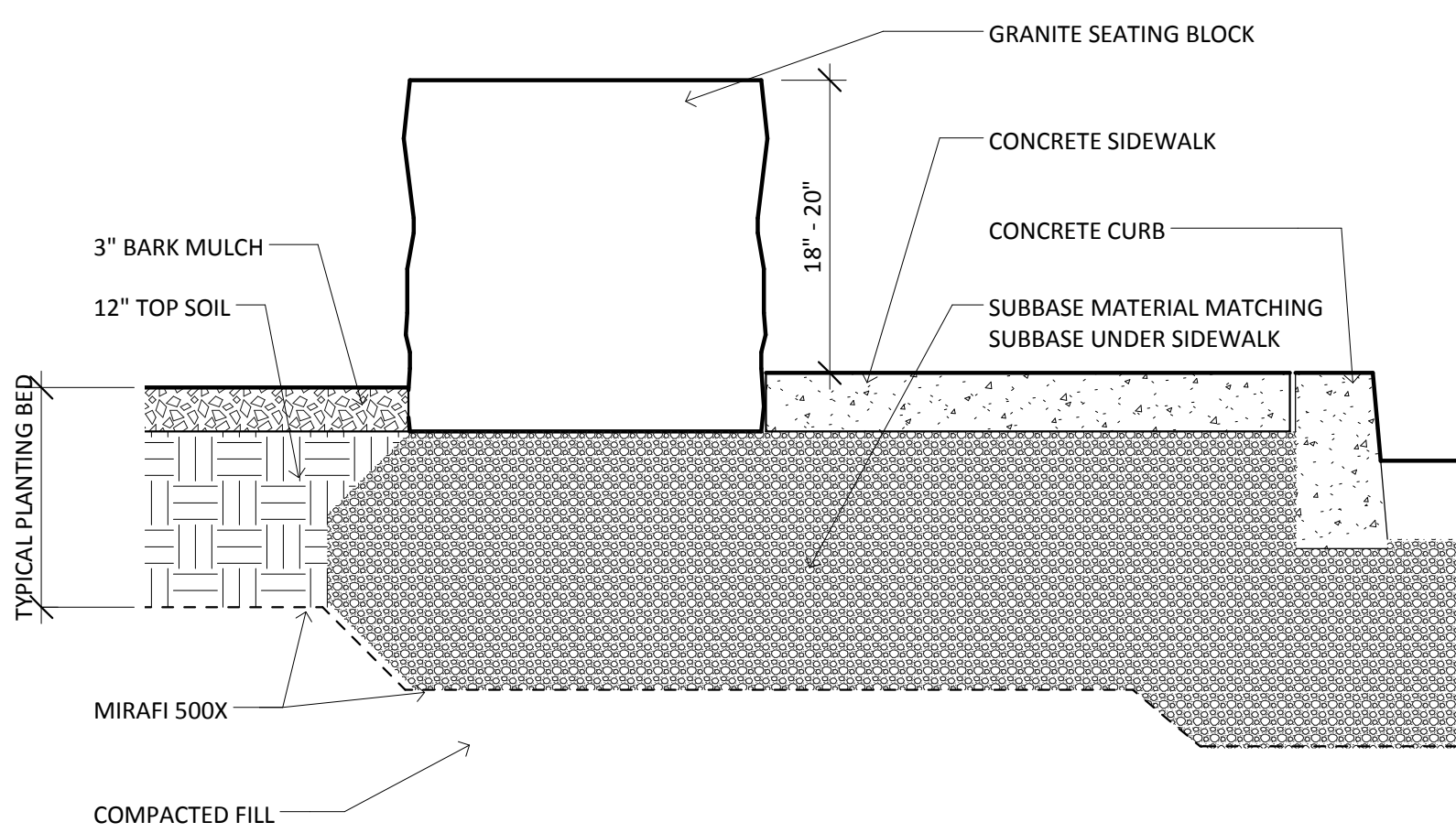
1 Site
SCALE: 1" = 10'-0"



4 TYPICAL GRANITE SEATING BLOCK
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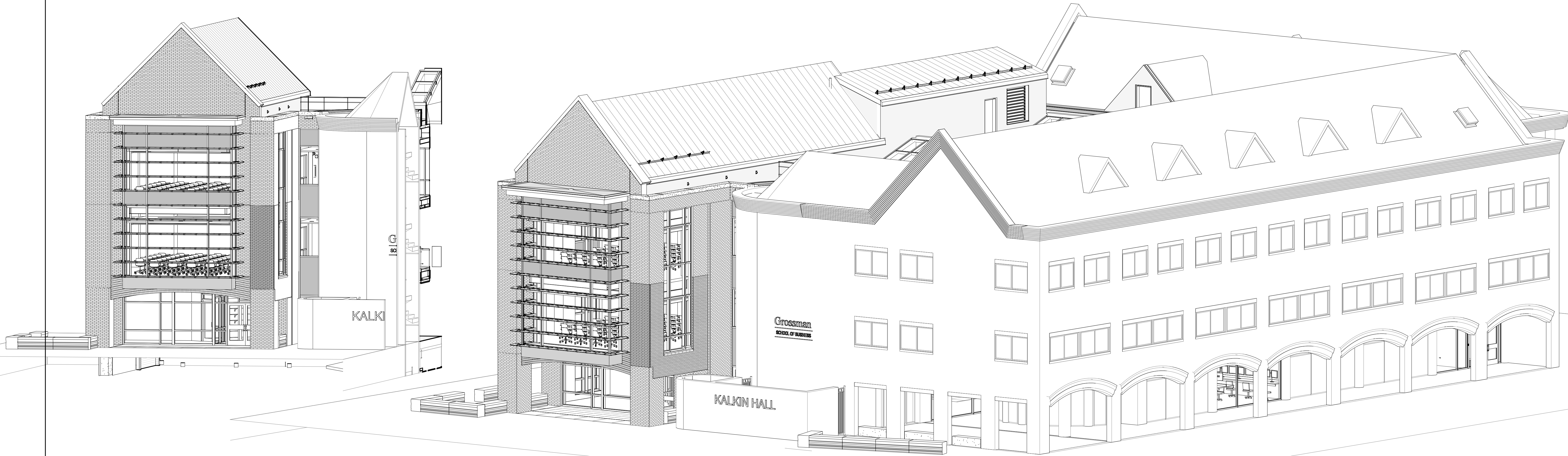
3 SEATING BLOCK SECTION
SCALE: 1" = 1'-0"



2 SEATING BLOCK SECTION
SCALE: 1" = 1'-0"

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3 EXTERIOR PERSPECTIVE 3
SCALE:

2 EXTERIOR PERSPECTIVE 2
SCALE:



1 EXTERIOR PERSPECTIVE 1
SCALE:

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PERSPECTIVE VIEWS

SCALE

DATE

2016-02-29

DRAWN BY

MAV, CN

CHECKED BY

KNR

A030



6 ATRIUM PERSPECTIVE LOOKING NORTH
SCALE:



4 ATRIUM PERSPECTIVE LOOKING SOUTH
SCALE:



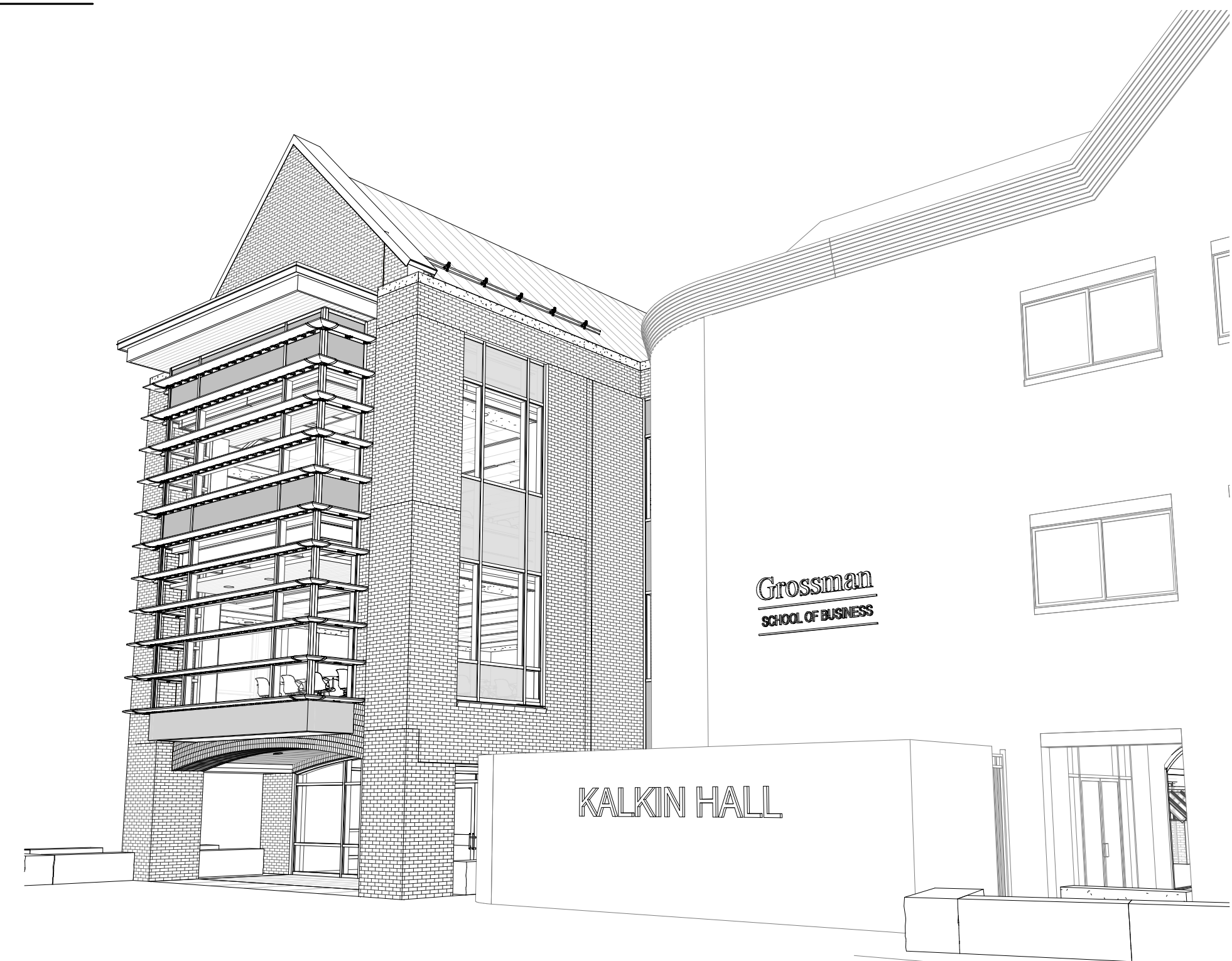
3 WEST FACADE PERSPECTIVE
SCALE:



2 SOUTHWEST PERSPECTIVE
SCALE:

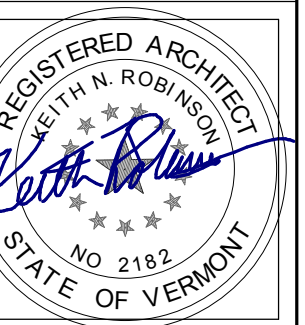


5 ATRIUM PERSPECTIVE LOOKING SOUTH
SCALE:



1 SOUTHEAST PERSPECTIVE
SCALE:

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REVISIONS

NO.	DESCRIPTION

PERSPECTIVE VIEWS

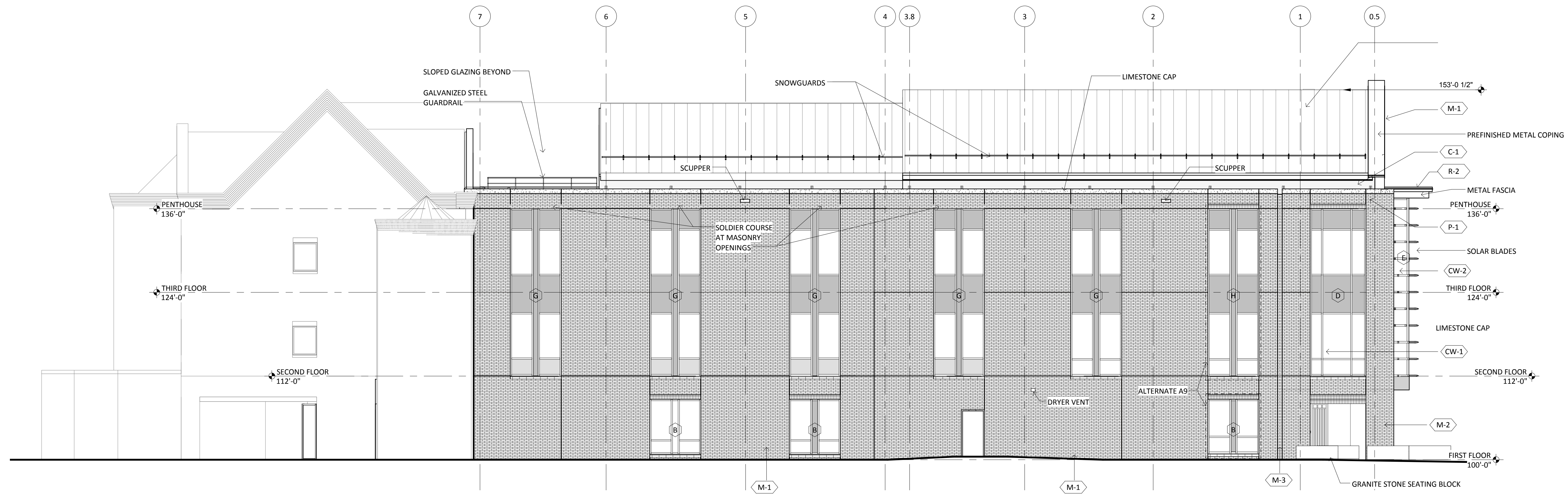
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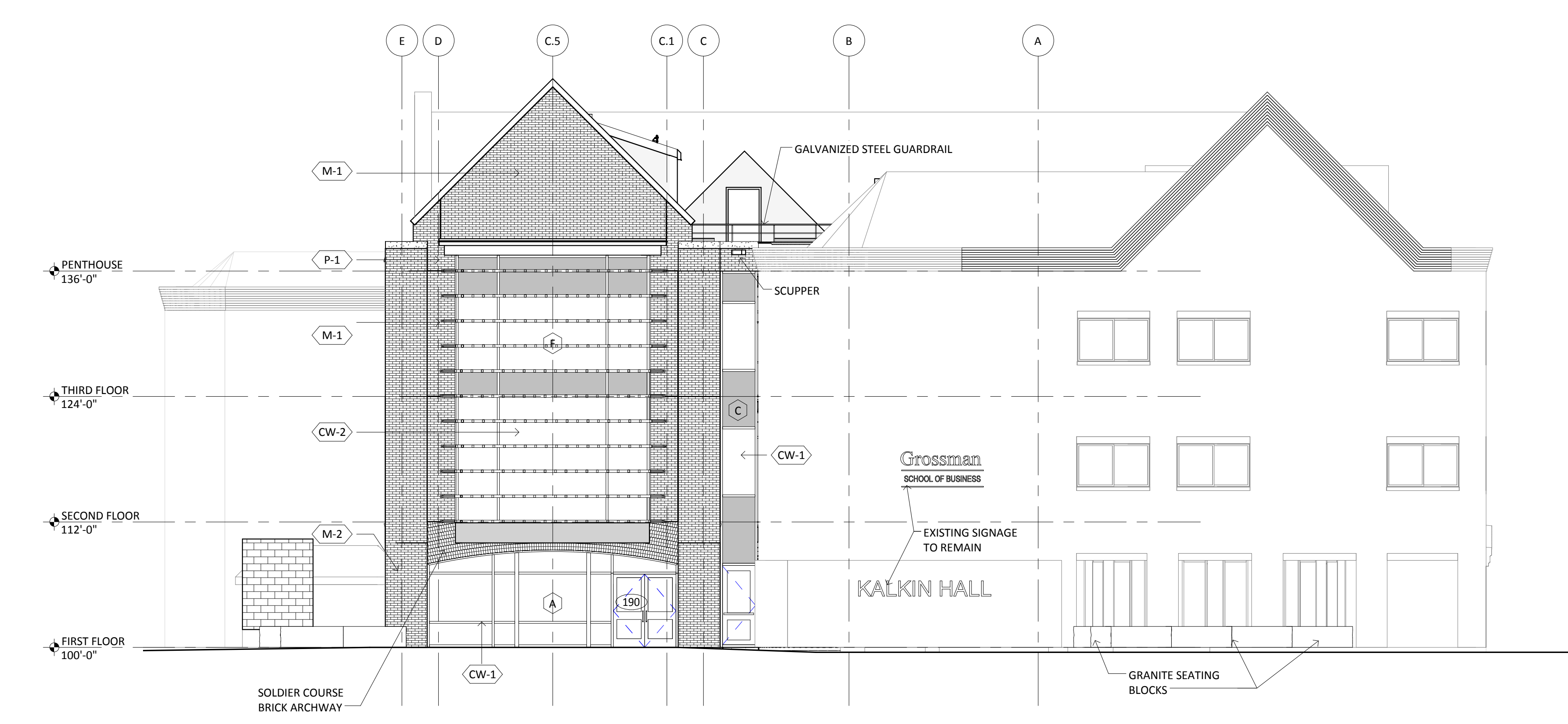
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CN, MAV

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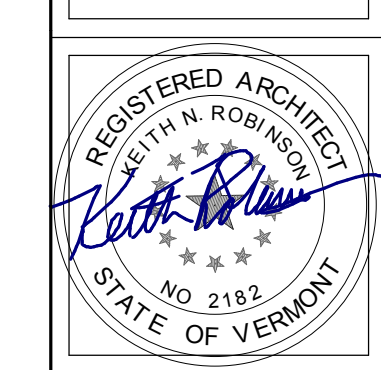


3 West
SCALE: 1/8" = 1'-0"



1 South
SCALE: 1/8" = 1'-0"

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KALKIN HALL ADDITION
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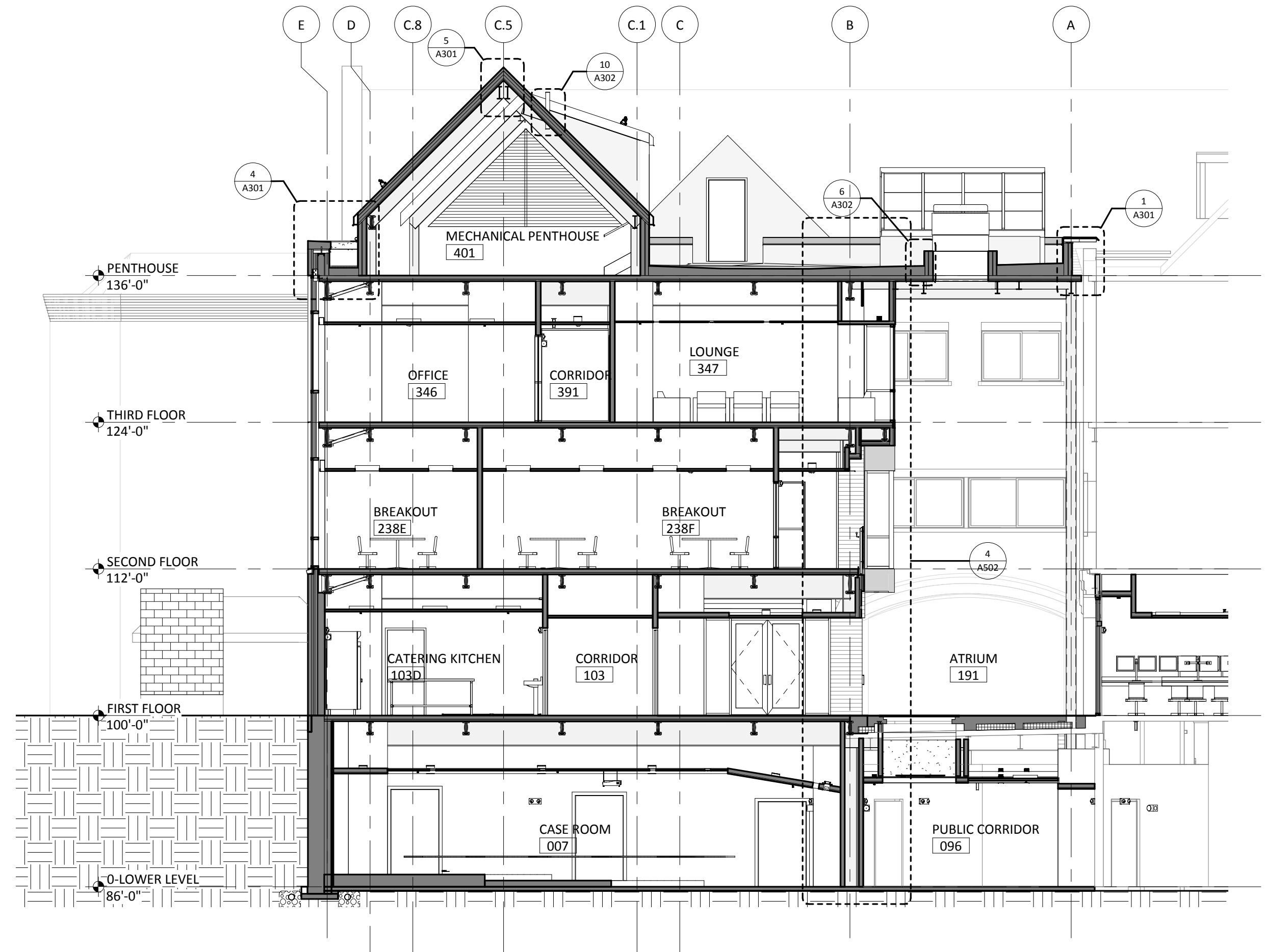


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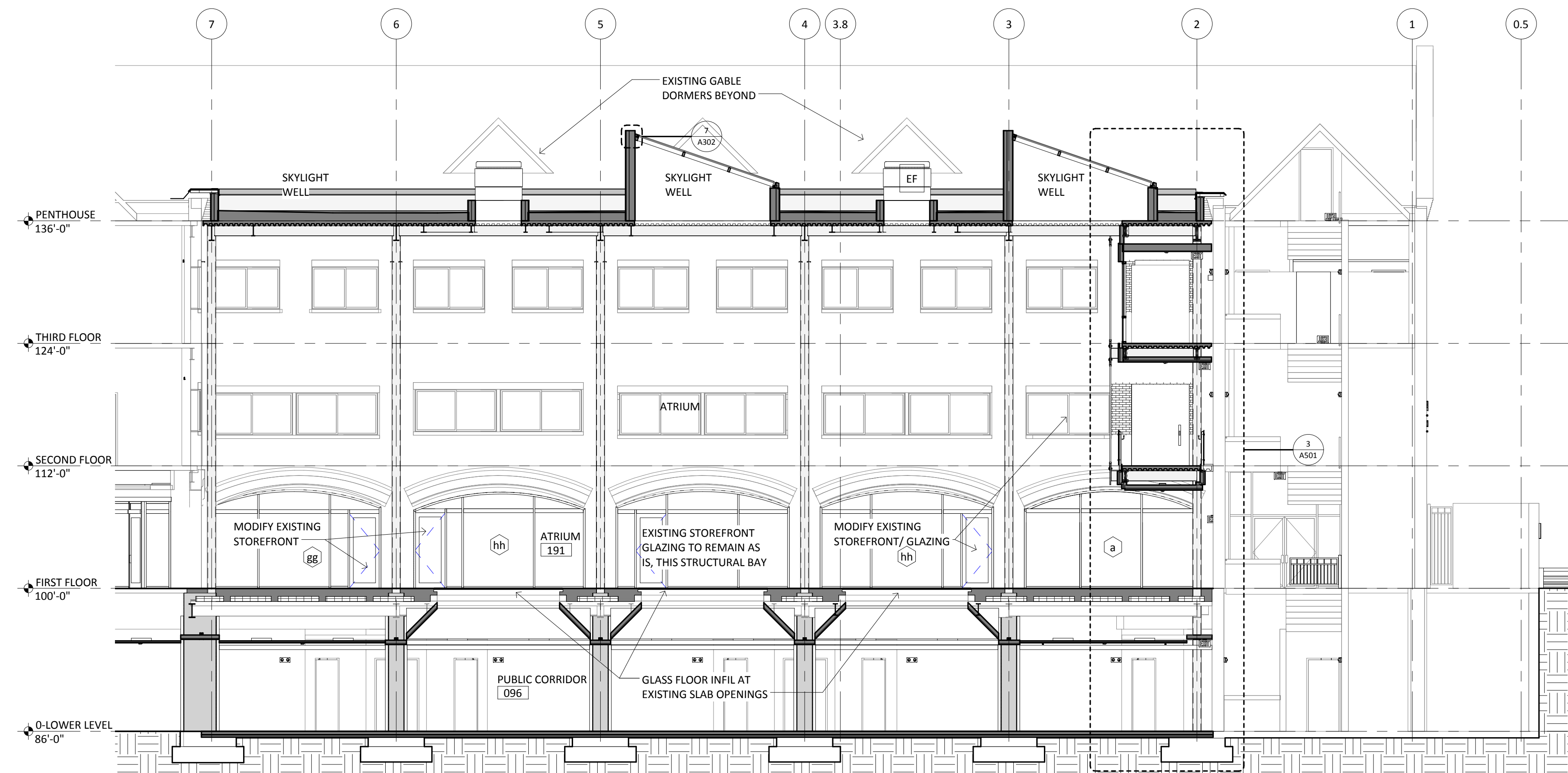
REVISIONS	

BUILDING ELEVATIONS	
SCALE	1/8" = 1'-0"
DATE	2016-02-29
DRAWN BY	CN, MAV
CHECKED BY	KNR

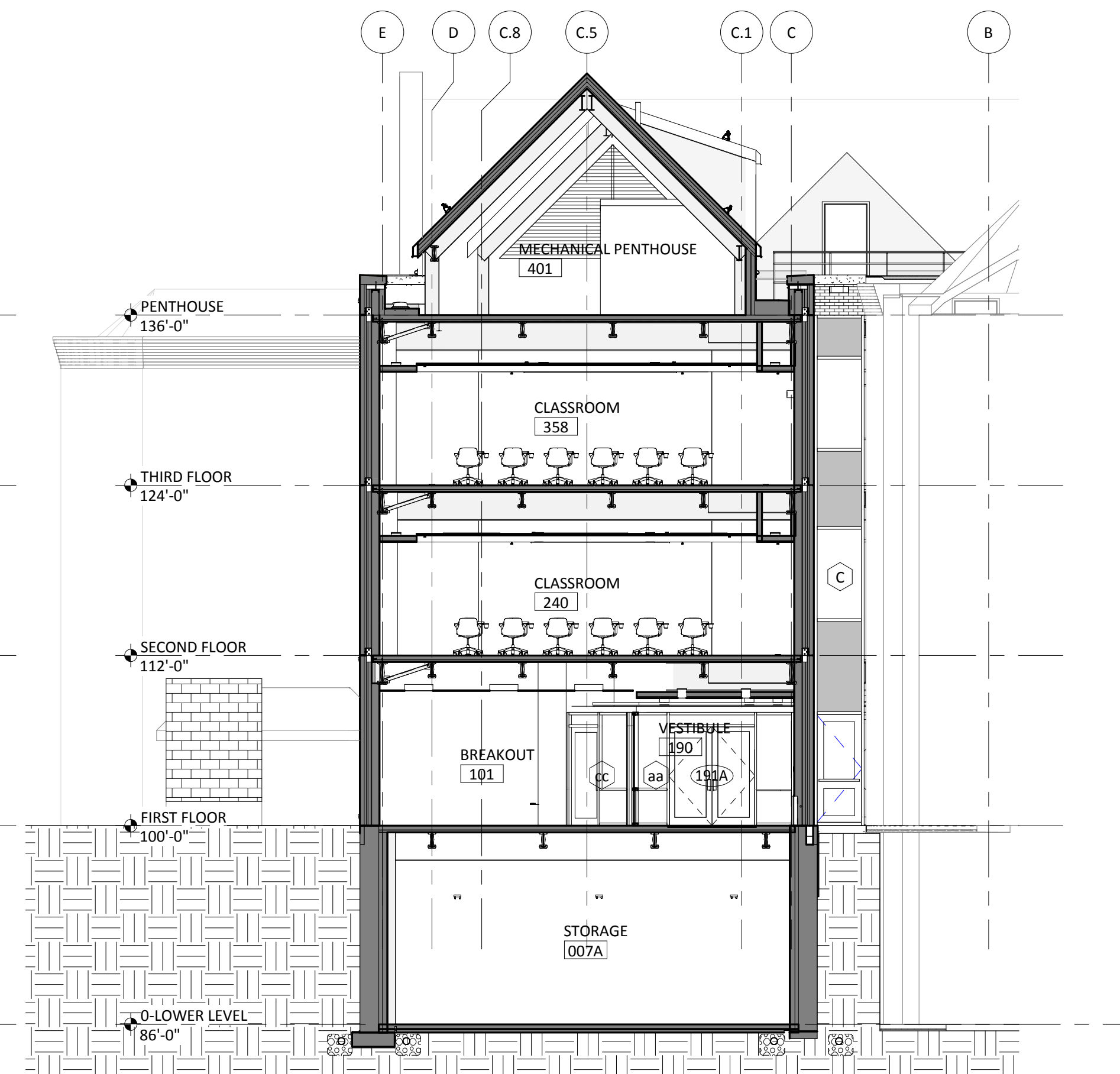
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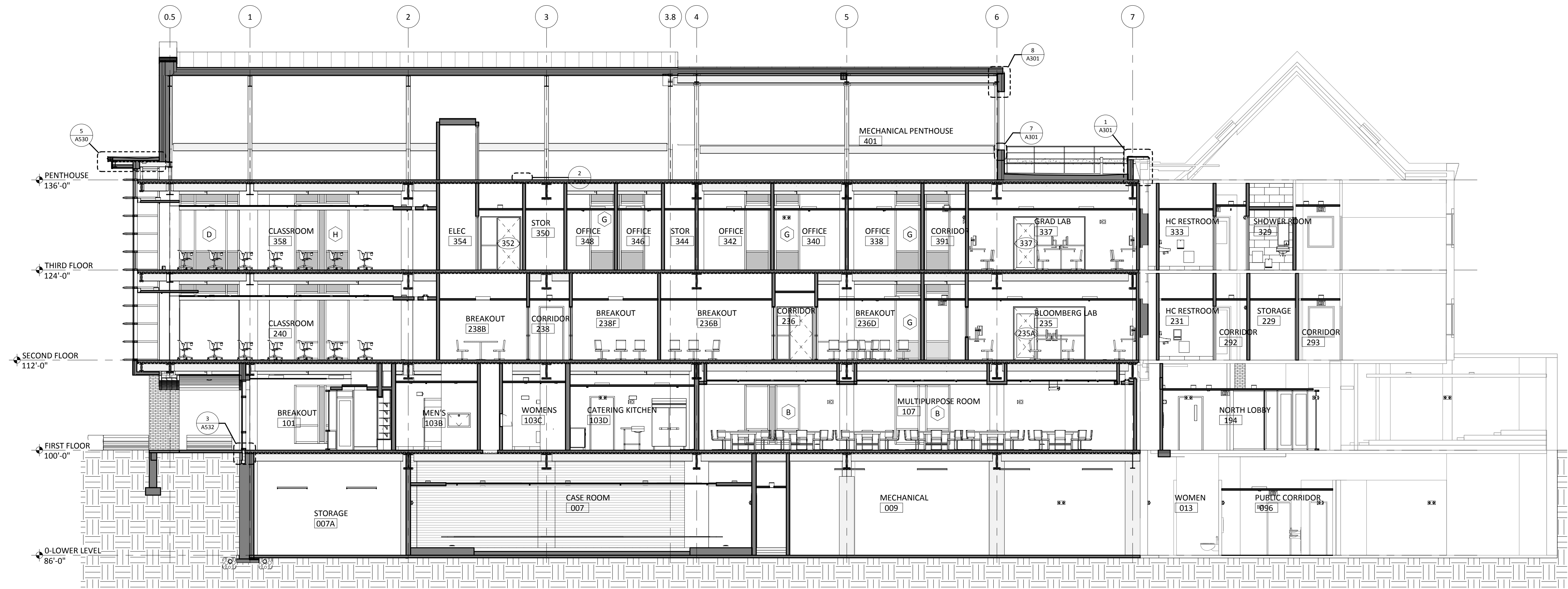
2 BUILDING SECTION - LOOKING NORTH
SCALE: 1/8" = 1'-0"



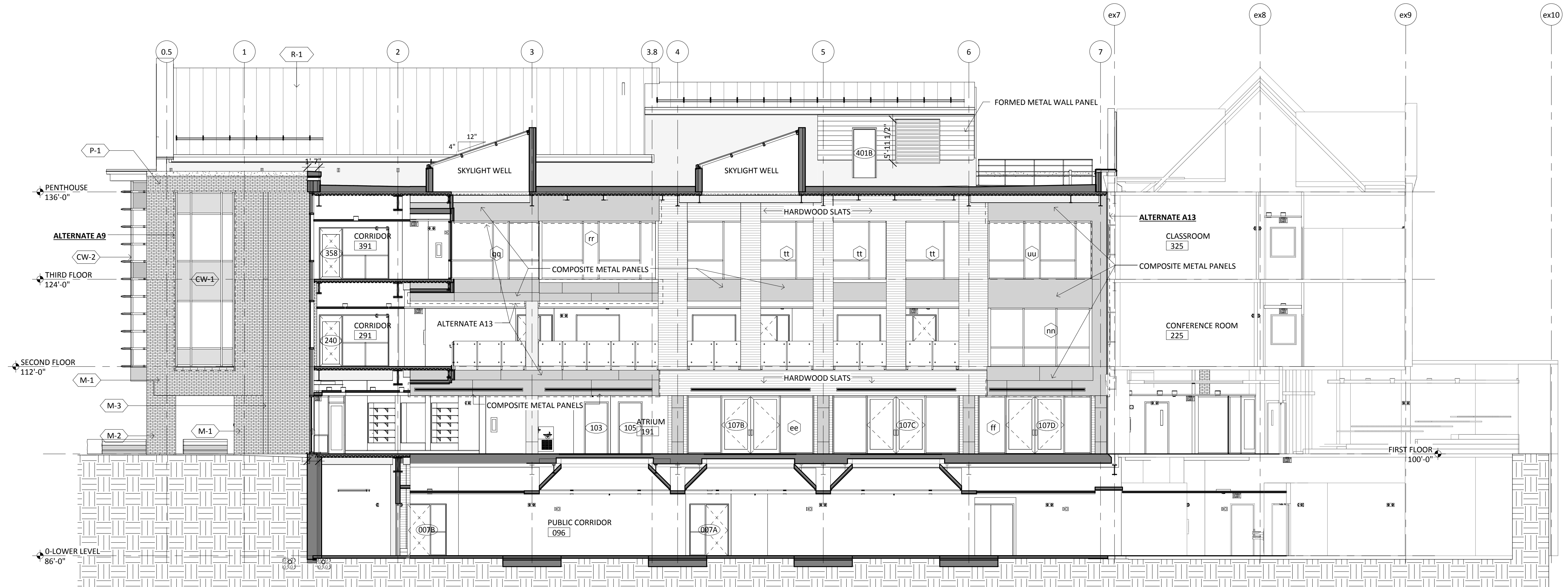
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SCALE: 1/8" = 1'-0"



1 BUILDING SECTION - LOOKING NORTH
SCALE: 1/8" = 1'-0"

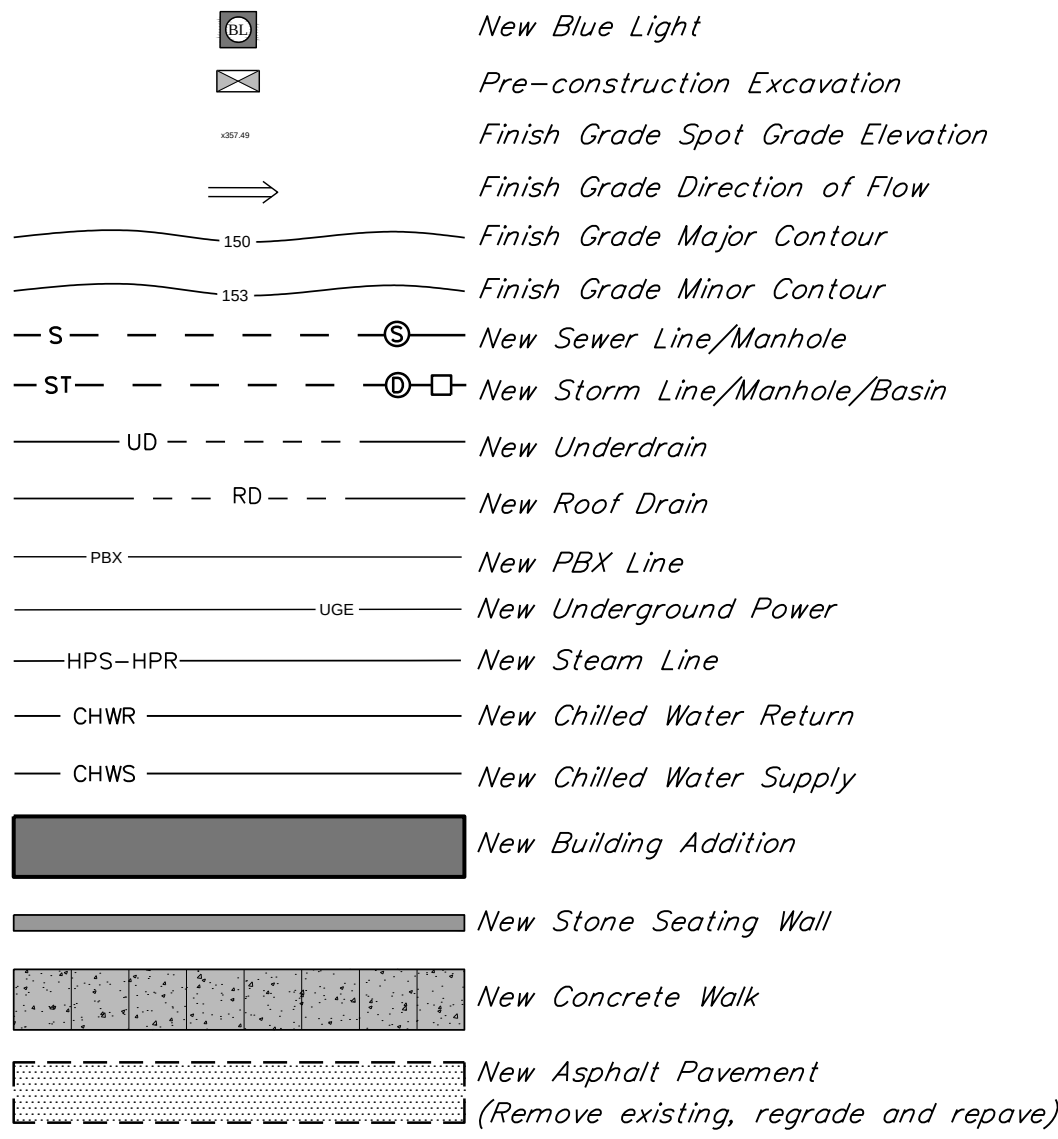


2 BUILDING SECTION - LOOKING WEST- THRU CASEROOM
SCALE: 1/8" = 1'-0"



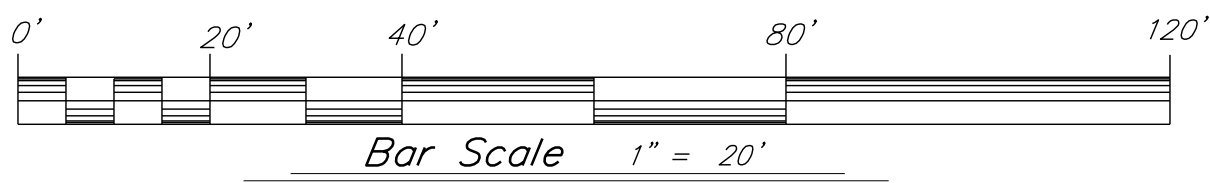
1 BUILDING SECTION - LOOKING WEST
SCALE: 1/8" = 1'-0"

Legend



NOTES

- See Existing Conditions Plans for additional notes and legend.
- There are existing PBX conduits located in the vicinity of this project. The Contractor shall contact UVM Telecommunications and Network Services (856-3339) prior to any work in the vicinity of the PBX conduit. The Contractor shall carefully excavate around the PBX conduit to prevent damage to the PBX infrastructure. Contractor shall be responsible for placing Owner supplied locator balls over exposed conduits prior to backfilling.
- The Contractor shall be responsible for repairing all disturbed areas back to original condition, including but not limited to curbing, sidewalks, road, parking areas, landscaping, site lighting, electrical, and etc. All asphalt shall be sawcut prior to paving.
- All stumps, rock, and other non-approved trench backfill material discovered during construction is the exclusive property of the Contractor and shall be removed from UVM property and disposed of in a State approved disposal location. All existing soils reused for backfill shall conform to all applicable sections of VTRANS specifications Section 203-Excavation & Embankments. Contractor shall review soil investigation report and soils logs prior to bid. Any soil reused for backfill under roads and applicable concrete sidewalks shall pass a subgrade proof roll with a loaded tandem. Backfill soils that do not pass a subgrade proof roll shall be removed and replaced at the Contractor's expense.
- All passing sieve, proctor, and compaction testing expenses shall be paid by Owner. Testing coordination, all other required testing, and expenses for failed tests shall be the Contractor's responsibility.
- The Contractor shall contact the Burlington Electric Department prior to any work in the vicinity of existing primary electric conduits.
- The Contractor shall comply with the City of Burlington Erosion & Sediment Control permit and the State of Vermont Construction Stormwater permit. The Contractor shall be responsible for installing, maintaining and removing all erosion and sediment control devices shown on the plans or details and, to the maximum extent practical, minimize potential contamination of stormwater runoff from the construction activities.
- Contractor shall be responsible for all "As-built" measurement and drafting requirements as outlined on the Detail Sheets. All trench excavations shall remain open until all as-built survey shots have been taken. Progress Record Drawings shall be submitted to the Engineer as indicated in the Record Drawing specifications.
- See Erosion Control and Logistics Plans for locations of staging / storage areas.
- The Contractor shall be responsible for all construction barrier/safety fencing required for the project.
- Definition of "Preconstruction Excavation" for these contract documents shall be:
The site contractor shall expose utilities 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 and/or design confirmation.
- The location of the preconstruction excavation symbols does not necessarily indicate the location of the buried utility. It is the responsibility of the Contractor to find and expose the utility.
- Contractor shall include 5 preconstruction excavations in addition to the ones shown on the drawings.
- Contractor shall be responsible for importing topsoil as required to complete the project. Contractor shall test topsoil for approval by the Owner and Engineer.
- The Contractor shall be responsible for all signage and fencing necessary to providing safe vehicular and pedestrian access through or around the site during construction.
- All sewer and storm pipes shall be PVC SDR 35 unless otherwise noted. PVC pipe shall contain no recycled content.
- All new catch basins and sanitary sewer manholes must have one 6" precast concrete grade ring.
- Contractor shall contact UVM Physical Plant Department for any work involving contact with asbestos cement pipe.
- Temporary groundwater, stormwater, and sewer by-pass pumping and/or diversion is the responsibility of the Contractor. The Contractor is responsible for providing all necessary pumps and equipment to perform the work. Overnight pumping is not allowed.
- All sidewalks shall have 2% maximum cross slope.
- Construction Joints are indicated on the plans as a heavier black line. See Construction Joint Detail, Sheet C500.
- Contractor to pin concrete sidewalk/slabs to all contact points with building, retaining walls, etc. See Construction Joint Detail, Sheet C500.
- Contractor shall maintain full occupancy and fire department access to all surrounding buildings. Coordinate all temporary access with the University representative. Comply with "Occupancy Requirements" in the specifications.
- This project is subject to all erosion prevention and sediment control measures including the monitoring, inspection, and reporting requirements of Individual Construction Stormwater Discharge Permit 3627-INDC.X. The General Contractor shall be the On-Site Plan Coordinator for the project and shall be responsible for supplying a turbidity meter at all times during construction.
- Removal of all erosion control matting and inlet protection is the responsibility of the Contractor.
- At the end of the project, clean the sumps of all new and existing catch basins and storm manholes within the project limits.
- Mechanical steam piping is shown for illustrative/coordination purposes only. Refer to Mechanical plans and specifications for design.
- Refer to Plumbing plans for sewer and storm design within five feet of the building.
- See Architectural Plans for design of new planting beds, granite pavers, granite blocks, and stone seat walls.
- See Structural Plans for foundation drainage design.



Notes

1. See Sheet C200 for notes and legends related to existing conditions.
2. See Sheet C100 for site design related notes and legends.
3. See Sheet C300 for demolition design related notes.
4. The Contractor shall be responsible for a sheeting and shoring design stamped by a Professional Engineer.
5. If Contractor removes or damages adjacent infrastructure during construction it shall be restored per the original design plans provided as part of the bid documents.

New Planting Bed
Owner shall be responsible for maintaining slope of mulch planting bed
Pin new sidewalk to foundation. See Concrete Slab Joint Detail for Connection to Existing Concrete.
Sawcut existing concrete. Pin new sidewalk to existing. See Detail

Votey Hall

New CB 0157-10
Drop inlet
Rim 342.80
Inv. in 338.95 (2-6"RD)
Inv. out 338.85
Inv. 329.6
New 6' wide concrete sidewalk
Owner shall be responsible for maintaining slope of mulch planting bed
New steam and condensate piping. See Mechanical Plans & Specifications.

New CB 0157-9
Rim 342.40
Inv. in 338.65
Inv. out 338.65

New 7"x3" concrete pad See concrete sidewalk Detail
New Multi-Use Concrete
(ff 343.58)

CB 4575-7
Rim 342.38
Inv. in 339.3 (10")
Inv. out 338.4

New concrete curb wall. See Detail. Sawcut pavement, typical.

New CB 0157-8
Rim 343.0
Inv. in 338.35 (2-12")
Inv. out 338.35

Contractor is responsible for supporting all adjacent infrastructure or removing and replacing as necessary. See Notes #4 and #5 on this plan.

Replace existing brick area.
Inv. 328.3
See Plumbing Plans for design within 5 ft of building.

Inv. 327.80
New 6"x4" PVC wye

Core manhole through shelf to ex. pipe trough.
New 6" PVC SDR 35
Min. slope = 1/4 in/ft.
SMH 4550-A
Rim 340.64
Inv. in 326.84 (4")
Inv. out 326.79 (8")
Top shelf 327.44
See Plumbing Plans for additional interior sewer plumbing option.
Restore all disturbed areas to existing or better condition.

New Building Addition

Kalkin Hall
FINISH FLOOR
FIRST FLOOR - 343.41'
BASEMENT - 329.39'

New chilled water piping. See Mechanical Plans & Specifications.

Connect new foundation drain to existing.

Install new stone around catch basins in mulch planting bed areas, typical.

First Floor
FF = 343.45

Mechanical Areaway
New concrete curb

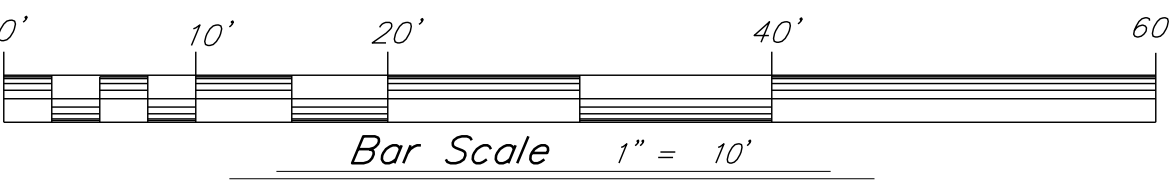
New Planting Bed

Sawcut existing pavement. Regrade to new finish grades and repave. See Typical Road Cross Section Detail.

Core and boot new penetration.
Inv. 336.70 (12")

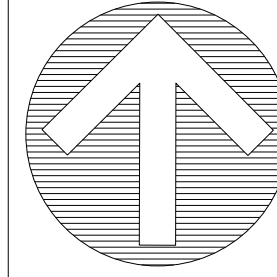
New CB 0157-6
Rim 342.85
Inv. in 337.4± (SW)*
Inv. out 337.00
*Confirm with preconstruction excavation

Sawcut existing pavement. Regrade shaded areas to new finish grades (add leveling course gravel, (704.05' fine) as needed, and repave. See Typical Road Cross Section Detail for Pavement requirements.

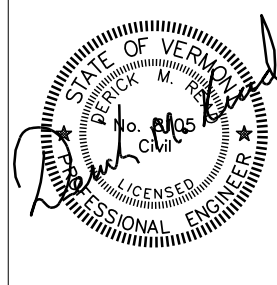


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KALKIN HALL ADDITION
GROSSMAN SCHOOL OF BUSINESS



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email@krebsslansing.com

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ARCHITECTS

REVISIONS	

SITE PLAN
SCALE
1" = 10'
DATE
2016-02-29
DRAWN BY
DMR
CHECKED BY

C101
KL Project: 13113

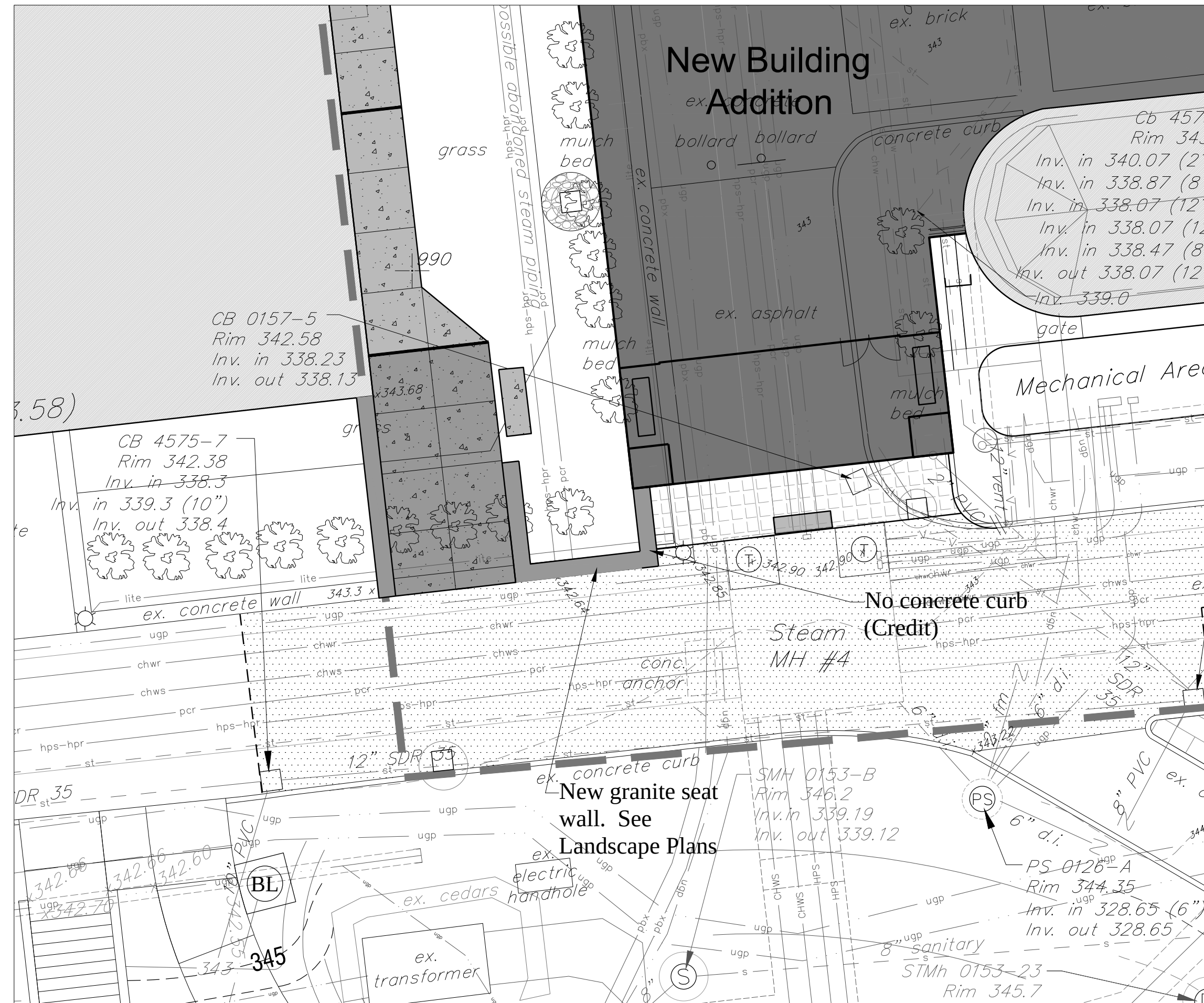
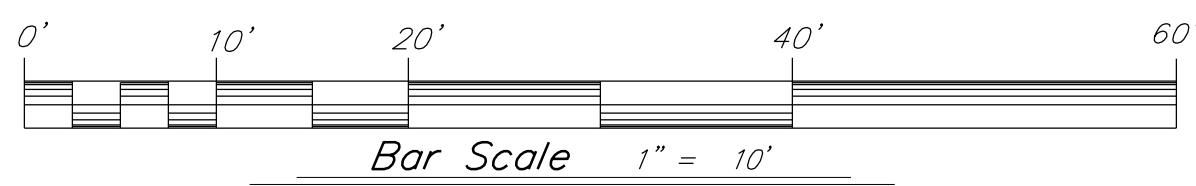
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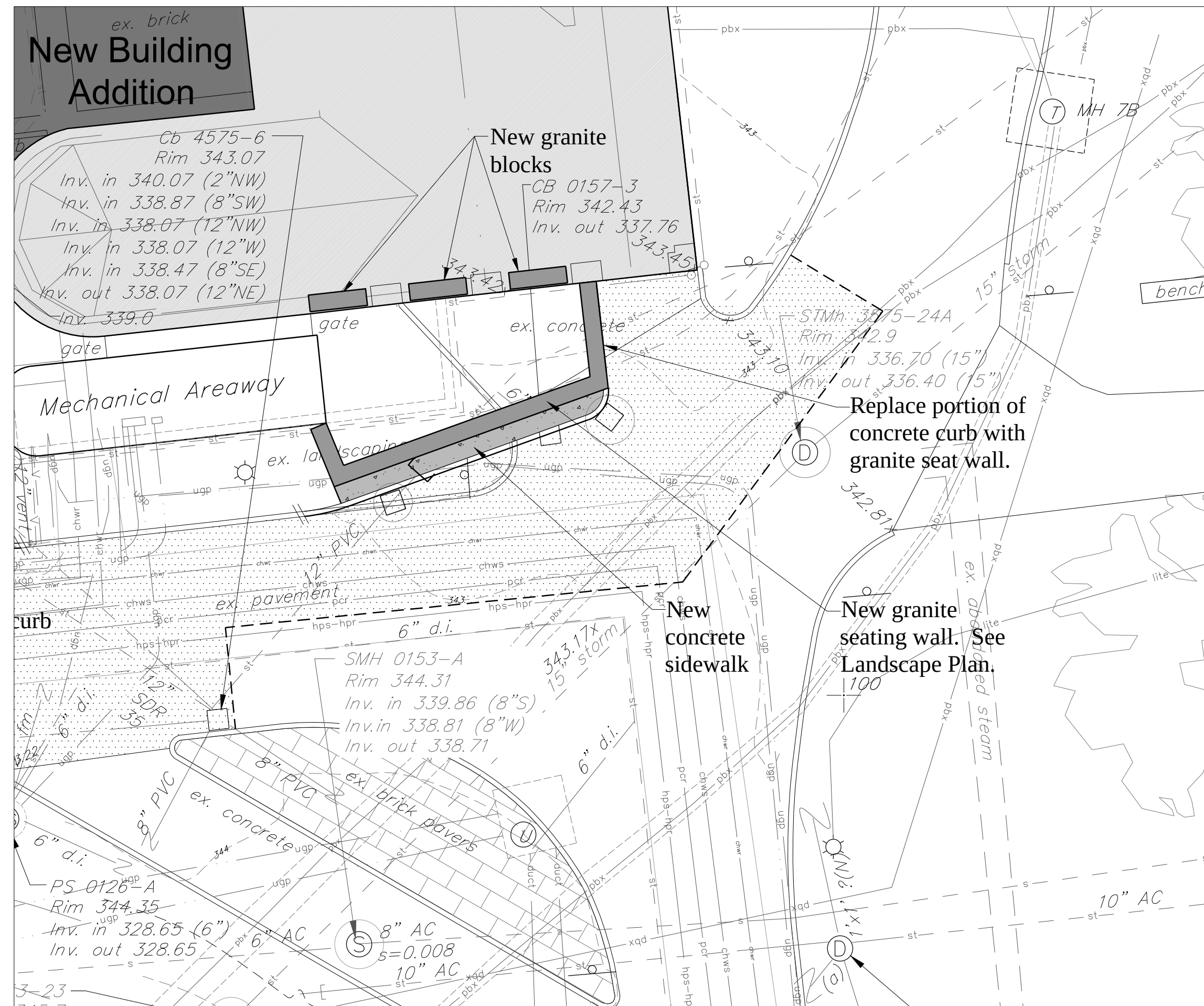
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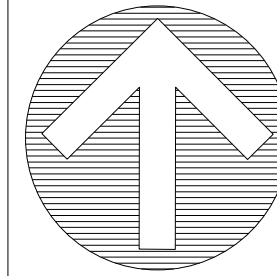
Alternate C-2 - South Entrance Concrete Pavement



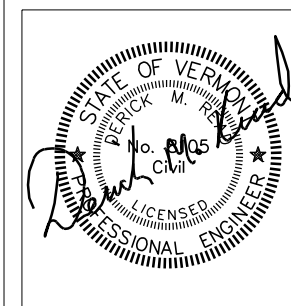
Add Alternate C-1 - South Entrance Seat Wall



Add Alternate C-1 - Southeast Seat Wall & Granite Benches



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email@kresandlansing.com

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ARCHITECTS

REVISIONS

SITE PLAN

SCALE
1" = 10'

DATE
2016-02-29

DRAWN BY
DMR

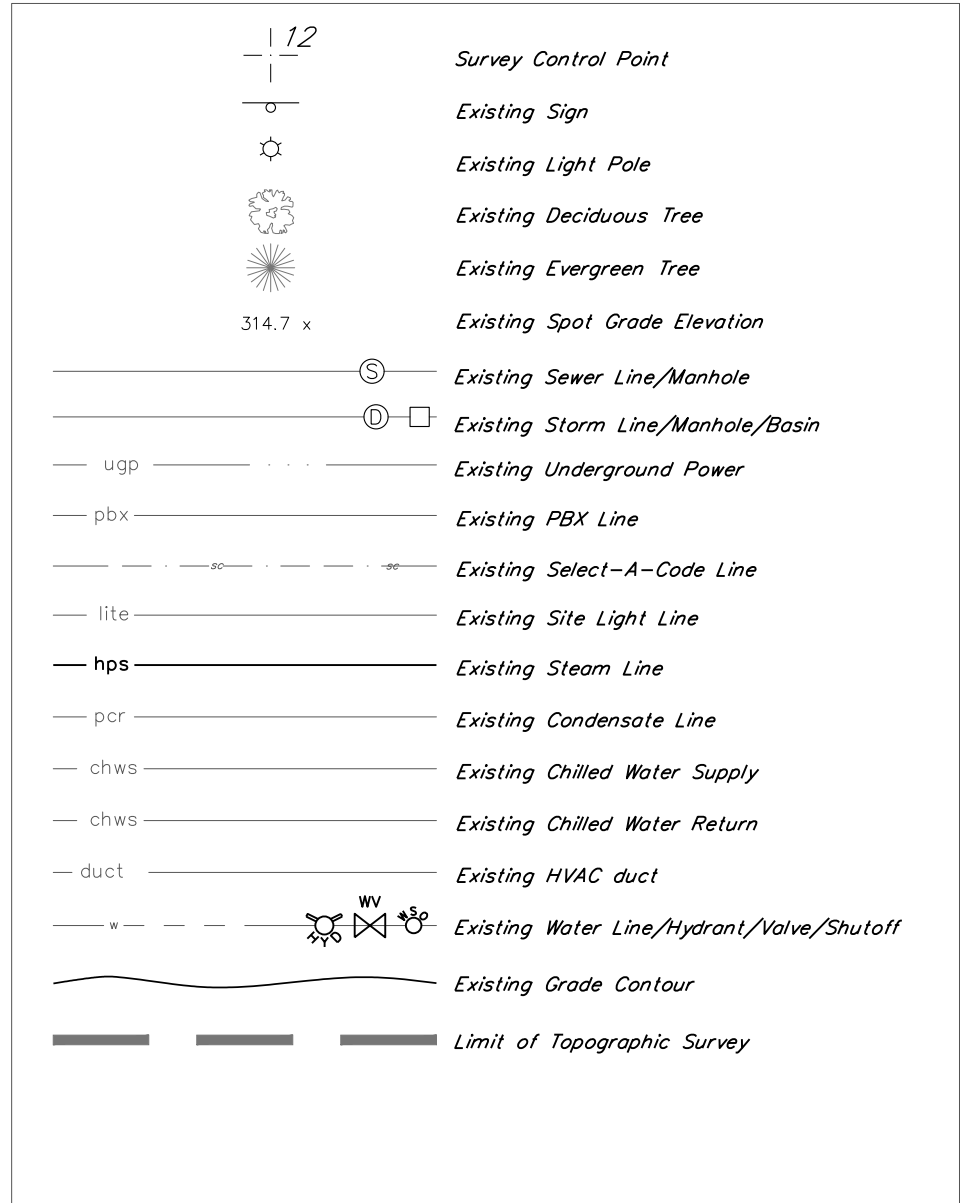
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KL Project: 13113

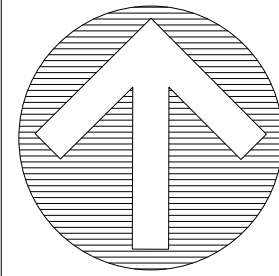
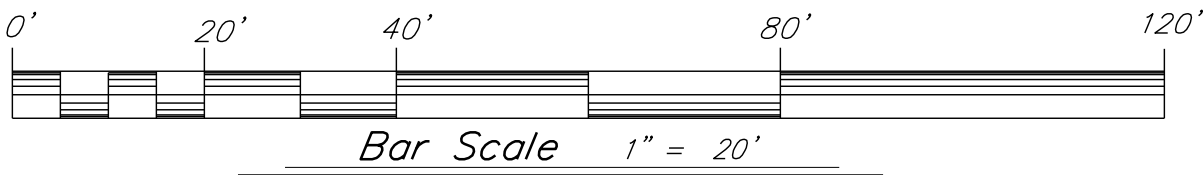
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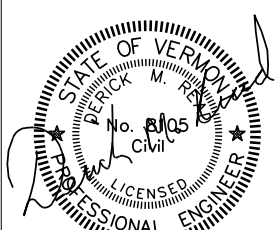


Notes

- The underground utilities shown on this plan are based on visible utilities located during a topographic survey performed by Krebs & Lansing in November 2015 and the following:
 - Electric: Electrical lines are based on limited dig safe markings located during the survey and UVM Utility Master Plan mapping. Secondary electric and site lighting electric is shown based on Utility Master Plan mapping provided by UVM. Other secondary and site lighting electrical may be present on site and is not warranted to be exact or complete.
 - Water: Waterlines are based on visible evidence found during the survey, dig safe markings from a topographic survey completed for the UVM "Cook Shuttle" project and digital utility mapping provided by the University of Vermont.
 - Sewer: Sanitary sewer mains are shown from manhole to manhole as located during the survey. Sanitary service lines are shown based on digital utility mapping provided by the University of Vermont. Sewer pipe elevations, type, and sizes were measured during the survey. Pipe information is not always evident from visual observations. Prior to making connections to the existing sanitary system and prior to ordering materials, the Contractor shall be responsible for confirming all pipe information.
 - Storm: Storm pipes are shown from manhole to manhole as located during the survey. Stormwater service lines and footing drains are shown based on original Kalkin Hall design drawings and digital utility mapping provided by the University of Vermont. Where possible, storm pipe elevations, type, and sizes were measured during the survey. Pipe information is not always evident from visual observations. Prior to making connections to the existing storm system and prior to ordering materials, the Contractor shall be responsible for confirming all pipe information.
 - PBX: PBX telecommunications conduits are based on Utility Master Plan digital mapping provided by the University of Vermont.
 - Steam: Steam lines are based on Record drawings and Utility Master Plan digital mapping provided by the University of Vermont.
- Underground utilities are approximate and not warranted to be exact or complete. Dig Safe shall be contacted prior to any excavation. DigSafe may not mark private utilities. It is the Contractors responsibility to mark private utilities (other than PBX). Secondary electric is not shown on this plan.
- Elevations are based on the NAVD 88 vertical datum.
- Project Horizontal Coordinates derived from GPS observation using reference frame NAD83 (2011) 2010.00 epoch.
- Below grade foundation information shown on south side of Kalkin Hall is based on original design plans.
- The adjacent STEM project was under construction at the time of the survey and will be under construction at the scheduled time of the Kalkin project construction. The existing conditions on this plan, south of the shuttle road, show the final design of the STEM project and may not reflect the interim site conditions during project construction.



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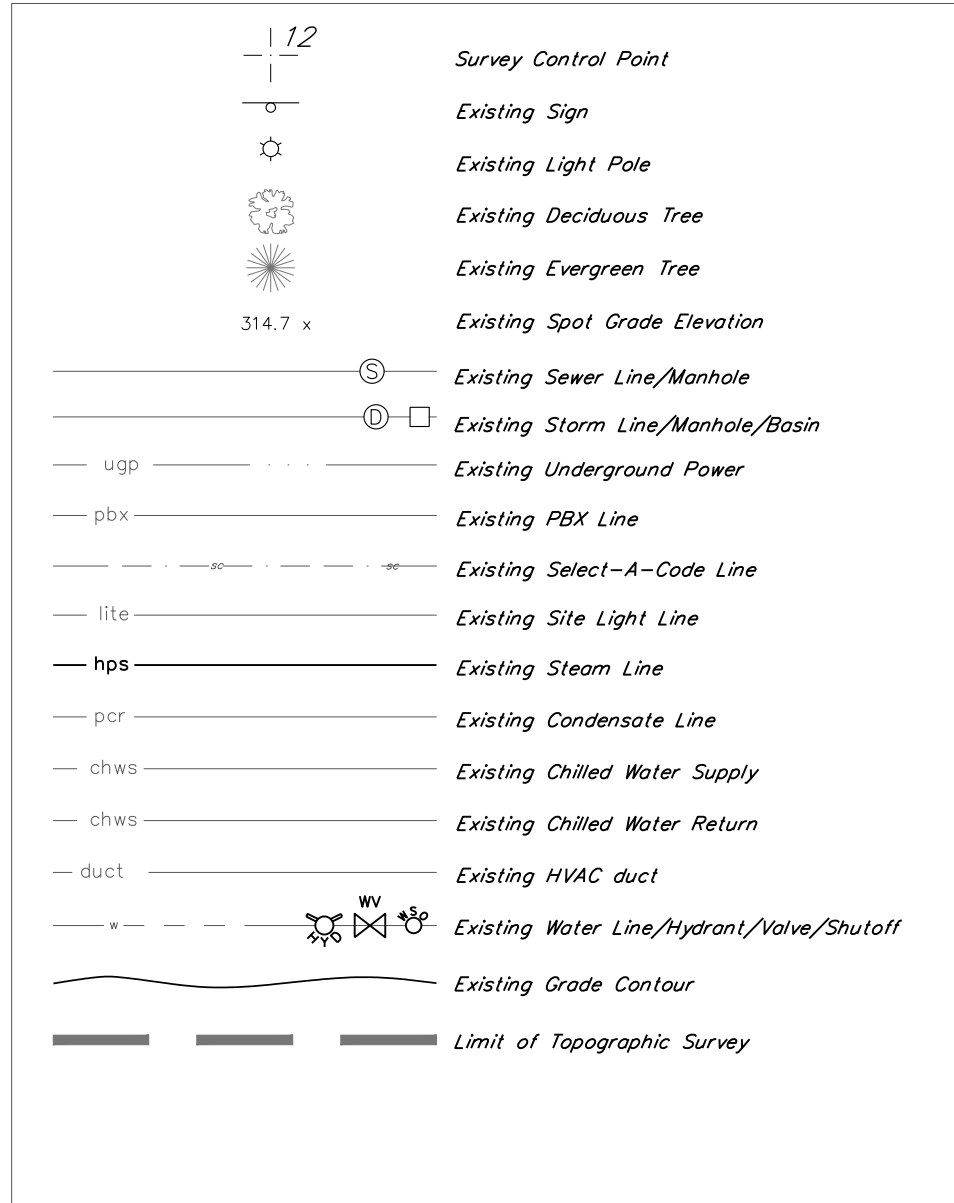
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OVERALL EXISTING
CONDITIONS PLAN

SCALE
1" = 20'
DATE
2016-02-29
DRAWN BY
DMR
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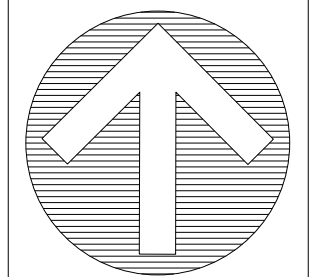
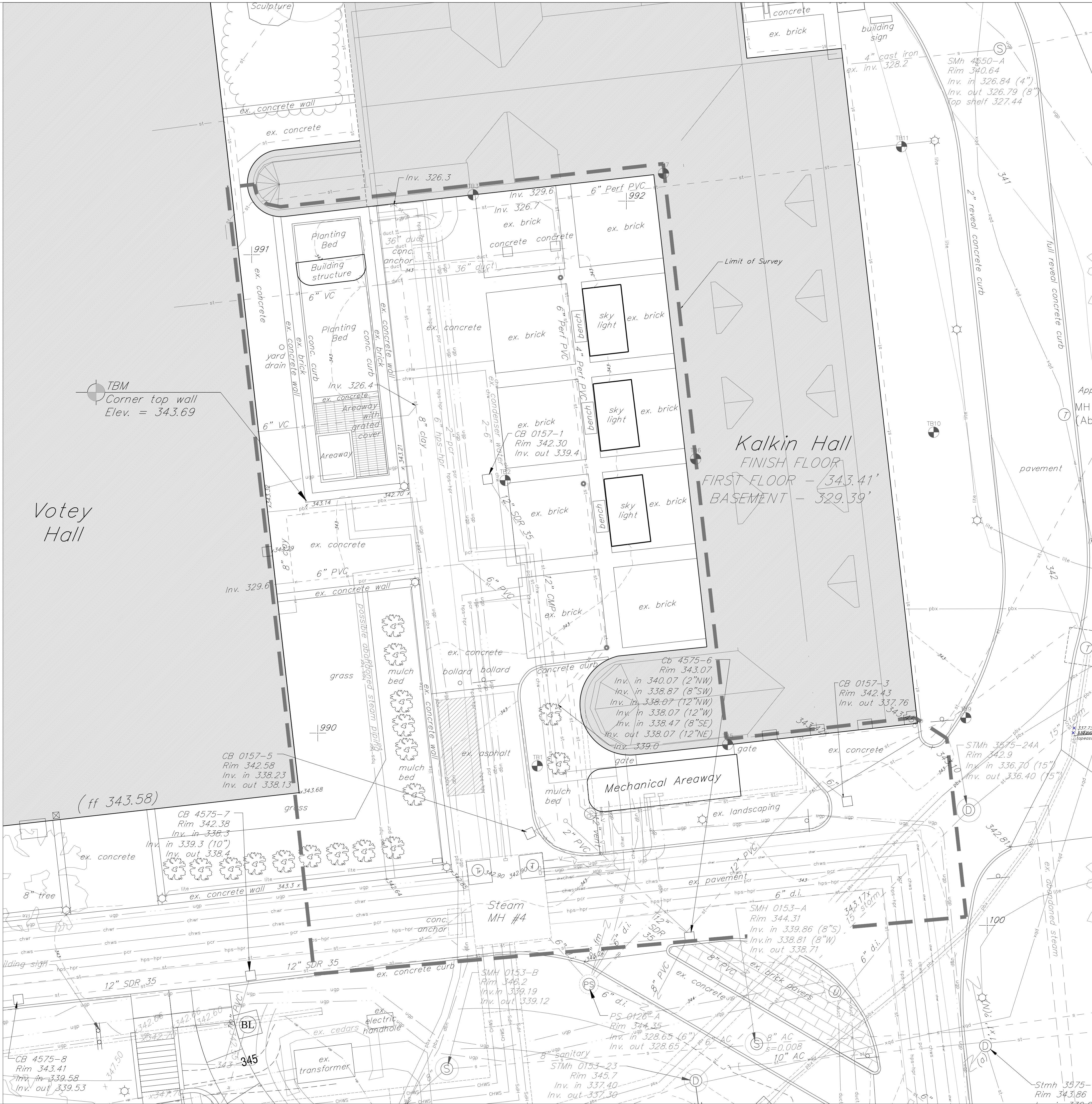
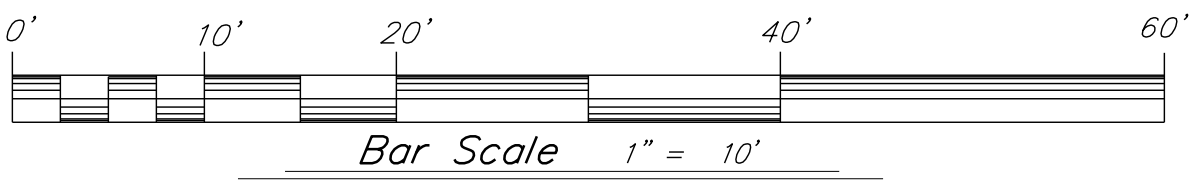
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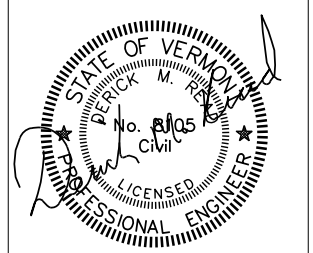


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EXISTING
CONDITIONS PLAN

SCALE
1" = 10'

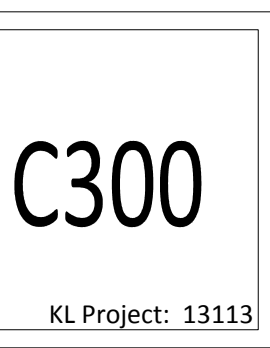
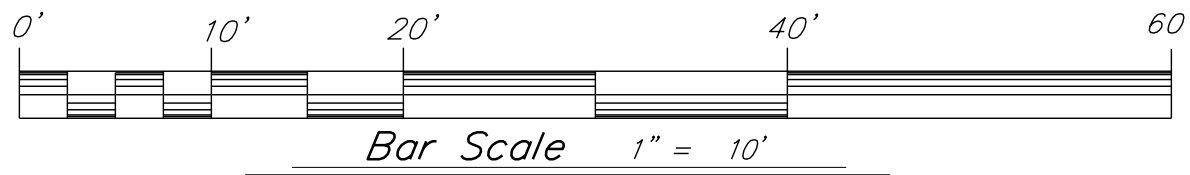
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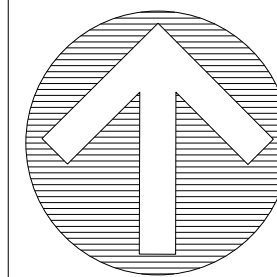
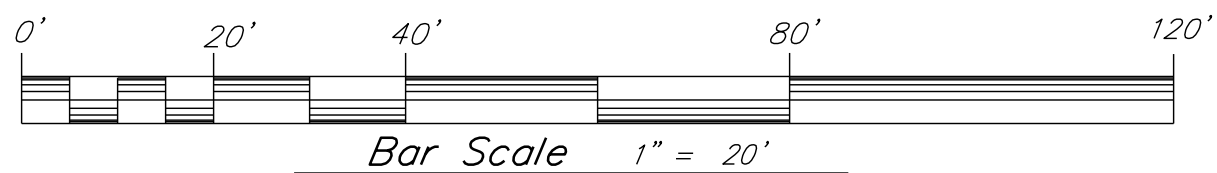
C201

3. The location of underground electrical lines, secondary or those which service the site lights, or are not warranted to be exact or complete. Other electrical lines may exist which are not shown on this plan.
2. If asbestos is discovered during construction UVM shall be contacted immediately.
3. Refer to specifications for detailed scope of demolition work.
4. Prior to disrupting existing utilities, Contractor shall be responsible for confirming status of all utilities to be abandoned.
5. 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).
6. The Contractor shall establish chain link fence protection barrier at the drip edge of all existing trees to remain within 10 ft. of construction disturbance.
7. 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.
8. Contractor shall maintain water and sanitary services to all existing buildings to remain. If water or sewer shut down is required provide minimum 72 hour notice to the University.
9. 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.
10. See Project Specifications for recycling requirements for site and building.
11. This drawing shows limited salvage, demolition, and removal requirements within the new building footprint. Refer to the proper design plans for additional requirements related to demolition within five feet of the new building footprint.
12. Coordinate all trees, perennials, and other vegetation to be removed with UVM.
13. All site lights being removed by the project shall be salvaged and delivered to a location identified by the University within a 10 mile radius.
14. Contractor shall coordinate all demolition with fire marshal to maintain fire protection to UVM buildings.

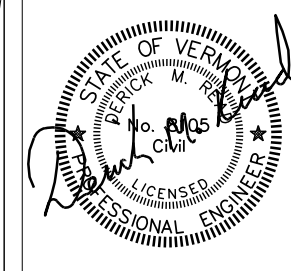


- ST - - - - - *Inlet Protection*
 - - - - - *New Storm Line/Manhole/Basin*
 - - - - - *Existing Storm Line/Catch Basin/manhole*
 - - - - - *Existing Contours*
 - - - - - *Chain-link Fence*
 - - - - - *Temporary Silt Fence*
 - - - - - *Crushed Stone Stabilization*
 - - - - - *Erosion Control Matting*

- Contractor shall be responsible for complying with all State and Local erosion prevention and sediment control standards and permit requirements during construction.
2. 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.
3. Clearing and grubbing shall be done after disturbance limits and sediment controls are in place. All roots, stumps and deleterious materials shall be removed from the site. The Contractor shall minimize the amount of disturbed land at any given time.
4. 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. Refer to maintenance and inspection requirements outlined in the permit.
5. 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 14 days of initial disturbance. Any disturbance after 14 consecutive days of exposed soil shall be stabilized daily unless the following exceptions apply:
 - a. 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.
 - b. 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.
- Temporary Stabilization Means: Protecting soils in areas where additional soil disturbance activities from erosion by rainfall, runoff, or wind , with a surface cover, including but not limited to, establishment of ground vegetation, application of mulch, rolled erosion control products, gravel, or paving.
6. Unless specifically indicated on the plans acceptable methods of stabilization shall include:
 - Mulching - 2 tons per acre. **Only STRAW is allowed.** Approximately 1" uniform thickness. Only allowed on relatively flat areas with minimum upslope watershed. Mulch must be properly anchored with netting to prevent material from being blown away by wind (windthrow).
 - Hydroseeding* - Applied at the manufacturer's recommended application rate. Contractor shall provide evidence of proper application rate. Hydroseeding is not allowed in areas of concentrated flow.
 - Erosion control matting - 575 matting must be applied to all slopes 3:1 (H:V) or greater (unless otherwise indicated).
 - Crushed stone or crushed gravel - Typically used for temporary access roads and construction staging areas.
 - Paved surfaces (concrete, asphalt, etc.)
 - Weighted impermeable barriers and other materials as approved by the Engineer.
7. The Contractor shall use water for dust control.
8. The Contractor shall provide inlet protection around all catch basins (existing or new) that collect construction site stormwater runoff. At a minimum, MarshMat cor inlet filters shall be properly secured to the top of all catch basin grates. Additional inlet protection may be necessary as indicated on the plans or as construction dictates.
9. A stabilized construction entrance shall be installed and maintained at all construction access locations. Crushed stone shall be extended closer to and around the construction site (beyond the length detailed) if construction vehicles track sediment off site. If the stabilized construction entrance is not effective at preventing sediment tracking, the Contractor will be responsible for providing a truck wash to be used on all exiting construction vehicles.
10. Any paved roads used by construction vehicles shall be swept daily, or at a greater frequency, if dirt or gravel is tracked from the site. The swept debris shall be immediately removed from face of curb if applicable.
11. During construction of underground utility lines the following standards must be met:
 - No more than 500 linear feet of trench may be open at one time.
 - Excavated material must be placed on the uphill side of the trench or immediately hauled to an approved and protected soil stockpile area if silt fence cannot be installed down slope of the disturbance.
12. 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.
13. All sediment removed from sediment control practices shall be placed in an approved soil disposal area. Contractor shall be responsible for providing a permitted off-site soil disposal for the project.
14. All areas that do not have established vegetation by October 15th must be stabilized in accordance with the Winter Stabilization requirements outlined in the Low Risk Site Handbook.
15. After permanent seeding the Contractor shall be responsible for watering to ensure adequate vegetative growth.
16. Plan sheets C400 through C403 are the Erosion Prevention and Sediment Control design plans for the project. These plans do not show all site, utility, or landscape improvements associated with the project. Contractor shall refer to Civil Site Plans and Landscape Plans for all other site related design.
17. The location of temporary construction fencing and temporary access roads shown are for schematic purposes only. The Contractor shall be responsible for providing all necessary temporary construction fencing, temporary roads, staging areas, etc., necessary to complete the work.
18. The Contractor shall be the On-site Coordinator for the project and shall be responsible for all required inspections, turbidity readings, maintenance, and reporting. The On-Site Plan Coordinator shall be required to provide a turbidity meter for the project.
19. The erosion prevention and sediment control practices shown on these plans are the minimum required for the project. The Contractor shall employ as many best management practices as necessary to prevent soil from leaving the construction site. If evidence is found of sediment tracking or eroded soil leaving the construction site, the Engineer may direct Site Contractor to implement additional best management practices at no additional cost to Owner.



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REVISIONS

EROSION PREVENTION &
SEDIMENT CONTROL PLAN
PRECONSTRUCTION

SCALE

DATE	2016-02-29
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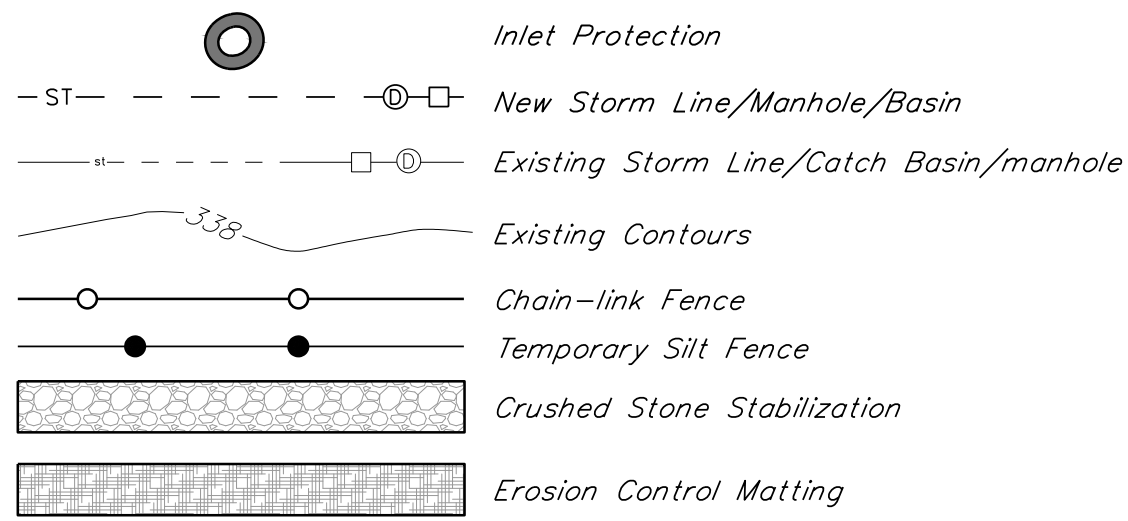
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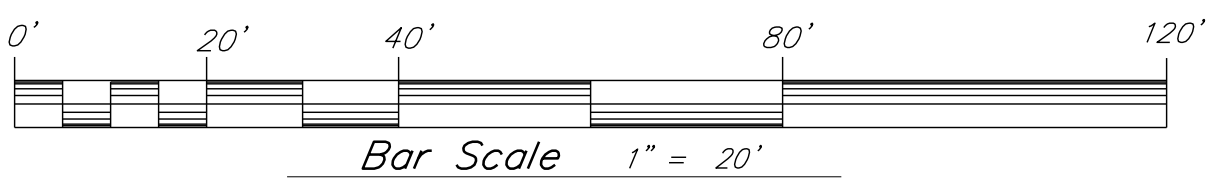
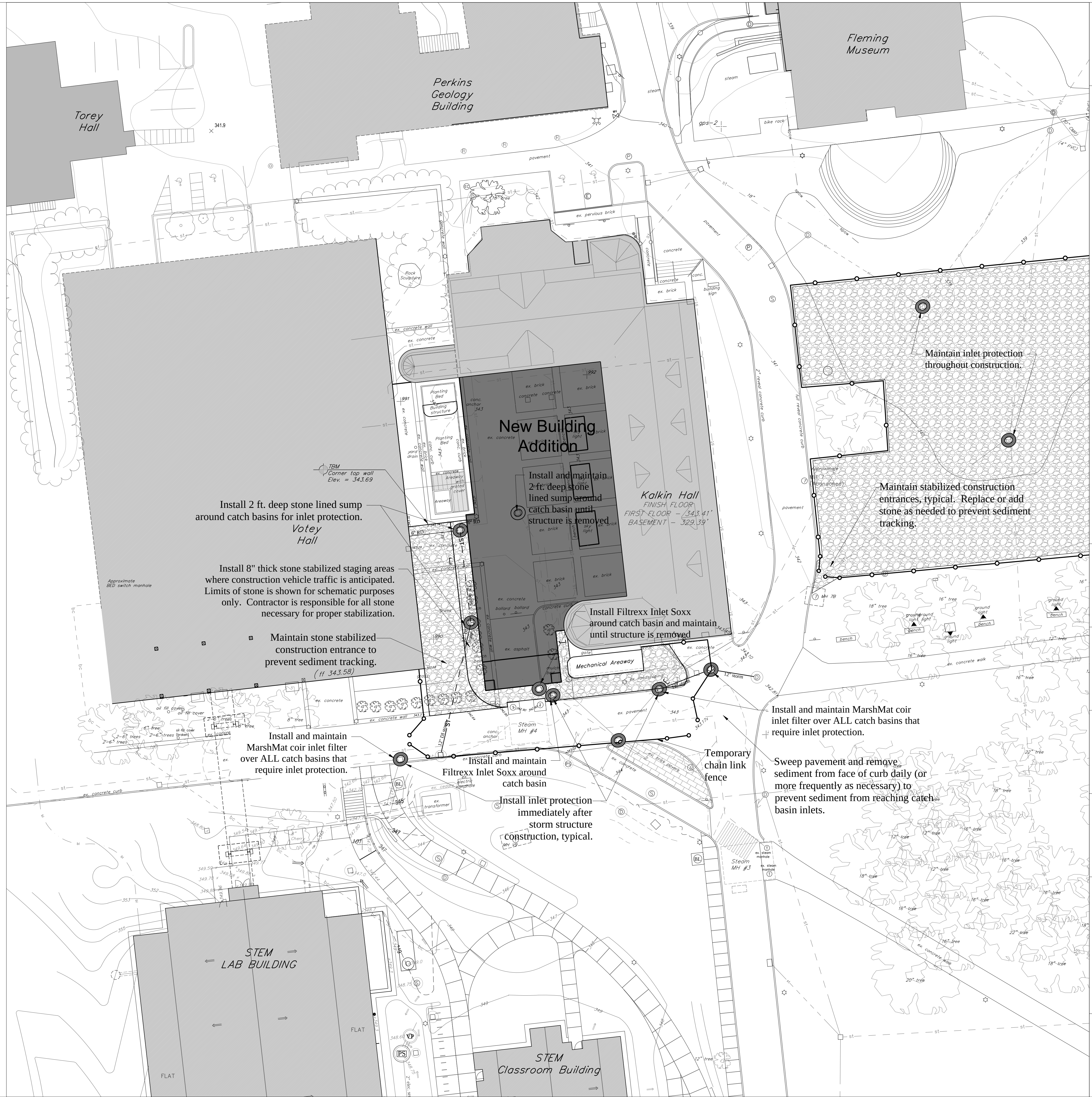
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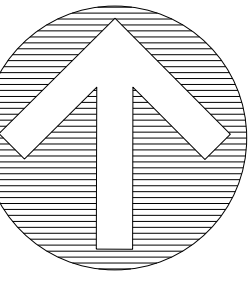
Erosion Prevention & Sediment Control Notes

1. Refer to plan sheet C400 for additional Erosion Prevention & Sediment Control Notes.
2. For utility trench work outside the limits of the primary construction site or in areas where silt fence is impractical, excavated soil shall be either stockpiled on the uphill side of the trench, removed from site, or moved to a properly protected temporary stockpile location.
3. All areas that are relying on vegetation as winter stabilization must be seeded and straw mulched by September 15th. After September 15th, all areas must be stabilized by temporary measures. Hydroseding after September 15th is not acceptable without additional straw mulch or erosion control matting.
4. All disturbed areas not involved in Winter Construction shall be at least temporarily stabilized by October 15. After October 15th, all areas disturbed during Winter Construction shall be stabilized DAILY to prevent exposure from rain events and accumulation of snowfall. Refer to Winter Construction Plans for daily stabilization exceptions.
5. Contractor is responsible for all construction fencing around project limits.

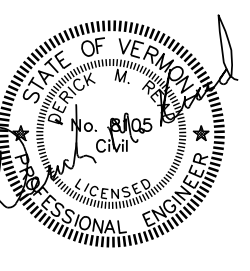


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ARCHITECTS

REVISIONS

NO.	DESCRIPTION

EROSION PREVENTION & SEDIMENT CONTROL PLAN
SUMMER 2017

SCALE

1" = 20'

DATE

2016-02-29

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DMR

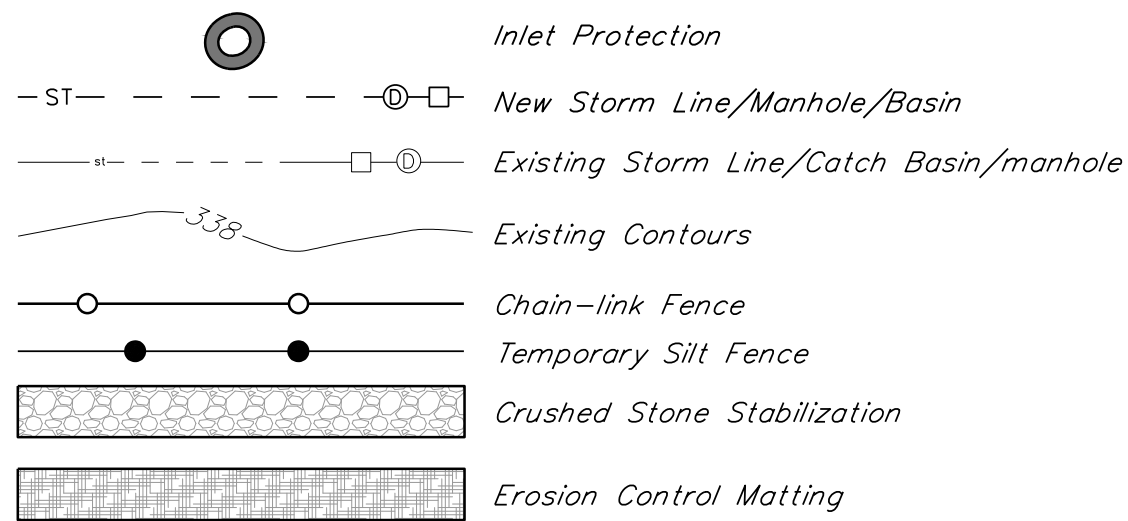
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Winter Erosion Control Procedures:

(For any earth work performed between October 15th and April 15th)

Winter Erosion Control Narrative:

Objective – Any site work performed later than October 15th will result in exposed soil through the winter. This presents a potential for erosion through the winter. The winter erosion control measures are intended to prevent sediment from leaving the construction zone during thaws and rainstorms.

Winter Erosion Control Sequence:

On-Site Coordinator – The On-Site Coordinator shall be sure all erosion control measures required for Winter Construction are installed by October 15th and prior to ground freezing. If a permitted area can be left undisturbed until the spring the Contractor shall make every effort to limit these areas of disturbance.

The Contractor shall stabilize any portion of the site that is being worked and disturbed prior to beginning construction at another area of the site. At no time during winter construction shall there be more than 1 acre of exposed soil on site.

Anticipated Winter construction activities are listed on this plan. Site work will continue until construction becomes impractical due to weather.

Install Silt Fence – Silt fence shall be installed on the downhill side of the Winter Construction areas and soil stockpile areas, as shown on the plan, by October 15th. If the ground is unfrozen the silt fence shall be dug in as normal. If the ground is frozen contact the Engineer for alternate options (stone berm, Filtrix Silt Socks, straw wattles, etc.).

Inlet Protection – All new and existing catch basins that will collect sediment laden runoff shall have inlet protection installed. All new catch basins that cannot be protected shall be covered with impermeable fabric and gravel or a solid cover (See Temporary Catch Basin Impermeable Cover Detail) .

Stabilized Construction Entrance – The Site Contractor shall be responsible for maintaining all stabilized construction entrances to prevent sediment tracking off site. Additional stone shall be added or the length shall be increased.

Winter Stabilization – All disturbed areas not involved in Winter Construction shall be at least temporarily stabilized by October 15. After Oct. collect and disturbed areas shall be stabilized DAILY to prevent exposure from rain events and accumulation of snowfall (See Exceptions Below). Stabilization methods include:

- Mulching – 3.5-4 tons of STRAW mulch per acre. Approximately 2" uniform thickness (80-90% cover). Mulch must be secured with netting to prevent wind throw.
- Erosion control matting – North American Green S75, or approved equal, matting must be applied to all slopes 3:1 (H:V) or greater (unless otherwise indicated).
- Crushed stone or crushed gravel – Typically used for temporary access roads and construction staging areas.
- Paved surfaces (concrete, asphalt, etc.)
- Weighted impermeable barriers and other materials as approved by the Engineer.

Exceptions:

* Hydroseeding after September 15th and before April 15th must be stabilized with straw mulch or erosion control matting.*

* Snow and/or ice must be removed to, at most, one inch prior to applying mulch or erosion control stabilization matting.

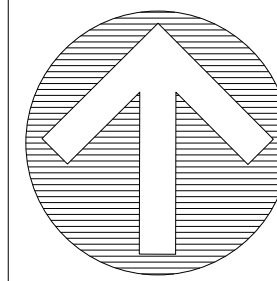
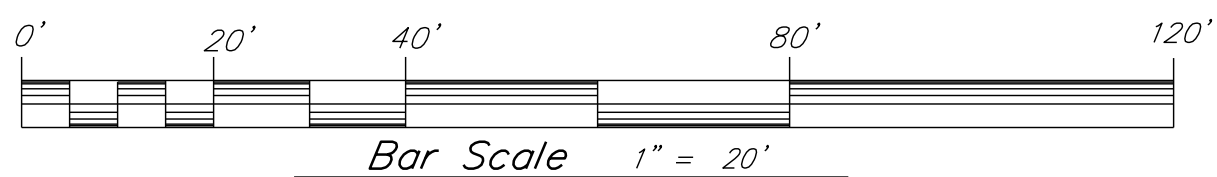
Exceptions:

– If no precipitation within 24 hours is forecasted 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, require stabilization at the end of each work week.

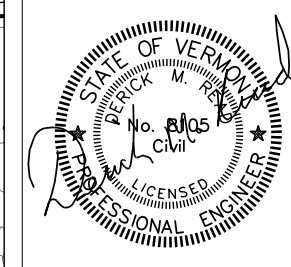
Maintenance – All disturbed areas shall be monitored by the Contractor and the Engineer in accordance with the inspection requirement outlined in the Individual Construction Stormwater Permit. The Contractor and Engineer shall evaluate the site after a thaw or rainstorm. The Contractor shall notify the Engineer if any erosion control measures appear to be inadequate. The Contractor shall immediately (within the same business day) implement any further erosion control measures specified by the Engineer. The Contractor shall add mulch, as necessary, throughout the winter after thaws or rainstorms. The mulch depth shall be brought up to 2". The mulch and silt fence shall be maintained until a permanent ground cover is established in the spring. The site shall be remulched and reseeded, in the spring, as required to establish a vigorous permanent ground cover.

Inspection – The On-Site Coordinator shall be responsible for, at a minimum, weekly written inspections while the site is disturbed and construction is on-going. If, during winter construction, earth disturbance activities temporarily cease and the site has been fully stabilized, inspection and monitoring requirements for the On-Site Coordinator may be reduced to once per month minimum.

All inspection sheets shall be kept on site and be available upon request.



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**BLACK
RIVER
DESIGN**
ARCHITECTS

REVISIONS

NO.	DESCRIPTION

EROSION PREVENTION &
SEDIMENT CONTROL PLAN
WINTER 2017-2018

SCALE

1" = 20'

DATE

2016-02-29

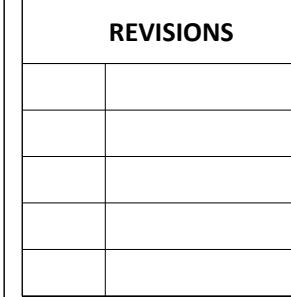
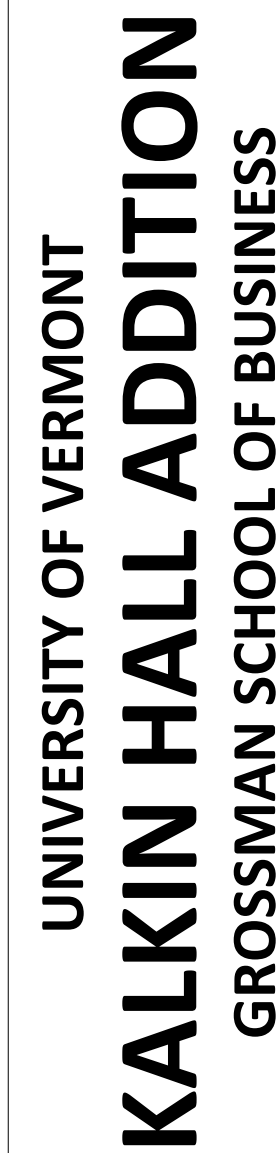
DRAWN BY

DMR

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C402

KL Project: 13113



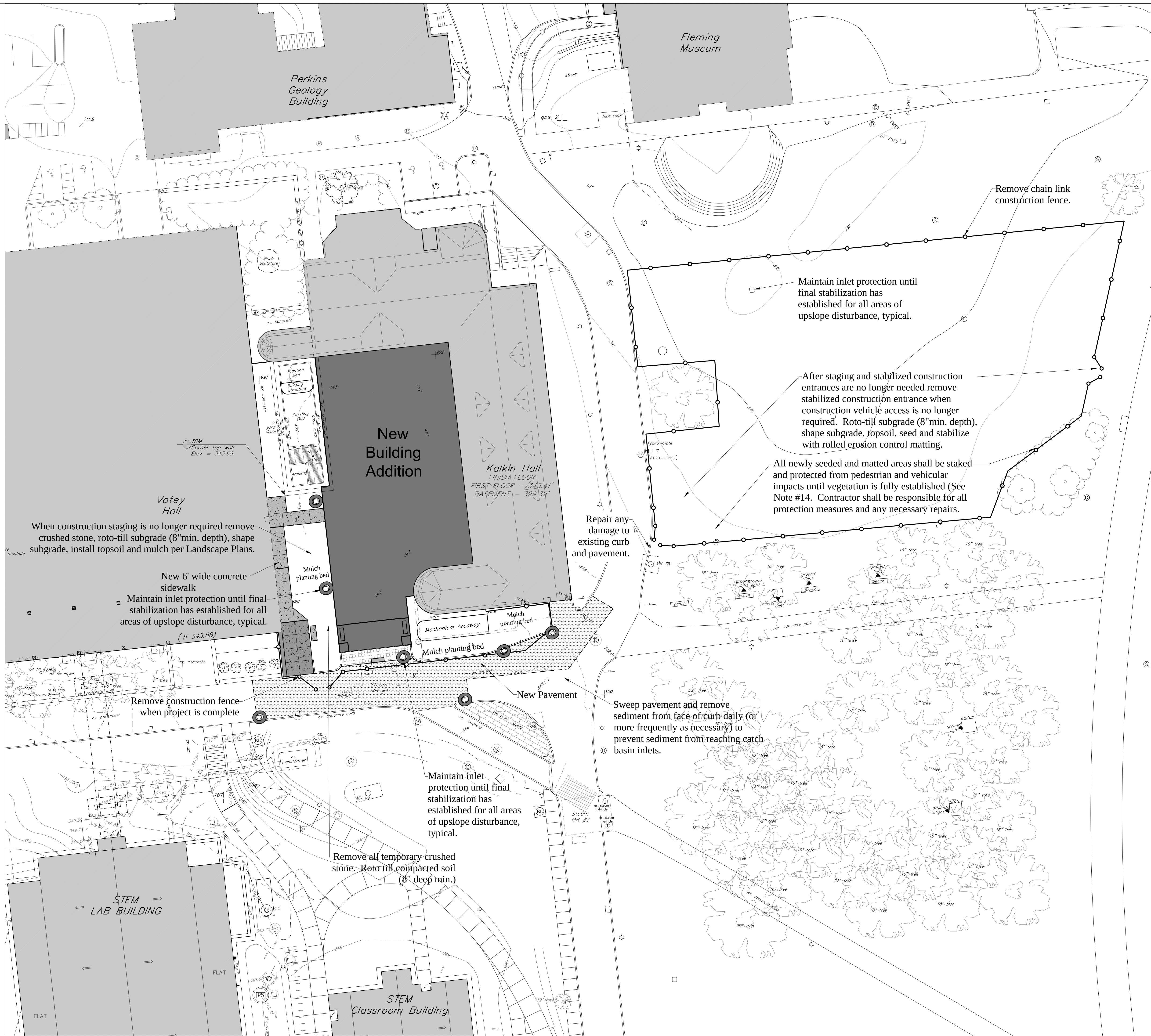
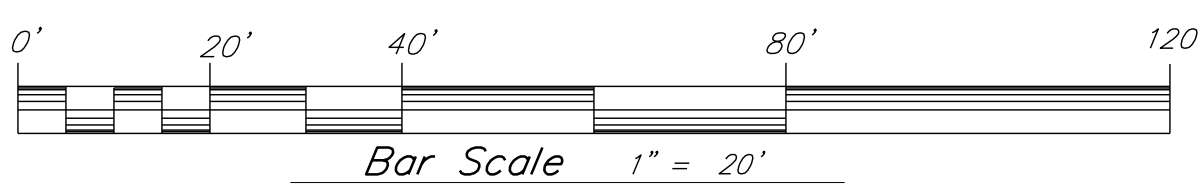
SCALE 1" = 20'
DATE 2016-02-29
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KL Project: 13113

The diagram illustrates various erosion control measures and their corresponding symbols. The measures are listed on the right, and their symbols are shown on the left. The symbols include a circular inlet protection, a dashed line with a square and circle for a new storm line, a solid line with a square and circle for an existing storm line, a wavy line for existing contours, a thick dashed line for the limit of disturbance, a line with squares for a construction barrier fence, a line with circles for a chain-link fence, a line with black dots for a temporary silt fence, a rectangular area with a stone pattern for crushed stone stabilization, and a rectangular area with a mat pattern for erosion control matting.

Symbol	Measure
	Inlet Protection
	New Storm Line/Manhole/Basin
	Existing Storm Line/Catch Basin/manhole
	Existing Contours
	Limit of Disturbance
	Construction Barrier Fence
	Chain-link Fence
	Temporary Silt Fence
	Crushed Stone Stabilization
	Erosion Control Matting

2. *Refer to plan sheet C400 for Erosion Prevention & Sediment Control Legend and Notes.*
2. *For utility trench work outside the limits of the primary construction site or in areas where silt fence is impractical, excavated soil shall be either stockpiled on the uphill side of the trench, removed from site, or moved to a properly protected temporary stockpile location.*
3. *All areas that are relying on vegetation as winter stabilization must be seeded and mulched by September 15th. After September 15th, all areas must be stabilized by temporary measures. Areas hydroseeded after September 15th will require additional mulch or erosion control matting if final stabilization is not reached by October 15th.*
4. *Contractor is responsible for all construction fencing around project limits.*
5. *If Landscape Contractor is different than Site Contractor then the Landscape Contractor shall submit a Co-Permittee Notice of Addition form to the Watershed Management Division.*
6. *Landscape Contractor shall coordinate construction activities with the Site Contractor to ensure:*
 - a. *Exposed soils, that are currently disturbed, are stabilized daily, or meet the exceptions listed on Sheet C400.*
 - b. *Final graded areas are topsoiled, seeded and stabilized within 48 hours.*
7. *All vegetated areas steeper than 5:1 (H:V) shall be stabilized with North American Green S75BN, or approved equal, erosion control matting.*
8. *Only STRAW is acceptable for use as mulch. Hay mulch is not allowed.*
9. *Inlet protection at catch basins shall be maintained until upslope drainage areas have reached full vegetation establishment.*
12. *Silt fence or straw wattles shall be maintained until final vegetation is established.*
13. *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.*
14. *3" wide orange barrier tape shall be installed along the edges of all newly topsoiled, seeded, and mulched areas. The contractor shall be responsible for maintaining the barrier tape until vegetation is fully established. Contractor shall be responsible for all vegetation protection measures and any necessary repairs.*



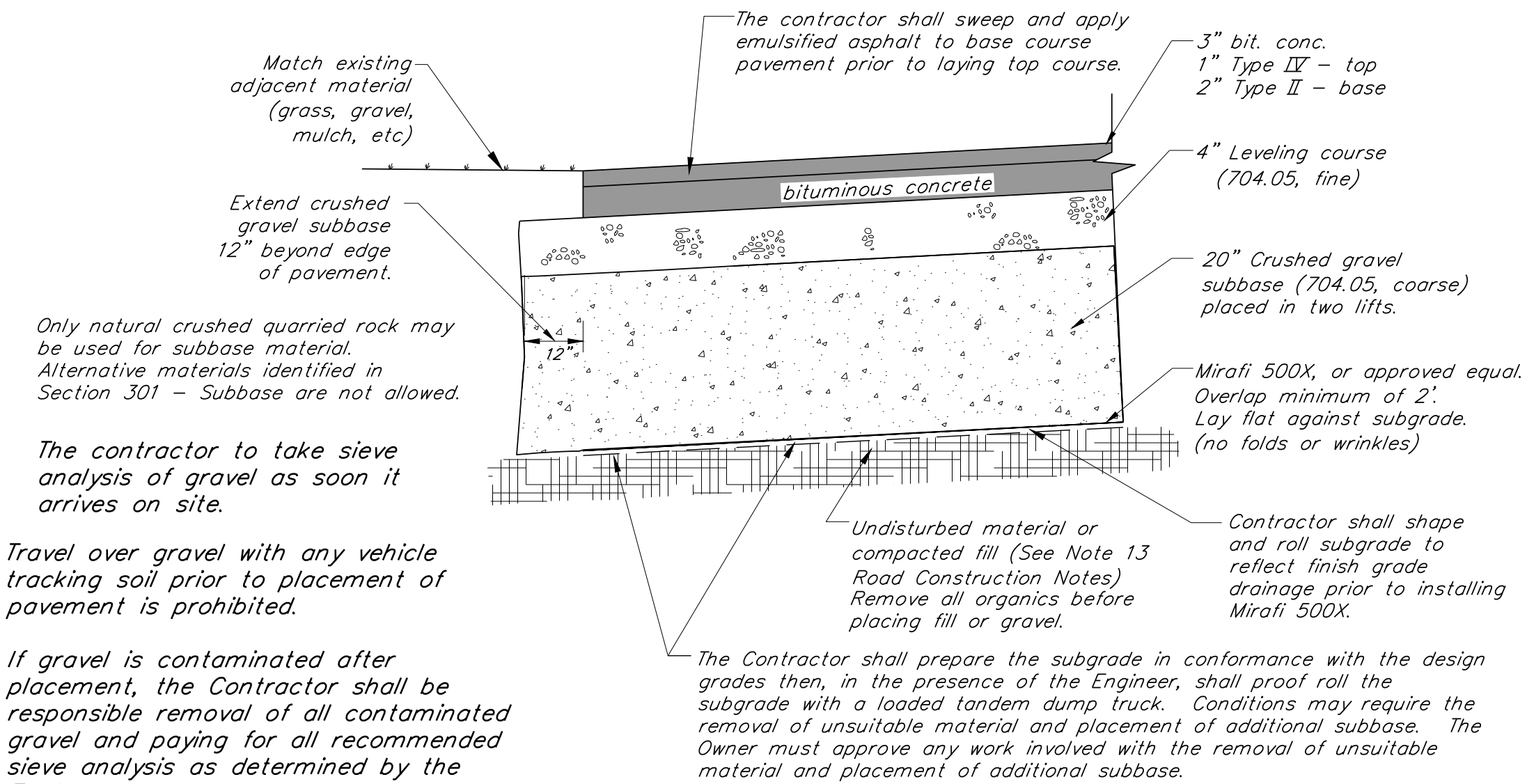
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Road Construction Notes (All references to road shall apply to sidewalks as well.)

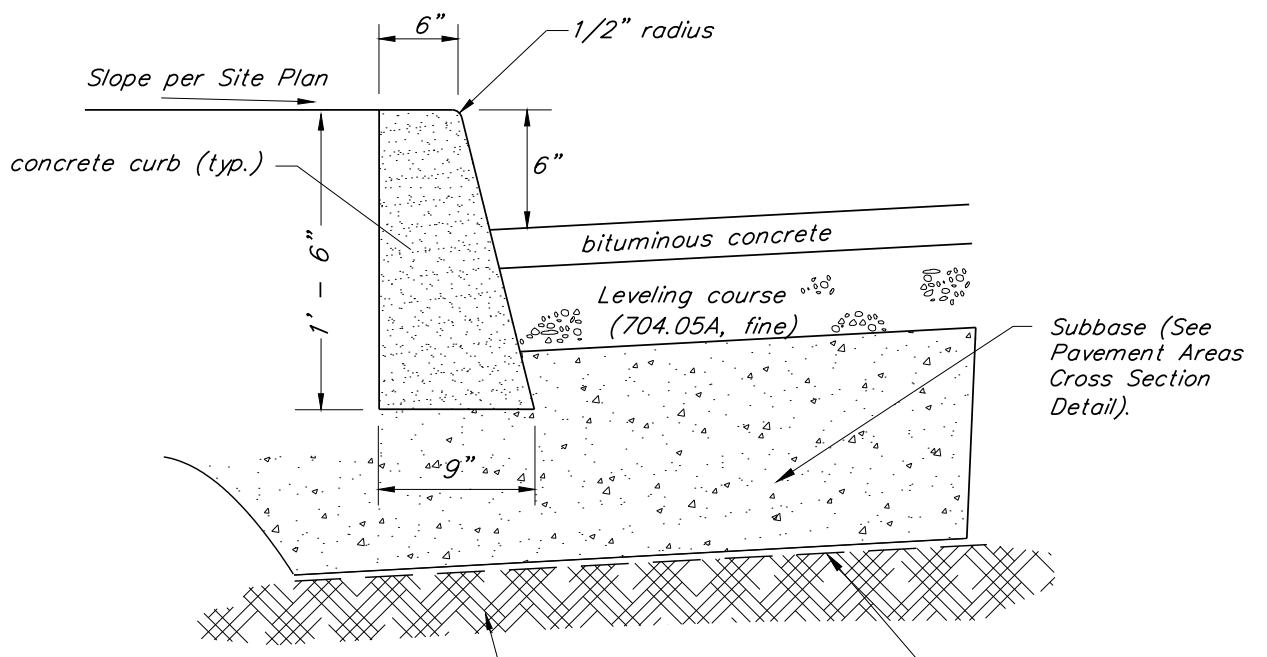
1. New road shall be constructed to the line and grade shown on the drawings. The road and utility locations shall be as typically detailed unless otherwise shown.
2. All road and parking construction shall be completed in accordance with the Vermont Agency of Transportation "Standard Specifications 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.
3. The Contractor shall follow Vermont Highway Specifications (2011) Section 203.11 for placing and spreading embankments.
4. 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).
5. 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.
6. Methods for construction of subgrade shall conform to Vermont Highway Specifications (2011) 203.12 or as determined by the Engineer.
7. 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.
8. The Owner will pay for on site soils testing (compaction, sieve, and proctor). The Contractor shall pay for failing tests.
9. Sand borrow and cushion shall conform to Vermont Highway Specifications (2011) 703.03. Granular borrow shall conform to the Vermont Highway Specifications 703.04.
10. Gravel subbase for pavement shall conform to Vermont Highway Specifications (2011) 704.05, coarse. Substitute materials identified in VAOT Specifications Section 301 – Subbase are not allowed.
11. Leveling course shall conform to Vermont Highway Specifications (2011) 704.05, fine grading. Shoulders shall conform to Section 704.12, Aggregate for Shoulders.
12. 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.
13. 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
14. 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.
15. Contractor is responsible for all pavement markings (ie. parking striping, handicap markings, stop bars, etc.) shown or implied on the Plans.
 - Paint for pavement markings shall be Hydrophast Waterborne Traffic Paint by Franklin Paint Company. It shall be reflective, VOC compliant fast drying, 100% acrylic waterborne traffic paint. Paint for stop bars and crosswalks shall be white all other line striping shall be yellow. Confirm paint color with UVM Parking & Transportation prior to application.
 - 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.



New Pavement Areas Cross Section Detail

N.T.S.



Typical New Concrete Curb Detail

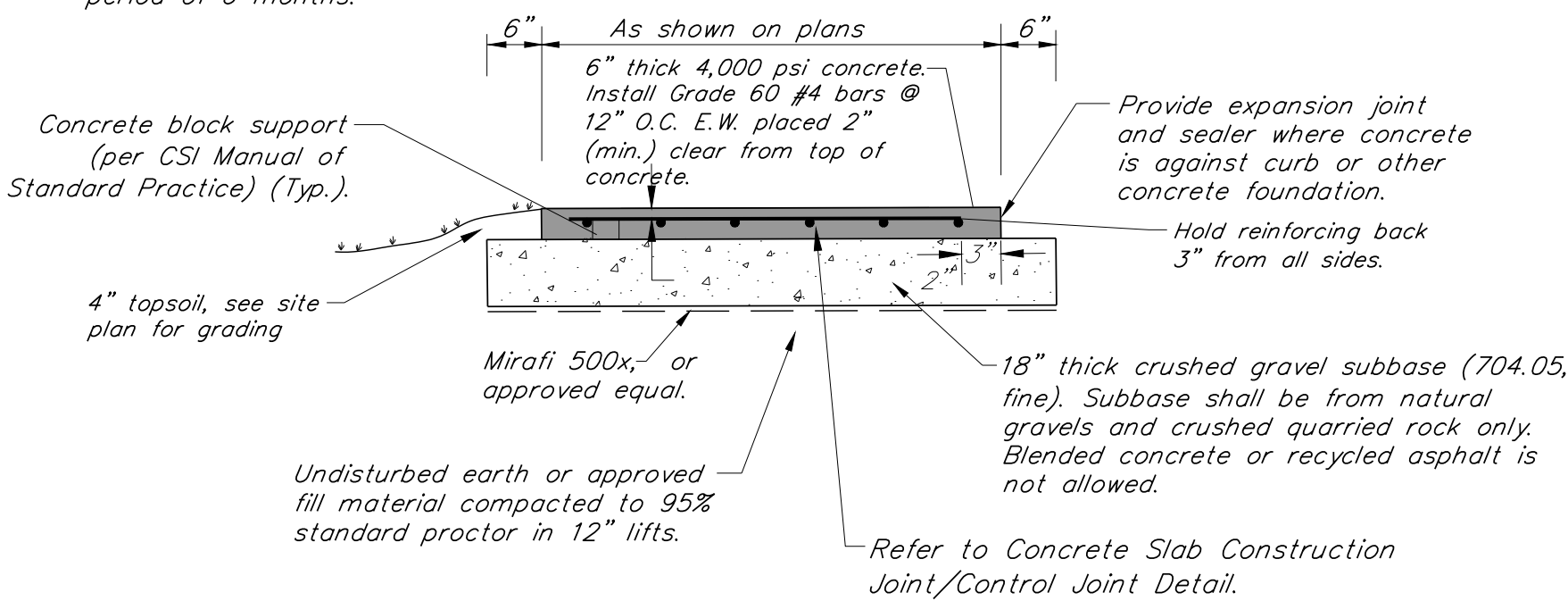
N.T.S.

Concrete Slab

- Broom finish concrete
- Construction joints shall be spaced max. 24' in all directions. See New Concrete Construction Joint Detail.
- See Site Plan for construction joint layout.
- Tool finish control joints 1-1/2" depth at intervals equal to width of sidewalk. Contractor is responsible for providing appropriately sized tooling, trowel.
- Apply 2 coats of Euclid Everclear VOX cure/seal compound to all concrete surfaces, per the manufacturer's specifications.
- Concrete construction and curing shall conform to section 618.03 of the current VAOT Standard Specifications for Construction
- Concrete shall be installed in alternating pours at construction joints. Continuous pours through construction joints is not allowed. Refer to Concrete Construction Joint/Control Joint Detail.

All concrete used in the construction of concrete sidewalk shall be air entrained and made with Portland cement. The concrete shall meet section 541 of the State of Vermont Standard Specification for Construction 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.



New Multi-Use Concrete Sidewalk Detail

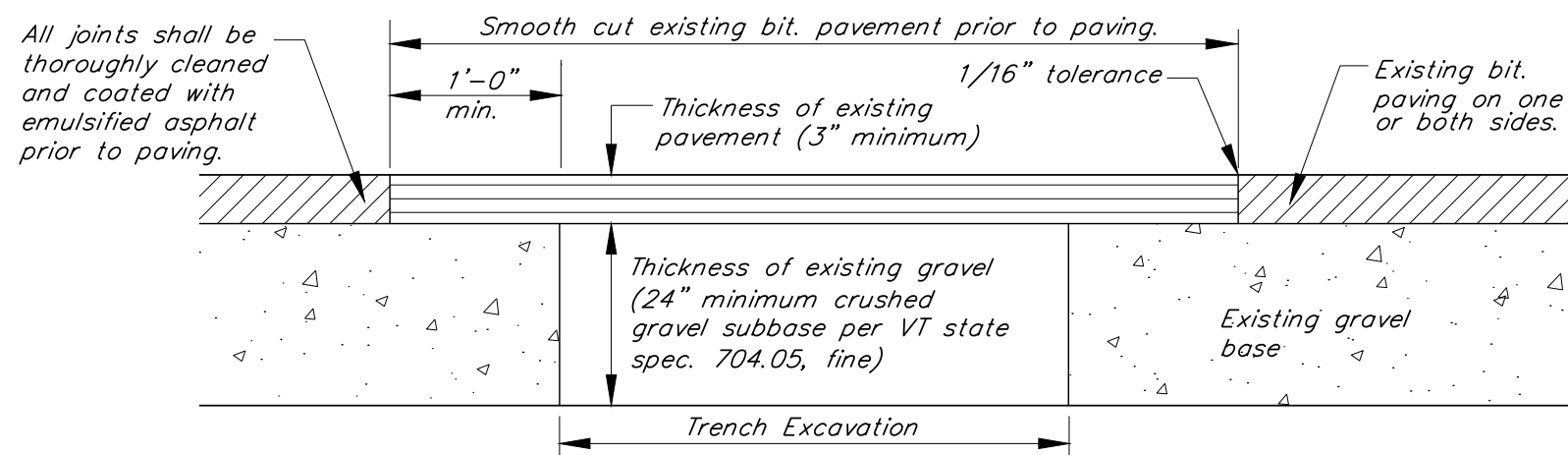
To be used for concrete sidewalk that is wider than 6'.

N.T.S.

Concrete Slab Joint Detail for Connection to Existing Concrete

Contractor to use this pinning detail to pin NEW concrete to EXISTING concrete (walk to walk, walk to buildings, walk to retaining walls, stairs, etc.).

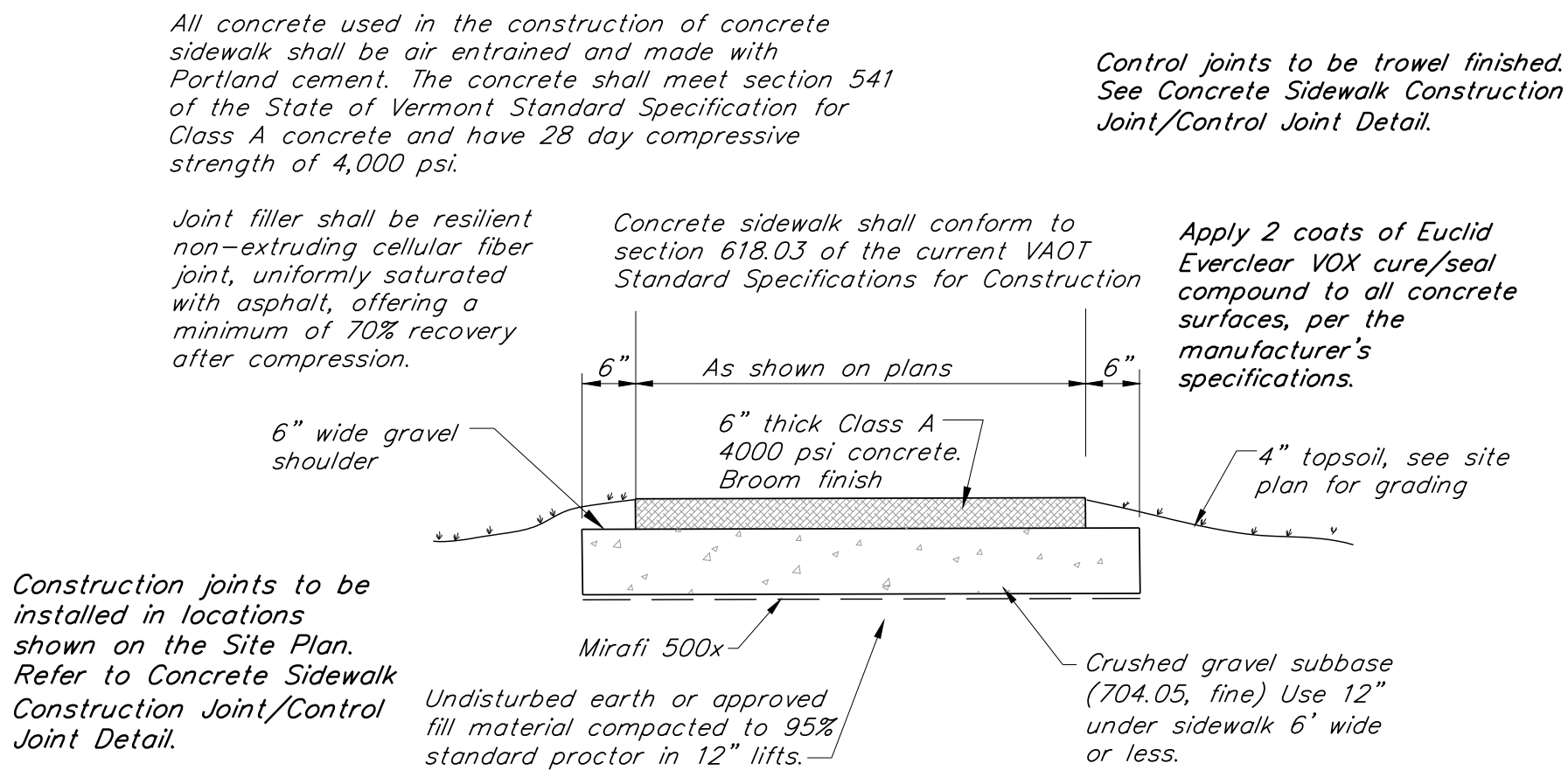
N.T.S.



1. Set up and maintain signs and other safety control devices.
2. 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.
3. 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.
4. Remove all loose material and thoroughly sweep the hole area clean of mud and standing water.
5. Apply liquid asphalt tack to vertical faces in a uniform manner. Do not puddle tack coat on bottom of hole.
6. 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.).
7. 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

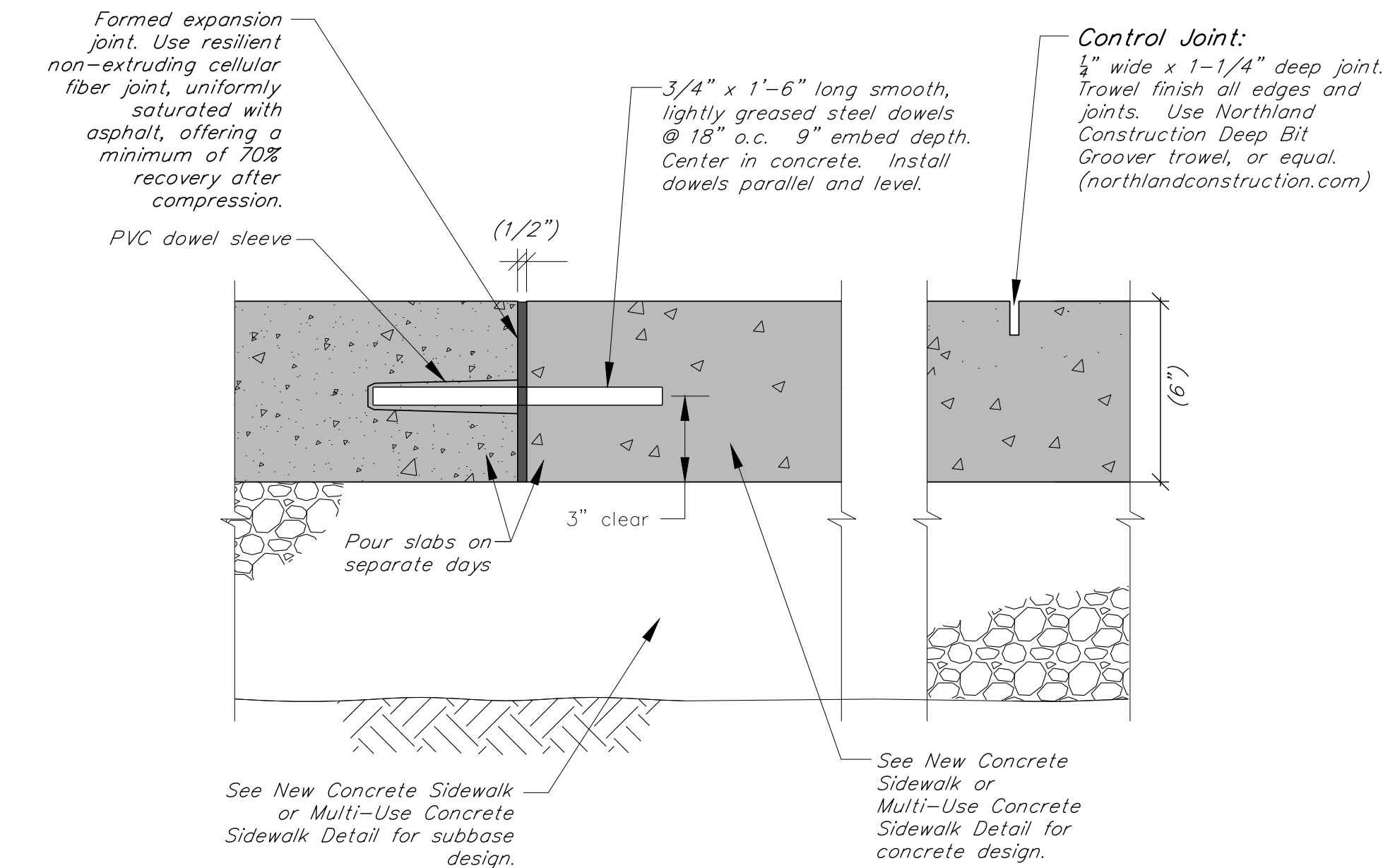
N.T.S.



New Concrete Sidewalk Detail

(For Concrete Walks 6ft. Wide or Less)

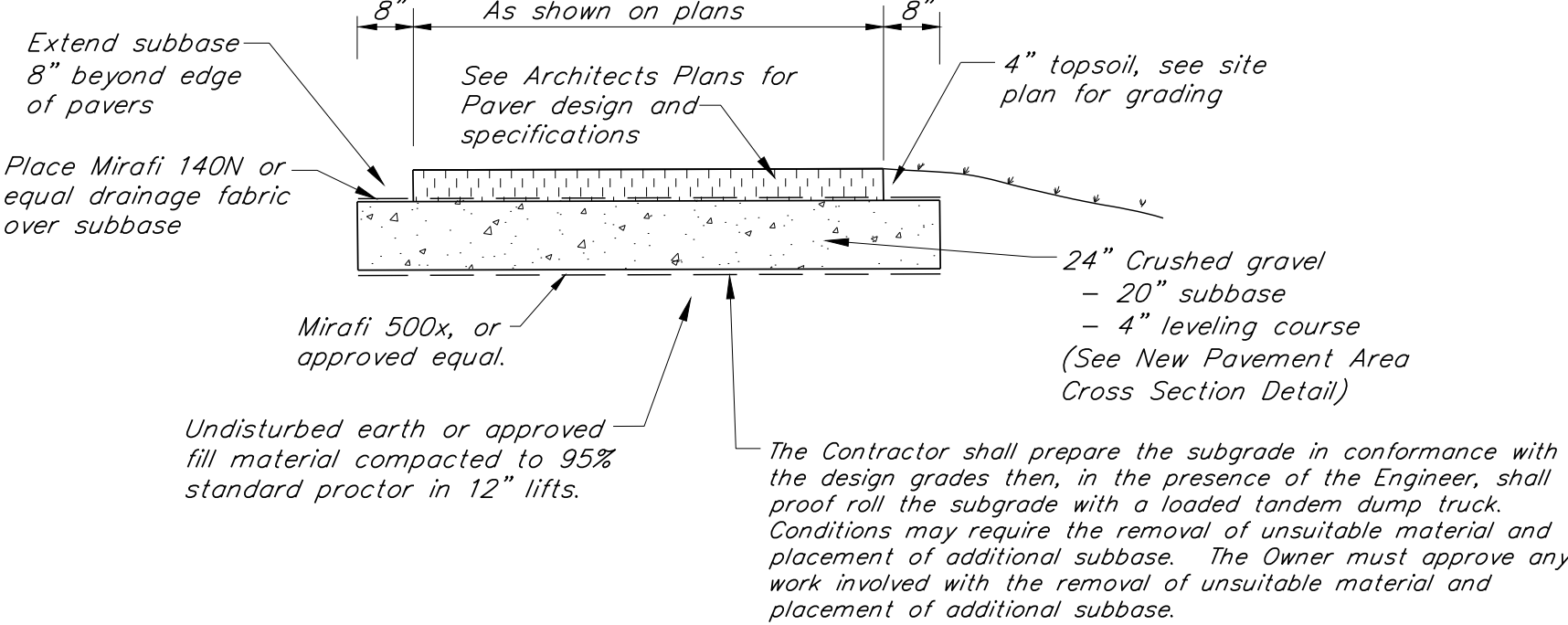
N.T.S.



Concrete Slab Construction Joint/Control Joint Detail

N.T.S.

Contractor to use this pinning detail to pin NEW concrete to NEW concrete (walk to walk, walk to walls, stairs, etc.).



Typical Paver Subbase Detail

N.T.S.

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CIVIL DETAILS

SCALE

N.T.S.

DATE

2016-02-29

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DMR

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The Contractor will be responsible for all construction of 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.

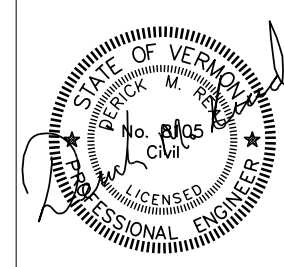
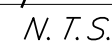
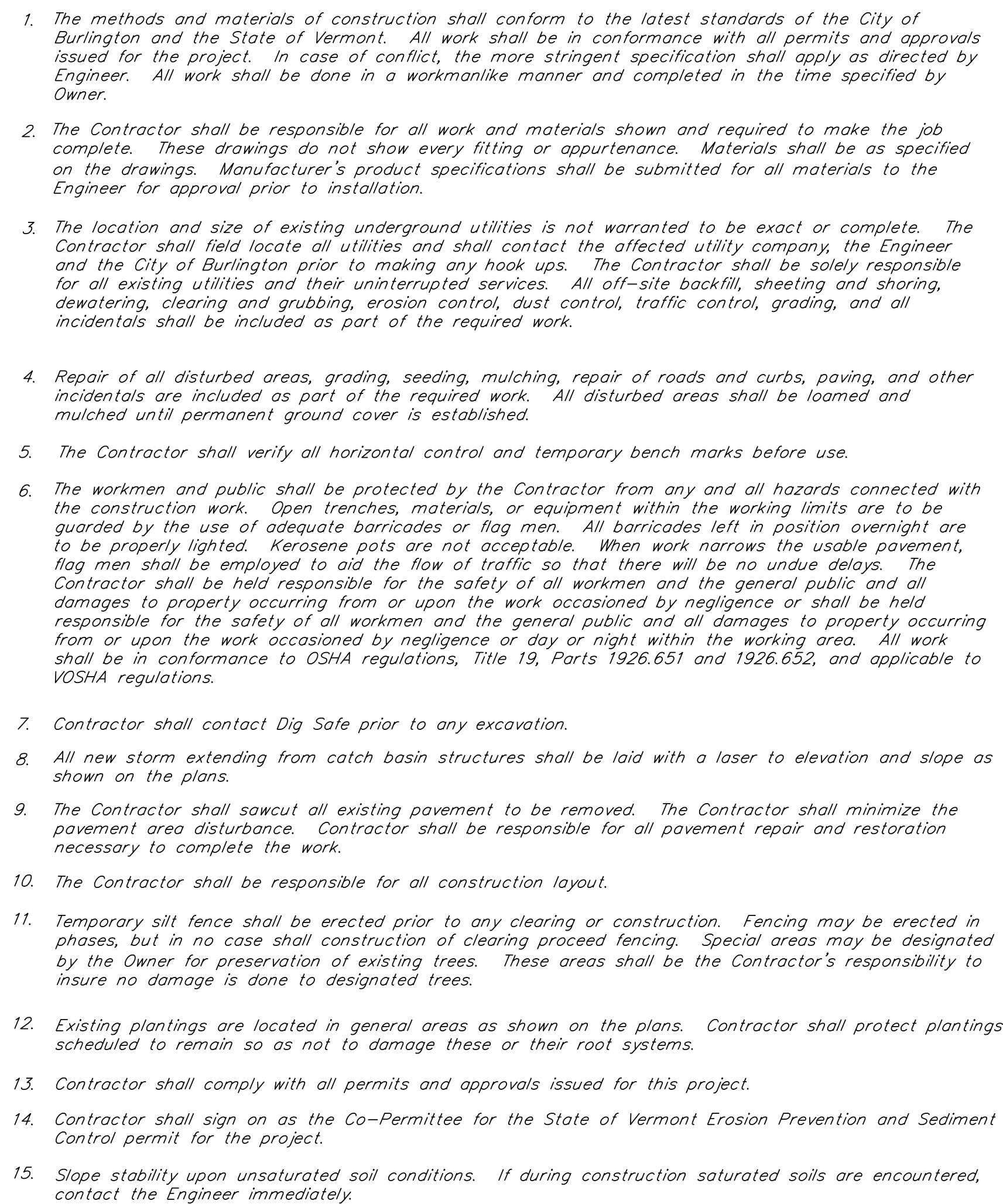
1. All sewer lines shall be thoroughly tested by the Contractor in accordance with the Environmental Protection Rules (09/29/07).
2. The Contractor shall be responsible for construction as-builts to service locations, and any water main fittings. As-builts shall be recorded in accordance with the outlined procedures.
3. 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.
4. Utility Testing. The Contractor shall be responsible for scheduling sanitary testing with the Engineer, 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. All sanitary lines 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.
6. 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.



All concrete used in the construction of concrete block curb shall be air entrained (5 - 7%, and made with Portland cement. The concrete shall meet section 541 of the State of Vermont Standard Specification for Class A concrete and have 28 day compressive strength of 4,000 psi.

Apply 2 coats of Euclid Everclear VOX cure/seal compound to all concrete surfaces per manufacturer's specifications.

N.T.S.



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SCALE N.T.S.
DATE 2016-02-29
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Erosion Prevention and Sediment Control Notes

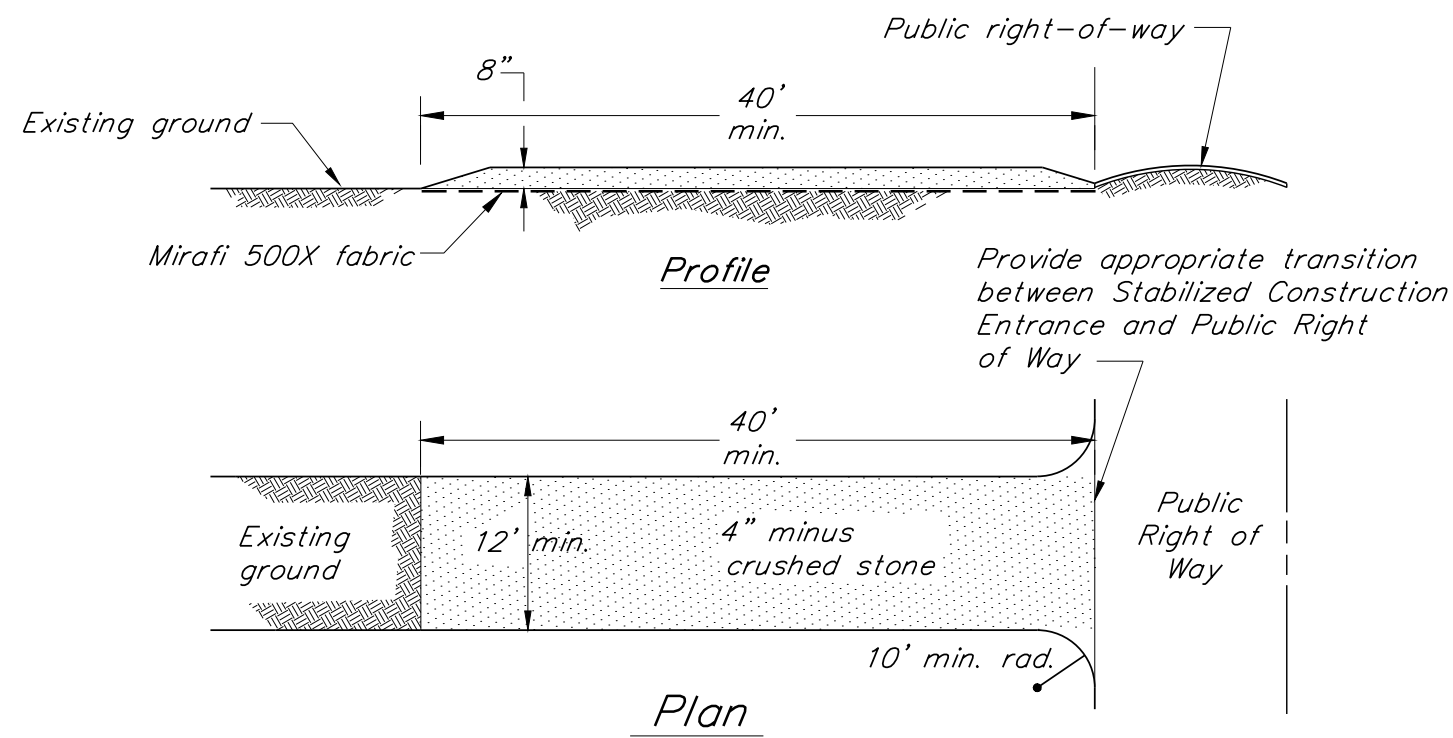
- Contractor shall be responsible for complying with all State and Local erosion prevention and sediment control standards and permit requirements during construction.
- The limit of disturbance shall be clearly defined by Contractor's surveyor prior to clearing. Erosion and sediment control devices 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 14 days of initial disturbance. Any disturbance after 14 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.
- 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 to ensure adequate vegetative growth.
- Water from dewatering activities that flows off site must be clear. Water must not be pumped into storms sewers, lakes, or wetlands unless the water is clear.
- When stabilizing with mulch (permanent or temporary) only **STRAW** mulch may be used. Straw mulch shall be secured with netting or installed as rolled erosion matting.
- 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 Greg Johnson (863-4501) or email (gjohnson@burlingtonvt.gov) 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.

Construction Limit Barriers

- Temporary chain-linked construction fence shall be used to delineate construction limits where practical or where directed in the Contract Documents. Chain link fence must be installed around the drip line of any existing tree to remain that is within 10 feet of the project disturbance.
- Orange construction fence or snow fence shall be used to demarcate short-term construction activities but may not be used as tree protection for any tree 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 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

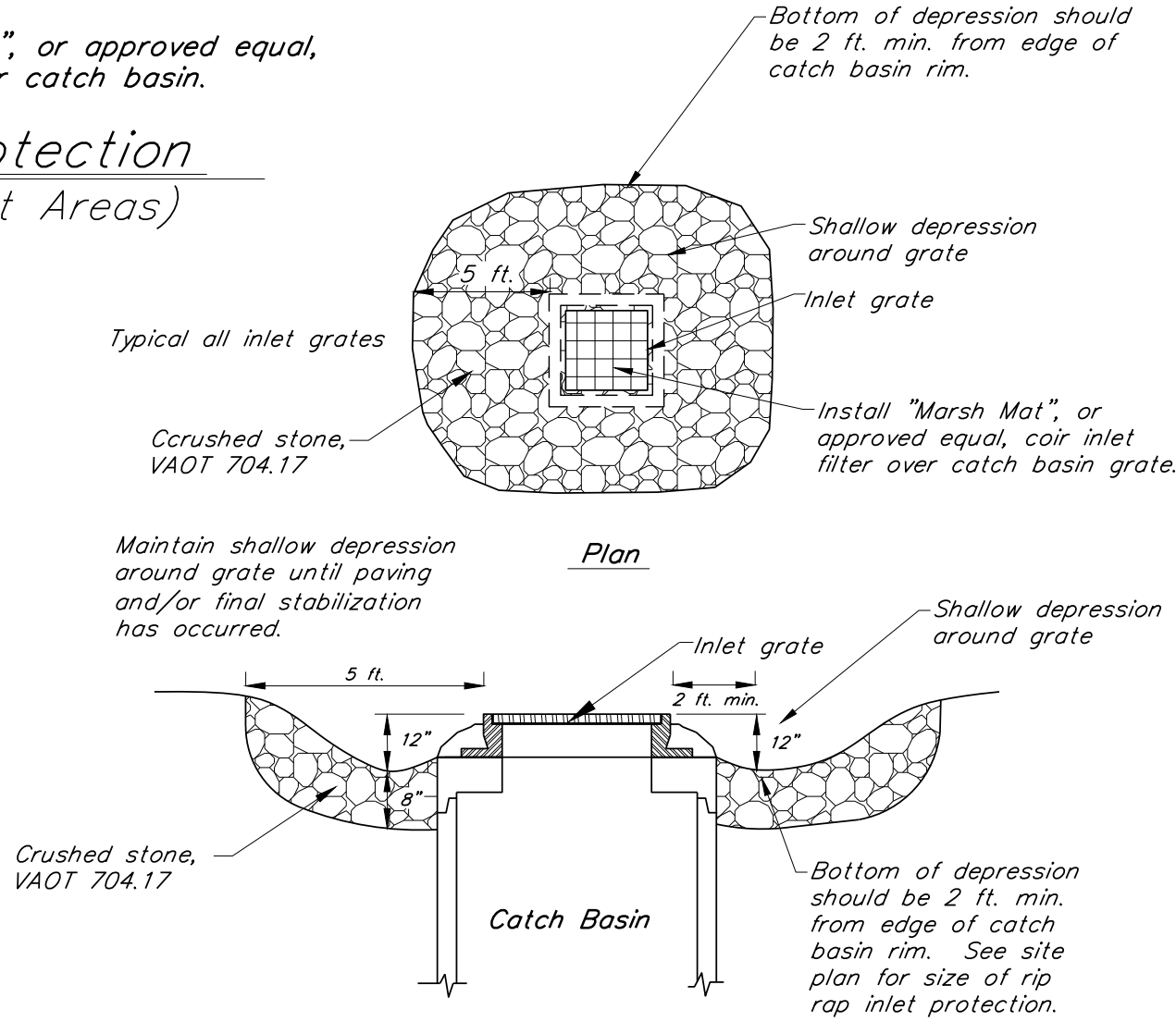
N.T.S.

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 only hay mulch shall be used and 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.

Secure "Marsh Mat", or approved equal, coir inlet filter over catch basin.

Inlet Protection (Pavement Areas)

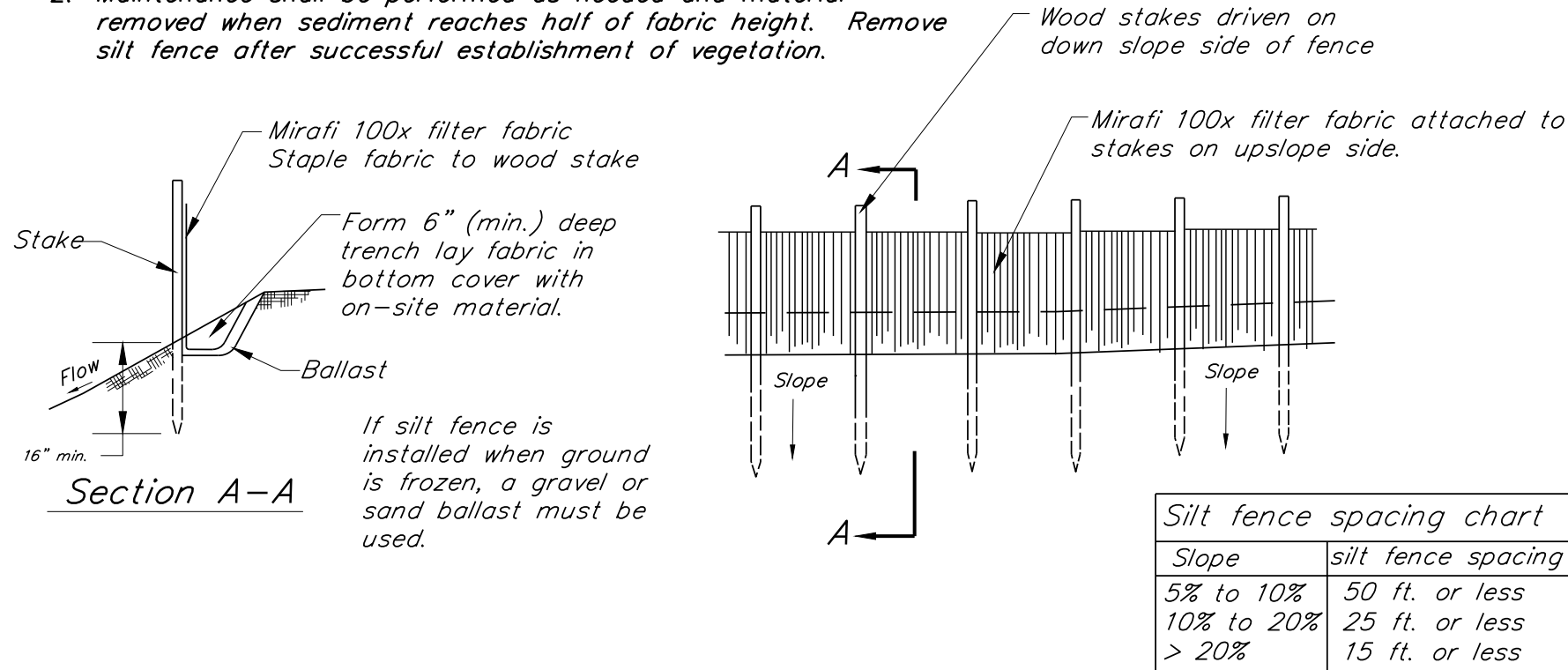


Catch Basin Inlet Protection

N.T.S.

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

N.T.S.

Soil and Seeding Notes

- Topsail shall have a minimum 4" depth unless additional depth is specified on the Civil or Landscape plans. Topsoil shall be natural, fertile, friable soil representative of local productive soil and free of clay lumps, stones, subsoil or other foreign matter larger than 1/2 inch diameter, not frozen or muddy. Acidity pH shall range from 5.5 to 7 and shall contain 4% organic material as a minimum. Samples of topsoil are to be given to UVM Physical Plant's Ground Manager for inspection before approval. All testing costs will be paid by Contractor.
- The Contractor shall have a soil analysis performed on the topsoil (UVM soil testing lab 656-3030). The results of soil analysis shall be provided to the UVM Physical Plant Grounds Manager for approval. The soil analysis must state:
 - Percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious materials, and pH levels.
 - Sieve analysis and mineral and plant nutrient content of topsoil.
 - Test for herbicide contamination and provide report certifying that no herbicides are present.
 - State quantities of nitrogen, phosphorous, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce satisfactory topsoil.
 - Topsoil shall meet the following gradation:

Sieve Sizes:	Percentage Passing:
1 inch	100%
1/2 inch	95-100%
No. 4	75-100%
No. 10	60-100%
No. 200	10-60%

- Commercial fertilizer shall be a complete plant food containing nitrogen (50% organic) phosphoric acid and potash. Soil tests will indicate composition required.
- Hydro seeding and tacifier is the required practice for turf establishment. Specifications are:

Seed: UVM #1 mix using 6 lbs per 1,000 square feet.
71.46% Min. Futura 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. CROP
1.61% Max. INERT
0.06% Max. WEED

Hydroseed Additives:
Fertilizer: 19-19-19 75 lbs per 1,000 gallons of water
Lime: 100 lbs. per 1,000 gallons of water
Mulch: 300 lbs. per 1,000 gallons of water.
Tacifer: 5 lbs. per 1,000 gallons of water.

Manufacturer's tag shall be given to Physical Plant's Ground Manager prior to seeding for approval.

- Areas having soil compaction as a result of construction shall be re-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 manufacturer's suggested 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 and is to last for the duration of the warranty period to maintain proper growth. UVM will supply the water, but all apparatus necessary to apply the water must be furnished by the Contractor (i.e. hoses, sprinklers, etc.).
- Staking of all topsoil and seeded areas to control foot traffic will be required. Contractor will be responsible for maintaining temporary barricades and repairing any damaged areas until vegetation is fully established. Unless otherwise specified, acceptable staking materials will be grade stakes and twine or string with flagging attached for visibility.
- A guarantee through the first mowing is required with any sparse or bare areas larger than 1 sq. ft. to be redone.
- The Contractor is responsible for the first mowing. After the first mowing and prior to the University taking responsibility for the lawn areas the Contractor and the Grounds Manager shall meet to inspect the vegetation establishment
- Contractor is responsible for all topsoil to complete the project as shown. If existing volume of topsoil is inadequate, the Contractor shall purchase offsite approved topsoil as necessary.

Grounds Restoration

- GENERAL
- 1.1 All renovation and new construction must repair any damaged grass or landscaped areas to pre-construction conditions.
- 1.2 Damage caused to grounds due to contractor negligence or due to construction traffic shall be restored at the cost of the contractor. Damage shall be reported to the Grounds Office immediately after event @ (802) 656-3866.
- 1.3 Topsoil shall have a minimum of 4 inches of depth unless additional depth is specified on the plans. See Soil & Seeding Notes.
- 1.4 Seed: UVM #1 mix shall be used. See Soil & Seeding Notes.
- 1.5 Fertilizer: See Soil & Seeding Notes.
- 1.6 Grade evenly with walkways, curbs and lamp post bases.

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

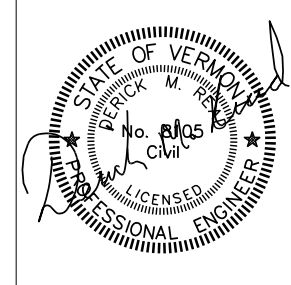
Erosion control blanket shall be a machine-produced mat of 100% agricultural straw.

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

UNIVERSITY OF VERMONT
KALKIN HALL ADDITION
GROSSMAN SCHOOL OF BUSINESS



K&L
Krebs & Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, VT 05446
T: (802) 878-0375
email@krebssandlansing.com

BLACK RIVER DESIGN
ARCHITECTS

REVISIONS

CIVIL DETAILS
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DATE 2016-02-29
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C502
KL Project: 13113

renovation and new construction must address tree protection and selective clearing. Since the University of Vermont has many memorial plantings, the protection of these specimens must be planned for and documented. The procedures shall be discussed, diagrammed, and implemented by the appropriate committee. The Physical Plant's Ground Manager shall have final say on a program's acceptance.

The Contractor shall be responsible for providing the Owner with an as-built (record) utility site drawing that meets the specifications below:

1. Drawing shall be in AutoCAD V14 format (20 megabyte drawing). The civil design AutoCAD file drawing shall be used as the base for the as-built drawing. All information added to the base AutoCAD drawing shall be drafted in accordance with the Utility Record Drawing Drafting Standards shown on this plan.
2. The Contractor shall continue to update as-built drawing throughout the project. The as-built drawing shall be updated so that at any time in the project, infrastructure installed is located, plotted and drafted in the as-built drawing within 2 weeks of installation.
3. The Contractor shall copy the as-built drawing to the Engineer weekly during construction. The drawing shall include as-built survey shots including elevation and description of shot. The as-built survey shots shall be placed on a separate layer from the line work and shall be designated by date as AB-SHOT--XX--XX (date). (for example, on as-built waterline topo shot shall be on a layer titled (AB-SHOT--01--08).
4. The Contractor shall utilize survey equipment able to locate infrastructure at the desired accuracy listed below. Footing drains and underdrains are exempt from the as-built requirements if they are constructed in accordance with the plan. Stormwater collection pipes for footing drains or underdrains must be surveyed, located and included in the Record Drawing.

Site Lighting – Contractor shall be responsible for providing to the Owner a "mark-up" plan showing the layout of the site lighting conduit from light pole to light pole. If unforeseen site conditions require site lighting conduits to deviate from a predictable light pole to light pole path, the Contractor shall be responsible for providing "as-built" topographic shots in accordance with the standards for Electric-Secondary above.

X-XXXX-XXXX-XXXX

Layer C-STRM-EXAB-IDEN

CB 1234-1
Rim 100.0'
Inv. out 99.5'

Layer C-STRM-EXAB-PIPE

Layer C-STRM-EXAB-PIPE

Layer C-STRM-EXAB-NOTE

Major Group Codes:

C) Minor Group Codes:

IDEN	Street names, etc.
PKNG	Parking Spaces
WATER	Streams, Ponds (Spear St. Only)
UVM1	UVM building
NUVM	Non UVM building

WATR Domestic Water

M - Mechanical

CHWR	Chilled Water
FOIL	Fuel Oil and Tanks
STEM	Steam, Condensate
COGN	Future Cogen Conduits

T – Telecommunications

PBX	PBX
TELE	Telephone

U - Controls
EMCM Emergency Communication
BC Building Controls
SECU Security/Fire

Identifier Codes:

PIPE	Pipe	(Actual pipe either active or abandoned)
CNDT	Conduit	(Actual conduit/bank either active or abandoned)
IDEN	Identification	(Manhole/pipe/conduit labels)
NOTE	Notes	(Notes as required - 1"=30' scale)
HTCH	Hatching	(UVM & non-UVM building hatching) (Background ONLY)

Symbols (i.e. manholes, hydrants, handholes, valves, etc.) should appear on PIPE/CNDT layer.
(Others as needed)

A.

TEXT STYLE:
FOR GENERAL TEXT USE: "UVM-GENTEXT" STYLE
FONT: SIMPLEX
FONT SIZE (IDENTIFIER LAYER): 3.50 (MODEL SPACE)
FONT SIZE (NOTES LAYER ONLY): 2.50 (MODEL SPACE)
JUSTIFY: BOTTOM OR TOP CENTER
ORIENTATION: LEFT TO RIGHT
OR BOTTOM TO TOP
FORMAT: ENGINEERING

B) LINE STYLE:
EXISTING - ACTIVE:
LINETYPE: CONTINUOUS
LINETYPE SCALE: 1.000

EXISTING - ABANDONED:
LINETYPE: DASHED2
LINETYPE SCALE: 0.35

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.

A circular professional engineer seal for the State of Vermont. The outer ring contains the text "STATE OF VERMONT" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside the ring, the name "DERICK M. REED" is written in a larger font. Below the name, the license number "No. 8105" is printed, with "CIVIL" written underneath it. The word "LICENSED" is printed at the bottom of the inner circle. The seal is signed with a cursive signature across the center.

K&L
Krebs & Lansing Consulting
Engineers, Inc.
164 Main Street, Suite 201
Colchester, VT 05446
T: (802) 878-0375
email@krebssandlansing.com

**BLACK
RIVER
DESIGN
ARCHITECTS**

REVISIONS

CIVIL DETAILS

SCALE

N.T.S.

DATE _____

2016-02-29

DRAWN BY

DMR

CHECKED BY

C503

KL Project: 13113

The Low Risk Site Handbook for Erosion Prevention and Sediment Control

The Low Risk Site Handbook for Erosion Prevention and Sediment Control

Any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb 1 or more acres, requires a Vermont state permit for stormwater discharges from construction sites.

Construction General Permit 39020 guides an applicant in the determination of the potential risk to water quality from the construction activity and categorizes the applicant's activity as Low Risk, Moderate Risk, or that which requires an individual permit.

The standards in this handbook serve as the required Erosion Prevention and Sediment Control Plan for construction sites determined to be "Low Risk" under GP 39020.

Contact Information
VT DEC - Water Quality Division
Stormwater Section
103 South Main Street, Building 10 North
Waterbury, VT 05671-0408
Tel: 802-243-3770 or 4320
www.vtwaterquality.org/stormwater.htm

3. Stabilize Construction Entrance

Purpose:
A stabilized construction entrance helps remove mud from vehicle wheels to prevent tracking onto streets.

Requirements:
If there will be any vehicle traffic off the construction site, you must install a stabilized construction entrance before construction begins.

How to install:
Rock Size: Use a mix of 1 to 4 inch stone
Depth: 8 inches minimum
Width: 12 feet minimum
Length: 40 feet minimum (or length of driveway, if shorter)
Geotextile: Place filter cloth under entire gravel bed
Maintenance:
Redress with clean stone as required to keep sediment from tracking onto the street.

Good stabilized construction entrance. Adequate width to accommodate construction traffic and prevent mud tracking onto neighboring streets. Ensure that the pad is 8 inches deep and 24 inches wide.

4. Divert Upland Runoff

Purpose:
Diversion berms intercept runoff from above the construction site and direct it around the disturbed area. This prevents "clean" water from becoming muddied with soil from the construction site.

Requirements:
If stormwater runs onto your site from upslope areas and your site meets the following two conditions, you must install a diversion berm before disturbing any soil.
1. You plan to have one or more acres of soil exposed at any one time (excluding roads).
2. Average slope of the disturbed area is 20% or steeper.*

How to install:
1. Compact the berm with a shovel or earth-moving equipment.
2. Seed and mulch berm or cover with erosion control matting immediately after installation.
3. Stabilize the flow channel with seed and straw mulch or erosion control matting. Use the channel with 4 inch stone if the channel slope is greater than 20%.*
4. Ensure the berm drains to an outlet stabilized with riprap. Ensure that there is no erosion at the outlet.
5. The diversion berm shall remain in place until the disturbed areas are completely stabilized.
* See page 39 for slope calculations.

Good construction, seeding, and stabilization of diversion berm. Note that diversion ditch is lined with grass on flatter part of slope, and with rock on steeper part.

5. Divert Upland Runoff

Purpose:
Diversion berms intercept runoff from above the construction site and direct it around the disturbed area. This prevents "clean" water from becoming muddied with soil from the construction site.

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1. You plan to have one or more acres of soil exposed at any one time (excluding roads).
2. Average slope of the disturbed area is 20% or steeper.*

How to install:
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2. Seed and mulch berm or cover with erosion control matting immediately after installation.
3. Stabilize the flow channel with seed and straw mulch or erosion control matting. Use the channel with 4 inch stone if the channel slope is greater than 20%.*
4. Ensure the berm drains to an outlet stabilized with riprap. Ensure that there is no erosion at the outlet.
5. The diversion berm shall remain in place until the disturbed areas are completely stabilized.
* See page 39 for slope calculations.

Good construction, seeding, and stabilization of diversion berm. Note that diversion ditch is lined with grass on flatter part of slope, and with rock on steeper part.

6. Slow Down Channelized Runoff

Purpose:
Stone check dams reduce erosion in drainage channels by slowing down the stormwater flow.

Requirements:
If there is a concentrated flow (e.g., in a ditch or channel) of stormwater on your site, then you must install stone check dams. Hay bales must not be used as check dams.

How to install:
Height: No greater than 7 feet. Center of dam should be 9 inches lower than the side elevation.
Slope: Slopes: 2:1 or flatter (see p.39 for slope calculation)
Stone size: Use a mixture of 2 to 9 inch stone.
Width: Dams should span the width of the channel and extend up the slopes of the banks.
Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of the top (crest) of the downstream dam. This spacing is equal to the height of the check dam divided by the channel slope.
Spacing (in feet) = Height of check dam (in feet) / Slope (in channel (%))

Maintenance:
Remove sediment accumulated behind the dam

Good installation of rock-lined berm to divert rain runoff around residential construction site on steep slope near a river. Diversion channel is lined with grass. If channel slopes are 5% or less, and with 4 inch stone if they are steeper.

7. Construct Permanent Controls

Purpose:
Permanent stormwater treatment practices are constructed to maintain water quality, ensure groundwater flows, and prevent downstream flooding. Practices include detention ponds and wetlands, infiltration basins, and stormwater filters.

Requirements:
If the total impervious* area on your site, or within the common plan of development, will be 1 or more acres, you must apply for a State Stormwater Discharge Permit and construct permanent stormwater treatment practices on your site. These practices must be installed before the construction of any impervious surfaces.

How to comply:
Contact the Vermont Stormwater Program and follow the requirements in the Vermont Stormwater Management Manual. The Stormwater Management Manual is available at: www.vtwaterquality.org/stormwater.htm

*An impervious surface is a nonporous surface, including but not limited to, paved and unpaved roads, parking areas, roofs, driveways, and walkways, from which precipitation runs off rather than infiltrates.

This wet pond is designed to treat stormwater runoff, recharge groundwater, regulate the flow of water into nearby streams, and prevent downstream flooding.

8. Stabilize Exposed Soil

Purpose:
Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to stabilize exposed soil. Mulches and mulching protect the soil surface while grass is establishing.

Requirements:
All areas of disturbance must have temporary or permanent stabilization within 7, 14, or 21 days of initial disturbance, as stated in the project authorization. After this time, any disturbance in the area must be stabilized at the end of each work day.

The following exceptions apply:
• Stabilization is not required if earthwork is to continue in the area within the next 24 hours and there is no precipitation forecast for 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 feet or greater (e.g., house foundation excavation, utility trenches).

All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade (See page 23).

Seeding Rates for Temporary Stabilization
April 15 - Sept 15 - Ryegrass (annual or perennial: 20 lbs/acre)
Sept. 15 - April 15 - Winter rye: 120 lbs/acre

Grass Type	Species	lbs./acre	lbs./1000 sq.ft.
Brookston hybrid	Empire Perennial	5.1	0.10
or			
Common white clover	Common	8	0.20
or			
Tall Fescue	KY-31/Hybrid	1.0	0.25
or			
pluk	Common	2	0.05
or			
Ryegrass (perennial)	Midway/Lux	5	0.10

Matching Rates
April 15 - Sept 15 - Hay or Straw: 1 inch deep (1.2 bales/1000 sq.ft.)
Sept. 15 - April 15 - Hay or Straw: 2 in. deep (2.4 bales/1000 sq.ft.)

Erosion Control Matting
As per manufacturer's instructions
Hydroseed
As per manufacturer's instructions

How to comply:
Precure bare soil for seeding by grading the top 3 to 6 inches of soil and removing any large rocks or debris.

How to install:
Seed and mulch berm or cover with erosion control matting immediately after installation.
Stabilize the flow channel with seed and straw mulch or erosion control matting. Use the channel with 4 inch stone if the channel slope is greater than 20%.*
Ensure the berm drains to an outlet stabilized with riprap. Ensure that there is no erosion at the outlet.
The diversion berm shall remain in place until the disturbed areas are completely stabilized.
* See page 39 for slope calculations.

Excellent stabilization of large slopes to limit the area of disturbance. Make sure to install erosion control matting within 48 hours of grading to ensure good contact between soil and mat.

9. Winter Stabilization

Purpose:
Managing construction sites to minimize erosion and prevent sediment loading to waters is a year-round challenge. In Vermont, this challenge becomes even greater during the late fall, winter, and early spring months.

"Winter construction" as discussed here, describes the period between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.

Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion.

Requirements for Winter Shutdown:
For those projects that will complete earth disturbance activities prior to the winter period (October 15), the following requirements must be adhered to:
1. For areas to be stabilized by vegetation, seeding shall be completed no later than September 15 to ensure adequate growth and cover.
2. If seeding is not completed by September 15, additional non-vegetative protection must be used to stabilize the site for the winter period. This includes use of Erosion Control Matting or netting of a heavy mulch layer. Seeding with winter rye is recommended to allow for early germination during wet spring conditions.

How to calculate slope:
2:1 Slope Ratio
1 ft
2 ft

Approximate Slope Conversions

Steepest	Percent	Slope ratio (ft:1 ft)	Degrees
Very steep	100%	1:1	45°
	50%	2:1	27°
	33%	3:1	18°
Moderate	25%	4:1	14°
	10%	10:1	6°
Shallow	5%	20:1	3°

How to estimate disturbance area:
1 acre = 43,560 square feet = 4,840 square yards

Area in acres (width in feet x length in feet)

(ft x ft)	20	100	150	200	300	400	500
100	0.2	0.3	0.5	0.7	0.9	1.1	1.3
150	0.3	0.9	0.7	1.0	1.4	1.7	2.0
200	0.5	0.7	0.9	1.4	1.8	2.3	2.8
300	0.7	1.0	1.4	2.1	2.8	3.4	4.1
400	0.9	1.4	1.8	2.8	3.7	4.6	5.5
500	1.1	1.7	2.3	3.4	4.6	5.7	6.8

Example Site Inspection Form

Y	N
1. Sediment Barriers	
2. Diversion Berms	
3. Check Dams	
4. Stabilize Exposed Soil	
5. Winter Stabilization	
6. Final Grade	
7. Water Draining off the site	
8. Inspection	

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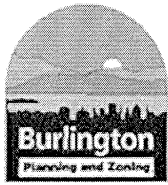
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1 ft
2 ft

Approximate Slope Conversions

Steepest	Percent	Slope ratio (ft
----------	---------	-----------------



Burlington Department of Public Works

Stormwater Program

234 Penny Lane (Water Plant)

Burlington, VT 05401

PH: 802-863-4501 Email: stormwater@burlingtonvt.gov



Standard Erosion Prevention & Sediment Control (EPSC) Plan

This questionnaire and associated EPSC plan sheets are required for projects

- on properties other than single family (R1) or duplexes (R2) that require a level II or III Certificate of Appropriateness or Major Impact zoning applications and involve 5000 sq. ft. or more of earth disturbance; or
- any activity where a zoning permit is not required but where the project involves 10,000 sq. ft. or more of earth disturbance; or
- if requested by the Stormwater Program due to project characteristics such as slope, soils or proximity to drainage structures or waterbodies.

Please note that you must submit EPSC plan and detail sheets as outlined in section A below.

All projects involving redevelopment or addition of impervious surface must submit the stormwater management screening project (attached) for evaluation or meet with the Stormwater Program to determine the stormwater management requirements for your project.

1. Project Location University of Vermont - Kalkin Hall - 55 Colchester Avenue

2. Zoning Permit Address (if different from above): 55 Colchester Avenue

3. Brief Project Description (i.e. building construction, subdivision, site work)
Building addition to the UVM Kalkin Hall building with associated utilities, walks, and landscaping.

4. Owner Name: University of Vermont

5. Owner Mailing Address: 109 South Prospect Street

6. Owner Phone: 656-3208 6. Owner email: Linda.Seavey@uvm.edu

7. Contractor Name: _____ ☒ Contractor not known at this time

8. Contractor Phone: _____ 9. Contractor Email: _____

10. Estimated Project Start Date May 2017 Estimated End Date August 2018

11. Area of Land Disturbance 37,000 sq. ft.

12. Total proposed (existing + new) amount of impervious: 11,135 sq. ft. 730 s.f. net new impervious

14. Does your project require a State Construction Stormwater Permit (9020 or INDC) ? ☒ Yes ☐ No
(You will be required to submit proof of your authorization to discharge prior to initiation of earth disturbance).

A. REQUIRED PLAN SHEETS:

15. Plan sheet(s) MUST BE ATTACHED showing the following:

- | | |
|---|--|
| ☒ Limits of disturbance | ☒ Direction of stormwater flow on site |
| ☒ Location of stockpiles (if any) | ☒ Location of sediment control BMP's (silt fence etc.) |
| ☒ Location of stabilized construction entrances | ☒ Stabilization measures |
| ☒ Phasing plan (if appropriate) | |

*impervious = any surface off of which water runs off rather than infiltrates, including, but not limited to rooftops and paved/unpaved (gravel/packed dirt) driveways, walkways and patios

16. Detail sheet MUST BE ATTACHED and include details for all EPSC measures listed on the EPSC Plan Sheet. Additionally, notes must be included related to:

- ☒ Daily inspection of roadways and sweeping as necessary
- ☒ Dewatering measures (if applicable)
- ☒ Temporary site stabilization requirements
- ☒ Final site stabilization requirements
- ☒ Winter site stabilization (for disturbance after November 1)
- ☒ Inspection requirements

B. EPSC QUESTIONNAIRE (See last page for typical solutions to these questions)

A) Do you anticipate the need for any dewatering of excavations during the construction? ☒ Yes ☐ No

- If yes, please indicate which plan sheet has details for how dewatering operations will be managed to prevent the discharge of sediment laden water. Sheet(s): **C502, C504**

B) Will excavated soil be stockpiled on the site? ☐ Yes ☒ No If yes, show locations and EPSC measures for the stockpile on plan sheet(s)

- If no, where is the ultimate disposal of excess soil? **Soil will be disposed in a State approved soil disposal area**

C) Do you plan to park construction vehicles on or disturb City owned property like the greenbelt area? ☐ Yes ☒ No

- If yes, tell us how you agree to repair all disturbances or damage to City owned property and provide a written approval from the City allowing construction vehicles to park on City owned property.

- If no, then please monitor all construction and visitor vehicles and advise all not to park on City owned property.

D) Will stockpiles or disturbed soils be present and/or exposed after Nov. 1st of any construction year? ☒ Yes ☐ No

- If yes, tell us how you plan to stabilize any stockpile and/or disturbed soils.

The site is relatively small and will be stabilized with either crushed stone or existing pavement. Plan sheet C402 is a site specific winter construction erosion prevention and sediment control plan.

Do you agree to abide by the following conditions?

- ☒ Y ☐ N Applicant will call 863-4501 or email gjohnson@burlingtonvt.gov at least 24 hours prior to initiating earth disturbance and submit the **name and contact (cell phone and email) of the erosion control coordinator for the project**
- ☒ Y ☐ N Applicant will post the attached notice in a visible location
- ☒ Y ☐ N I acknowledge that it is the responsibility of the owner and his/her representatives to ensure that:
- sediment does not enter surface water bodies (streams, ditches, ponds, lakes, wetlands etc.)
 - sediment does not enter City conveyance infrastructure (catch basins, sewers etc.) and
 - All sediment must be removed from the city ROW (sidewalks and roadways) by the end of each work day.
- ☒ Y ☐ N Sediment control measures will be installed prior to the initiation of earth disturbance.

- ☒ Y ☐ N During the non-winter construction season (April 15 – November 1): After an initial **14 day** period of initial disturbance, temporary or permanent stabilization (mulching, erosion control matting or tarps for stockpiles, or other approved method) of exposed areas and stockpiles will occur at the end of each work day unless:
- Earthwork is to continue in the area within the next 24 hours **and** there is NO liquid precipitation forecast for the next 24 hours; or
 - If work is occurring in a self contained excavation (no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation or utility trenches).
- ☒ Y ☐ N During the winter construction period from November 1 to April 15, any **new disturbance** must be temporarily or permanently stabilized (mulching, erosion control matting or tarps for stockpiles, or other approved method) will occur at the end of each work day unless:
- Earthwork is to continue in the area within the next 24 hours **and** there is NO liquid precipitation forecast for the next 24 hours; or
 - If work is occurring in a self-contained excavation (no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation or utility trenches)
- ☒ Y ☐ N 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 travelled 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 work day**.
- ☒ Y ☐ N The owner and his/her representatives shall abide by the best management practices (BMPs) indicated in this plan and conditions and in the Vermont DEC Low Risk Site Handbook for Erosion Prevention and Sediment Control (2006). Contact 802-863-4501 for a hard copy or go to the web:
http://vtwaterquality.org/stormwater/docs/construction/sw_low_risk_site_handbook.pdf
- ☒ Y ☐ N If soils will be exposed after November 1st and winter construction has not been permitted the project will **notify DPW prior to October 15th and ensure that sediment control is installed PRIOR to soil freezing**. If the project is completed during the winter months, an additional inspection will be required to ensure that the site is buttoned up for the winter.
- ☒ Y ☐ N Within 48 hours of reaching final grading, the exposed soil will be seeded and mulched or covered with erosion control matting (for slopes steeper than 3:1 or high wind prone areas). Erosion control matting is preferred.
- ☒ Y ☐ N The owner will contact DPW to schedule a stabilization inspection when site work is finished and stabilization measures (seeding and mulching or matting) have been installed.

AGREEMENT

By filling out and signing this plan, I agree to abide by the terms and conditions outlined above. Failure to follow this plan can result in a stop work order by the City of Burlington, fines, or both.

By: ☒ Owner ☐ Contractor

Linda Seavey, Director, Campus Planning Services, for the University of Vermont

Name

Linda Seavey
Signature

11.22.16
Date

Additional Conditions of Approval:

AN EROSION PREVENTION AND SEDIMENT CONTROL PLAN

FOR THE PROJECT AT:

HAS BEEN FILED WITH THE CITY OF BURLINGTON
STORMWATER MANAGEMENT PROGRAM IN ACCORDANCE
WITH CHAPTER 26 OF THE BURLINGTON CODE OF ORDINANCES

THIS REQUIRES THAT MEASURES BE INSTALLED OR TAKEN TO
PREVENT SEDIMENT FROM LEAVING THE SITE AND ENTERING
WATERWAYS AND IMPACTING CITY INFRASTRUCTURE
(RIGHT OF WAY AND STORMDRAINS)

FOR QUESTIONS OR TO REPORT SEDIMENT LEAVING THE SITE
CALL 802-863-4501

This notice to be posted in full view at all times during earth
disturbance. Additional conditions on attached.

Plan Approved by: _____ Date: _____
Burlington Stormwater Program

TYPICAL SOLUTIONS TO PREVENT OR CONTROL SEDIMENT AND EROSION

STOCKPILES

- Cover small stockpiles with a tarp when not being used.
- Install silt fencing or other appropriate devices around the stockpiles to filter sediment.
- Cover stockpiles with straw or other approved mulching material.
- Plan to remove any unusable material as soon as possible from the site to an approved location.
- Plant grass and mulch stockpiles that will be on site for more than 14 days.
- Cover, vegetate or install erosion matting on stockpiles that will remain disturbed over the winter.

DISTURBED AREAS

- Maintain vegetated buffers around disturbed areas.
- Install silt fencing or other appropriate device to filter sediment washing off from disturbed areas. Remember that the bottom of the silt fence must be “keyed in” (dug into ground) to work correctly.
- To prevent sediment from running off your site via your driveway (or other paved areas where you can’t install silt fence) use a row of hay bales or tube sand.
- Cover disturbed areas as soon as possible with straw or other approved mulching material. Use erosion control matting in high wind, traffic or slopes steeper than 3:1 (horizontal to vertical), and follow the manufacturer’s guidelines staple the matting down.
- Plant grass and mulch or use erosion control matting all disturbed areas that will remain exposed for more than 14 days.
- Cover, vegetate or install erosion matting on areas that will remain disturbed over the winter.
- Protect ditches, catch basins or water bodies off-site by using silt fencing, gravel check dams or other approved sediment control methods.

CONSTRUCTION VEHICLES

- Do not park construction vehicles on City owned green space. Vehicles disturb vegetation and compact the soil, thereby reducing its ability to infiltrate stormwater. Any green belt disturbance will need to be permanently stabilized with grass seed and erosion control matting.
- Prevent sediment from leaving the project by cleaning the tires of vehicles, or use clean gravel at project access points to clean tires.
- Sweep city streets, sidewalks and bikepaths daily or as needed to remove sediment transported from the project.

RESOURCES

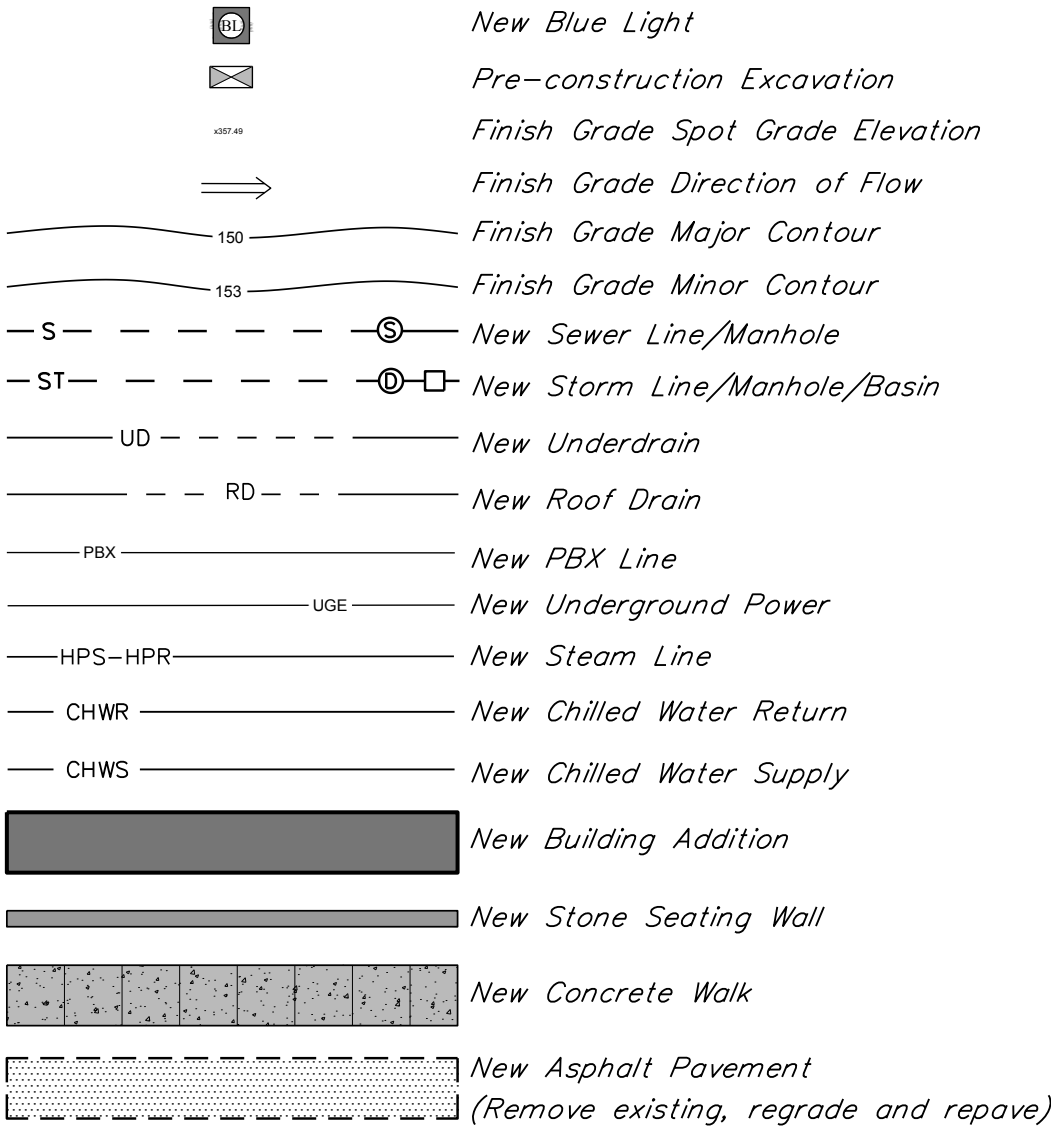
The Vermont Handbook for Erosion Prevention and Sediment Control at:

http://vtwaterquality.org/stormwater/docs/construction/sw_low_risk_site_handbook.pdf

The City of Burlington Stormwater Program Page at

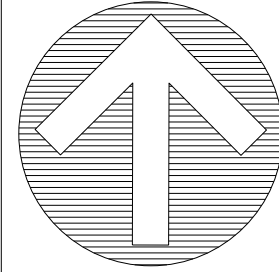
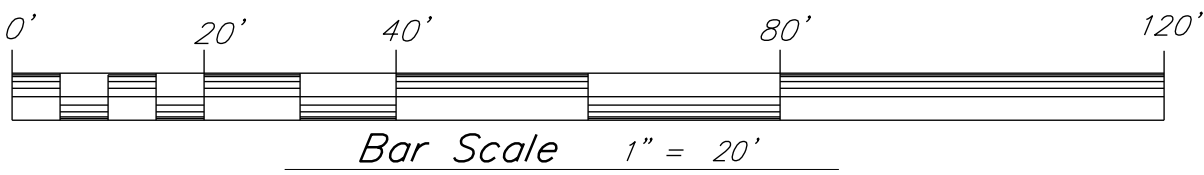
<http://www.burlingtonvt.gov/DPW/Stormwater-Management>

Legend

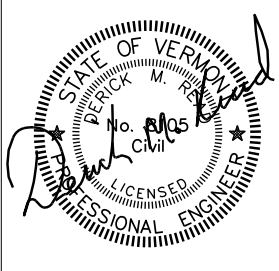


NOTES

- See Existing Conditions Plans for additional notes and legend.
- There are existing PBX conduits located in the vicinity of this project. The Contractor shall contact UVM Telecommunications and Network Services (656-3339) prior to any work in the vicinity of the PBX conduit. The Contractor shall carefully excavate around the PBX conduit to prevent damage to the PBX infrastructure. Contractor shall be responsible for placing Owner supplied locator balls over exposed conduits prior to backfilling.
- The Contractor shall be responsible for repairing all disturbed areas back to original condition, including but not limited to curbing, sidewalks, road, parking areas, landscaping, site lighting, electrical, and etc. All asphalt shall be sawcut prior to paving.
- All stumps, rock, and other non-approved trench backfill material discovered during construction is the exclusive property of the Contractor and shall be removed from UVM property and disposed of in a State approved disposal location. All existing soils reused for backfill shall conform to all applicable sections of VTRANS specifications Section 203-Excavation & Embankments. Contractor shall review soil investigation report and soils logs prior to bid. Any soil reused for backfill under roads and applicable concrete sidewalks shall pass a subgrade proof roll with a loaded tandem. Backfill soils that do not pass a subgrade proof roll shall be removed and replaced at the Contractor's expense.
- All passing sieve, proctor, and compaction testing expenses shall be paid by Owner. Testing coordination, all other required testing, and expenses for failed tests shall be the Contractor's responsibility.
- The Contractor shall contact the Burlington Electric Department prior to any work in the vicinity of existing primary electric conduits.
- The Contractor shall comply with the City of Burlington Erosion & Sediment Control permit and the State of Vermont Construction Stormwater permit. The Contractor shall be responsible for installing, maintaining and removing all erosion and sediment control devices shown on the plans or details and, to the maximum extent practical, minimize potential contamination of stormwater runoff from the construction activities.
- Contractor shall be responsible for all "As-built" measurement and drafting requirements as outlined on the Detail Sheets. All trench excavations shall remain open until all as-built survey shots have been taken. Progress Record Drawings shall be submitted to the Engineer as indicated in the Record Drawing specifications.
- See Erosion Control and Logistics Plans for locations of staging / storage areas.
- The Contractor shall be responsible for all construction barrier/safety fencing required for the project.
- Definition of "Preconstruction Excavation" for these contract documents shall be:
The site contractor shall expose utilities 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 and/or design confirmation.
- The location of the preconstruction excavation symbols does not necessarily indicate the location of the buried utility. It is the responsibility of the Contractor to find and expose the utility.
- Contractor shall include 5 preconstruction excavations in addition to the ones shown on the drawings.
- Contractor shall be responsible for importing topsoil as required to complete the project. Contractor shall test topsoil for approval by the Owner and Engineer.
- The Contractor shall be responsible for all signage and fencing necessary to providing safe vehicular and pedestrian access through or around the site during construction.
- All sewer and storm pipes shall be PVC SDR 35 unless otherwise noted. PVC pipe shall contain no recycled content.
- All new catch basins and sanitary sewer manholes must have one 6" precast concrete grade ring.
- Contractor shall contact UVM Physical Plant Department for any work involving contact with asbestos cement pipe.
- Temporary groundwater, stormwater, and sewer by-pass pumping and/or diversion is the responsibility of the Contractor. The Contractor is responsible for providing all necessary pumps and equipment to perform the work. Overnight pumping is not allowed.
- All sidewalks shall have 2% maximum cross slope.
- Construction Joints are indicated on the plans as a heavier black line. See Construction Joint Detail, Sheet C500.
- Contractor to pin concrete sidewalk/slabs to all contact points with building, retaining walls, etc. See Construction Joint Detail, Sheet C500.
- Contractor shall maintain full occupancy and fire department access to all surrounding buildings. Coordinate all temporary access with the University representative. Comply with "Occupancy Requirements" in the specifications.
- This project is subject to all erosion prevention and sediment control measures including the monitoring, inspection, and reporting requirements of Individual Construction Stormwater Discharge Permit 3627-INDC.X. The General Contractor shall be the On-Site Plan Coordinator for the project and shall be responsible for supplying a turbidity meter at all times during construction.
- Removal of all erosion control matting and inlet protection is the responsibility of the Contractor.
- At the end of the project, clean the sumps of all new and existing catch basins and storm manholes within the project limits.
- Mechanical steam piping is shown for illustrative/coordination purposes only. Refer to Mechanical plans and specifications for design.
- Refer to Plumbing plans for sewer and storm design within five feet of the building.
- See Architectural Plans for design of new planting beds, granite pavers, granite blocks, and stone seat walls.
- See Structural Plans for foundation drainage design.



UNIVERSITY OF VERMONT
KALKIN HALL ADDITION
GROSSMAN SCHOOL OF BUSINESS



K&L
Krebs & Lansing Consulting
Engineers, Inc.
164 Main Street, Suite 201
Colchester, VT 05446
T: (802) 878-0375
email@krebsslansing.com

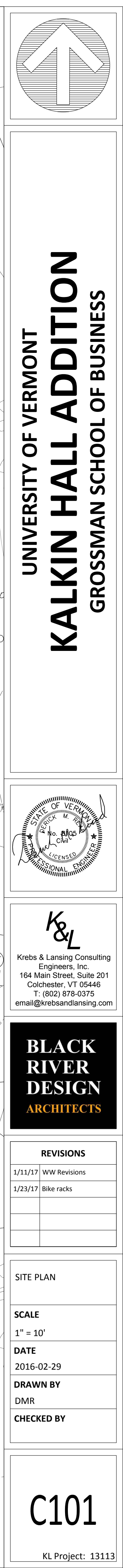
**BLACK
RIVER
DESIGN
ARCHITECTS**

REVISIONS
12/2/16 WW Application
1/23/17 Bike Racks

OVERALL SITE PLAN
SCALE 1" = 20'
DATE 2016-02-29
DRAWN BY DMR
CHECKED BY

C100
KL Project: 13113

1. See Sheet C200 for notes and legends related to existing conditions.
2. See Sheet C100 for site design related notes and legends.
3. See Sheet C300 for demolition design related notes.
4. The Contractor shall be responsible for a sheeting and shoring design stamped by a Professional Engineer.
5. If Contractor removes or damages adjacent infrastructure during construction it shall be restored per the original design plans provided as part of the bid documents.





The
UNIVERSITY
of **VERMONT**

CAMPUS PLANNING SERVICES

<http://www.uvm.edu/~plan/>

To:

Scott Gustin, Principal Planner, AICP, CFM
Burlington Dept. of Planning & Zoning
149 Church Street
Burlington, VT 05401

December 2, 2016

Re: Request for COA Level II Zoning Permit for University of Vermont Addition to Kalkin Hall, 55 Colchester Avenue

Dear Scott,

The University of Vermont is requesting a COA Level II zoning permit for a proposed new building addition to Kalkin Hall, at 55 Colchester Avenue, within the Central Campus District at UVM. This addition will improve the facilities of the Grossman School of Business and provide space for existing masters programs.

The project is planned to be a new 3 story plus basement 23,350 SF addition to the existing Grossman School of Business. The project will be constructed in the location of the existing (impervious) outdoor courtyard. This project will concentrate academic development on the core campus, in keeping with the Burlington Municipal Development Plan and the UVM Campus Master Plan.

The building will include classrooms, student study rooms, faculty offices and other spaces to support the Grossman School of Business. The addition was designed to respond to the form and materials of the existing Kalkin building. Exterior materials are consistent with the existing building including brick veneer and sloped metal roofs.

The addition incorporates a central day lit atrium to provide natural light to the core of the building and adjacent spaces. The south façade of the addition incorporates a gabled standing seam metal roof form to flank the existing metal gable roof. Brick matching the existing will be utilized for the majority of the exterior façade.

A glass bay at the south face of the addition identifies the new building entrance and responds to the architecture of the STEM building immediately to the south. To control solar heat gain, these south facing windows will include exterior solar shading that will allow additional solar heat gain in the colder winter months when the sun angle is low and shield the glass from the sun in the summer months when the sun angle is high. An arched brick gable at the new building entrance references the arched openings along the current courtyard facades and loggia along the east side of the existing building.

The existing outdoor courtyard included 3 skylights that currently provides natural daylighting to the lower level of the building. Glass floor panels will replace the existing skylights to maintain natural daylighting to the lower level of the building.

This project will not be a change of use from the existing uses at Kalkin Hall. UVM student enrollment will not change as a result of this project. This project is listed in the Joint Institutional Parking Management Plan 2014-2019 (see attached); no new parking is needed. There will be an addition of 730 s.f. net new impervious surface for the entire project (see attached EPSC application).

The construction cost is projected to be \$8M. The University would like to start construction at the end of May, 2017. Please find attached a check for the application fee of \$16,110.

Please contact me if you have any further questions or need any additional information.

Sincerely,



Lani Ravin, AICP
Campus Planning Services

Enc:

Zoning Application

Check # 1401424 for \$16,110

Table 21: UVM Planned Projects 2014-2019, JIPMP 2014-2019

EPSC Application

Site Plan

Drawings: Title Page, C100, C101, C102, C200, C201, C300, C400, C401, C402, C403, C500, C501, C502, C503, C504, L100, A030, A031, A400, A401, A402

University of Vermont
Kalkin Hall 55 Colchester Avenue
Site Plan



2011 WSP SELLS MAPPING

 UVM BOUNDARY (APPROXIMATE)



Department of Planning and Zoning

149 Church Street

Burlington, VT 05401

<http://www.burlingtonvt.gov/PZ/>

Telephone: (802) 865-7188

(802) 865-7195 (FAX)

David E. White, AICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, Senior GIS/IT Programmer/Analyst
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, CFM, Associate Planner
Anita Wade, Zoning Clerk



MEMORANDUM

To: Development Review Board

From: Mary O'Neil, AICP, Principal Planner

Date: January 31, 2017

RE: 30-32 Howard / 400 Pine Street ZP17-0643CA/MA / ZP17-0644CA

Note: These are staff comments only. Decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

File: ZP17-0643CA/MA / ZP17-0644CA

Location: 30-32 Howard Street, 400 Pine Street

Zone: ELM **Ward:** 5S

Date application accepted: December 8, 2016

Applicant/ Owner: GVV Architects / Unsworth Properties

Request: Demolition of 30-32 Howard Street duplex and 2 industrial buildings at 400 Pine Street; construction of mixed use building with office/art studios, replacement of two residential units.



Recommendation: Table application review until missing or incomplete information is provided. Further review by the DRB to be scheduled when all materials have been provided.

Background:

30-32 Howard Street

- **Sketch Plan Review 17-0432SP;** Demolition of 30-32 Howard Street duplex and 2 industrial buildings at 400 Pine Street; construction of mixed use building with office/art studios, replacement of two residential units. November 2016.

- **Zoning Permit 09-523CA;** Fifteen new double hung clad wood windows in existing duplex. January 2009.
- **Zoning Permit 99-252;** Demolish deteriorated shed in rear yard of the existing duplex. Attached patio area to remain with the former foundation area returned to green space. November 1998.

400 Pine Street (Sometimes identified as 2 or 4 Howard Street)

- **Sketch Plan Review 17-0432SP;** Demolition of 30-32 Howard Street duplex and 2 industrial buildings at 400 Pine Street; construction of mixed use building with office/art studios, replacement of two residential units. November 2016.
- (Identified as 4 Howard Street) **Non-applicability of Zoning Permit Requirements 16-1082NA;** Changing tenants of existing artist studio. April 2016.
- **Zoning Permit 16-0944CA;** remove and replace two lower windows with larger windows. March 2016.
- **Zoning Permit 15-1226CA;** construction of permanent handicap accessible ramp at Speeder and Earl's. June 2015.
- **Non-Applicability of Zoning Permit Requirements 15-1225CA;** temporary permit, handicap ramp. May 2015.
- **Zoning Permit 14-0274CA;** change of use to woodworking shop in tenant spaces C 1, 2, &4. September 2013.
- **Zoning Permit 13-1187SN;** installation of 3 parallel signs for the Burlington Music Dojo. No illumination included. June 2013.
- **Zoning Permit 13-0828CA;** change of use to include art gallery and performing arts studio. Food processing to remain, and café to be reduced from 18 seats to 14 seats. Add rear entry, revise and add second front entry, replace existing entry ramp, and other associated modifications. March 2013.
- **Zoning Permit 12-0330CA;** placement of exhaust fan on clerestory area of roof for glass blowing furnace. September 2011.
- **Zoning Permit 11-0208SN;** replace existing sign with Davis Studio sign. No illumination. September 2010.
- **Zoning Permit 11-0077SN;** replace two existing signs. One parallel window sign and one projecting sign. August 2010.
- **Zoning Permit 10-0768CA;** replace 2700 sq ft of half lap roofing with new galvanized corrugated metal roofing. April 2010.
- **Zoning Permit 08-103CA;** exterior lighting to be installed on door/stairs and sign for Speeder and Earl's Coffee. August 2007.
- **Zoning Permit 06-384SN;** three signs for Pine Street Art Works. November 2005.

- **Zoning Permit 06-383CA**; change garage style overhead door to swinging doors with half-light windows. Same door location in rear alley of building. New light fixture over front entrance. November 2005.
- **Zoning Permit 06-198CA**; change from Burlington Futon Fabrics to retail art with accessory retail production space of 152 sf. September 2005.
- **Zoning Permit 01-507**; remove loading dock extension on the existing warehouse within the existing commercial complex. Area to be paved for additional parking and circulation areas. No change in use or other exterior changes included. June 2001.
- **Zoning Permit 00-097 / COA 099-006A**; Installation of two externally illuminated signs for the existing retail space (one parallel and one projecting.) August 1999.
- **Zoning Permit 99-045 / COA 099-006**; change of use from service (stained glass) to retail (fabric.) No exterior changes included. July 1998.
- **Zoning Permit 95-497**; installation of four awnings with lettering and illumination, two externally illuminated parallel signs and the relocation of the existing handicapped access ramp to the south entrance. The north entrance will then be made a large window with a planter in front of it. Use remains the Cheese Factory Outlet. June 1995.
- **Zoning Permit 91-277; COA 091 – 057**; installation of two parallel signs on front façade of building, store emblem over an announcement board. No illumination. March 1991.
- **Zoning Permit 85-494**; erect 2 parallel wood, non-illuminated signs, one on Howard Street and one on Pine Street side of extension in building. October 1985.
- **Zoning Permit 85-400**; remove dust collector, raise roof 3' to accommodate one overhead door to interior service yard. October 1985.
- **Zoning Permit 81-178**; replace metal roof, siding and floor. September 1980.
- **Zoning Permit 79-688**; to be used as work space consisting of ornamental iron work fabrication. Also to install two chimneys on the interior. December 1979.
- **Zoning Permit 79-653**; tear down existing stairs and replace exterior stairway. Emergency case. November 1979.
- **Zoning Permit 78-429**; the erection of a 28' x 29' two sided addition on the buildings in the rear. November 1977.
- **Zoning Permit** to use 6 Howard Street for a woodworking shop. Erect an overhanging sign. October 1977.
- **Zoning Permit** issued for a pole sign for Shelburne Spinners. January 1977.
- **Zoning Permit** to erect an overhanging sign within the property lines for Vermont Folk Furnishings. September 1975.
- **Zoning Permit** to remove one window and install one overhead door at 6 Howard Street. March 1974.

- **ZBA review**; to use the premises at 6 Howard Street for the sale and wholesaling of paint and building supplies. July 1972.
- **Zoning Permit** to use the premises for the storage and distribution of spaghetti products. Approved April 1972.
- **ZBA review**: Seeking a special exception under Title 27, Chapter 1, Section 6512-15A to use the masonry portion of the premises at 400 Pine Street for an auto repair garaged. Approved February 1972.
- **ZBA review**: Seeking a special exception under Title 27, Chapter 1, Section 6512-15B to use the premises at 400 Pine Street for the wholesaling and distribution of auto accessories. Approved November 1971.
- **ZBA review** to change a non-conforming use for a furniture stripping business. November 1971.

Overview:

400 Pine Street and 30-32 Howard Street are on different parcels; but both within the E-LM zoning district and under the same ownership. 400 Pine Street has a collection of buildings on the site. The project entails demolition of three buildings (one duplex, two industrial buildings), extinguishment of interior property lines between 30-32 Howard Street and 400 Pine, and construction of a 3 storey 8494 sf footprint mixed use building (offices, art studios) with underground parking. The two existing residential units are proposed to be replaced within the structure. The new overall square footage is estimated to be 20,403, excluding the parking deck.

The Design Advisory Board reviewed the project at their January 10, 2017 meeting. That board voted unanimously to recommend approval of the application with the following conditions:

1. Submission to the DRB shall include the conditions assessment of buildings proposed for demolition, and narrative relative to the public benefit of redevelopment.
2. To support the applicant's intent to request a waiver from parking requirements across the site, this board recommends providing covered bicycle parking.

I. Findings

Article 3: Applications, Permits and Project Reviews

Part 2: Applications and Permits

Section 3.2.1 Pre-application Conferences

(a) Administrative Conference

(b) Technical Review Committee

(c) Sketch Plan Review

(d) Pre-application Neighborhood Meeting

As a Major Impact project, review under all these categories is required (although Administrative Conference may be waived by the Administrative Officer if the project's potential impact is insignificant.)

Technical Review occurred November 10, 2016.

Sketch Plan Review was on the November 1, 2016 agenda with the DRB.

The applicant is required to demonstrate that the project has been presented at a Neighborhood Planning Assembly (with appropriate documentation) prior to submitting a zoning permit application. A notarized confirmation of NPA attendance has not been provided with the application. **No finding possible for NPA attendance.**

Part 3: Impact Fees

Section 3.3.2 Applicability

Any new development or additions to existing buildings which result in new dwelling units or in any new nonresidential buildings square footage are subject to impact fees as is any change of use which results in an added impact according to Section 3.3.4.

Impact Fees will be applicable for new square footage, with credit given for the existing area. Area defined by the applicant:

See attached area breakdown and credit for existing warehouse. There is no impact fee assessment for residential, as the new units are replacement.

Allocation by department:

Enter Total Fee:

\$29,496.56

	<u>Offices & Other</u>	
Department	Rate	Fee
Traffic	0.658	12138.05
Fire	0.193	3560.25
Police	0.341	6290.39
Parks	0.407	7507.88
Library	0.000	0.00
Schools	0.000	0.00
Total	1.599	\$ 29,496.57

Affirmative finding as conditioned.

Section 3.3.8 time and Place of Payment

Impact fees must be paid to the city's chief administrative officer/city treasurer according to the following schedule:

- (a) *New Buildings: Impact fees must be paid at least seven days prior to occupancy of a new building or any portion thereof.*

Affirmative finding as conditioned.

Part 4: Site Plan and Design Review

See Section 3.5.6, below and Article 6.

Part 5: Conditional Use and Major Impact Review

As the proposal includes the construction of fifteen thousand sf or more of gross floor area of nonresidential development, Major Impact and Conditional Use review applies.

Section 3.5.6 Review Criteria

(a) Conditional Use Review Standards (as adopted by City Council 8.10.2015)

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

1. *Existing or planned public utilities, facilities, or services are capable of supporting the proposed use in addition to the existing uses in the area.*

A letter of capacity for water and sewer has been issued by the Department of Public Works. A traffic study was requested by DPW after Technical Review November 1, 2016. Page 5 of the narrative says a traffic report will be submitted prior to issuance of a permit, which is too late to examine impacts. **No finding possible for traffic.**

2. *The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the municipal development Plan;*

The South End has garnered a reputation as a creative nucleus for artists, makers, and innovators. The addition of art studio spaces will increase similar opportunity. From the Municipal Development Plan:

- *Support sustainable development activities in target areas of the city including the Enterprise Community...*
- *Strengthen the City's role as a cultural and arts center...* [MDP, Built Environment, Page III-2.]
- *Encourage new land uses and housing designs that serve changing demographics and benefit from new technologies where appropriate.* [MDP, Built Environment, Page III-1.]

However, some conflict is present:

- *Identify areas within the south end Enterprise Zoning District that remain viable for continued commercial-industrial use, and assess the fiscal impact to the tax base and ratepayers of any proposed conversion away from commercial-industrial uses.* [MDP, Land Use Plan, Page I-30.]
- *Retain and enhance Burlington's historic buildings and architectural features.* [MDP, Built Environment, Page III-1.]
- *Conserve the existing elements and design characteristics of its neighborhoods, and maintain neighborhood proportions of scale and mass.* [MDP, Built Environment, Page III-1.]

The application proposes the conversion of industrial warehouse to office/rental studio space. The implications for the tax base are not known.

The Design Advisory Board's motion indicated persuasion of building demolition for the benefit of new development. The applicant has presented the new building with material reference to the surrounding industrial area. **Affirmative finding** if DRB similarly accepts building demolition and design characteristics.

3. *The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;*

The 400 Pine Street parcel has a commercial/industrial character; the introduction of offices and studios should offer no incongruent impacts normally associated with the manufacturing character of the area. Identifying associated impacts may hinge on the type of manufacturing/art studios introduced, as some makers utilize furnaces (glass works) or mechanical equipment that may produce heat, noise and dust. Others are likely to offer no noticeable impacts.

30-32 Howard Street, while still within the E-LM district, is first among a string of residential structures. Its loss and replacement with a much larger building in close proximity to the activities of Pine Street will introduce impacts much closer and atypical for the adjacent residential district. The development has been designed, however, to bring the residential use (accessory driveway/parking) between it and the abutting neighbor. **Affirmative finding.**

4. *The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit circulation, safety for all modes; and adequate transportation demand management strategies;*

The parcel(s) are within the network of existing highway, streets and pedestrian paths. The GMT (formerly CCTA) Pine Street and Link bus routes are immediately available. There has been no traffic analysis submitted, however, to identify anticipated impacts. **No finding possible.**

and

5. *The utilization of renewable energy resources;*
There is nothing within the application to deter the utilization of renewable energy resources. **Affirmative finding.**

and

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances.*
The applicant is responsible to securing all local and state permits, including a state wastewater permit. Zoning amendment ZP17-03 will require that all violations on involved properties be resolved and all expired zoning permits closed out prior to issuance of a Certificate of Occupancy for this project. The applicant is encouraged to begin that process immediately. **Affirmative finding as conditioned.**

.

(b) Major Impact Review Standards

1. *Not result in undue water, air or noise pollution;*
The introduction of air, water or noise pollution may largely depend upon the type of art or materials created on site. The offices and residential uses should not generate any undue impacts noted. **Affirmative finding.**
2. *Have sufficient water available for its needs;*
A capacity letter has been provided from the Department of Public Works that there is sufficient reserve for the proposed uses. **Affirmative finding.**
3. *Not unreasonably burden the city's present or future water supply or distribution system;*

As proposed, there is no anticipation that the city's water supply or distribution would be threatened by the proposed development. **Affirmative finding.**

4. *Not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result;*

The applicants have prepared Stormwater Management Plan to be reviewed by the Stormwater Engineering team for compliance with Section 5.5.3 and Chapter 26. An email from the Stormwater Program Manager 12/30/2016 has confirmed approval of that plan. **Affirmative finding.**

5. *Not cause unreasonable congestion or unsafe conditions on highways, streets, waterways, railways, bikeways, pedestrian pathways or other means of transportation, existing or proposed;*
A traffic study was recommended at Technical Review to determine if the greater activity is likely to generate more trip ends and increase congestion at this corner. None has been provided. **No finding possible.**

6. *Not cause an unreasonable burden on the city's ability to provide educational services;*
The project proposes to replace the two dwelling units lost with the demolition of 30-32 Howard Street. As no increase in the number of residential units is proposed, and the replacement units are relatively small, no increased demand on educational services is anticipated. **Affirmative finding.**

7. *Not place an unreasonable burden on the city's ability to provide municipal services;*
These are existing developed sites within the Enterprise zone. Redevelopment should not tax the existing infrastructure to a greater degree than what exists. Impact fees should ameliorate any new municipal demand. **Affirmative finding as conditioned.**

8. *Not have an undue adverse effect on rare, irreplaceable or significant natural areas, historic or archaeological sites, nor on the scenic or natural beauty of the area or any part of the city;*
The area is not identified as a significant natural area or one of scenic or natural beauty. 30-32 Howard Street is listed on the Vermont State Register of Historic Resources; and the buildings at 400 Pine Street are contributing resources within a nomination to the National Register as part of the Pine Street Historic District. That nomination is currently under review by the Vermont Division for Historic Preservation, to be referred to the Advisory Council for Historic Preservation in early 2017. See Section 5.4.8, below for further discussion.
A report from a preservation consultant confirms the adverse effect on the involved historic structures, but submits that the replacement building mitigates the loss. **Affirmative finding if DRB concurs.**

9. *Not have an undue adverse effect on the city's present or future growth patterns nor on the city's fiscal ability to accommodate such growth, nor on the city's investment in public services and facilities;*

This is an existing, developed area. The project is not anticipated to have a deleterious effect on Burlington's future growth patterns or fiscal ability to accommodate such growth. **Affirmative finding.**

10. *Be in substantial conformance with the city's municipal development plan and all incorporated plans;*

See Section 3.5.6 (a) 2., above for evaluation with the Municipal Development Plan.

Plan BTV South End, while as yet unadopted, offers a different perspective and set of ideals for the Pine Street corridor area. Among them, and specific to this corner of Pine and Howard Street:

- *Prioritize retention/expansion of existing buildings to support small artist/maker enterprises.* [Plan BTV South End; Page. 63.]

The project does not propose the retention and reuse of the characteristic industrial buildings, but replacement with new construction. The intended uses, however, are consistent with the artist/maker enterprises, and the building is located in a manner to help physically define the street. **Affirmative finding.**

11. *Not have an undue adverse impact on the present or projected housing needs of the city in terms of amount, type, affordability and location;*

The development includes the replacement of 2 housing units with the loss of 30-32 Howard Street. Residential uses are not permitted within the Enterprise Zoning District, but the replacement of existing housing units will accommodate the required housing replacement and acceptable as restoring the non-conformity to the same extent as existing. **Affirmative finding.**

and/or

12. *Not have an undue adverse impact on the present or projected park and recreation needs of the city.*

No adverse impact is anticipated; any effect should be off set with the payment of Impact Fees. **Affirmative finding as conditioned.**

(c) Conditions of Approval

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. *Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area;*
None identified.
2. *Time limits for construction.*
Unless a phasing schedule is requested, the zoning permit is valid for 2 years.
3. *Hours of operation and/or construction to reduce the impact on surrounding properties.*
Typically approved hours for construction are Monday-Friday 7:00 am – 6:00 pm. Saturday hours may be limited to interior work if nearby residential structures may be impacted by

outdoor construction activities. No construction is permitted on Sundays. **Affirmative finding as conditioned.**

4. *That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions,*

The proposed offices and artist's studios are permitted uses in the E-LM Zoning District. Although residential uses are not, the proposal may include the replacement of 2 existing (non-conforming) residential uses. Any other enlargement or alteration of use will be evaluated under the regulations in effect at the time. **Affirmative finding as conditioned.**
and

5. *Such additional reasonable performance standards, conditions and safeguards as it may deem necessary to implement the purposes of this chapter and the zoning regulations.*

This is at the discretion of the DRB.

Article 4: Zoning Maps and Districts

Section 4.4.3 Enterprise Districts

(a) Purpose

*The **Light Manufacturing** (E-LM) district is the primary commercial/industrial center of Burlington, and is intended primarily to accommodate enterprises engaged in the manufacturing, processing, distribution, creating, repairing, renovating, painting, cleaning, or assembling of goods, merchandise, or equipment without potential conflicts from interspersed residential uses. Other accessory commercial uses are allowed to support a wide range of services and employment opportunities. This district is intended to ensure that sufficient land area is appropriately designated within the city to provide an adequate and diversified economic base that will facilitate high-density job creation and retention. This district is primarily intended to provide for industrial uses suitable for location in areas of proximity to residential development. Development is intended to respect interspersed historic industrial buildings, and reflect the industrial aesthetic of the district's past. Parking is intended to be hidden within, behind, or to the side of structures.*

The project does intend to support the enterprises noted: creating, renovating, painting, assembling of goods, etc. The inclusion of residential units (2) is specifically to replace the (non-conforming) units to be lost at 30-32 Howard Street.

Whether demolition of 3 historic buildings *respect[s] the interspersed historic industrial buildings* is a matter for consideration. Materials and design suggest an industrial aesthetic albeit with a loss of historic fabric and authenticity. The DAB found the proposed building demolition acceptable within the balance of benefit/loss afforded in Section 5.4.8 (d).

(b) Dimensional Standards and Density

The density and intensity of development, dimensions of building lots, the heights of buildings and their setbacks from property boundary lines, and the limits on lot coverage shall be governed by the following standards:

Table 4.4.3 -1 Dimensional Standards and Density

Districts			Minimum Building Setbacks ¹ (feet)	
-----------	--	--	---	--

	Max. Intensity (floor area ratio ¹)	Max. Lot Coverage¹	Front	Side	Rear ³	Max. Height¹ (feet)
Light Manufacturing	2.0 FAR	80%	5 min	0 ²	10% ²	45'
Proposed at 400 Pine / 30-32 Howard	Not provided. Must be calculated across the entire site.	Existing: 88.06% Proposed: 87.06% including absorption of 30-32 Howard Street.	5' minimum from Howard Street	25' on east (abuts residential district)	Not applicable. The parcel has 2 fronts, multiple sides.	39', south (front) façade. May measure differently if using average finished grade of all exterior walls.

1 – Floor area ratio is further described in Art 5. Measurement of and exceptions to coverage, setback, and height standards are found in Art 5. Actual maximum build out potential may be reduced by site plan and architectural design considerations of Art 6.

2 – Structures shall be setback a minimum of 25-feet along any zoning district boundary line that abuts a residential zoning district. Lots of record existing as of September 9, 2015 that are split by enterprise and residential zones are exempt from this district boundary setback.

3 – Percentage of the lot depth.

No finding possible without calculation of FAR.

(c) Permitted and Conditional Uses:

The principal land uses that may be permitted, or conditionally permitted pursuant to the requirements of Article 3, within the Enterprise districts shall be as defined in Appendix A – Use Table.

Offices and art studios are both permitted uses in the E-LM zoning district per Appendix A. Residential uses are not permitted; however, the 2 units proposed for demolition at 30-32 Howard may be retained as non-conforming uses. See **Article 5, Non-Conformities** and **Article 9, Inclusionary and Replacement Housing**. **Affirmative finding.**

Article 5: Citywide General Regulations

Section 5.2.2 Required Frontage or Access

Access can be made from Howard Street; alternately there are vehicular access points from Pine Street. The driveway at 30-32 Howard Street will be relocated as part of the overall development. **Affirmative finding.**

Section 5.2.3 Lot Coverage Requirements

The existing coverage is 88.06%, and will reduce to 87.06% appending the 30-32 Howard Street property. Although still in excess of the coverage limitation for the zoning district, the percentage drops with the development. **Affirmative finding.**

Section 5.2.4 Buildable Area Calculation

The property is not within the RCO, WRM, RM, WRL, or RL zoning district where this standard applies. Not applicable.

Section 5.2.5 Setbacks

See Table 4.4.3-1, above.

Section 5.2.6 Building Height Limits

Plan A2.1 illustrates a building height measured from the street front (south elevation) of 39'.

An amendment to the exceptions for height limits now exempts elevator shafts and enclosed stair towers. Exposed mechanical equipment may encroach beyond the maximum building height by no more than 15 feet provided that portion exceeding the height limit does not exceed 20% of the roof area. Exposed mechanical equipment must be fully screened on all sides to the full height of the equipment and positioned on the roof to be unseen from view at the street level. See ZA16-14. **Affirmative finding as conditioned.**

Section 5.2.7 Density and Intensity of Development Calculations

(b) Floor Area Ratio

The applicant will be required to analyze and provide the current Floor Area Ratio for both lots, and the anticipated FAR for the proposal. This information has not been included in the current submission. **No finding possible.**

Part 3: Non-Conformities

Section 5.3.3 Continuation

Except as otherwise specified in this Article, any nonconformity which lawfully existed at the time of passage of this or any prior ordinance or any amendment thereto may be continued subject to the provisions of this part.

The two residential units at 30-32 Howard Street are an existing non-conforming use which may be continued per this standard. They are proposed to be replaced within the new development. Similarly, the non-conformity of parking for the residential use (2 required per unit, only 2 provided in total) may continue. **Affirmative finding.**

Section 5.3.4 Nonconforming Uses

(a) Changes and Modifications:

2. Nonconforming Residential Use

A change or expansion of a non-conforming residential use may be allowed subject to conditional use approval pursuant to the provisions of Article 3, Part 5 by the DRB provided:

- A. *Such an expansion does not add any additional dwelling units except as may be permitted for adaptive reuse or residential conversion bonuses approved per the provisions of Sec. 4.4.5(d)(7);*

Two units exist at 30-32 Howard; 2 units are proposed in the new development.

- B. *Such an expansion does not increase the degree of non-conformity of any non-conforming structure;*

The structure at 30-32 Howard Street is not non-conforming; it is the residential use.

and,

- C. *In such cases where the non-conforming residential use is located in a zoning district where residential uses are generally permitted, expansion of a non-conforming residential use into an existing and previously uninhabited attic or basement within the principle structure may be permitted subject to administrative review provided no additional dwelling units are created.*

Residential uses are not generally permitted in the E-LM Zoning District. This standard is not applicable.

Affirmative finding.

Section 5.4.8 Historic Buildings and Sites

(a) Applicability:

These regulations shall apply to all buildings and sites in the city that are listed, or eligible for listing, on the State or National Register of Historic Places.

30-32 Howard Street is listed on the Vermont State Register of Historic Places. 400 Pine Street is within a draft nomination to the National Register of Historic Places within the Pine Street Historic District, currently under review at the Vermont Division for Historic Preservation. Within that nomination, buildings 20a and 20b are both listed as contributing resources to the overall Pine Street Historic District. All three are proposed for demolition. See attached documents for further information.

The DAB found the proposed development provided a benefit to the community greater than the existing historic structures. Their decision included the cost/benefit analysis provided by the owner. If the DRB concurs with that assessment, an **Affirmative finding** may be given to the following standards.

(b) Standards and Guidelines:

1. *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.*

The two buildings at 400 Pine Street (20a and 20b) as well as 30-32 Howard Street are proposed for demolition, which is contrary to this standard.

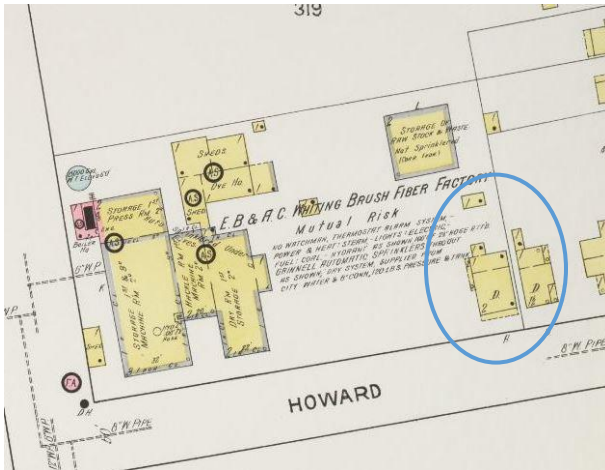
2. *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*

Demolition is contrary to all parts of this standard. Utilization of similar materials (metal siding, brick veneer) on new construction may be compatible but not a substitute for existing historic character of a property.

3. *Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*

30-32 Howard Street has an historic connection to 400 Pine Street; mapping demonstrating that this property was originally associated with the industrial activities of 400 Pine Street.

Its demolition, with the two warehouses at 400 Pine Street is contrary to this standard.



Sanborn Fire Insurance Map of Burlington, 1912, detail.

Note 30-32 Howard Street within the property boundaries of the E.b. & A. C. Whiting Brush Fiber Factory parcel.

“D” signifies “dwelling.”

4. *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*

Proposed building demolition is in conflict with this standard.

5. *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*

Proposed building demolition is in conflict with this standard. The applicant suggests use of similar materials and a design aesthetic to perpetuate the industrial character of the buildings intended for demolition; that is not synonymous with preservation and reuse.

6. *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials recognizing that new technologies may provide an appropriate alternative in order to adapt to ever changing conditions and provide for an efficient contemporary use. Replacement of missing features will be substantiated by documentary and physical evidence.*

Proposed building demolition is in conflict with this standard.

7. *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*

Not applicable.

8. *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*

The historic industrial activities of the 400 Pine address, and by relationship 30-32 Howard Street create the historic sensitivity of the site(s). No archaeological resources have been specifically identified here, although the activities and their association with the early manufacturing and the railroad present the potential for discovery. **Affirmative finding as conditioned.**

9. *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion, and massing to protect the integrity of the property and its environment.*

The proposed redevelopment will alter features, spatial relationships, and materials that characterize the property, in conflict with this standard.

10. *New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

In the demolition of the buildings identified, the proposed alterations may be considered irreversible on their effects on historic resources. The proposed new building, insofar that it is detached from other historic structures, may conceivably be removed in the future. The loss of the other buildings, however, renders the site impaired.

The submitted report from a preservation consultant determines that the duplex is only marginally eligible for retaining its listing on the Vermont Register of Historic Places. Staff has been advised that only the Vermont Advisory Council for Historic Preservation can issue determinations of eligibility, not consultants. Her assertion is contrary to simultaneous review of development and alteration to another property on the state register, for which the Vermont Division for Historic Preservation has asserted continuing eligibility until the Advisory Council recommends otherwise. Simply put, the consultant is not in a position to determine eligibility of an already-listed property, which retains its designation.

The applicant has provided a cost/benefit analysis to support the contention that it would be logistically and financially prohibitive to re-use the existing historic buildings. See attached document.

The consultant declares that 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” by virtue of a design aesthetic that relates to the industrial character of the overall historic district. While utilization of sympathetic materials and colors may reference context, it is never a substitute for true historic integrity of existing resources.

As noted, The DAB found the proposed development provided a benefit to the community greater than the existing historic structures. Their decision included the cost/benefit analysis provided by the owner. If the DRB concurs, Affirmative finding.

(c) Demolition by Neglect:

No owner of a historic building, or lessee who is obligated by lease to maintain and repair such a structure (other than the interior), shall allow, cause, or permit the structure to suffer or experience demolition by neglect. Examples of such disrepair and deterioration include, but are not limited to, the following:

1. *Deterioration of walls or other vertical supports; walls, partitions or vertical supports that split, lean, list, or buckle, thus jeopardizing structural integrity;*
2. *Deterioration or inadequate foundations that jeopardize structural integrity;*
3. *Deterioration of roofs, ceilings, or other horizontal members;*
4. *Deterioration of fireplaces or chimneys;*
5. *Deterioration or crumbling exterior stucco or mortar;*
6. *Ineffective waterproofing of exterior walls, roof, or foundations, including broken windows or doors;*
7. *Lack of weather protection that jeopardizes the structural integrity of walls, roofs, plumbing, electricity, or overall structural integrity, including lack of paint, lack of adequate heating, and lack of adequate ventilation;*
8. *Vandalism caused by lack of reasonable security precautions; and/or*
9. *Deterioration of any feature so as to create a hazardous condition that could require demolition for public safety.*

There has been no assertion of neglect or structural instability with any or all of the buildings. The 2 industrial buildings (c. 1900 and 1915) retain their gritty industrial nature. The last rental / minimum housing inspection of 30-32 Howard Street found the building to be in compliance.

(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;*

A conditions assessment was provided at the Design Advisory Board hearing.

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

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;*

See submitted Financial Assessment Narrative.

- C. 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 is for redevelopment for the site. It does not assess the effect of the proposed redevelopment on the architectural and historical qualities of other structures and the character of the neighborhood around the site. It is specifically important to outline what effect the building demolition(s) will have on the context of this industrial site, and the overall Pine Street Historic District nomination which is currently under review at the state level. **No finding possible.**

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.*

These are submitted as part of the application.

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;*

While the owner references “crumbling buildings”, the conditions assessment defines building settlement, material failure and water penetration that has been ongoing. The argument centers mainly on the expense and unsuitability for rehabilitation rather than structural instability.

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;*

The owner has submitted a Financial Assessment Narrative which address the “economically beneficial” standard.

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.*

The application appears to hinge on this last standard, supported by the preservation consultant's supporting report. The DAB has offered their support based on this standard. The DRB will be required to analyze the weight of a substantial community wide benefit, required to consider demolition and new construction.

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;*

Although the consultant alludes to this, it is not clear how the project mitigates to the greatest extent practical impact to the importance of the other structures on the property. The new building is designed to front Howard Street, so it appears the demolition schedule is organized by site geography. The other buildings on the 400 Pine parcel are proposed to remain.

- 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;*

The buildings may not rise to the importance of recording under the very strict standards of HABS, but merit photo documentation if approved for demolition.
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 application includes a development proposal which, if approved, will be conditioned for project commencement within one year of building demolition.

No deed restriction for open space or recreational uses is necessary or part of this development.

Affirmative finding under these standards if the DRB accepts *Financial Analysis* and Conditions assessments toward the proposed demolition of three buildings.

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.

Affirmative finding as conditioned.

Section 5.4.9 Brownfield Remediation

The sites are not defined on the state Brownfield or Haz Sites list. As a former manufacturing facility, it would not be unexpected to find site conditions meriting investigation. If examination has not been previously made, a Phase I analysis is recommended prior to any ground disturbance. The applicant may then properly plan for any environmental impacts that might be encountered during the project. If there is evidence of a release (i.e., contamination found during environmental investigation or construction), state law requires that the Agency of Natural Resources be notified. **Affirmative finding as conditioned.**

Part 5: Performance Standards

Section 5.5.1 Nuisance Regulations

Any application for a zoning permit is required to demonstrate compliance with applicable nuisance regulations and performance standards identified in the Burlington Code of Ordinances. Standards are required to be met as measured at the property line. The construction of a three story building that will, in great part, have industrial/maker spaces in close proximity to a residential district, may introduce some conflict. The nature of those artists' studios / maker spaces will need clarification to determine if that concern of conflict is warranted, particularly as it relates to noise, vibration, dust, or similar impact. If the units are self-contained and are not releasing heat/dust/smoke/vapor, an **Affirmative finding** may be made.

Part 5.5.2 Outdoor Lighting

The applicant has provided a spec sheet for a recessed LED downlight with no annotation on plans for its intended location. Missing is a site photometric to assure compliance with the standards within this section. **No finding possible.**

Section 5.5.3 Stormwater and Erosion Control

Written approval of the EPSC and Stormwater plans have been approved by the Stormwater program. The Chapter 26 approval has operation and maintenance plans as part of their conditions. **Affirmative finding as conditioned.**

Section 5.5.4 Tree Removal

If removal involving six or more trees, each of 10" in caliper or removal of 10 or more trees each of which is 3" or greater in caliper will require review under this section. It does not appear that this benchmark is triggered for the privately owned parcels; the applicant is working with the city arborist for treatment of trees within the greenbelt. **Affirmative finding as conditioned.**

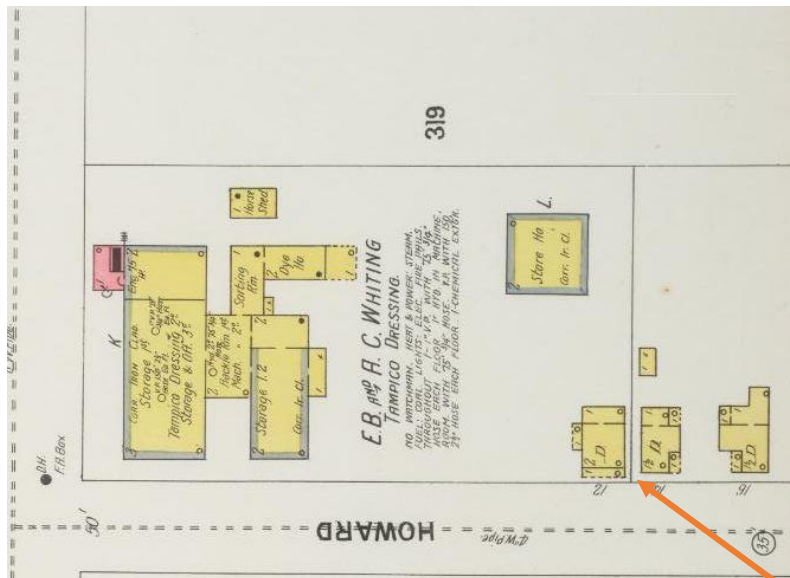
Article 6: Development Review Standards

Part 1: Land Division Design Standards

The proposal does not include the division of land; rather internal lot lines between 400 Pine Street and 30-32 Howard Street are proposed to be extinguished. The final application can include the suggested boundary line adjustment; project applicants originally preferred to segregate the applications and merge the lots if the development application is successful. The applicant team needs to confirm.

Affirmative finding as conditioned.

(Anecdotally, the residential structure was originally part of the 400 Pine Street collection of buildings, and supported the activities there. See images from Sanborn Maps, below.)



Sanborn Map of Burlington, 1900. 30-32 Howard Street is illustrated, right of center.



Sanborn Map of Burlington, 1919. Buildings 20a and 20b are on site; 30-32 Howard to the east.

Part 2: Site Plan Design Standards

Sec. 6.2.2 Review Standards

(a)Protection of Important Natural Features:

There are no identified important natural features within the project area. Not applicable.

(b) Topographical Alterations:

As the grade increases going east, there are some grade changes that will provide some design opportunities within the development. As underground parking is proposed, excavation and grade alteration are anticipated. See plans C1.1, or LS1 for contours. **Affirmative finding.**

(c) Protection of Important Public Views:

There are no protected important public views from or through the site. **Affirmative finding.**

(d) Protection of Important Cultural Resources:

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Archeological sites likely to yield information important to the city's or the region's pre-history or history shall be evaluated, documented, and avoided whenever feasible. Where the proposed development involves sites listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8(b).

See Section 5.4.8, above.

(e) Supporting the Use of Renewable Energy Resources:

Although the application does not include the use of solar, wind, water, geothermal or other renewable energy resources, the development does not preclude the eventual inclusion of any. **Affirmative finding.**

(f) Brownfield Sites:

A search of the state Haz Sites and Brownfields did not turn up these addresses. The Vermont Agency of Natural Resources advises that any owner/developer/applicant should perform proper due diligence before performing any re-development of a property. Given the history of this area, proper due diligence means performing a Phase 1 assessment per ASTM E1527-13 and performing any additional investigation, if needed, to determine if contamination is present on the property.

The submitted narrative includes "soils analysis will be complete prior to issuance of a permit." This is cart before the horse; the soils analysis should be completed and appropriate corrective response determined prior to permit release. it is much easier to address contamination before a project begins instead of finding contamination during the development of a property.

Affirmative finding as conditioned.

(g) Provide for nature's events:

A Stormwater Management Plan as well as a Small Project Sediment and Erosion Plan have been provided to satisfy Section 5.5.3 and Chapter 26. DPW Stormwater program has given

preliminary approval both, contingent upon an operation and maintenance schedule. **Affirmative finding as conditioned.**

(h) Building Location and Orientation:

The proposed replacement building is oriented north/south and fronting Howard Street, helping to strengthen the street edge. The garage entry is on the north elevation. Residential access is from the south (street front); access to the studios and office space is proposed from the westerly elevation. **Affirmative finding.**

(i) Vehicular Access:

There are paved paths within the complex of buildings that may lead to the proposed parking level entry. Alternately, an access drive lies west of the proposed structure, with a 20' wide access from Howard Street. That drive narrows at the northwestern corner of the building but retains a 20' clearance under the 2nd floor roof canopy, prior to garage ramp entry ramp. The application appears to have revised the stairs/loading dock on the westerly building to minimize the point of constriction. The access path remains fairly tight.

The applicant requests relocation of the curb cut along Howard Street, approximately 25' to the east to allow access to the new parking area for the residential units. The relocated driveway will cause the loss of 2 street trees, which the applicant must make restitution to the city arborist for their loss. **Affirmative finding as conditioned.**

(j) Pedestrian Access:

Access doors are provided on the west, south and east of the building. The southerly access/stairs are dedicated to serve the 2 residential units. **Affirmative finding.**

(k) Accessibility for the Handicapped:

The parking level has identified one handicapped (h/c) parking space with loading area. An exterior ramp is illustrated on the westerly side of the building, terminating at the entrance door. An elevator will serve all three floors and the parking garage. The elevator structure is only minimally illustrated on building elevations; it should be a fully developed drawing to illustrate its appearance as it projects from the roof plane. **Affirmative finding as conditioned.**

(l) Parking and Circulation:

The parking level has 25 parking spaces, one of those h/c accessible and adjacent to the elevator. (See inconsistency in plans, below.)

Parking spaces are smaller than required; illustrated dividers are 18' in length while 20' is the defined standard. Required minimum backup length is 24' per Table 8.1.11-1. With two 20' long parking corridors, there remains only 20' backup space. These standards are a requirement except in situations where a lesser standard is deemed necessary by the DRB due to site topography, location of existing or proposed structures, lot configuration, and/or the need to preserve existing trees and mature vegetation. See Section 8.1.11 and Table 8.1.11-1.

The inadequacy of parking space size has been problematic for other residential buildings (Stratos, St. Paul Street) and continues to vex tenants and management.

There are four spaces (two, each in tandem) for the 2 residential units, located east of the building.

There is inconsistency in plans relative to parking count. Plan LS1 shows 25 parking spaces within the parking deck; plan A1.1 has 24. The handicap parking space is located in different locations in each plan. The attached narrative defines 20 spaces within the parking deck (See Exhibit B, page 2.) Plans must be consistent and accurate for development proposed.

Overall, the parking analysis made as part of the submission is inconsistent with the Parking Management Plan and approved parking waiver under ZP16-0784CU. That decision included the following:

ZP16-0784CU Issued 3/5/2016	Total parking required 169	Total parking on site 92	Waiver (46%) 77
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The applicant's narrative is not consistent with the Findings of Fact issued under ZP16-0784CU as it assumes a 100% waiver for retail. The narrative gives a total waiver of 102.5 spaces, and references an unexplained 10 space parking lease agreement. None of this was approved in the Parking Management Plan. If the applicant wishes to request to amend that parking management plan, they must do so explicitly without assuming a different calculation than what was approved by the Board, which approved a 46% across-the-board waiver, not 100% waiver of retail.

The current plan should not be referencing "extra" spaces, as the parking management plan clearly defines broad uses with a much higher parking requirement than is provided. The shared use nature of the businesses allowed for the consideration of the waiver, and no spaces may be considered "extra" or supplementary.

See calculation of new parking requirement made by staff under Article 8.

A plan for snow removal and/or storage is included on revised drawings (C1.1.)

No finding possible for inconsistency with parking management plan, insufficient parking space size and/or backup space.

(m) Landscaping and Fences:

A landscaping plan has been submitted (Plan LS1.) Two 24" caliber trees are proposed to be removed, as well as a cedar hedge. Extensive plantings proposed along the easterly boundary abutting a residential district. Headlamp spill should not impact those easterly properties as the grade changes entering the garage.

The picket fence proposed for the southeasterly border has been adjusted to comply with the Clear Site Triangle provisions of the ordinance. Within 25' of any driveway, any fence or landscaping must be less than 3' in height within 15' of the property line.

Affirmative finding.

(m) Public Plazas and Open Space:

No public plazas or dedicated open space is included within the application. **Affirmative finding.**

(o) Outdoor Lighting:

Where exterior lighting is proposed the applicant shall meet the lighting performance standards as per Sec 5.5.2.

Although a spec sheet has been provided for an exterior fixture, its location is not identified on plans and no site photometric has been provided, as required. **No finding possible.**

(p) Integrate infrastructure into the design:

Exterior storage areas, machinery and equipment installations, service and loading areas, utility meters and structures, mailboxes, and similar accessory structures shall utilize setbacks, plantings, enclosures and other mitigation or screening methods to minimize their auditory and visual impact on the public street and neighboring properties to the extent practicable.

Utility and service enclosures and screening shall be coordinated with the design of the principal building, and should be grouped in a service court away from public view. On-site utilities shall be placed underground whenever practicable. Trash and recycling bins and dumpsters shall be located, within preferably, or behind buildings, enclosed on all four (4) sides to prevent blowing trash, and screened from public view.

Any development involving the installation of machinery or equipment which emits heat, vapor, fumes, vibration, or noise shall minimize, insofar as practicable, any adverse impact on neighboring properties and the environment pursuant to the requirements of Article 5, Part 4 Performance Standards.

Trash and recycling for all uses will be provided in the westerly building, see Plan C1.1. There shall be no exterior totes for the residential use.

Plans note that electrical service will be undergrounded. Water, sewer and electrical connections are identified within the parking garage deck.

If any mechanical equipment is proposed, either roof or ground mounted, it must be shown on plans to assess auditory and visual impact. Rooftop equipment shall be fully screened on all sides to the full height of the equipment, and positioned on the roof to be unseen from view at the street level.

A central location for mailboxes needs to be identified; presumably this might be on the interior of the building but should be identified in application documents.

Affirmative finding as conditioned.

Part 3: Architectural Design Standards
Sec. 6.3.2 Review Standards

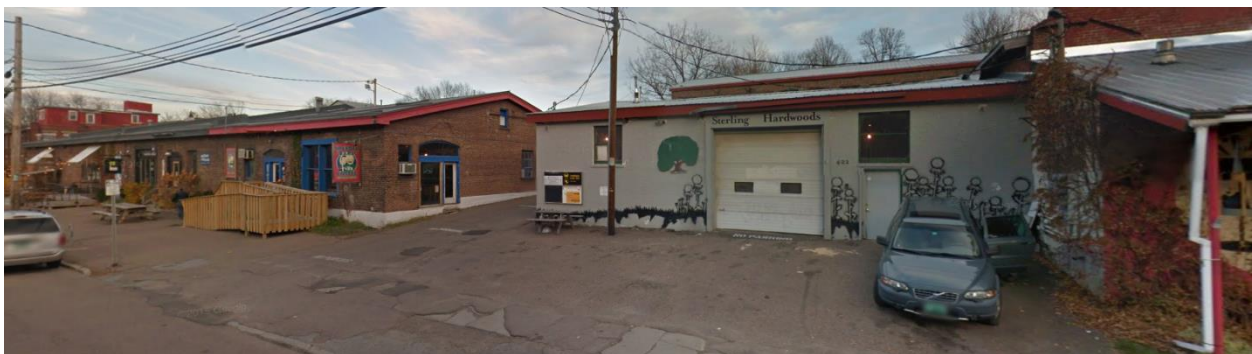
(a) Relate development to its environment:

1. Massing, Height and Scale:

Three stories over a parking level are proposed. A plan illustrating street context has been provided. The two warehouse buildings proposed for demolition are both one storey (although the northerly one is a greater volume, as intended for commercial storage.) The duplex to be demolished is two stories.

The applicants have provided a streetscape illustration to depict the proposed new building within the context of existing structures. See Exhibit A, *Section looking North from Howard Street*. The proposed building's height is somewhat ameliorated by its set-back 3rd floor, strong 2nd floor cornice line and the changing grade. **Affirmative finding.**

For context, see the photos (below.)



2. Roofs and Rooflines.

A flat roof is proposed. Many of the buildings within the complex and associated with industrial uses on Pine Street have flat roofs, as does 30-32 Howard Street. **Affirmative finding.**

3. Building Openings

Pedestrian doors are located on the south (for the residential units), east and west facades. East façade doors are indicated as exit only. Windows surrounding all elevations are regularly spaced and symmetrically arranged, adding variety interest. Windows are proportioned to appear more vertical than horizontal. A series of large window lights which will operate as overhead garage-doors punctuate the first floor on the west elevation, intended to provide greater ceiling height for the intended artist use. **Affirmative finding.**

(b) Protection of Important Architectural Resources:

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8. The introduction of new buildings to a historic district listed on a state or national register of historic places shall make every effort to be compatible with nearby historic buildings.

See Section 5.4.8.

(c) Protection of Important Public Views:

There are no protected or important public views from this site. Not applicable.

(d) Provide an active and inviting street edge:

The Howard Street entrance is specifically for the 2 replacement residential units. The bifurcated entrance steps and parallel doors define individual identities for these units, which are clearly discernable. The second floor has a small street front balcony to serve the residents.

Entrance for the studios and office space will occur from the access alley between buildings, on the west building elevation. **Affirmative finding.**

(e) Quality of materials:

The narrative defines a palette of brick, metal and glass on a concrete base, intended to be both durable and low maintenance. Windows are fiberglass. **Affirmative finding.**

(f) Reduce energy utilization:

New construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirement of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances. **Affirmative finding as conditioned.**

(g) Make advertising features complementary to the site:

Any proposed signage will require a separate sign permit. Elevations include a depiction of "20 Howard" on the west elevation. Parallel signs are limited to 2 sf. per each linear foot of building **frontage** allocated to the establishment. The narrower building frontage measurement on Howard Street will predictably limit the sign area for the overall building. (62' building frontage, allowable parallel signage = 124 sq. ft. total.)

Given the mix of uses proposed, the applicant may consider a Master Sign Plan for greatest flexibility. See Section 7.3.2 of the CDO.

The narrative includes installation of two exterior screens for the display of artists' work. Visual displays may not have flashing or moving parts so as to create a nuisance, be distracting to neighbors, surrounding properties or to motorists. **Affirmative finding as conditioned.**

(h) Integrate infrastructure into the building design:

Exterior machinery and equipment installations, service and loading areas, utility meters and structures, mailboxes, and similar accessory features shall utilize setbacks, plantings, enclosures and other mitigation or screening methods to minimize their auditory and visual impact on the public street and neighboring properties.

Rooftop mechanicals, including heating and cooling devices and elevator equipment, should be incorporated into the structure's design, and shall be arranged to minimize their visibility from the street level. Such features, in excess of one foot in height, shall be either enclosed within the roof structure, outer building walls, or parapets, or designed so that they are integrated into the overall design and materials of the building. See Section 6.2.2. (p), above.

(i) Make spaces secure and safe:

All building and life safety code, as defined by the Building Inspector and Fire Marshal, shall be implemented. Appropriate lighting at entryways and within the parking garage shall be provided, meeting the specific requirements of Section 5.5.2, and provide for adequate and safe use.

Intercom systems are recommended when possible to maximize personal safety.

No finding possible for lighting.

Article 8: Parking

See Section 6.2.2. (l) above for a discussion of inconsistency with approved Parking Management Plan of ZP16-0784CU.

As staff recalculates:

Assuming non-conforming parking for residential use continued:

Use	Requirement	Provided
Residential (replacement)	2/unit (existing 1/unit, non-conforming)	2
Office	13,182sf / 1000 = 13 x 2	26
Studio	5004sf / 1000 = 5 x 1	5
Total new parking	35 (33 if non-conformity continued)	29 (parking deck with 25 spaces)

Shortfall – 4 spaces

Demolition of 2 warehouses	10,393 sf / 1000 = 10 x .35	-4 spaces
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Affirmative finding for vehicular parking.

Section 8.2.5 Bicycle Parking (Table based on 8.2.5-1)

Long Term Spaces	Residential Use, 1 per 4 units, 0	Office use 1/5000sf, or 3 spaces	Studio/Manufacturing 1/20,000, or 0	Total long term spaces based on use and area = 3
<u>Short Term Spaces</u>	<u>Residential use, 1 per 10 units, or 0</u>	<u>Office use 1 per 10,000 sf, or 1 space</u>	<u>Studio/Manufacturing 1/50,000, or 0</u>	<u>Total short term spaces based on use and area = 1</u>

Although the total calculation comes to 3 Long Term Bicycle Parking Spaces and 1 Short Term Bicycle Parking Space, the nature of the activities and the location in the South End suggest a

higher than average bicycle use rate. The applicant is encouraged to provide secure bicycle parking, both within and outside the building.

A bike rack is illustrated just north of the building, adjacent to a walkway under cover as recommended by the Design Advisory Board. The submitted narrative provides 12 bikes will be accommodated. A plan for that rack must be submitted. **Affirmative finding as conditioned.**

Article 9: Inclusionary and Replacement Housing

The loss of the two residential units will be replaced with two new residential units within the development. See Section 5.3.4 for a discussion of the continuation of Nonconforming uses.

Affirmative finding.

Article 10: Subdivision Review

Section 10.1.5 Lot Line Adjustments

The intent of this section is to provide for an abbreviated review and approval process for the realignment of lot boundary lines between existing adjacent lots, including the merger of lots, where no additional lots are being created. A lot line adjustment shall not constitute a subdivision.

The proposed merger of 400 Pine Street and 30-32 Howard Street may be incorporated within this project review. The following are the submission requirements for consideration of the extinguishment of the interior property line:

(a) Lot Line Adjustment Submission Requirements:

An applicant requesting review of a lot line adjustment shall submit the following documentation to the administrative officer:

- (1) A complete application form pursuant to the provisions of Art. 3 and signed by the property owner;*
- (2) A letter requesting review and approval of a lot line adjustment, giving the names and address of property owners;*
- (3) **The applicable application fee;** and,*
- (4) Two (2) copies of a lot line adjustment plat which shall include the following:*

*The plat shall be prepared by a **Vermont licensed land surveyor** and indicate all lots that are proposed to be modified as a result of the proposed lot line adjustment. The survey shall be sufficient to clearly indicate the area, metes, bounds, and ties of each of the affected lots.*

The survey shall include all structures and site improvements and delineate all building/structure setbacks, lot coverage, parking spaces and any other details as may be specified by the Administrative Officer.

The following additional language shall be printed on the plat:

“Approval of this lot line adjustment plat does not constitute the creation of a separate parcel or lot. It adjusts the physical location of the common boundary of the adjoining parcels or lots. This lot line adjustment has been approved by:”

City of Burlington Administrative Officer/ Assistant Administrative Officer

Date: _____ Zoning Permit # _____

Originally the applicant suggesting separating the lot merger from the overall development application. If so, the merger may be a condition of approval. If it is the intent to merge the lots as part of this application, a survey prepared by a licensed land surveyor with the noted language included is required, with the additional application fee of \$100/lot.

Affirmative finding as conditioned.

Section 10.1.11 Recording of Final Plat

(b) Recording within 180 days

*The final plat...shall be recorded in the office of the chief administrative officer within 180 days of the DRB's approval. Failure to file all such materials within 180 days of the decision shall render the final plat approval void. **Affirmative finding as conditioned.***

If recommended for approval,

II. Conditions of Approval:

1. The applicant shall provide required proof of NPA attendance prior to decision by the Development Review Board.
2. A traffic report shall be submitted prior to DRB review to allow time for DPW engineers, staff, and the Development Review Board to assess the information provided.
3. Prior to decision, the applicant shall calculate the total FAR across the parcel to confirm compliance with **Table 4.4.3-1, Dimensional Standards and Density.**
4. Based on submitted area and with credit for the existing warehouses, the following Impact Fees shall be required:

Allocation by department:

Enter Total Fee: **\$29,496.56**

	Offices & Other	
Department	Rate	Fee
Traffic	0.658	12138.05
Fire	0.193	3560.25
Police	0.341	6290.39
Parks	0.407	7507.88
Library	0.000	0.00
Schools	0.000	0.00
Total	1.599	\$ 29,496.57

5. Impact Fees must be paid at least seven days prior to occupancy of a new building or any portion thereof.

6. Hours of construction are limited M-F 7:00 am to 6:00 pm. Saturday hours are reserved for interior work only unless otherwise authorized by the DRB.
7. Exposed mechanical equipment may encroach beyond the maximum building height by no more than 15 feet provided that portion exceeding the height limit does not exceed 20% of the roof area. Exposed mechanical equipment must be fully screened on all sides to the full height of the equipment and positioned on the roof to be unseen from view at the street level. **Prior to release of the zoning permit**, rooftop screening meeting Section 5.2.6 (ZA16-14) shall be provided for staff review and approval.
8. If any archaeological resources are discovered during construction, appropriate authorities will be notified for guidance on handling, treatment, or disposition.
9. The applicant is encouraged to sell or reclaim a structure and all historic building materials, or permit others to salvage them (if this can be done without exposing the public to danger and construction activity) and to provide an opportunity for others to purchase or reclaim the building or its materials for future use. It is recommended that the applicant advertise the availability of the structures and materials for sale or salvage in a local newspaper on at least three (3) occasions prior to demolition. All materials will be disposed of in a safe and legal manner.
10. Given the industrial use of the site, a Phase 1 assessment per ASTM E1527-13 is merited to determine if contamination is present on the property prior to redevelopment. The results of such investigation shall be forwarded to the City (and to the Department of Environmental Conservation) to determine whether further action or remediation is warranted prior to development.
11. Specific lighting information, including intended fixture placement and a site photometric is required for staff review and approval **prior to release of the zoning permit**.
12. If the application intends to eliminate the internal boundary line and combine lots, standards of Article 10 shall apply as appropriate. Additional fees will be required for lot merger (\$100/lot) and submission of a survey by a Vermont licensed land surveyor with appropriate language as defined by Section 10.1.5 (a).
13. The final plat of the merged lots shall be recorded in the office of the chief administrative officer (land records) within 180 days of the DRB's approval. Failure to file all such materials within 180 days of the decision shall render the final plat approval void.
14. If the Silver Maple and crabapple tree in the greenbelt along Howard Street must be removed due to the driveway relocation, restitution to be determined by the City arborist will be required.
15. **Prior to release of the zoning permit**, the location of mailboxes will be identified on plans for staff review and approval.
16. No signage is included within this permit. Given the number of uses proposed, a Master Sign Plan is recommended for the entire building. See Article 7, Part 3.
17. Exterior visual displays may not have flashing or moving parts so as to create a nuisance, be distracting to neighbors, surrounding properties or to motorists.
18. **Prior to release of the zoning permit**, a plan for bike rack shall be submitted for staff review and approval. It shall be consistent with the City of Burlington Bicycle Parking Guidelines.

19. Parking spaces within the parking deck are undersized based on Table 8.1.11-1. If adjusted to meet the standards of this table, required back-up length is deficient. Any deviation from these standards is subject to review and approval by the DRB.
20. Any work in the right-of-way will require separate permitting from the Department of Public Works. This may include but is not limited to relocation of curb cuts.
21. The location of the pad mount transformer shall be included on plans.
22. Zoning amendment ZP17-03 will require that all violations on involved properties be resolved and all expired zoning permits closed out prior to issuance of a Certificate of Occupancy for this project.
23. Standard Permit Conditions 1-15.

NOTE: These are staff comments only. The Development Review Board, who may approve, table, modify, or deny projects, makes decisions.

Permit Narrative

The Vaults: 20 Howard Street, Burlington Vermont

Project Description: Proposal is for a mixed use structure: three stories above underground parking. Uses include artist studios, offices above and two residential units which replace two units in an existing duplex on the site. Three existing buildings to be removed include a duplex (30-32 Howard St.) and two unheated structures used for storage, (20 and 20a Howard Street). The Industrial nature of the site and the surrounding Pine street corridor offer a varied mix of new and old. This site abuts the residential zone and we feel that the Vaults project should provide transition to the neighborhood on Howard St.

Plan BTV: This site is located in the Enterprise Zone. Artist studios, maker spaces and other creative enterprises are encouraged by Burlington's ordinances and Master Plan. The goal of this new building is to add spaces for these uses while keeping rents low enough for artists to continue to affordably live and work in our community.

Combining two existing lots: This property consists of two lots, the major lot is the entire block from Marble Ave to Howard St. including all commercial buildings from the east side of Pine St. to the rear of residential lots on the west side of Hayward Street. The second lot (30-32 Howard St.) is a duplex. Both lots are located with-in the Enterprise Zone. The two lots will be combined as part of this permit.

Lot Coverage: The area of property disturbed by this construction project is about 15% of the entire property. In the disturbed area (+/- 22,000 sf) we propose to decrease lot coverage and provide approximately 1500 SF more green area.

Commentary RE: "Citywide Development Principles" Article 6: Development Review Standards

Section 6.0.1 Citywide Development Principles

a) Complement context & environment

- New maker space represents contemporary version of and connection to the former industrial nature of site and neighborhood.
- Creative project programming adds much needed affordable studio and work space for artists in the Enterprise Zone.
- Fresh expression of typically industrial palette of materials relates to adjacent original industrial neighborhood fabric. The stepped south façade relates to and helps transition to the scale of residential Howard Street to the east.

b) Natural features

- Existing street trees will be protected; existing trees at property line will be protected & maintained.
- Existing 'red warehouse' foundation will be left in place to prevent disturbance of adjacent property.
- Slope on site of 11 feet will be respected and will allow access to multiple building levels.

c) Complement context & environment

- Proximity of other artists and makers facilitates collaboration and community.
- Grows out of and builds upon existing community fabric and relationships.

d) Mitigate adverse effects of vehicles & give pedestrians priority

- Uses existing curb cuts; loading areas are off-street.
- Cars are parked off-street and within structure.
- Maintains 'back street' character and pedestrian scale.
- New ground level glass garage door fronts echo loading doors of old structure while providing daylight, open air, and occasional loading in/out capabilities.
- Utility equipment are located within the building; dumpster locations are screened from off site.

e) Accessibility: Provided via exterior ramp and elevator service to all floors.

The Vaults: 20 Howard Street, Burlington Vermont

f) Burlington's architectural and cultural heritage

- New 'maker' space follows in footsteps of the area's tradition of small scale industrial production.
- Building mass is similar in scale and appropriate to that of older structures in the Enterprise Zone.
- Building mass is reduced and elevation is treated differently for the residential units on the south end of the building which is adjacent to residential structures east from the Vaults site on Howard St.
- Exterior materials and some of fenestration recall structures and smaller scale common to 19th century industrial enterprise and typical of the surrounding neighborhood.

f) Climate sensitive and environmentally-conscious design

- Energy efficient materials, practice, detail.
- Salvage and reuse materials from removal of structures when possible.
- Plan and mass take advantage of solar access; solar shading is planned where appropriate.

h) Reflect community values

- The Vaults project will support and enhance Burlington's dynamic and vibrant arts scene.
- The Vaults project is sensitive in scale and complementary in materials and detailing to the historic fabric and architectural features of the Pine Street Enterprise Zone.

Section 6.2.2 Site Plan Design standards

a) **Natural features:** See commentary for 6.0.1.b. Previously developed site.

b) **Topographical alterations:** The building uses existing 11 foot grade change for access to two levels.

c) **Protection of important public views:** The building will be set back from the street slightly further than existing buildings. There is no impact on views from any public way or private property due to the height of the existing structures on the site.

d) **Protection of important cultural resources:** This property is the home of artist studios and Maker spaces, the heart of Burlington's art scene. The proposed structure includes artist studios with large floor to ceiling openings to the west access allowing the artist community more space to interact and collaborate, increasing creative energy.

e) **Supporting the use of renewable energy sources:** The developer is reviewing option for on-site power production from solar panels. No agreements are pending.

f) **Brownfield sites:** Soils analysis will be complete prior to issuance of a permit.

g) Provide for nature's events:

- See attached plans from Engineering Ventures. We will continue to work with city to develop on site treatment areas. Final plans will be submitted prior to issuance of a permit. (See Exhibit E)
- *Storm Water:* The project is located within the watershed that drains to the main WWT plant. Our intent is to reduce the initial storm flow from the site during a major event by installing an on-site collection structure and surface retention. Increased green space and the change from sloped roofs to flat roofs will further reduce flows during a storm event.

h) Building location and orientation

- The new structure fits the existing pattern of the street responding to the massing of the Duplex on Howard Street and the commercial buildings on Pine Street. (See Exhibit A)
- Existing duplex is 25'+ to roof edge, proposed residential façade is also 25' at east elevation.
- Existing duplex is set back 6' from front property line, existing Vaults building 0', new building is proposed at 8' setback to 25' height and from 11' to 20' setback east to west along the top floor.
- Entrances for the dwelling units will be at the narrow end of the proposed building facing Howard Street. The commercial entrance on the west facade will face an on-site alley and an open area between two existing buildings to the west reinforcing the artist community connection.

The Vaults: 20 Howard Street, Burlington Vermont

i) Vehicular access

- The existing Alley Curb cut will remain in the same location and width.
- We propose that the residential curb cut be moved east approximately 25 feet and fit between the existing street trees.
- Vehicular emergency access will be improved by widening the existing narrow alley and tight turn accessed from Howard Street to a minimum of 20' between buildings.
- An existing loading platform on the East façade of the old EB Whiting factory will be modified to provide a minimum of 17' clearance to our new building.

j) Pedestrian access:

- Pedestrian access and safety will benefit from the straighter and wider alley.
- New sidewalks will connect Howard Street to new entrances on the South and West.

k) Accessibility: Provided via exterior ramp and elevator service to all floors.

l) Parking

- Access to proposed parking under the building is hidden from the street and is proposed to serve only this building.
- Parking for the residential units is separate from commercial parking and will be located adjacent to an existing residence helping to re-inforce the connection between residential neighbors.
- A parking analysis for the entire property prepared by Unsworth Properties follows in Exhibit B.
- Bicycle parking is provided for 12 within green space along the interior driveway.

m) Landscaping and fences

- Existing fences will be maintained or replaced. See attached preliminary landscaping plan for concepts. Final plan will be submitted prior to receiving a permit.
- We request that the 30" silver Maple in the tree belt located near the SE corner of the new building be trimmed to prevent existing branches from contact with the building siding.

n) Public plazas and open space: NA

o) Outdoor lighting: All exterior lighting is building mounted shielded down lighting.

p) Integrate infrastructure into the design:

- Rooftop mounted HVAC equipment will be set back from the edge of the building so it is not seen from the ground.
- Utility meters and connections will be screened or integrated into façade design.
- Trash collection on site for commercial tenants is located approximately 300 feet from the building entrance in fully screened area.
- A fenced area is provide for totes for the residential units. See site plan for locations.

Section 6.3.2 Architectural Design standards

a).1 Massing, height and scale: The volume of the building is broken down by projecting areas, recessed porches, varied glazing patterns and a variety of siding materials, textures and colors. The sloped site will allow us to reduce the apparent height of the building from the east. This building will be similar to other structures nearby which are three stories or more. Massing from the street when approached from the east will appear similar to the residential building it replaces. The street façade is divided by a recessed porch presenting two faces of similar proportions to the existing houses further east on Howard street. Massing from the north and west will be consistent with adjacent commercial structures.

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DEPARTMENT OF
PLANNING & ZONING

The Vaults: 20 Howard Street, Burlington Vermont

a).2 Roofs and rooflines: The flat roof on the proposed Vault building is consistent with other structures and matches the flat roof of the residential duplex that is to be removed. The parapet line will be broken with different heights, façade jogs and two screens for display of artists work.

a).3 Building openings

- Entrances for the dwelling units will be at the narrow end of the proposed building facing Howard Street reinforcing the connection with the residential neighborhood.
- The accessible commercial entrance on the west facade will face an on-site alley and an open area between two existing buildings to the west reinforcing the artist community connection.
- Window openings vary with occupancy and façade treatment.

b) Protection of important architectural resources: See Exhibit D. The original Vaults building has 7 storage bays facing west. This new building will have 7 bays with glazed doors also facing the alley in an historic reference to the existing structure.

c) Protection of important public views: See 6.2.2.c.

d) Provide and active and inviting street edge: The decision to put the commercial entrance on the alley is based on a desire to draw people into the interior spaces of the property where artist and food events occur weekly. We have widened the alley to encourage entry from the point. The residential façade facing the street is detailed to transition from residential scale to industrial aesthetic.

e) Quality of materials: Brick, metal and glass on a concrete base create a varied façade with durable low maintenance products. Careful detailing will create a durable building equal to the existing factory structures created over 100 years ago on this site. Facades facing the industrial buildings will relate to those buildings through material choice and color.

f) Reduce energy utilization:

- *Envelope:* including walls floors and roof is proposed to exceed the Vermont Commercial Energy code by at least 30%.
- *Windows:* are proposed to be R-4 operable and fixed units which exceed code by at least 40%.
- *Doors:* Fully glazed swing doors, opaque doors and glazed overhead doors are proposed to exceed the Vermont Commercial Energy code by at least 15%.
- *Water Conservation:* The plumbing design will include water-efficient fixtures. Water cooled mechanical equipment will use water saving heat rejection systems that meet or exceed the 2015 Vermont Commercial Building Energy Standards.
- *Rooftop equipment:* HVAC equipment and water heaters will meet or exceed efficiency requirements dictated by the 2015 Vermont Commercial Building Energy Standards. Energy recovery exhaust system will used when applicable.
- *Lighting:* All lighting to be highly efficient LED with occupancy sensors and daylight controls where economically feasible.

g) Make advertising features complementary to the site: Artists will be chosen to display their work in two exterior areas of the building on metal screens. No advertising will face the street. Street numbers will be visible over doors.

h) Integrate infrastructure into the design: See 6.2.2.p.

i) Make spaces secure and safe: All exterior doors will be secured with passcode locks.

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DEPARTMENT OF
PLANNING & ZONING

The Vaults: 20 Howard Street, Burlington Vermont

Other Information:

Utilities:

Water Supply: See Exhibit C by Engineering Ventures. A city water line is mapped as running down the center of Howard St. The site is also fed from Pine Street through on-site lines. Existing Hydrants are located on Howard Street opposite the alley and directly North of the proposed building on-site. A new water service entrance will be in the SW corner of the building. New service will also be provided to the existing building west of the alley.

Sewer: See Exhibit C by Engineering Ventures. Existing 10" combined wastewater main is located in the center of Howard Street. All new fixtures will be low flow type. See above for on-site storm water treatment. The sewer and storm water systems are not separated on Howard or Pine Street. We will run separate lines from this structure to the manhole in Howard Street so that the city may easily separate flows in the future.

Natural Gas: The building will connect to the existing natural gas main running down Howard St.

Power: Per Burlington Electric, it appears that three phase power will need to be extended to the project site. Due to the size of the building and anticipated electrical loads, a pad mount transformer is ✓ anticipated. Electrical metering will be segregated, by common spaces, residential units, and commercial office areas.

Aesthetics: Facades facing the industrial buildings will relate to those buildings through material choice and color.

Traffic: Lamoureux and Dickinson will prepare an Engineers Traffic report showing impact of this project in this neighborhood prior to issuance of a permit.

Hazardous materials: Test reports for soils, asbestos and lead paint will be submitted to the city and other authorities prior to issuance of a permit.

Construction procedures:

Site Access: Vehicular and pedestrian access during construction will be limited to the two wider entrances to the property from Pine Street. Once exterior construction and paving is complete the Howard Street access will be restored.

Site Storage/security: The site will be fenced during construction to provide safety for neighbors/visitors and security for contractor equipment and building materials.

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DEPARTMENT OF
PLANNING & ZONING

MILLENNIUM FINITE™

FN SERIES

PRODUCT FEATURES:

- » Full cut-off LED wall-pack with classic design aesthetic
- » Type II, III and IV optical distribution options
- » High-efficiency, high-power LED sources
- » Available two-circuit and cold-weather battery pack options
- » Peace of Mind Guarantee®



FN9

FN15

PROJECT INFORMATION

Job Name _____
Fixture Type _____
Catalog Number _____
Approved by _____

SPECIFICATIONS

HOUSING: High-impact resistant, UV-stabilized injection molded polycarbonate. Marine-grade die-cast aluminum driver housing.

DOOR: High-impact resistant, UV-stabilized injection molded polycarbonate with detachable hinge. Secured to housing with four (4) captive, recessed Torx® (or optional Phillips head) stainless steel screws. Lens sealed with closed-cell silicone gasket and secured to door frame with heavy gauge stainless steel brackets.

GASKETING: Closed cell, silicone "O" ring gasket seals joint between polycarbonate housing and die-cast aluminum driver housing and joint between polycarbonate housing and polycarbonate lens frame assembly. Thick gauge, die-cut, closed cell neoprene with self-adhesive gasket seals joint between housing and mounting surface or accessory surface conduit adapter.

ELECTRICAL: Serviceable high-brightness LED array. See Ordering Information for color temperature and CRI options. 70 CRI minimum. 120-277 VAC or 347VAC 50/60Hz single-phase input; constant-current dimming driver; <10% THD, >0.95 PF. Minimum 85% electrical efficiency. 0-10V dimming protocol with 1-100% range, 200µA source current. Replaceable surge suppressor rated to 10kA/kV per IEEE/ANSI C62.41 Cat. A. EMC compliant with FCC 47 CFR Part 15, Class A.

INSTALLATION: Fixture is factory pre-wired and includes gasketed, 16-gauge stainless steel quick mounting plate. Once four-point mounted to wall (required for Peace of Mind Guarantee®) or accessory surface conduit adapter, allows quick mounting with hook-and-lock mechanism. Quick mounting plate bolts to wall (fasteners by other), fixture attaches to mounting plate with two (2) captive Torx® (or optional Phillips head) screws, which are concealed but accessible from bottom. Suitable for ambient temperature applications from -40°C (-40°F) to 40°C (104°F) environments, except as noted.

SURFACE CONDUIT ADAPTER (ACCESSORY): Marine-grade die-cast aluminum construction includes die-cut gaskets and two ¾" threaded connection ports. Once four-point mounted to wall (required for Peace of Mind Guarantee®) allows same quick mounting (hook-and-lock) capability as described in the Installation section above.

PHOTOMETRICS: Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For additional photometric information, go to www.kenall.com.

WARRANTY: One (1) year warranty against defects in materials and workmanship. Five (5) year warranty on LED lamps and driver for defects resulting in a fixture lumen depreciation of 30% or greater.

LISTINGS: Luminaire is certified to UL Standards by either Underwriters Laboratory or Intertek Testing Laboratory for Wet Location. UL certified IP65 per IEC 60598. IESNA-designated full cut-off.



In Stock SKU

FN9-4-7-DB-16L-40K7-DV

FN15-4-7-DB-47L-40K7-DV

ORDERING INFORMATION (Ex: FN9-4-7-MB-24L-40K8-DV)

Model	Optic System	Lens Type	Finish	Lamp Power	Lamp Color	Voltage	Options	Accessories
7								
Model				Lamp Power		Options		
FN9	9" Full Cutoff			9"			CEL†	Integral Cold Weather Battery Pack (-20°C to 35°C ambient temp range)
FN15	15" Full Cutoff			16L	16 Watt LED		LEL†	Integral Emergency Battery Pack (0°C to 35°C ambient temp range)
Optic System				24L	24 Watt LED		BPC▲	Photo Control – Shielded Button Type (120V or 277V only)
2	Type II			15"			FS	Single Fuse & Holder
3	Type III			24L	24 Watt LED		PH	Phillips Head Fasteners
4	Type IV			36L	36 Watt LED		2C*	Two-Circuit Wiring
Lens Type				47L	47 Watt LED		Accessories	
7	.187" Clear Polycarbonate			49L	49 Watt LED		9500	Torx® Screwdriver
Finish				Lamp Color		SA		
DB	Dark Bronze			40K7	4000K, 70 CRI	Die-Cast Surface Adapter		
MB	Matte Black			40K8	4000K, 80 CRI			
MW	Matte White			50K7	5000K, 70 CRI			
CC	Custom Color (Consult factory)			Voltage				
				DV	120-277 Volts			
				120	120 Volts			
				277	277 Volts			
				347	347 Volts			
				† Available only with FN15-24L model (cannot be combined with 347V or 2C options)				
				* Available only with FN15-24L and 49L models. Option provides separately powered drivers/LED modules				
				▲ SA Accessory required				

- † Available only with FN15-24L model (cannot be combined with 347V or 2C options)
* Available only with FN15-24L and 49L models. Option provides separately powered drivers/LED modules
▲ SA Accessory required



www.kenall.com

P: 800-4-Kenall

F: 262-891-9701

10200 55th Street Kenosha, Wisconsin 53144

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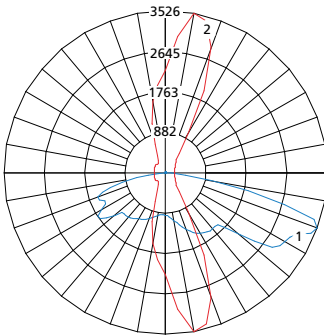
FN_9_15-011117

MILLENNIUM FINITE™**FN SERIES – Technical Data****PERFORMANCE**

Model	Lamp Type	Initial Delivered Lumens (lm)			Efficacy (lm/W)	Input Power (W)	Drive Current (mA)	Estd. L70 LED Life (hrs)
		Type 2	Type 3	Type 4				
FN9	16L-40K7	1855	2100	2078	93-105	20	350	150,000
	16L-40K8	1788	2024	2003	89-101	20	350	150,000
	16L-50K7	1968	2228	2204	98-111	20	350	150,000
	24L-40K7	2598	2942	2911	96-109	27	350	125,000
	24L-40K8	2573	2914	2883	95-108	27	350	125,000
	24L-50K7	2756	3121	3088	102-116	27	350	125,000
FN15	24L-40K7	2823	3186	3169	101-114	28	350	150,000
	24L-40K8	2789	3148	3131	100-112	28	350	150,000
	24L-50K7	2995	3380	3362	107-121	28	350	150,000
	36L-40K7	4071	4594	4570	99-112	41	525	125,000
	36L-40K8	3984	4497	4473	97-110	41	525	125,000
	36L-50K7	4279	4830	4804	104-118	41	525	125,000
	47L-40K7	5073	5726	5695	92-104	55	700	100,000
	47L-40K8	5016	5661	5630	91-103	55	700	100,000
	47L-50K7	5383	6075	6042	98-110	55	700	100,000
	49L-40K7	5543	6256	6222	102-116	54	350	150,000
	49L-40K8	5425	6123	6090	100-113	54	350	150,000
	49L-50K7	5881	6637	6601	109-123	54	350	150,000

Information above was tested with the Clear Polycarbonate lens. Subject to change without notice. Visit www.kenall.com for IES files and additional information.

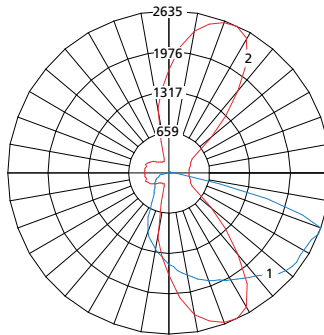
Model: FN15-2-7-DB-49L-40K8-DV



Maximum Candela = 3526 Located At Horizontal Angle = 80, Vertical Angle = 70

— 1 - Vertical Plane Through Horizontal Angles (80-260) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (70) (Through Max. Cd.)

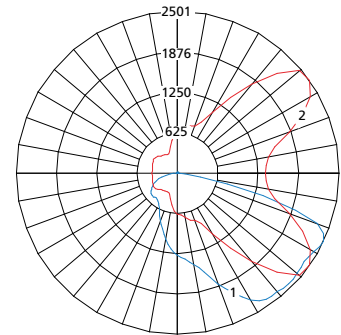
Model: FN15-3-7-DB-49L-40K8-DV



Maximum Candela = 2635 Located At Horizontal Angle = 65, Vertical Angle = 67.5

— 1 - Vertical Plane Through Horizontal Angles (65-245) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

Model: FN15-4-7-DB-49L-40K8-DV



Maximum Candela = 2501 Located At Horizontal Angle = 35, Vertical Angle = 65

— 1 - Vertical Plane Through Horizontal Angles (35-215) (Through Max. Cd.)
— 2 - Horizontal Cone Through Vertical Angle (65) (Through Max. Cd.)



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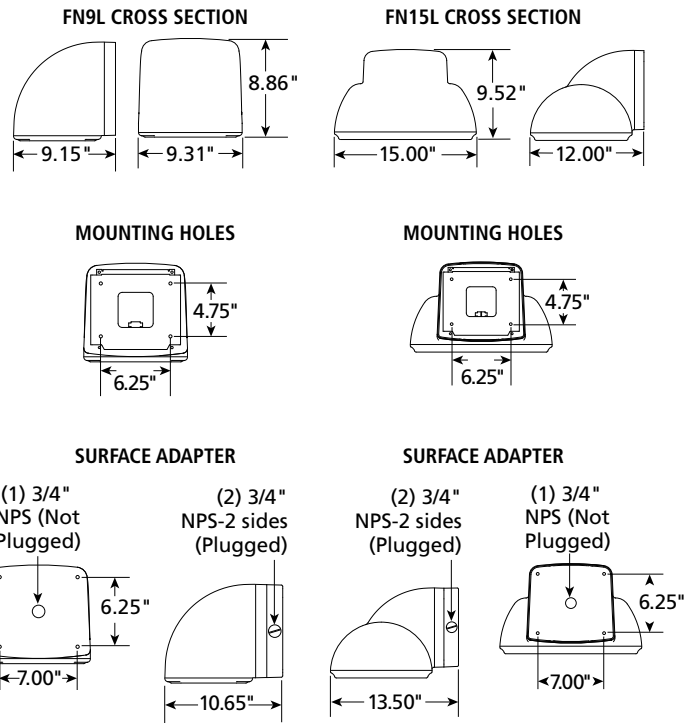
F: 262-891-9701

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MILLENIUM FINITE™
FN SERIES – Technical Data
DIMENSIONAL DATA



www.kenall.com

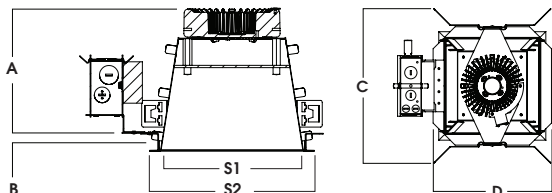
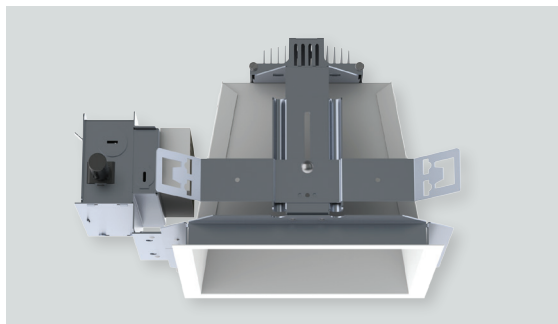
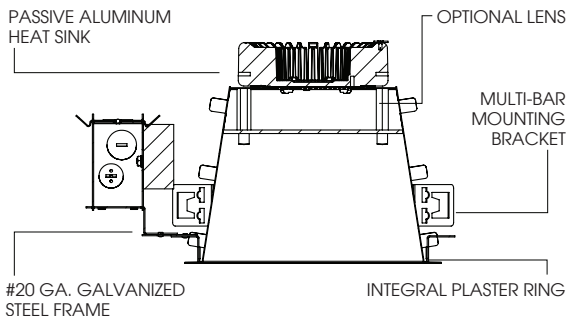
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FN_9_15-011117



A	B	C	D	S1	S2
7.0 177.8 mm	.625 15.9 mm	13.4 340.4 mm	10.3 261.6 mm	8.0 203.2 mm	9.4 238.8 mm

8" SQUARE DEEP CUTOFF LED DOWNLIGHT

GV SERIES / 5500 LUMENS MAX

recessed
fixtures



SGB8SQLEDGV - TRIM FLANGE / NON-IC RATED

APPLICATION

8" Square aperture recessed LED with deep cutoff for general illumination.

FEATURES

Single stage optical system with deep reflector design delivers smooth glare-free general illumination. Tool-less LED module, driver, and J-Box access. Multi-Bar mounting brackets. BH27 Standard mounting bars included. Posi-lock trim retention springs. Integral 0.625" collar, with Deep Ceiling Extension (PR), consult factory.

TRIM FINISH

A variety of architectural powdercoat and anodized finishes are available.

Matte White self-flange is standard.

ELECTRONICS

GV LED system features high brightness white Samsung LED's. 3 step MacAdam Ellipse binning. Standard CRI: 85+. Higher CRI, R9 and custom LED configurations are available; consult factory. A variety of electronic 120v/277v and dimming drivers available.

CONSTRUCTION

Housing/frame constructed of #20 ga. galvanized steel to resist corrosion. Self-flanged one piece trim spun from 0.063" thick high purity aluminum and finished to specification. Passive machined aluminum heatsink.

CODE COMPLIANCE

ARRA Compliant. Non-IC rated. ETL listed for damp locations. Manufactured and tested to UL standards No. 1598/8750.

WATTAGE TO LUMENS UPDATE

CURRENT PART NUMBER EXAMPLE	PREVIOUS PART NUMBER EXAMPLE	SOURCE LUMENS ¹	DELIVERED LUMENS ²	SYSTEM WATTS	LPW/LER
SGB8SQLEDGV15L	SGB8SQLEDGV14W	1500	1033	13.3	78
SGB8SQLEDGV27L	SGB8SQLEDGV26W	2700	1867	22.3	84
SGB8SQLEDGV37L	SGB8SQLEDGV37W	3700	2515	29.1	86
SGB8SQLEDGV55L	SGB8SQLEDGV55W	5500	3718	42.6	87

RECESSED HOUSING SPECIFICATION

SERIES	LUMENS ¹	CCT	DRIVER / VOLTAGE ³	OPTIONS ⁴
SGB8SQLEDGV	15L 1500 Lm	27K 2700° K	E Electronic Driver DS10_ 10% 0-10V Dimming DO10_ 1% 0-10V Dimming DS2W1 ELV MLV 1% Phase Dimming, 120v Only DLTE1 Lutron ELV/MLV 1% Phase Dimming, 120v Only DL33_ Lutron Hi Lume 1% Dimming DL3E_ Lutron ECO System 1% Dimming LDE1_ Lutron ECO System 1% Fade to Black Dimming EL10_ 1% ELDO LED Dimming ED01_ 0.1% ELDO LED Dimming DALI_ DALI Control Dimming DMX_ DMX Control Dimming	1 120v 2 277v
	27L 2700 Lm	30K 3000° K		
	37L 3700 Lm	35K 3500° K		
	40K 4000° K	40K 4000° K		
	55L 5500 Lm	50K 5000° K		
				BH27 ⁵ 27" Bar Hangers H12 Expandable Bar Hangers, 12" - 24" H06 Expandable Bar Hangers, 6" - 12" CB24 C-Channel Bars for Grid Ceiling EM Emergency Battery Pack FS Fusing EB Black Housing CR Corrosion Resistant PR ⁶ Deep Ceiling Extension GR Goof Ring AMB Anti Microbial Finish

TRIM SPECIFICATION

TRIM / FINISH ⁷	TRIM OPTIONS
AR0806GV ⁸	SO Micro Prism Solite™ Lens
MB ⁹ Matte Black	FG Frosted Glass Lens
PT Platinum	GS Gasket for Flange
AC Anodic Champagne	WL Wet Location
AS Anodic Sapphire	
PT Platinum Silver	
OB Oil Rubbed Bronze	
CH Charcoal	
AS Anodic Sapphire	
AM Anodic Malachite	
SN Sun Gold	
CO Copper Metallic	
GH Graphite	
AMB Anti Microbial Finish	
CC Custom Color	

EXAMPLE: SGB8SQLEDGV27L27KE1/BH27/AR0806GVGW

NOTES:

1 Nominal Source Lumens at 3500°K 2 Nominal Delivered Lumens at 3500°K with MW 3 Contact Factory for Additional Options 4 See Product Options Page For Details
5 Standard Bar Hangers 6 Contact Factory 7 Contact Factory for Special Finishes 8 Matte White Flange Standard 9 Standard Finish

Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.



PROJECT:

TYPE:

CAT. NO.:

WWW.SPECLIGHT.COM • 994 JEFFERSON STREET, FALL RIVER, MA 02721 • 508.678.2303 FAX 508.678.2260





ACCURATE DORWIN WINDOW SPECIFICATIONS

WINDOWS FOR: VAULTS PROJECT BURLINGTON, VERMONT

The Fiberglass Advantage

Strength – Pultruded Fiberglass is the strongest of all window materials. Fiberglass is eight times stronger than PVC, over three times stronger than wood composites and 20% stronger than aluminium.

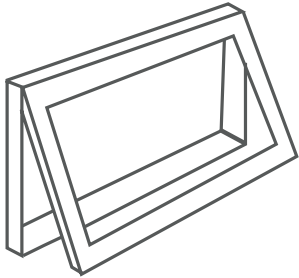
Stability – Pultruded fiberglass frames exhibit minimal expansion and contraction in extreme temperature changes when compared to other window frame materials. Fiberglass and glass have similar rates of expansion and contraction which results in superior weather seal performance over a wide range of seasonal temperatures changes, smooth window operation and consistent alignment of the sash and frame. As a comparison PVC expands and contracts at a rate eight times of glass.

Energy Efficiency – Pultruded Fiberglass window frames have a much lower thermal conductivity than other materials such as aluminium. This combined with insulated frames and sashes results in some of the most energy efficient windows in the world.

Durability – Pultruded fiberglass window frames will not bend, warp, crack, dent, rust or corrode. Fiberglass will not corrode in coastal applications as it is impervious to saltwater.

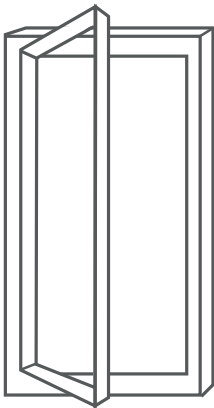
Environmentally Friendly – Pultruded Fiberglass window frames combined with high efficiency insulating glass can help reduce the world's energy consumption. Fiberglass is made from silica sand an abundant natural resource. There is less embodied energy in fiberglass as compared to PVC which requires gas and petrol-chemicals. Aluminium requires large amounts of electricity and natural gas to produce and wood consumes large amounts of slow growing trees.

Awning, Casement



Awning

Projected window hinged at the top is the only window style that keeps the rain out while allowing fresh air in.



Casement

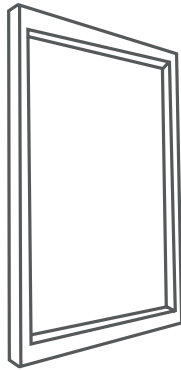
Projected window hinged at the jamb (opening up to 90 degrees) which provides the most optimal air ventilation.

ADC 325 Series

Standard Features

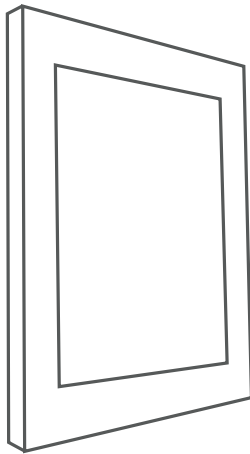
- Sealant: Low VOC (environmentally friendly).
- Standard 3 1/4" closed-back insulated frame. Standard insulated close-back sash.
- Available in standard white, custom, split-finish, and/or veneer wrap (oak, fir, others).
- Standard rotogear operators with standard collapsible handles.
- Standard multi-point locks where applicable (19" nominal height).
- Standard concealed hinges – tamper resistant for added security.
- Sash unhooks for interior service if necessary.
- Paint & Finish: Advanced polyurethane baked on or electrostatically applied finish.
- Frame & Sash: Pultruded 0.090" nominal wall fiberglass (52-62% glass fibers + 35-45% resin + 7-13% filler).
- Insect Screen: Standard full screen. Removable stamped aluminum frame with black fiberglass mesh.
- Insulation: Expanded Poly Styrene (EPS) Type 1.
- Weatherseal: Santoprene Rubber Seals (main, secondary, spline), glazing tape, dust.
- Frame and corners are mechanically secured and joined at 45 angle.
- Exterior glazed window with aluminum stops.
- Please contact an Accurate Dorwin Window representative for sizing options.

Fixed Sash, Picture



Picture

Narrow profile frame is the perfect choice to maximize glass area for optimal viewing and maximum light needs.



Fixed Sash

Wider frame profile matches that of the awning or casement which allows for consistent sight lines.

ADC 325 Series

Standard Features

- Sealant: Low VOC (environmentally friendly).
- Standard 3 1/4" closed-back insulated frame. Standard insulated close-back sash.
- Available in standard white, custom, split-finish, and/or veneer wrap (oak, fir, others).
- Exterior glazed window with aluminum stops (fixed sash).
- Interior glazed window with fiberglass stops (picture window).
- Paint & Finish: Advanced polyurethane baked on or electrostatically applied finish.
- Frame & Sash: Pultruded 0.090" nominal wall fiberglass (52-62% glass fibers + 35-45% resin + 7-13% filler).
- Insulation: Expanded Poly Styrene (EPS) Type 1.
- Weatherseal: Santoprene Rubber Seals (main, secondary, spline), glazing tape, dust seal (fixed sash).
- Frame and corners are mechanically secured and joined at 45 angle.

ADC 450 Series Picture Window

Standard Features

- Sealant: Low VOC (environmentally friendly).
- Standard 4 1/2" open-back insulated frame.
- Available in standard white, custom, split-finish, and/or veneer wrap (oak, fir, others).
- Exterior glazed window with aluminum stops (fixed sash).
- Interior glazed window with fiberglass stops (picture window).
- Paint & Finish: Advanced polyurethane baked on or electrostatically applied finish.
- Frame & Sash: Pultruded 0.090" nominal wall fiberglass (52-62% glass fibers + 35-45% resin + 7-13% filler).
- Insulation: Expanded Poly Styrene (EPS) Type 1.
- Weatherseal: Santoprene Rubber Seals (main, secondary, spline), glazing tape, dust seal (fixed sash).
- Frame and corners are mechanically secured and joined at 45 angle.



325 Series Casement



Glass Option	Energy Rating	U Value Metric	U Value Imperial	R Value	Solar Heat Gain Coefficient	Visible Transmittance	Condensation Resistance
SPF 73/Argon	36	1.25	0.22	4.55	0.4	0.47	65
SPF 73/Argon with Grills	36	1.25	0.22	4.55	0.37	0.43	65
SPF 83/Argon	28	1.19	0.21	4.76	0.25	0.44	66
SPF 83/Argon with Grills	28	1.19	0.21	4.76	0.22	0.39	66
SPF 84/Argon	39	1.08	0.19	5.26	0.39	0.46	70
SPF 84/Argon with Grills	39	1.08	0.19	5.26	0.35	0.41	70
SPF 93/Argon	32	0.97	0.17	5.88	0.23	0.39	73
SPF 93/Argon with Grills	32	0.97	0.17	5.88	0.21	0.35	73

Custom glazing option available upon request.

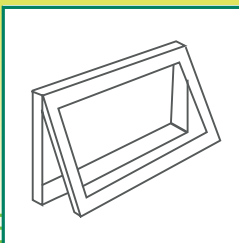
Test Size (IN)	Test Size (mm)	NAFS Rating	Air Infiltration	Air Exfiltration	Canadian Air Infiltration Level
32 x 68	815 x 1725	Class CW - PG55	<.01 L /s/M ²	.03 L /s/M ²	A3

Water Tightness	Water Penetration Resistance PA (PSF)	Wind Load Resistance Pa (Psf)	A-440-00	DP Rating Water	DP Rating Wind
B7	730 (15)	2880 (60)	C5	DP 100	DP 60

Selection, Performance and Testing

Selection of the appropriate Accurate product to conform to any and all local applicable laws, ordinances, building codes and safety requirements is the sole responsibility of the Buyer, architect, property owner/and or contractor. Accurate assumes no responsibility in this regard and makes no warranty with respect to the use and or compliance of products under applicable laws. Products which exceed the manufacture's specified size limitations are not covered under warranty.

The Buyer acknowledges that test results and certifications are for comparison purposes only and indicate design potential and are for reference only. Actual results and size are installation dependent. In-Service performance and tests can be significantly different. Accurate Dorwin Inc. cannot be held responsible for information contained herein that may change or be incorrect at time of specification or purchase without prior verification by the buyer with Accurate Dorwin Inc. Due to product improvement and other factors, specification and details are subject to change without notice. To ensure that information contained herein has not become obsolete, please contact Accurate Dorwin Inc. for any updated information before specification or use. All products specifications are typical and for reference only.



325 Series Awning



Glass Option	Energy Rating	U Value Metric	U Value Imperial	R Value	Solar Heat Gain Coefficient	Visible Transmittance	Condensation Resistance
SPF 73/Argon	36	1.25	0.22	4.55	0.4	0.47	65
SPF 73/Argon with Grills	36	1.25	0.22	4.55	0.37	0.43	65
SPF 83/Argon	28	1.19	0.21	4.76	0.25	0.44	67
SPF 83/Argon with Grills	28	1.19	0.21	4.76	0.22	0.39	67
SPF 84/Argon	39	1.08	0.19	5.26	0.39	0.46	70
SPF 84/Argon with Grills	39	1.08	0.19	5.26	0.35	0.41	70
SPF 93/Argon	32	0.97	0.17	5.88	0.23	0.39	72
SPF 93/Argon with Grills	32	0.97	0.17	5.88	0.21	0.35	72

Custom glazing option available upon request.

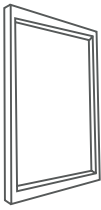
Test Size (IN)	Test Size (mm)	NAFS Rating	Air Infiltration	Air Exfiltration	Canadian Air Infiltration Level
54 x 36	1365 x 915	Class CW - PG60	<.01 L /s/M ²	.02 L /s/M ²	A3

Water Tightness	Water Penetration Resistance PA (PSF)	Wind Load Resistance Pa (Psf)	A-440-00	DP Rating Water	DP Rating Wind
B7	730 (15)	2880 (60)	C5	DP 100	DP 60

Selection, Performance and Testing

Selection of the appropriate Accurate product to conform to any and all local applicable laws, ordinances, building codes and safety requirements is the sole responsibility of the Buyer, architect, property owner/and or contractor. Accurate assumes no responsibility in this regard and makes no warranty with respect to the use and or compliance of products under applicable laws. Products which exceed the manufacture's specified size limitations are not covered under warranty.

The Buyer acknowledges that test results and certifications are for comparison purposes only and indicate design potential and are for reference only. Actual results and size are installation dependent. In-Service performance and tests can be significantly different. Accurate Dorwin Inc. cannot be held responsible for information contained herein that may change or be incorrect at time of specification or purchase without prior verification by the buyer with Accurate Dorwin Inc. Due to product improvement and other factors, specification and details are subject to change without notice. To ensure that information contained herein has not become obsolete, please contact Accurate Dorwin Inc. for any updated information before specification or use. All products specifications are typical and for reference only.



325 Series Picture



Glass Option	Energy Rating	U Value Metric	U Value Imperial	R Value	Solar Heat Gain Coefficient	Visible Transmittance	Condensation Resistance
SPF 73/Argon	44	1.14	0.2	5	0.5	0.59	69
SPF 73/Argon with Grills	44	1.14	0.2	5	0.45	0.52	69
SPF 83/Argon	32	1.14	0.2	5	0.3	0.54	70
SPF 83/Argon with Grills	32	1.14	0.2	5	0.27	0.48	70
SPF 84/Argon	48	0.91	0.16	6.25	0.48	0.56	75
SPF 84/Argon with Grills	48	0.91	0.16	6.25	0.43	0.5	75
SPF 93/Argon	39	0.79	0.14	7.14	0.28	0.48	77
SPF 93/Argon with Grills	39	0.79	0.14	7.14	0.26	0.43	77

Custom glazing option available upon request.

Test Size (IN)	Test Size (mm)	NAFS Rating	Air Infiltration	Air Exfiltration	Canadian Air Infiltration Level
72 x 72	1829 x 1829	Class CW - PG60	<.01 L /s/M ²	<.01 L /s/M ²	Fixed

Water Tightness	Water Penetration Resistance PA (PSF)	Wind Load Resistance Pa (Psf)	A-440-00	DP Rating Water	DP Rating Wind
B7	730 (15)	2880 (60)	C5	DP 100	DP 60

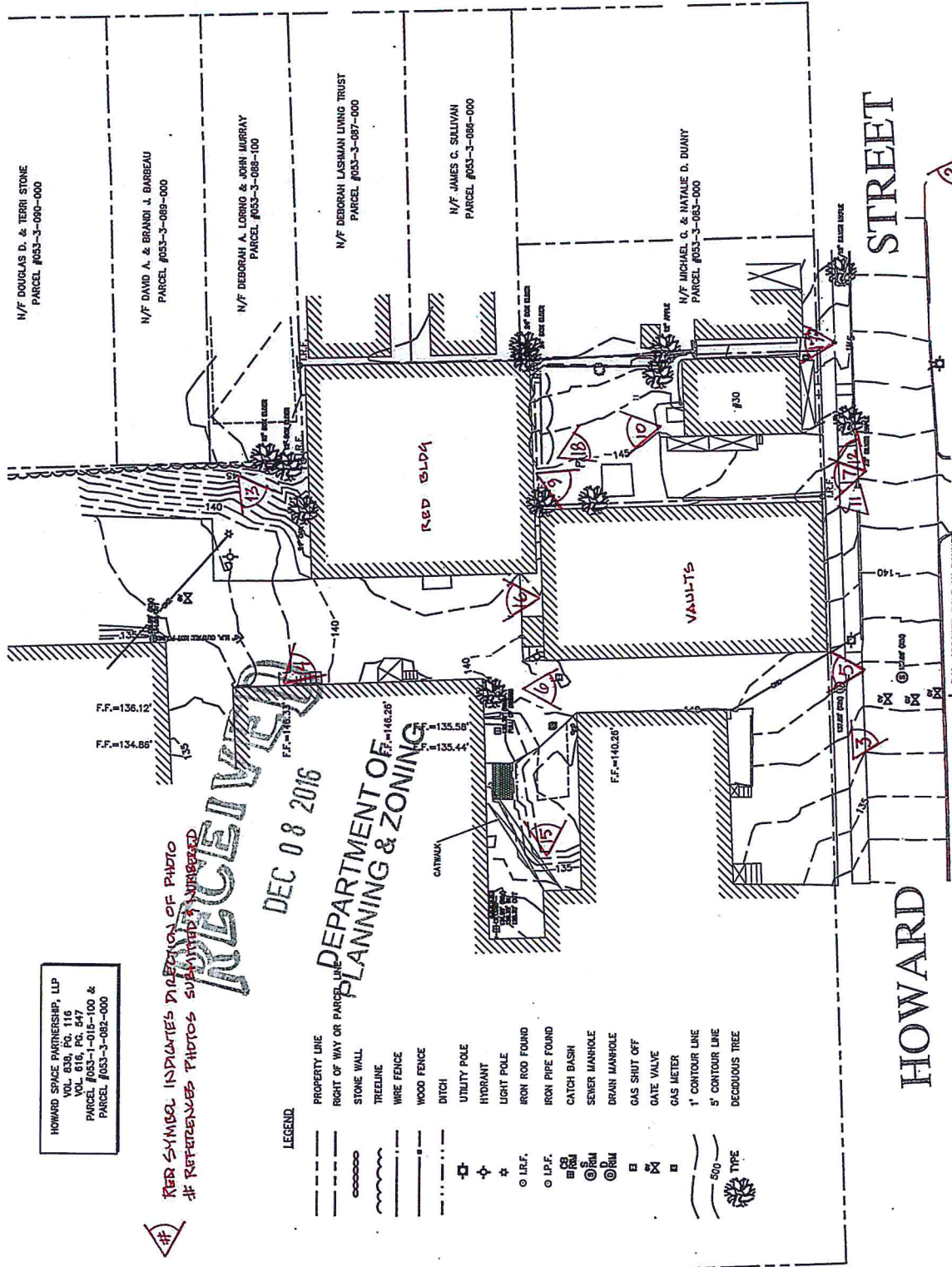
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HAYWARD

STREET



HOWARD SPACE PARTNERSHIP, LLP
VOL. 638, PG. 116
VOL. 616, PG. 547
PARCEL #033-1-016-100 &
PARCEL #033-3-082-000

THE VAULTS PHOTO LOCATION PLAN UNWORTH PROPERTIES
ANV ARCHITECTS
9.30.2016

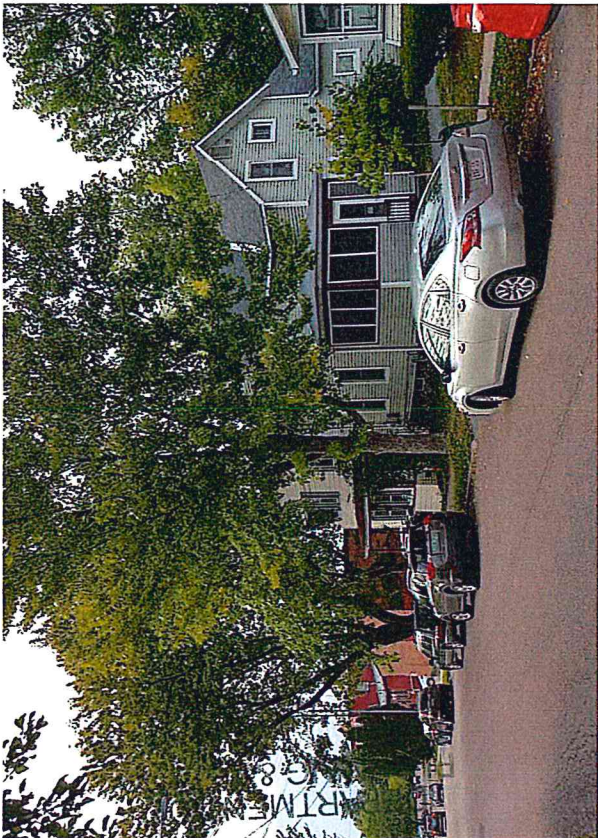
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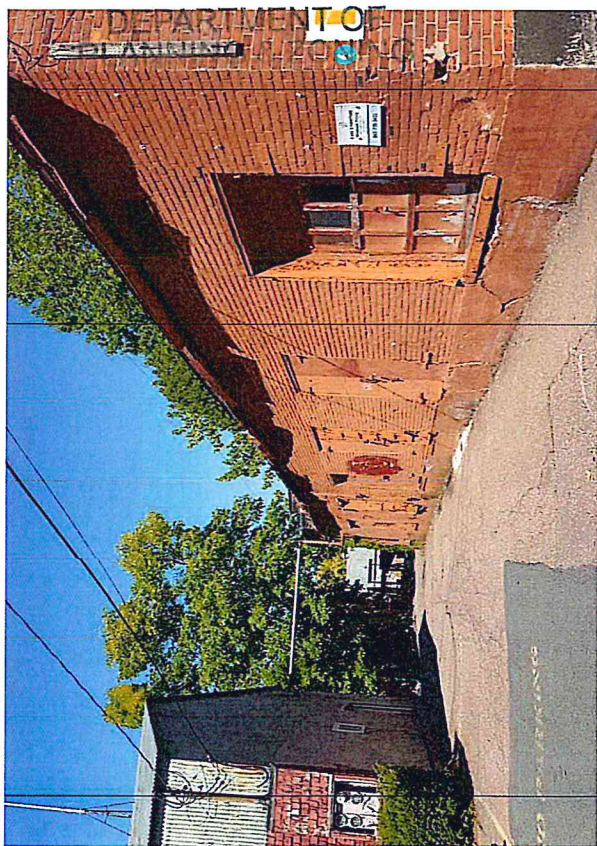
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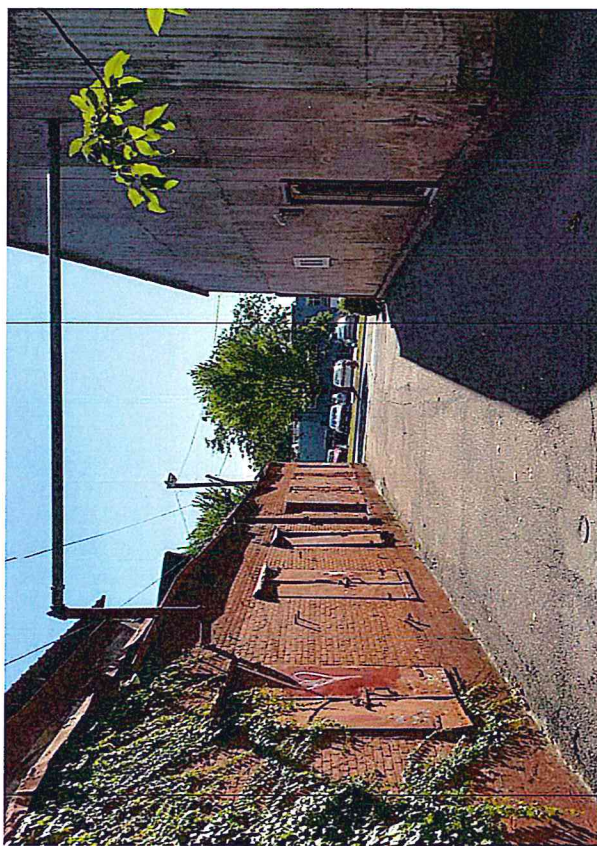
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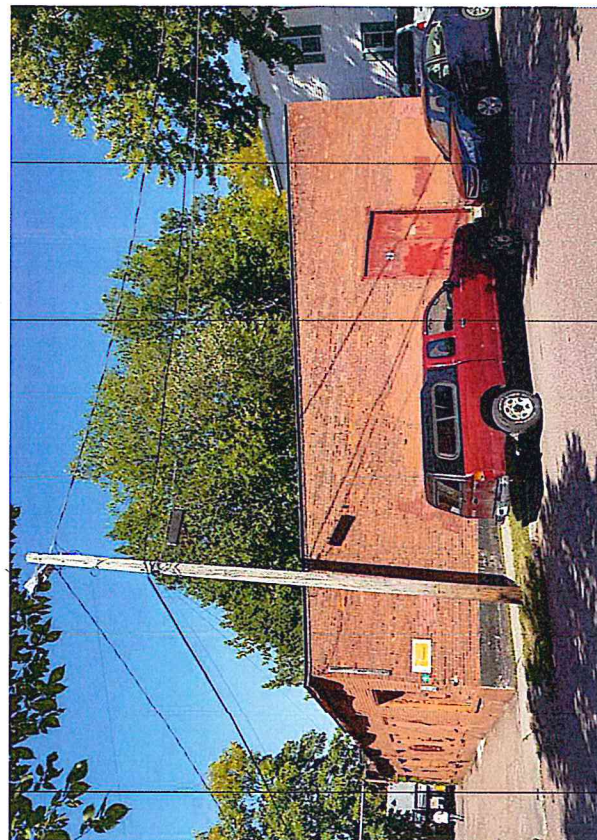
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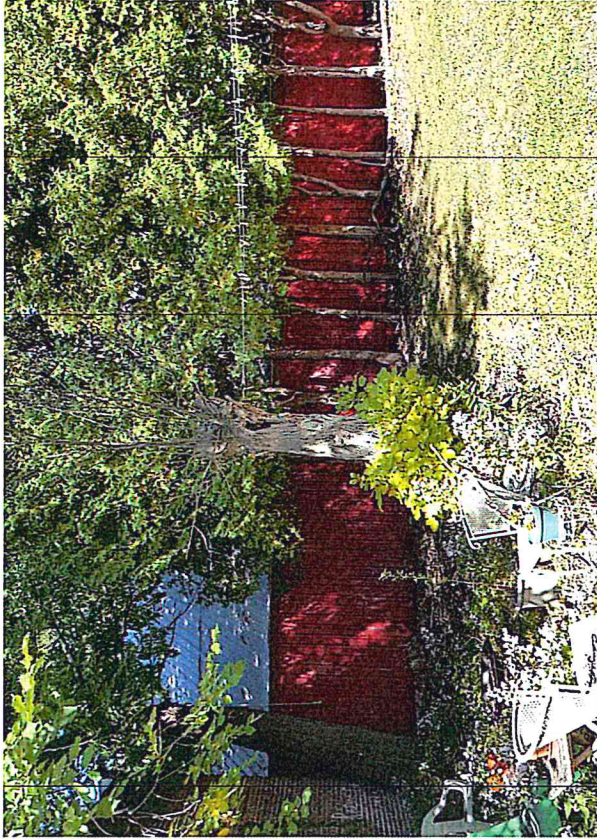


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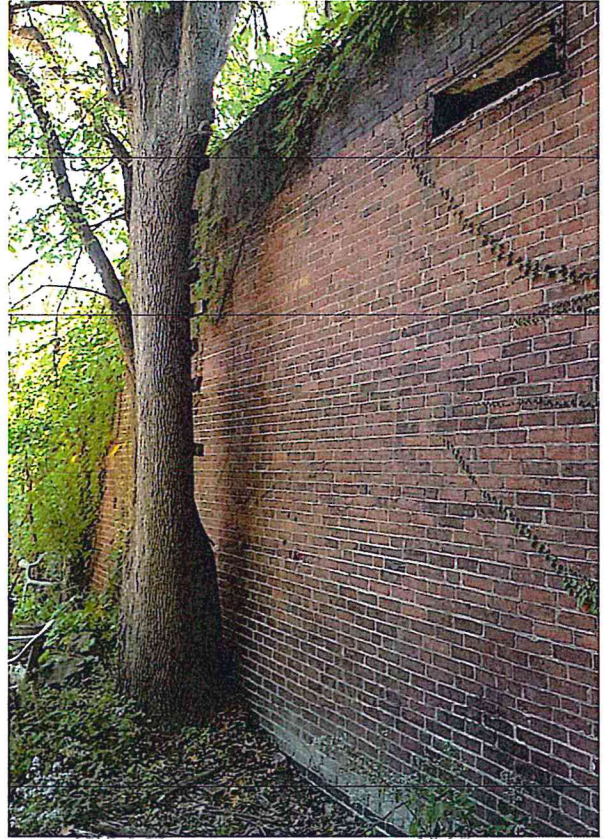


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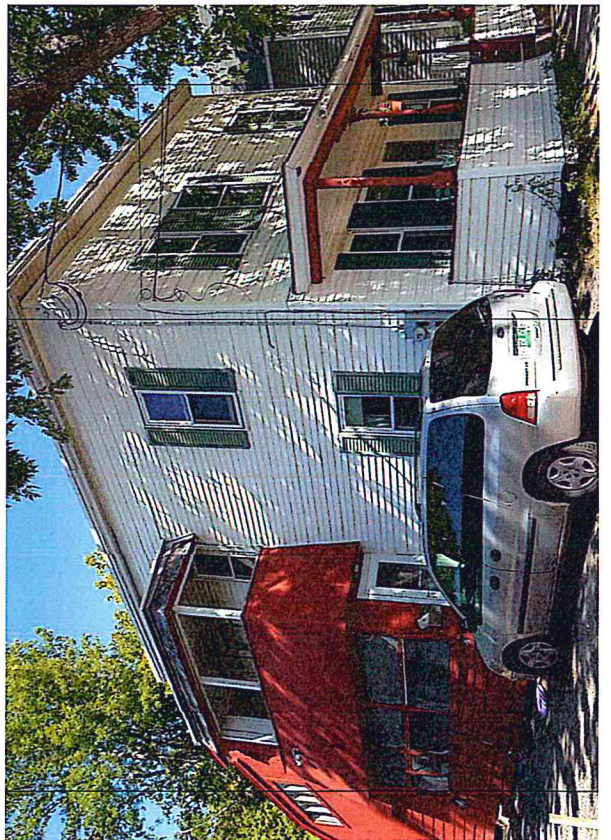


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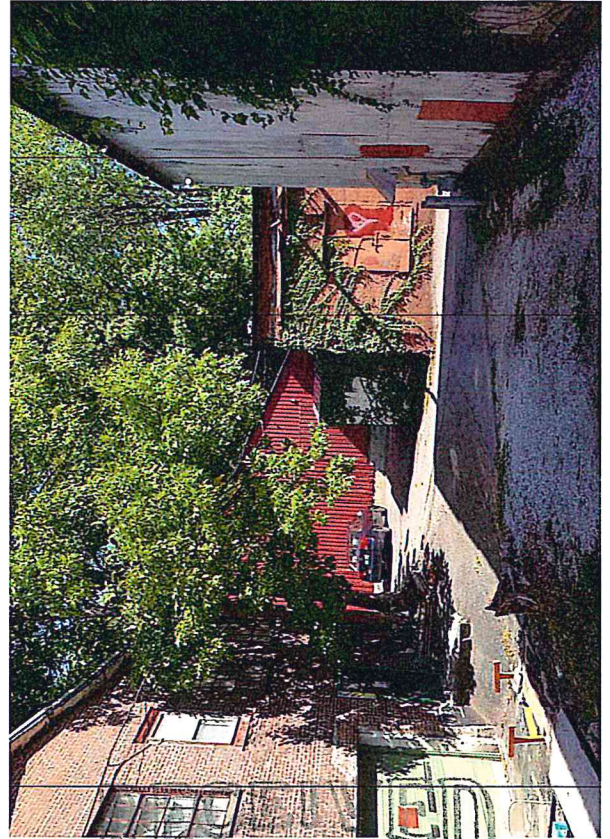
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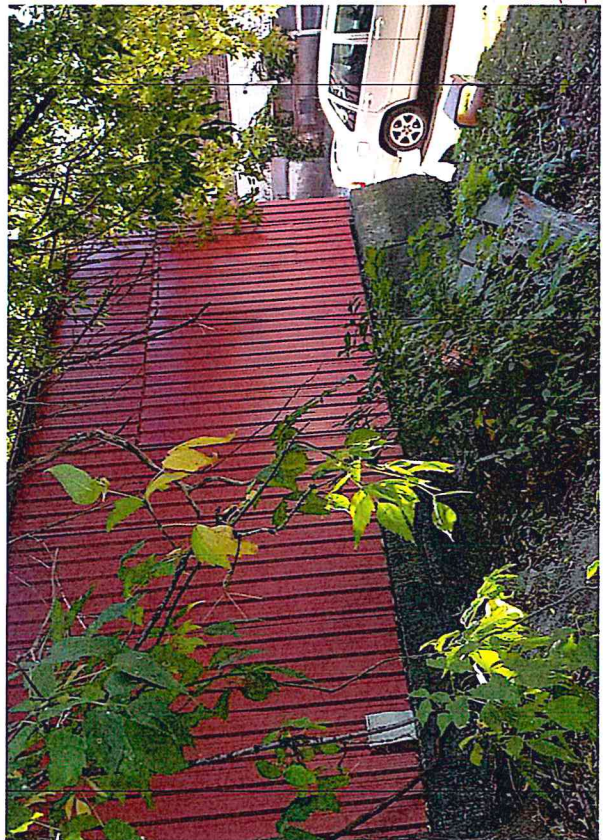
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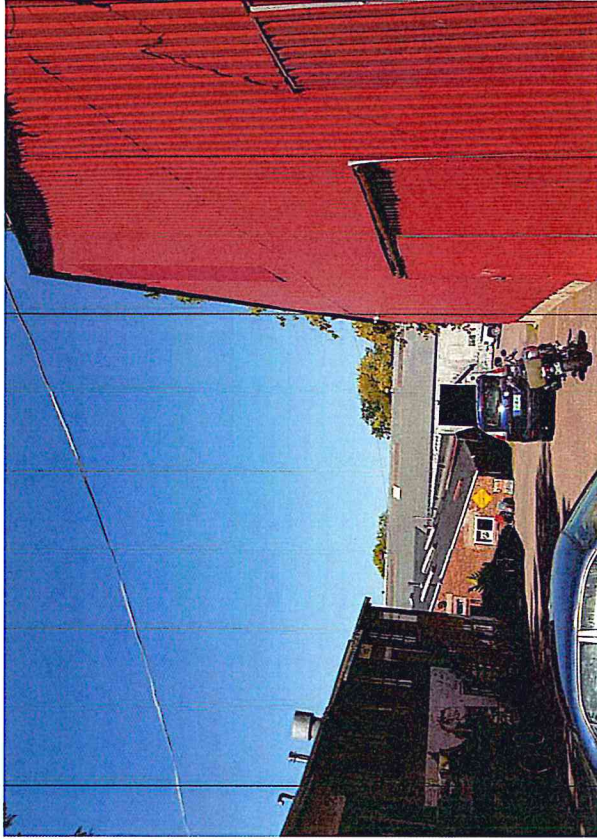
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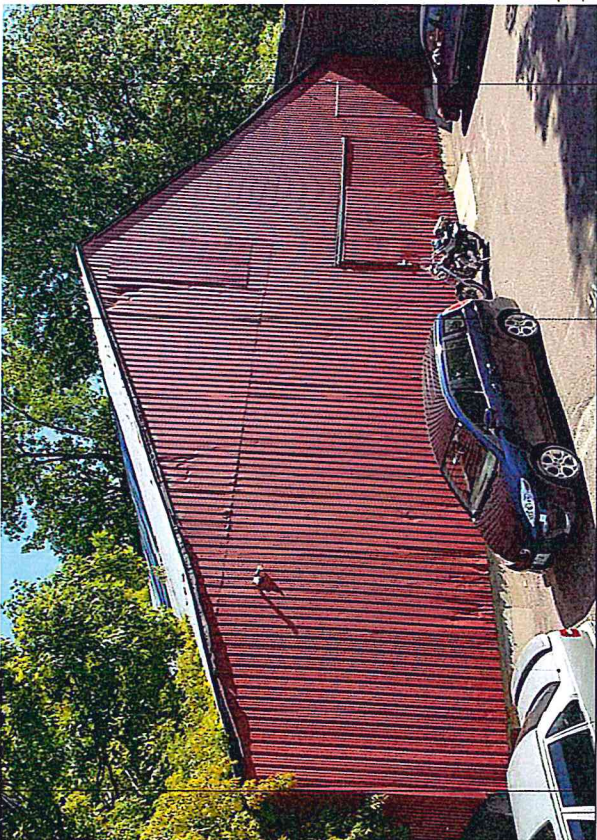
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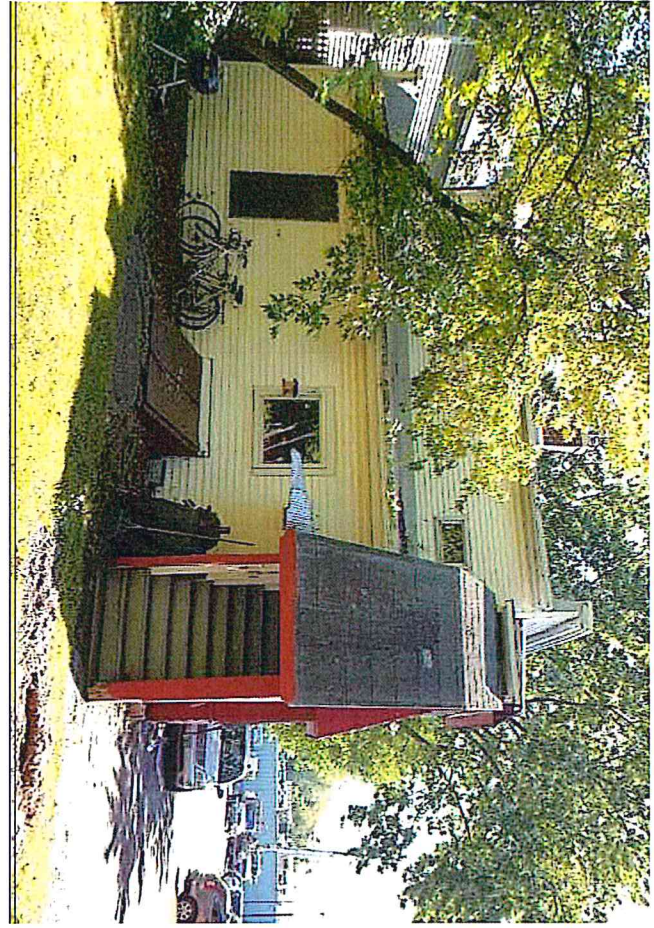
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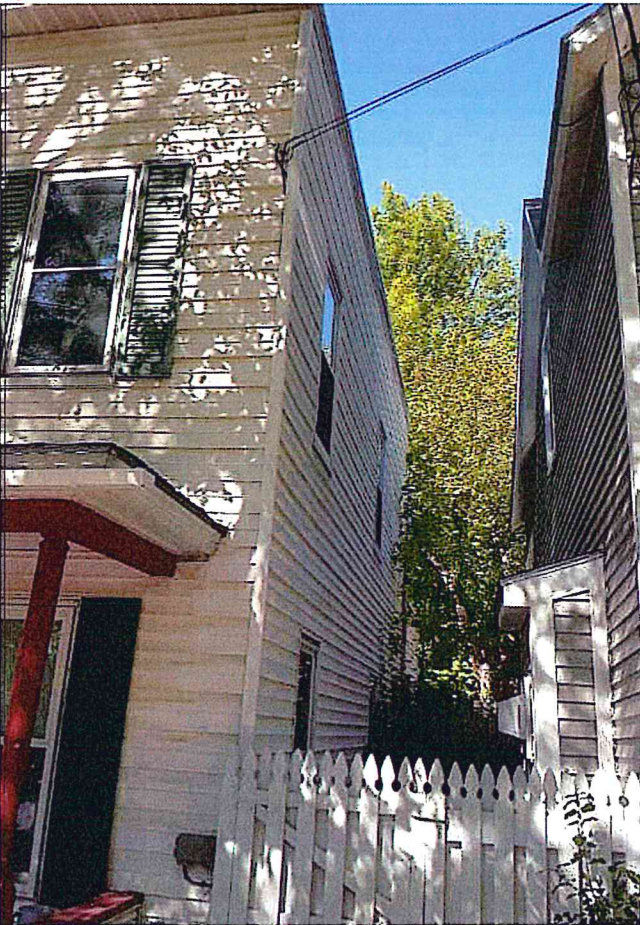


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Submitted at DAB 1/10/17

Conditions Assessment

Existing buildings at 400 Pine and 30-32 Howard Street

Three existing buildings have been reviewed for structural integrity and potential for uses other than existing. These buildings are identified as the Red Warehouse, Storage Vaults and 30-32 Howard duplex. Renovation of the existing storage buildings for use as business or studio space would require additional parking. Assuming 7450 sf of net rental space 10 to 15 additional parking spaces would be required. There is no room on the existing site to add surface parking.

Red Warehouse: Original building is pole barn type construction which appears to have had several additions since first built. The building is uninsulated and used for storage. The original structure appears to have been constructed with poplar tree trunk posts of various sizes, 4 bays wide and 4 bays deep. Horizontal and roof beams are made of 2X material nailed to the sides of the posts. The connections to posts are tenuous and many bracing members have been added more recently to prevent the structure from twisting and bending. Roof purlins are 2x8 lumber spanning 12' and spaced at 3' oc. Calculated load capacity of these rafters is 34 pounds/SF. Code requires roof purlins to support snow load of 40 psf plus dead load. Between 1912 and 1919 (Sanborn maps) 2 structural bays were added to the east using posts and beams comprised of small 2x material. Connections between members are questionable for live loads and earthquake design code. Foundation footings are visible as the building steps up the hill indicating that there is minimal frost protection. The floor is slab on grade and the east wall is built into the hill with a 5' retaining wall extending above slab level. The slab was added in 1983 when siding and roofing were replaced. There is



RED WAREHOUSE INTERIOR SHOWING
ORIGINAL EAST SIDE SIDING



HOLE IN SLAB AT POST



FOUNDATION FAILURE @ NW
CORNER

evidence that no thickened footings were installed for the interior posts supporting the roof. Slab and foundation cracks indicate that the structure experiences frost action.

Renovations to improve this building for any use other than storage would include new interior supports, connections, roof structure, foundation repairs, slab replacement, siding, mechanical, sprinkler and electrical systems, etc. It is likely that the building would incur further damage during foundation and slab replacement.

Conditions Assessment

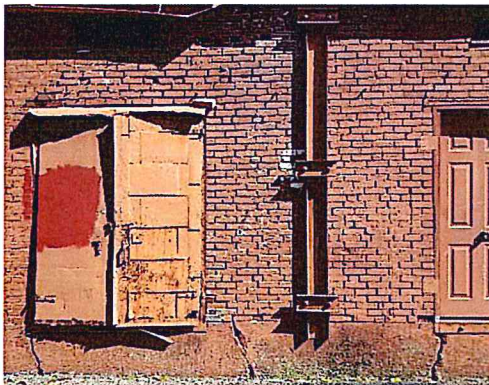
Existing buildings at 400 Pine and 30-32 Howard Street

Storage Vaults: This 7 bay unheated structure rests on an unreinforced poured concrete foundation with a thin slab on grade floor. All exterior and interior walls are load bearing and are two wythe brick thickness. The brick is fairly soft and the fired surface faces have begun to



RAFTER ROT AND SAG

spall off in some locations. 2x8 roof rafters at 28" on center span 12' between interior bearing walls. Total load capacity of the rafters is 44 psf which is less than code required 40 psf snow load plus 7 psf dead load with the built-up roofing. There is noticeable sag in each bay indicating that the roof has been repeatedly overloaded. There is evidence in each bay that the original roof leaked (leaks). Approximately 50% of the rafters would need to be replaced due to rot. All rafters would need to be strengthened. A partial corrugated metal roof laid on top of the original built-up roofing covers 3 of the 4 bays.



FOUNDATION AND WALL CRACKS

The foundation and floor slab have broken into many small pieces due to frost action. The west foundation wall is bowing out. The lack of reinforcing has contributed to foundation failure.

All structural brick walls have been moving for a long time as evidenced by cracks in mortar and brick which have opened up on the east, west and south facades as well as in all interior partitions due to continued foundation movement. Grade along north and east walls is higher than the existing slab elevation. The west exterior wall is in danger of collapsing. The brick on the west façade has been painted. The northern most bay has additional structural issues. Part of the north wall is an uncapped parapet which is failing from water penetration; rafters in the north bay extend over the west wall with wood trim, both rafters and trim are rotted and the brick is leaning outward. Seven pairs of swing doors access the seven bays from the west, one pair from the south. 4 of the 16 door leaves appear to be original with lapped metal faces. None are in salvageable condition.

Renovations to this building for any habitable use would require a reinforced foundation and slab. To replace the foundation in a masonry bearing building of this type the bearing walls would need to be removed and re-built. The soft brick would not be suitable for salvage. A similar looking building could be constructed with systems and windows for habitation, but it would be a new structure.

Conditions Assessment

Existing buildings at 400 Pine and 30-32 Howard Street

30-32 Howard Duplex: This flat roofed wood frame building sits over a dirt floor crawl space. Tenants report water flowing through the crawl space seasonally. Original porches have been



Vinyl siding



Porch flooring.

removed and modified and reframed with modern lumber. Visual inspection reveals movement and failure of porch decks. The central chimney has been removed. Interior trims and finishes have been altered, replaced and removed. Interior walls are covered with paneling and drywall. Both floors slope dramatically toward the center of the house. The crawl space is filled with metal and wood support posts that have been added to shore up the floor system. Visible wood floor joists are 6"-8" diameter logs and 2x8s spanning up to 12' with varied spacing up to 24" o.c. No joists are doubled under supporting walls above or at openings. There is evidence of rot at rim members. The grade between this home and the neighbor to the east is above the bottom of the vinyl siding and should be lowered. The vinyl siding overlaps the stone foundation on all facades and likely is concealing rotted siding and trims, especially around window sills and building sills. The 8" vinyl module is very visible indicating either poor installation or movement of the substrate which can be caused by moisture intrusion.

Bathroom and kitchen finishes are worn and will soon need replacing. Softwood and hardwood flooring are all worn and no longer thick enough to sustain sanding and refinishing. The cost to refurbish this building to an average condition for the Burlington rental market will be substantial in the near future. Work would need to start with the foundation including hand excavation and new footings. Roof repairs should follow, then sill and framing repairs are required throughout. Interior finish and fit-up renovations will be needed.

Complete refurbishment would include: insulation and air sealing, code required electrical upgrades, porch repairs, and new interior finishes throughout. Restoring this house to its original condition would include stone foundation repairs, jacking to level floors, replacement of all interior plaster and siding removal and substrate repairs.

Currently this house is at the low end of the scale when compared to other homes in the neighborhood in appearance and quality of construction.

Conditions Assessment
Existing buildings at 400 Pine and 30-32 Howard Street

Construction Estimates:

Red Warehouse to Studio Space:

5625 gross sq. ft. - 80% net rentable after renovation assumed = 4500 sf.

Site work:	\$ 35,000
Selective Demolition/trash:	\$ 18,000
Foundation and slab repair and insulation:	\$ 28,800
Siding, waterproofing and insulation:	\$ 147,500
Roof Repairs, framing and insulation:	\$ 129,900
Doors and Windows:	\$ 18,000
HVAC:	\$ 105,000
Sprinkler:	\$ 26,100
Electrical:	\$ 85,400
Plumbing:	\$ 31,000
<u>Interior finishes and fit-up:</u>	<u>\$ 385,000</u>
	\$1,004,700 (\$ 179/sf)

Storage Vaults to Studio Space: Assume brick salvage reduces dumping cost.

3900 gross sq. ft. - 80% net rentable after renovation assumed = 3100 sf.

Site work:	\$ 30,000
Demolition/trash:	\$ 24,000
Foundation and slab repair and insulation:	\$ 35,800
Masonry Repairs:	\$ 44,000
Waterproofing and insulation:	\$ 15,300
Roof Repairs, framing and insulation:	\$ 79,200
Doors and Windows:	\$ 14,000
HVAC:	\$ 75,600
Sprinkler:	\$ 18,000
Electrical:	\$ 58,000
Plumbing:	\$ 21,500
<u>Interior finishes and fit-up:</u>	<u>\$ 240,000</u>
	\$ 655,400 (\$168/sf)

Duplex to new Condition:

Net rentable after renovation assumed 4 bedrooms.

1768 sf @ \$135/sf. = \$238,680

Financial Assessment Narrative Based on Conditions Assessment 400 Pine and 30/32-Howard

Based on the numbers produced by GVV Architects to renovate the existing structures to accommodate habitability for studio and office space we have found that the numbers make this cost prohibitive.

"R-Warehouse and Vaults"

Based on \$179/sf to renovate the "R-Warehouse" and \$168/sf to renovate "The Storage Vaults" the total cost of renovating these two structures to accommodate studio and office space would be \$1,660,100.

Market rent for these spaces is approximately \$15/sf+ utilities.

There would be approximately 7,600/sf of rentable floor space following renovations. At \$15/sf base rent this equates to \$114,000 gross rental income. Assuming the building is taxed at \$1.6 Million the property tax would be approximately \$44,000. Net operating income (NOI), including just the taxes, no maintenance, management fee, repairs, and common utilities would be \$70,000. This gives us a capitalization rate of 4.2% well below the acceptable 7.5% capitalization rate. When repairs, maintenance, utilities, insurance etc are added to the operations expenses the capitalization rate would likely dip to below 3%.

To calculate the value of this building based off the acceptable 7.5% capitalization rate we divide the NOI by 7.5%. This gives us a ball park market value of \$933,333, **a net loss of \$726,767**. Again, this is a conservative figure as it is based off of an NOI that only takes into account taxes and no other operational expenses.

30 and 32 Howard St. Duplex

Based on \$135/sf to renovate the duplex the total cost of renovating would be \$238,680. Added to the assessed value of \$199,000 this totals \$437,680.

Market rent in Burlington is approximately \$800 per month per bedroom.

Gross annual rental income for this property at market rate rents would be \$38,400. Less the expenses currently with this property and assuming the new property tax amount the NOI would be \$20,343. Again, this gives us a capitalization rate of 4.6%, well below the acceptable 7.5%.

Based on the NOI and using 7.5% capitalization rate, the value of the building is \$271,240 **a net loss of \$166,440**.

The bottom line is for the renovations of these crumbling buildings outlined in the conditions assessment we would have to realize rents that are well above market rate. These numbers also do not reflect the debt service that will be associated with these renovations. Further, the feasibility of even completing the work outlined in the conditions assessment is slim at best. The buildings could easily fail catastrophically during the renovations due to the lack structural integrity.

Document created by James Unsworth, January 13, 2017

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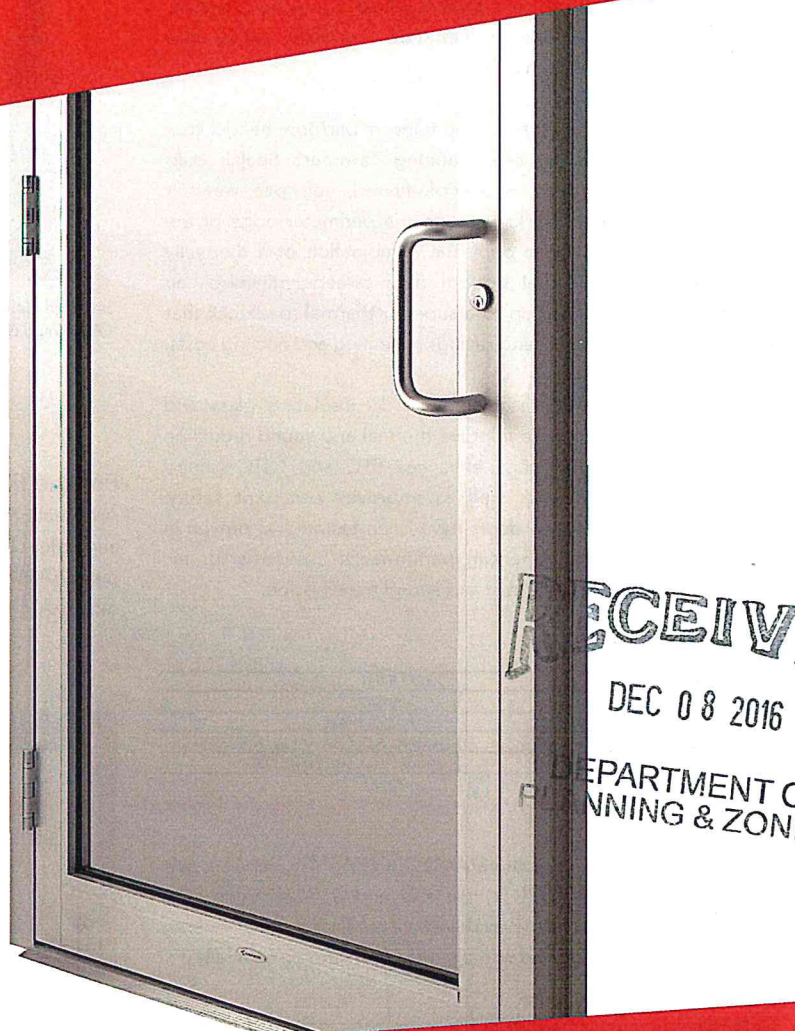
DEPARTMENT OF

AA®250 and AA®425 Thermal Entrance Doors

COMMERCIAL ENTRY

VAULTS PROJECT
BURLINGTON, VERMONT

A new kind of thermal roadblock



As architects and building owners look for ways to decrease a building's energy consumption and energy costs, the need for thermally efficient products has increased throughout North America. Kawneer continues to set the standard in thermal performance with its innovative AA®250 and AA®425 Thermal Entrance Doors. In conjunction with Kawneer's high-performing frame, the doors offer improved thermal efficiency compared to a standard door. By combining critical elements within the product design, the AA®250 and AA®425 Thermal Entrance Doors create a superior thermal roadblock. The thermal roadblock formula includes thermal breaks in the door, door frame and threshold that isolate the interior metal components from the exterior metal components; a door rail and stile design with a double air cavity provides an added layer to the thermal barrier; and dual weathering around the perimeter of the door in conjunction with a low conductance polymer door stop minimizes air infiltration.

The benefits of Kawneer's AA®250 and AA®425 Thermal Entrance Doors extend beyond industry-leading thermal performance. The company has introduced design flexibility in hardware options and injected value to support virtually any budget. Advanced thermally broken systems allow building owners to take advantage of tax incentive programs and green building certifications such as Leadership in Energy and Environmental Design (LEED®)*. And, with its proven performance and welded corner construction, Kawneer's AA®250 and AA®425 Thermal Entrance Doors are the ideal choice for any commercial or institutional application.

*LEED is a registered trademark of the U.S. Green Building Council.

Performance

To achieve new heights of thermal performance, Kawneer pulled out all the stops in engineering the AA*250 and AA*425 doors. In addition to thermal breaks, Kawneer has added its proven corner construction, which has four Sigma deep penetration and fillet welds, plus mechanical fastening at each corner.

The immediate door frame jambs and transom bar/door header tout a dual perimeter weather seal featuring Kawneer's Sealair bulb weathering. Also featured is a triple-finned, soft pile weather stripping that minimizes airflow around the perimeter edge of the door. At the bottom of the door, the combination of a thermally broken threshold and dual bottom door sweeps minimizes air infiltration. All of this adds up to a superior thermal roadblock that provides improved comfort and savings in heating and cooling costs.

The AA*250 and AA*425 accommodate 1" insulating glass and insulating laminated glass to improve thermal and sound reduction performance. Laminated glass enhances STC and OITC (sound resistance) performance as well as improves occupant safety. Kawneer's thermal entrance doors have been tested and proven in accordance with North American performance standards for air, structural, condensation, thermal and sound transmission.

PERFORMANCE TEST STANDARDS

Air Infiltration	ASTM E 283
Structural – Uniform Wind Load	ASTM E 330
Sound Transmission (STC, OITC)	ASTM E90, E1425
Condensation Resistance (CRF, I, CR)	AAMA 1503; CSA A440.2; NFRC 500
Thermal Transmittance (U-Factor)	AAMA 1503, 507; NFRC 100

Aesthetics

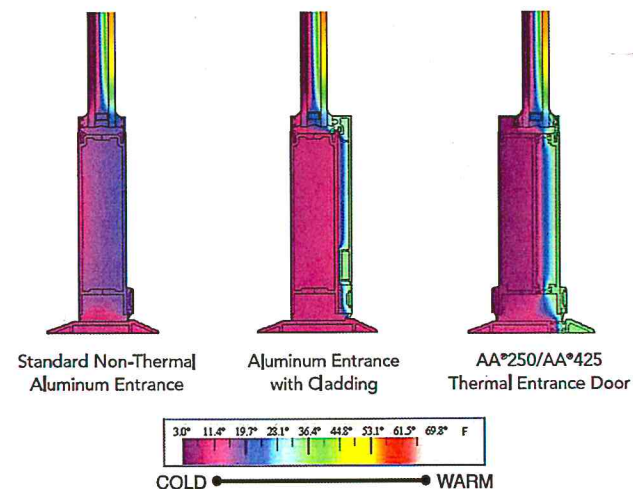
Breaking from tradition, Kawneer's AA*250 and AA*425 deliver a new aesthetic look with a 2-1/2" narrow stile and a 4-1/4" wide stile, respectively. To meet aesthetic and hardware application requirements, the entrances are also offered with a range of top and bottom rails.

	AA*250	AA*425
Stile widths	2-1/2" (63.5 mm)	4-1/4" (108 mm)
Top rail	2-1/2" (63.5 mm)	4-1/4" (108 mm)
Bottom rail	3-7/8" (98.4 mm)	6-1/2" (165.1 mm)

Horizontal mid-rails are available in 1-3/8" (34.9 mm) and 8-1/4" (209.6 mm) sizes. In addition, a 10" bottom rail option can be specified.

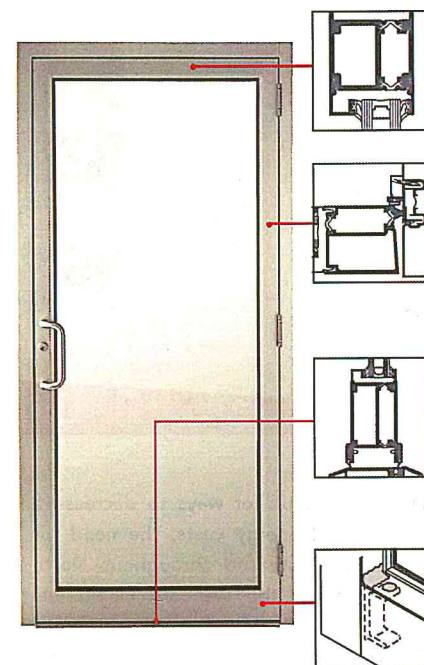
The 2-1/4" (57.2 mm) depth door uses a 14 mm polyamide strut thermal break that accommodates a dual finish as well as various combinations of hinging and locking hardware. These include offset pivots, butt hinges, continuous gear hinges, MS locking, concealed vertical rod exit devices and rim exit devices.

Thermal simulations showing temperature variations from exterior/cold side to interior/warm side.



For the Finishing Touch

Architectural Class I anodized aluminum finishes are available in clear and color choices. Painted finishes, including fluoropolymer, that meet AAMA 2605 standards and solvent-free powder coatings that meet AAMA 2604 standards are available in a variety of color choices.



1. Polyamide strut thermal break and double air cavity design improves thermal efficiency
2. Dual weathering in conjunction with a low conductance polymer door stop minimizes air flow around the perimeter edge of the door
3. The combination of a thermally broken threshold and dual bottom door sweeps improves thermal performance and minimizes air infiltration
4. Proven corner construction, with four Sigma deep penetration and fillet welds, plus mechanical fastening at each corner provides superior strength

Kawneer Company, Inc.
Technology Park / Atlanta
555 Guthridge Court
Norcross, GA 30092

kawneer.com
kawneergreen.com
770 . 449 . 5555

KAWNEER
AN ALCOA COMPANY



CODE SUMMARY

CONSTRUCTION TYPE:	(NFPA 101)	(IBC)	
COMBUSTIBLE FULL SPRINKLER COVERAGE	II-000	II-B	
USE GROUP:	RES./BUS./PARKING	BUS./RES.	
BUILDING HEIGHT:	PROPOSED	CODE MAX.	CITY REG'S
MAX. GRADE TO ROOF STORIES ABOVE GRADE	4	3 + 1 FOR SPRINKLER	45'-0"
BUILDING AREA:	PROPOSED	CODE MAX.	
LARGEST FLOOR TOTAL	23,000 SF	8370 x 4 33,480 SF	122,965 (FAR)
ALARMS:			
RQD, SPRINKLER TIE-IN, FD NOTIFICATION			
OCCUPANCY:			
OCCUPANT LOAD: NFPA 101 TABLE 7.3.1.2	RESIDENTIAL- 2 BDRMS EACH (200 SF/PERSON) = 14 BUSINESS- 100 SF/PERSON = 202 TOTAL = 216		
FIRE RESISTANT RATINGS (IN HOURS):			
RESIDENTIAL/ BUSINESS/ PARKING SEPERATIONS:		2	
ALL OTHER ASSEMBLIES:		0	
CORRIDORS:		0	
STAIRS CONNECTING THREE LEVELS:		1	
ELEVATOR SHAFTS:		2	
STAIR CONNECTING FOUR LEVELS:		2	
TENANT SEPERATION:		0	
EXITING:	COMMON PATH	100'	
	DEAD END	50'	
	TOTAL TRAVEL	300'	
ENERGY CODE:			
DESIGN EXCEEDS RQUIREMENTS OF VERMONT COMMERCIAL BUILDING ENERGY STANDARDS (2011)			
	BUSINESS	RESIDENTIAL	PROVIDED
FOUNDATIONS	R 10	R 10	R 10
WALLS	R 13 + 7.5 CONTINUOUS	R 13 + 7.5 CONTINUOUS	
ROOF	R 30 CONTINUOUS	NA	R 49 (8")
FLOOR	R 12.5 CONTINUOUS	R 14.6 CONTINUOUS	R 15
OH DOORS	R 10	NA	R 15
EXT DOORS	U 0.77	U 0.77	
WINDOWS	(30% MAX) U 0.43	(30% MAX) U 0.43	
SKYLIGHTS	(3% MAX) U 0.5	NA	
AIR LEAKAGE	0.5 CFM/SF OF SHELL	0.5 CFM/SF OF SHELL	
SITE:			
SETBACKS	5' FRONT		
	0' SIDE		
	10% REAR (NA THIS LOT)		
	25' TO ADJOINING RESIDENTIAL LOT		
PARKING:			
CARS	OFFICES	2/1000 SF	
	STUDIO	1.5/1000 SF	
	RESIDENTIAL	1 PER UNIT	
BICYLES	OFFICES/STUDIO	1/5000 SF	
	RESIDENTIAL	.25 PER UNIT	



THE VAULTS

20 HOWARD STREET, BURLINGTON, VT

ARCHITECTURAL	
A0.0	COVER SHEET
A1.1	GARAGE PLAN
A1.2	FIRST FLOOR PLAN
A1.3	SECOND FLOOR PLAN
A1.4	THIRD FLOOR PLAN
A1.5	ROOF PLAN
A2.1	BUILDING ELEVATIONS
A3.1	BUILDING SECTIONS
A4.1	WALL SECTIONS
LS1	LANDSCAPE PLAN

CIVIL	
C0.1	OVERALL EXISTING CONDITIONS PLAN
C1.0	EXISTING CONDITIONS & DEMOLITION PLAN
C1.1	PROPOSED SITE LAYOUT, GRADING & UTILITY PLAN
C1.2	EROSION PREVENTION & SEDIMENT CONTROL PLAN
C2.0	SITE DETAILS
C2.1	WATER & SEWER DETAILS
C2.2	STORMWATER DETAILS
C2.3	EROSION PREVENTION & SEDIMENT CONTROL DETAILS

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PLANNING & ZONING

PROGRESS SET

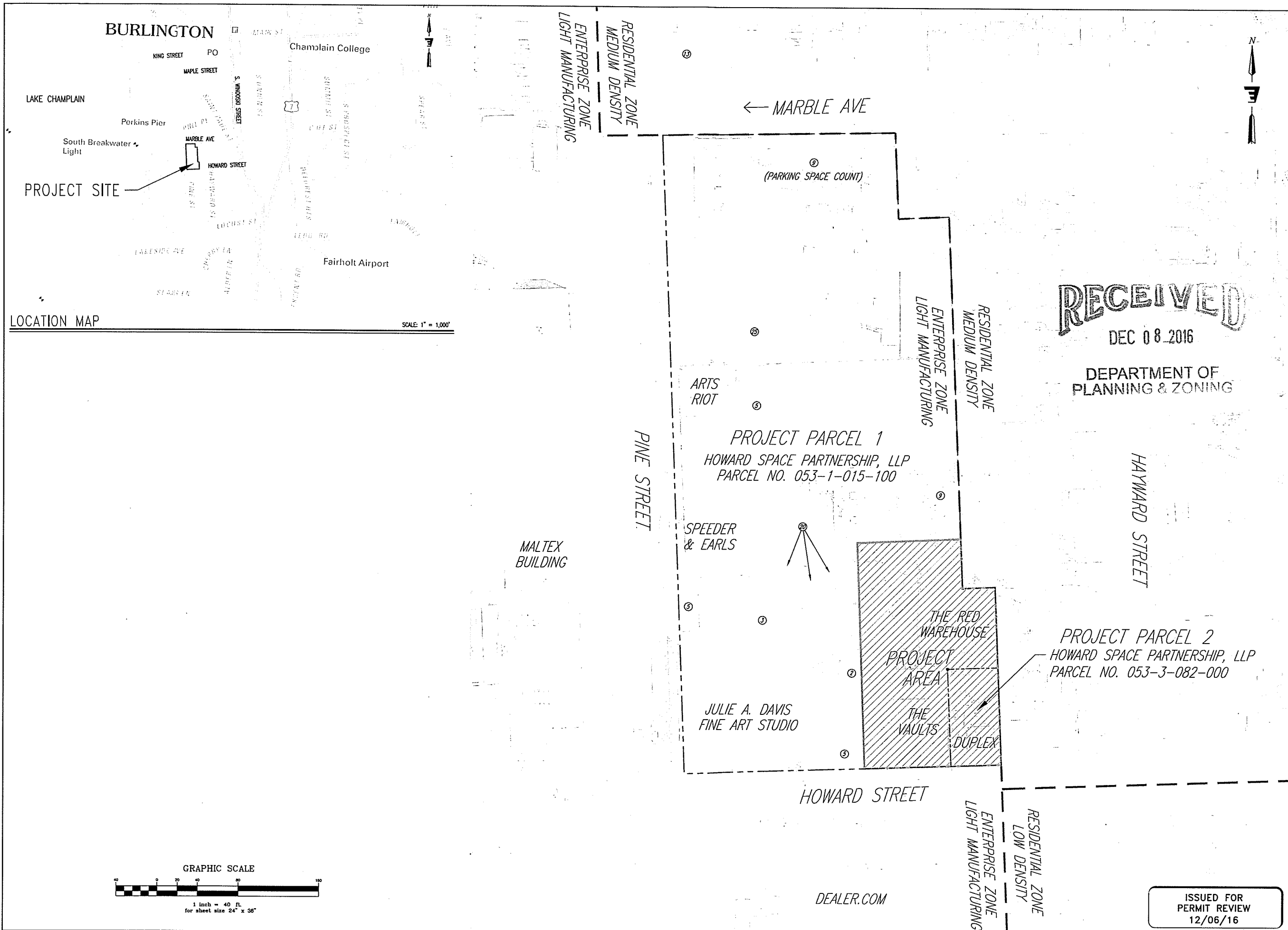
ABBREVIATIONS

ARCHITECT:
GVV Architects, Inc.
284 South Union Street
Burlington, VT 05401
802-862-9631

CIVIL ENGINEER:
Engineering Ventures
208 Flynn Ave #2a
Burlington, VT 05401

STRUCTURAL ENGINEER:
Engineering Ventures
208 Flynn Ave #2a
Burlington, VT 05401

MEP ENGINEER:
Hallam Associates Inc.
38 Eastwood Dr #300
South Burlington, VT 05403



Stamp

Rev. No.	Description

ENGINEERING VENTURES PC
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85 Mechanic Street, Suite 350A, Lebanon, NH 03766
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Client:

Unsworth Properties, LLC
26 Railroad Avenue
Essex, Vermont
(802) 879-4604

Sheet Title:

Overall Existing Conditions Plan

Project Title:

The Vaults Redevelopment Project
Pine Street & Howard Street
Burlington, Vermont

Designed By: KW/HKW

Checked By: KW

Drawn By: HKW

Scale: 1" = 40'

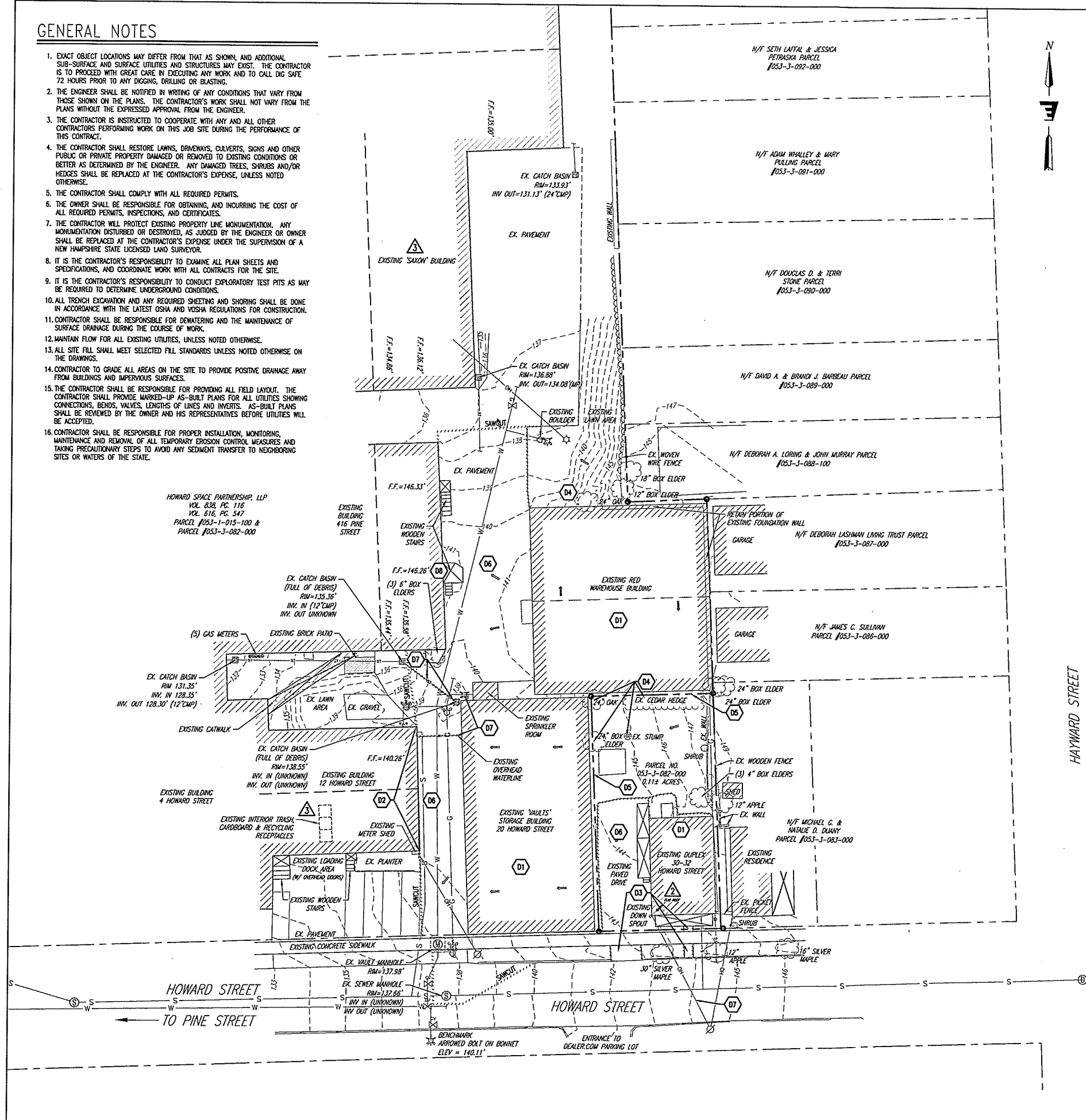
Date: 12/06/16

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EV#16414

GENERAL NOTES

1. EXACT OBJECT LOCATIONS MAY DIFFER FROM THAT AS SHOWN, AND ADDITIONAL SUB-SURFACE AND SURFACE UTILITIES AND STRUCTURES MAY EXIST. THE CONTRACTOR IS TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK AND TO CALL DIG SAFE 72 HOURS PRIOR TO ANY DIGGING, DRILLING OR BLASTING.
2. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
3. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
4. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CURBS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
6. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES.
7. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW HAMPSHIRE STATE LICENSED LAND SURVEYOR.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
10. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA AND VOSH REGULATIONS FOR CONSTRUCTION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR DEMATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
12. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
13. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
14. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.



LEGEND

EXISTING FEATURES		PROPOSED FEATURES	
	CLEAN OUT		CLEAN OUT
	SEWER MANHOLE		SEWER MANHOLE
	CATCH BASIN		CATCH BASIN
	STORM MANHOLE		STORM MANHOLE
	TAPPING SLEEVE AND VALVE		TAPPING SLEEVE AND VALVE
	BOLLARD		BOLLARD
	GATE VALVE		GATE VALVE
	HYDRANT		HYDRANT
	POST INDICATOR VALVE		POST INDICATOR VALVE
	WATER SHUT OFF		WATER SHUT OFF
	GAS SHUT OFF		GAS SHUT OFF
	GAS METER		GAS METER
	LIGHT POLE		LIGHT POLE
	UTILITY POWER POLE		UTILITY POWER POLE
	IRON PIPE/REBAR		IRON PIPE/REBAR
	SOIL BORING		SOIL BORING
	SIGN		SIGN
	SPOT ELEVATION		SPOT ELEVATION
	TREE		TREE
HANDICAP SYMBOL		HANDICAP SYMBOL	
	TREELINE		TREELINE
	FENCE		FENCE
	5' CONTOUR INTERVAL		5' CONTOUR INTERVAL
	1' CONTOUR INTERVAL		1' CONTOUR INTERVAL
	PROPERTY LINE		PROPERTY LINE
	EDGE OF PAVEMENT/HARDSCAPE		EDGE OF PAVEMENT/HARDSCAPE
	SANITARY SEWER LINE		SANITARY SEWER LINE
	STORM LINE		STORM LINE
	WATER LINE		WATER LINE
	UNDERGROUND ELECTRIC		UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC		OVERHEAD ELECTRIC
	UNDERGROUND TELEPHONE		UNDERGROUND TELEPHONE
	GAS LINE		GAS LINE
	RIGHT-OF-WAY LINE		RIGHT-OF-WAY LINE
	SETBACK		SETBACK
	FEATURE TO BE DEMOLISHED		FEATURE TO BE DEMOLISHED

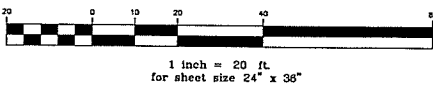
DEMOLITION SCHEDULE

- | | |
|--------------------------|---|
| D1 EXISTING BUILDING | D5 EXISTING PROPERTY LINE TO BE DISSOLVED AND LOTS MERGED |
| D2 EXISTING SIDING | D6 EXISTING PAVEMENT |
| D3 EXISTING CONCRETE | D7 EXISTING UTILITY LINE/STRUCTURE |
| D4 EXISTING TREES/SHRUBS | D7 EXISTING LOADING DOCK |

SURVEY NOTES

1. EXISTING PHYSICAL FEATURES AND TOPOGRAPHY SHOWN HERE ARE BASED ON A PLAN ENTITLED "SITE PLAN OF LANDS OF HOWARD SPACE PARTNERSHIP, LLP, 30 HOWARD ST & 400 PINE ST, BURLINGTON, VERMONT", PREPARED BY TERRY W. WILSON, VERMONT LICENSED LAND SURVEYOR AND DATED JULY 2016.
2. PROPERTY LINES DEPICTED HERE ARE TAKEN FROM A PLAT ENTITLED "PLAT OF A PORTION OF LANDS OF HOWARD SPACE PARTNERSHIP, LLP, 30 HOWARD ST & 400 PINE ST, BURLINGTON, VERMONT", PREPARED BY VERMONT MAPPING AND SURVEY CO., LLC, DATED JULY, 2016. THE PURPOSE OF SAID PLAT IS TO DEPICT LOT #053-3-082-000 AND THE EASTERLY LINE OF LOT #053-1-015-100. REFER TO PLAT FOR ADDITIONAL NOTES AND REFERENCES.
3. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITIES SHOWN ON PLANS WERE TAKEN FROM THE ABOVE REFERENCED PLAN AND ARE NOT GUARANTEED TO BE ACCURATE OR COMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. THE CONTRACTOR SHALL CONTACT DIG SAFE (811 or 888-344-7233) A MINIMUM OF 72 HOURS, BUT NOT INCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO ANY CONSTRUCTION.
4. NORTH ORIENTATION IS REFERENCED TO VERMONT GRID NORTH; ELEVATIONS ARE REFERENCED TO NAVD 88.

GRAPHIC SCALE



ISSUED FOR
PERMIT REVIEW
12/06/16

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RECEIVED
11/13/2017
DEPARTMENT OF
PLANNING & ZONING

ENGINEERING
VENTURES PC

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Client: Unsworth Properties, LLC
26 Ballouville, Vermont
Essex, (802) 879-4504

Sheet Title: Existing Conditions
& Demolition Plan
Project Title: The Vaults Redevelopment Project
Pine Street & Howard Street
Burlington, Vermont

Designed By: KW/HKW
Checked By: KW
Drawn By: HKW
Scale: 1" = 20'
Date: 12/06/16

C1.0
EV#16414

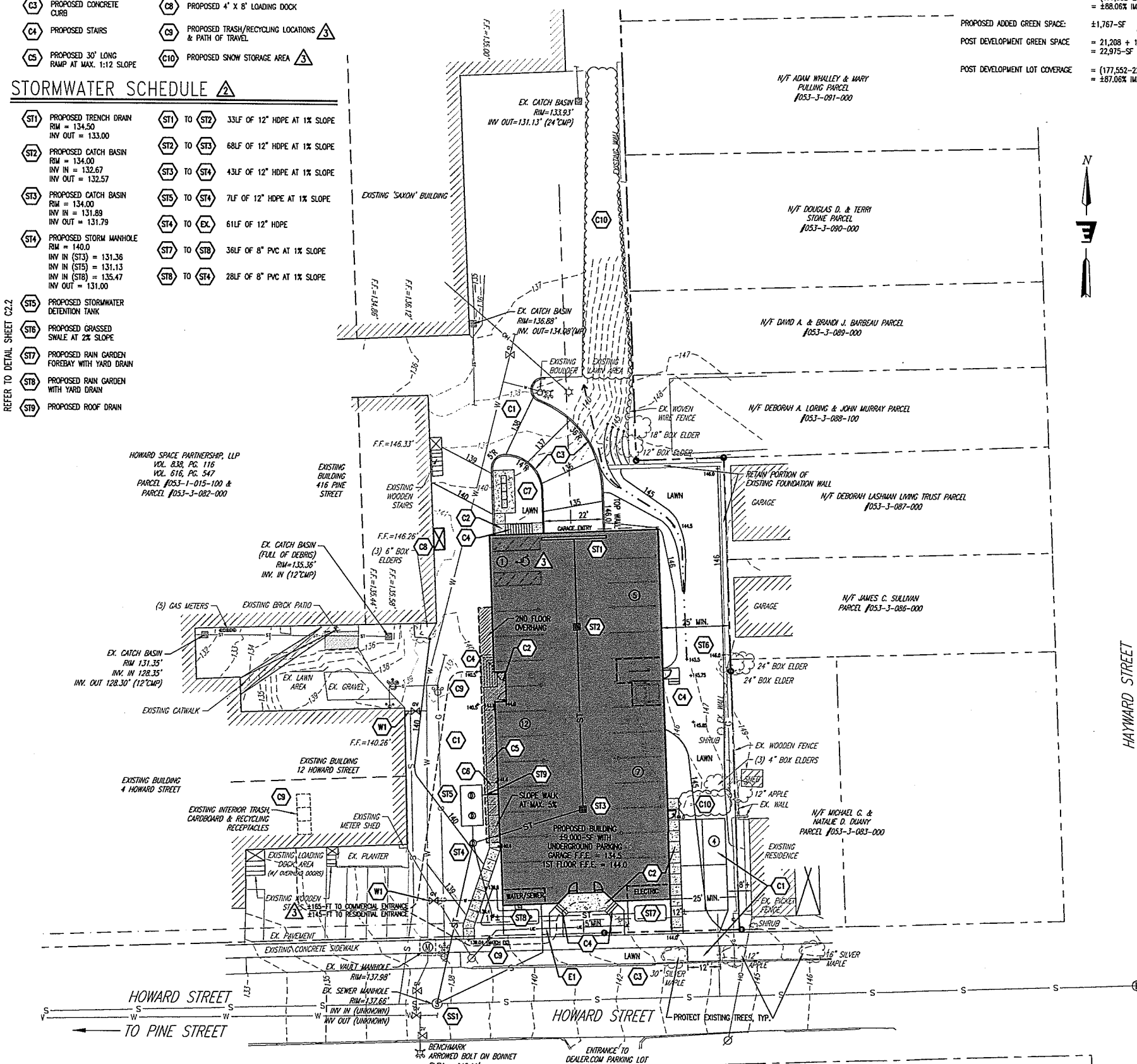
C1	PROPOSED PAVEMENT	C6	PROPOSED LANDING
C2	PROPOSED CONCRETE	C7	PROPOSED BIKE RACK
C3	PROPOSED CONCRETE CURB	C8	PROPOSED 4' X 8' LOADING DOCK
C4	PROPOSED STAIRS	C9	PROPOSED TRASH/RECYCLING LOCATIONS & PATH OF TRAVEL
C5	PROPOSED 30' LONG RAMP AT MAX. 1:12 SLOPE	C10	PROPOSED SNOW STORAGE AREA

ST1	PROPOSED TRENCH DRAIN R/W = 134.50 INV OUT = 133.00	ST1	TO	ST2	33LF OF 12" HDPE AT 1% SLOPE
ST2	PROPOSED CATCH BASIN R/W = 134.00 INV IN = 132.67 INV OUT = 132.57	ST2	TO	ST3	68LF OF 12" HDPE AT 1% SLOPE
ST3	PROPOSED CATCH BASIN R/W = 134.00 INV IN = 131.89 INV OUT = 131.79	ST3	TO	ST4	43LF OF 12" HDPE AT 1% SLOPE
ST4	PROPOSED STORM MANHOLE R/W = 140.0 INV IN (ST3) = 131.36 INV IN (ST5) = 131.13 INV IN (ST8) = 135.47 INV OUT = 131.00	ST5	TO	ST4	7LF OF 12" HDPE AT 1% SLOPE
		ST4	TO	EX	61LF OF 12" HDPE
		ST7	TO	ST8	36LF OF 8" PVC AT 1% SLOPE
		ST8	TO	ST4	28LF OF 8" PVC AT 1% SLOPE
ST5	PROPOSED STORMWATER DETENTION TANK				
ST6	PROPOSED GRASSED SWALE AT 2% SLOPE				
ST7	PROPOSED RAIN GARDEN FOREBAY WITH YARD DRAIN				
ST8	PROPOSED RAIN GARDEN WITH YARD DRAIN				
ST9	PROPOSED ROOF DRAIN				

SS1 PROPOSED 6" PVC SEWER
SERVICE LINE @ MIN. 2% SLOPE

E1 PROPOSED UNDERGROUND
ELECTRIC LINE

W1 PROPOSED 6" D.I. WATER
SERVICE LINE



TOTAL COMBINED LOT AREA: ±177,552-SF

EXISTING GREEN SPACE: ±21,208-SF *estimated from aerial photography

EXISTING LOT COVERAGE = $(177,552 - 21,208) / 177,552 \times 100$
= ±88.06% IMPERVIOUS

PROPOSED ADDED GREEN SPACE: ±1,767-SF

POST DEVELOPMENT GREEN SPACE = $21,208 + 1,767$
= 22,975-SF

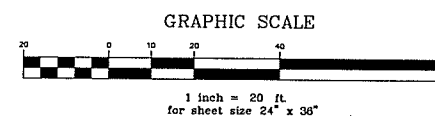
POST DEVELOPMENT LOT COVERAGE = $(177,552 - 22,975) / 177,552 \times 100$
= ±87.06% IMPERVIOUS

EXISTING FEATURES		PROPOSED FEATURES	
	CLEAN OUT		C/O
	SEWER MANHOLE		
	CATCH BASIN		
	STORM MANHOLE		
	TAPPING SLEEVE AND VALVE		
	BOLLARD		
	GATE VALVE		
	HYDRANT		
	POST INDICATOR VALVE		
	WATER SHUT OFF		
	GAS SHUT OFF		
	GAS METER		
	LIGHT POLE		
	UTILITY POWER POLE		
	IRON PIPE/REBAR		
	SOIL BORING		
	SPOT ELEVATION		
+ 100.00		+ 100.5	
	TREE		
	PARKING SPACE COUNT		
	HANDICAP SYMBOL		
	TREELINE		
X	FENCE	X	
- 100 -	5' CONTOUR INTERVAL	- 100 -	
- 101 -	1' CONTOUR INTERVAL	- 101 -	
- - - - -	PROPERTY LINE	- - - - -	
- - - - -	EDGE OF PAVEMENT/HARDSCAPE	- - - - -	
S	SANITARY SEWER LINE	S	
ST	STORM LINE	ST	
W	WATER LINE	W	
UE	UNDERGROUND ELECTRIC	UE	
OH	OVERHEAD ELECTRIC	OH	
UT	UNDERGROUND TELEPHONE	UT	
G	GAS LINE	G	
- - - - -	RIGHT-OF-WAY LINE	- - - - -	
SETBACK			
SNOW STORAGE AREA			

 PROPOSED BUILDING
 PROPOSED PAVEMENT
 PROPOSED CONCRETE

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PLANNING & ZONING



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PERMIT REVIEW
12/06/16

Rev. No.	Description	Chkd.
Δ 12/08/16	CORRECTED LOT COVERAGE CALCULATION	KW
Δ 12/22/16	UPDATES FOR CITY STORMWATER SUBMISSION	KW
Δ 01/09/17	REVS IN RESPONSE TO P&Z COMMENTS	KW

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Client: **Unsworth Properties, LLC**
26 Railroad Avenue
Essex Junction, Vermont
(802) 879-4504

Sheet Title: **Proposed Site Layout,
Grading & Utility Plan**

Project Title: **The Vaults Redevelopment Project
Pine Street & Howard Street**

Designed By:	KW/HKW
Checked By:	KW
Drawn By:	HKW
Scale:	1" = 20'
Date:	12/06/16

C1.1

SEWER NOTES

A-01. BUILDING SEWERS

- A. MATERIALS: THE BUILDING SEWER SHALL BE CONSTRUCTED IN A MANNER WHICH WILL PREVENT LEAKING, BREAKING OR CLOGGING. ACCEPTABLE MATERIALS FOR THE SEWER ARE RUBBER-RING-JOINTED PVC GRAVITY SEWER PIPE SDR35 ASTM D3034.
- B. SIZING AND SLOPE: MINIMUM BUILDING SEWER SIZE IS 4 INCHES (UNLESS SHOWN ON THE PLAN) AND A MINIMUM SLOPE IS 1/4 INCH PER FOOT.
- C. MANHOLES: BUILDING SEWERS DISCHARGING TO A COLLECTION SEWER SHALL BE CONNECTED THROUGH A MANHOLE OR WITH A WYE FITTING SO AS TO DIRECT FLOW AND MINIMIZE IN-LINE TURBULENCE.
- D. CLEANOUTS: CLEANOUTS SHALL BE PROVIDED AT EACH HORIZONTAL CHANGE IN DIRECTION OF THE BUILDING SEWER GREATER THAN 45 DEGREES, NOT GREATER THAN EVERY 100' AND WHERE INDICATED ON THE DESIGN DRAWINGS. BUILDING SEWER CHANGES IN DIRECTION WHICH EXCEED 45 DEGREES SHOULD BE MADE WITH TWO 45 DEGREE ELBS OR LONG SWEEP FITTINGS. MANHOLES ARE ACCEPTABLE IN LIEU OF CLEANOUTS. WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH OF LESS THAN 3 FEET UNDER DRIVEWAYS ARE ANTICIPATED, EXTRA HEAVY CAST IRON PIPE SHALL BE USED.
- E. LEAKAGE: BUILDING SEWERS SHALL MEET THE LEAKAGE STANDARDS PRESCRIBED IN THE STATE OF NEW YORK SPECIFICATIONS. SEE "A-02, J" BELOW FOR MORE DETAIL.

A-02. SEWER COLLECTION SYSTEMS

- A. A SEWER COLLECTION SYSTEM IS THAT SYSTEM OF SEWERS THAT TRANSPORT WASTEWATER FROM BUILDING SEWERS TO THE WASTEWATER TREATMENT/DISPOSAL SYSTEM.
- B. NO CONNECTIONS OF ROOF DRAINS, AREA DRAINS, FOUNDATION DRAINS, CELLAR DRAINS OR OTHER CLEAN WATER SOURCES OR ANY STORM DRAINS WILL BE ALLOWED TO BUILDING OR COLLECTION SEWERS.
- C. THE SIZE OF COLLECTION SEWERS SHALL BE AS SHOWN ON THESE DRAWINGS.
- D. DEPTH: SEWERS SHALL BE SUFFICIENTLY DEEP TO PREVENT FREEZING. RIGID FOAM INSULATION SHALL BE USED, WHERE INDICATED ON DRAWINGS.
- E. SLOPE, VELOCITY: ALL SEWERS SHALL BE INSTALLED WITH NOT LESS THAN THE SLOPES SHOWN BELOW.

PIPE SIZE (INCHES)	SLOPE (FEET/100 FEET)
8"	0.40

- F. CHANGES IN PIPE SIZE: WHEN A SMALLER SEWER JOINS A LARGER ONE, THE INVERT OF THE LARGER SEWER SHALL BE LOWERED SUFFICIENTLY TO MAINTAIN THE SAME ENERGY GRADIENT.
- G. MATERIAL: PVC SDR 35, ASTM D3034, WITH PUSH-ON GASKETED JOINTS. GASKETS SHALL CONFORM TO ASTM D3212. SEWER JOINTS SHALL BE CONSTRUCTED TO MINIMIZE INFILTRATION AND TO PREVENT THE ENTRANCE OF ROOTS INTO THE SYSTEM.
- H. TRENCHING: LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
- I. BEDDING: SEE TRENCH DETAIL FOR MATERIALS. TRENCH BACKFILL SHALL BE OF A SUITABLE NATIVE MATERIAL, FREE FROM DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS.
- J. LEAKAGE TESTS: UPON COMPLETION OF SEWER MAIN CONSTRUCTION, THE SEWER LINE SHALL BE TESTED IN ACCORDANCE WITH THE STATE OF NEW YORK SPECIFICATIONS.

LEAKAGE TESTS FOR SEWER SEWERS

PERFORM A PRESSURIZED AIR TEST ON THE GRAVITY LINE IN ACCORDANCE WITH THE LATEST VERSION OF DESIGN STANDARDS FOR WASTEWATER TREATMENT WORKS ON EACH SECTION OF THE GRAVITY SEWER. THE ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.

PLUG ALL OPENINGS IN THE TEST SECTION. ADD AIR UNTIL THE INTERNAL PRESSURE OF THE LINE IS RAISED TO APPROXIMATELY 4.0 POUNDS/SQUARE INCH (PSI) GREATER THAN THE AVERAGE PRESSURE OF ANY GROUND WATER. AFTER THIS PRESSURE IS REACHED, ALLOW THE PRESSURE TO STABILIZE. THE PRESSURE WILL NORMALLY DROP AS THE AIR TEMPERATURE STABILIZES. THIS USUALLY TAKES 2 TO 5 MINUTES DEPENDING ON THE PIPE SIZE. THE PRESSURE MAY BE REDUCED TO 3.5 PSI BEFORE STARTING THE TEST.

START THE TEST WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE THE STARTING TEST PRESSURE OF 3.5 PSI ABOVE THE PIPE. IF THE PRESSURE DROPS MORE THAN 1.0 PSI DURING THE TEST TIME, THE LINE IS PRESUMED TO HAVE FAILED THE TEST. IF A 1.0 PSI DROP DOES NOT OCCUR WITHIN THE TEST TIME, THE LINE HAS PASSED THE TEST. THE TEST TIME SHALL BE DERIVED FROM THE FOLLOWING TABLE. IF THE SECTION OF LINE TO BE TESTED INCLUDES MORE THAN ONE PIPE SIZE, CALCULATE THE TEST TIME FOR EACH SIZE AND ADD THE TEST TIMES TO ARRIVE AT THE TOTAL TEST TIME FOR THE SECTION.

PIPE SIZE (INCHES)	T (TIME) (MIN/100 FT.)
3	0.2
4	0.3
6	0.7
8	1.2
10	1.5
12	1.8

K. INSTALLATION: PIPE SHALL BE LAID WITH BELL ENDS FACING UPGRADE AND LAYING SHALL START AT THE DOWNGRADE END.

L. WATER LINE SEPARATION

- a. HORIZONTAL SEPARATION: SEWERS SHALL BE LAID FLAT AT LEAST TEN FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER LINE. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WHERE IMPOSSIBLE OR IMPRACTICABLE, DUE TO LEDGE, BOULDERS OR OTHER UNUSUAL CONDITIONS, TO MAINTAIN THE TEN FOOT SEWER/WATER PIPE HORIZONTAL SEPARATION BETWEEN SEWER AND WATER LINES, THE WATER LINE MAY BE IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE IN THE SEWER TRENCH PROVIDED THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHEREVER IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18 INCH VERTICAL SEPARATION, THE SEWER LINE SHALL BE CONSTRUCTED TO NORMAL WATER LINE STANDARDS AND PRESSURE TESTED TO 50 PSI FOR 15 MINUTE PRIOR TO BACKFILLING. NO LEAKAGE SHALL BE ALLOWED FOR THIS TEST.

- b. CROSSINGS: 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 IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION:

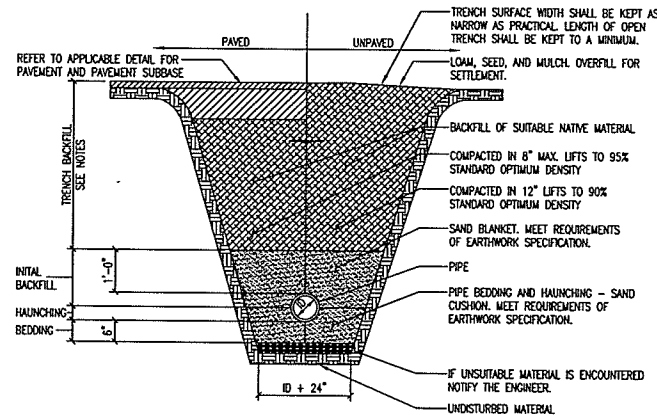
1. THE CROSSING SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AWAY AS POSSIBLE FROM WATER JOINTS.
2. THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER.
3. THE SECTION CONSTRUCTED TO WATER MAIN 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.

A-03. MANHOLES

- A. DIAMETER: THE MINIMUM DIAMETER OF MANHOLES SHALL BE 48 INCHES; LARGE DIAMETERS ARE PREFERRED FOR CONNECTION TO LARGE DIAMETER SEWERS. A MINIMUM ACCESS DIAMETER OF 24 INCHES SHALL BE PROVIDED.
- B. FLOW CHANNEL: FLOW CHANNELS SHALL BE PROVIDED IN THE BASE OF ALL MANHOLES AND THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
- C. MANHOLES SHALL BE OF THE PRE-CAST CONCRETE OR POUR-IN PLACE CONCRETE TYPE. MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR.
- D. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A RUBBER-GASKETED FLEXIBLE WATER-TIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL TO TAKE PLACE.
- E. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTING OF GRAVITY SEWERS UTILIZING THE WATER TESTING PROCEDURE TAKES INTO ACCOUNT THE LEAKAGE FROM ONE MANHOLE IN THE TEST SECTION. OTHERWISE, MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE FOLLOWING PROCEDURE.

AFTER THE MANHOLE HAS BEEN ASSEMBLED IN PLACE, ALL LIFTING HOLES AND EXTERIOR JOINTS SHALL BE FILLED WITH AND POINTED WITH AN APPROVED NON-SHRINKING MORTAR. ALL PIPES AND OTHER OPENINGS INTO THE MANHOLE SHALL BE SUITABLY PLUGGED AND THE PLUGS PLACED TO PREVENT BLOWOUT.

EACH MANHOLE SHALL BE CHECKED FOR INFILTRATION BY FILLING WITH WATER TO THE TOP OF THE CONE SECTION. A STABILIZATION PERIOD OF ONE HOUR SHALL BE PROVIDED TO ALLOW FOR ABSORPTION. AT THE END OF THIS PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE, IF NECESSARY, AND THE MEASURING TIME OF AT LEAST TWO HOURS BEGIN. AT THE END OF THE TEST PERIOD, THE MANHOLE SHALL BE REFILLED TO THE TOP OF THE CONE MEASURING THE VOLUME OF WATER ADDED. THIS AMOUNT SHALL BE CONVERTED TO A 24 HOUR RATE AND THE LEAKAGE DETERMINED ON THE BASIS OF DEPTH. THE LEAKAGE FOR EACH MANHOLE SHALL NOT EXCEED ONE GALLON PER VERTICAL FOOT FOR A 24 HOUR PERIOD FOR EXFILTRATION AND THERE SHALL BE NO VISIBLE INFILTRATION.



GENERAL TRENCH NOTES:

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO ENSURE PIPE IS NOT DAMAGED.
4. BACKFILL SHALL BE OF A SUITABLE MATERIAL, REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR BACKFILL WITHIN TWO FEET OF THE TOP OF THE PIPE.
5. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF FOUR INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
6. SUITABLE NATIVE SOIL MAY BE USED UNDER PAVED AREAS UPON APPROVAL OF ENGINEER.

SEWER TRENCH NOTES:

1. FOR BUILDING SEWERS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 4'-0" WHERE BUILDING SEWERS ARE TO BE INSTALLED AT A DEPTH LESS THAN 3'-0" UNDER DRIVEWAYS, DUCTILE IRON CLS2 OR OTHER HIGH STRENGTH PIPE SHALL BE USED. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER/STORM LINE DETAIL.
2. FOR SEWER COLLECTION SYSTEMS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 5'-0". THIS DEPTH SHALL BE INCREASED TO 6'-0" IN AREAS TO BE PLOWED DURING THE WINTER MONTHS. OTHERWISE, REFER TO INSULATION OVER SHALLOW SEWER/STORM LINE DETAIL.

STORM TRENCH NOTES:

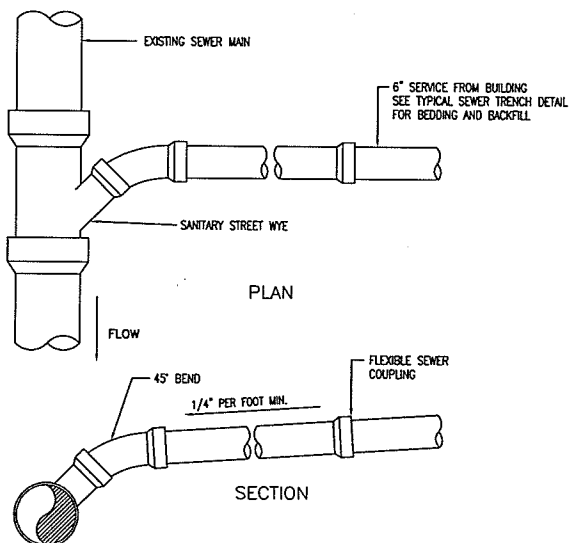
1. PROVIDE 6" OF COVER OVER DRAIN PIPE IN PAVED AREAS AND 5' OF COVER OVER PIPE IN UNPAVED AREAS. OTHERWISE REFER TO INSULATION OVER SHALLOW SEWER/STORM LINE DETAIL.
2. WHEN APPLICABLE, INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.

WATERLINE TRENCH NOTES:

1. MINIMUM DEPTH TO THE TOP OF THE WATERLINE SHALL BE 5'-0". OTHERWISE, REFER TO INSULATION OVER SHALLOW WATER LINE DETAIL.
2. INSTALL WATER LINE IN ACCORDANCE WITH LATEST ANMA STANDARDS.

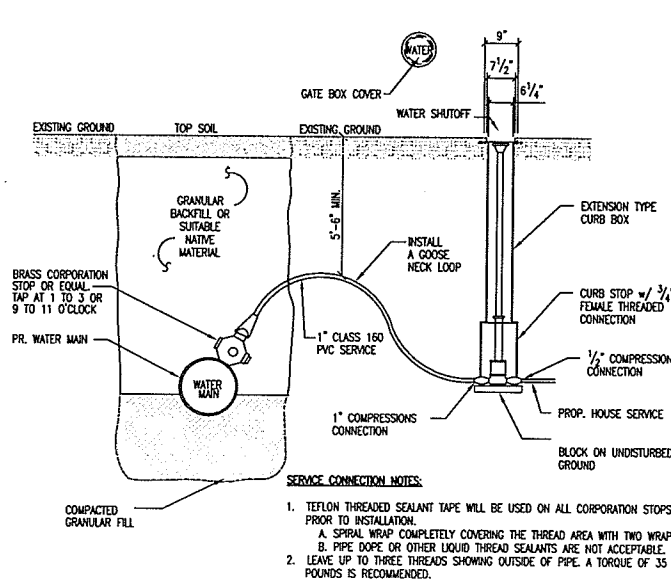
STORM/SEWER/WATER TRENCH DETAIL

NOT TO SCALE



SEWER SERVICE CONNECTION

NOT TO SCALE



WATER SERVICE CONNECTION DETAIL

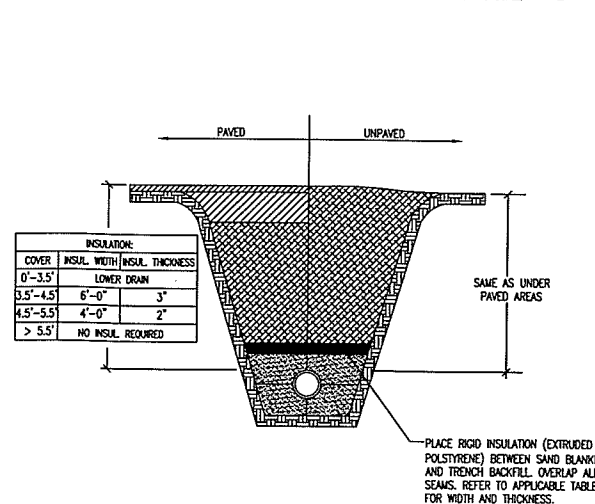
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TRENCH NOTES:

1. REFER TO TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW SEWER LINE DETAIL

NOT TO SCALE



TRENCH NOTES:

1. REFER TO TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW WATER LINE DETAIL

NOT TO SCALE

WATER NOTES

WATER MAINS

1. PERFORM A HYDROSTATIC LEAKAGE TEST ACCORDING TO ANMA C500 (LATEST REVISION) ON EACH PIPE LINE.
2. THE ENGINEER SHALL BE GIVEN AT LEAST 48 HOURS NOTICE BEFORE THE TEST IS CONDUCTED. TEST MUST BE WITNESSED BY THE ENGINEER.
3. SPECIFIED TEST PRESSURE IS A MINIMUM OF 200 PSI OR 1.5X THE WORKING PRESSURE, WHICHEVER IS GREATER, AND PRESSURE DURING TEST SHALL NOT VARY BY MORE THAN 5 PSI. SEE THE CURRENT EDITION OF ANMA C500 FOR ALLOWABLE LEAKAGE.

EXISTING UTILITIES

1. LOCATION OF UTILITY INSTALLATIONS AND UNDERGROUND STRUCTURES ARE SHOWN AS APPROXIMATE ON THE CONTRACT DOCUMENTS. SOME UTILITIES MAY NOT BE SHOWN.
2. ALL UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. EXISTING UTILITIES SHALL BE PROTECTED AND SUPPORTED DURING CONSTRUCTION.
4. ALL WATER, GAS, CABLE, TELEPHONE, ELECTRIC, SEWER, AND OTHER UTILITIES FOUND TO INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED IN A MANNER ACCEPTABLE TO THE ENGINEER.

PIPE BEDDING

1. SAND BEDDING SHALL MEET REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
2. SAND BLANKET SHALL MEET REQUIREMENTS OF EARTHWORK SPECIFICATIONS.
3. TRENCH FINAL BACKFILL MATERIAL - MATERIAL WILL EXCLUDE PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, ALL WET OR SOFT MUCK, PEAT, CLAY, LARGE ROCKS (GREATER THAN 12" DIMENSION), OR ANY MATERIAL DETERMINED BY THE ENGINEER THAT WILL NOT BE SUITABLE.

PIPE TRENCH BACKFILL

1. MEET EARTHWORK SPECIFICATIONS FOR PLACEMENT AND COMPACTION.
2. DUCTILE IRON PIPE (WATERS).
3. D.I. PIPE CONFORM TO ANMA/ANSI C151.
4. LINGS AND LINGS REPAIR TO ANMA/ANSI C104.
5. JOINTS CONFORM TO ANMA/ANSI C 111 AND C115.
6. FITTINGS CONFORM TO ANMA/ANSI C110, C153, C105.
7. KEEP INSIDE OF PIPE CLEAN AND FREE OF DEBRIS.
8. REJECT ANY PIPE WHICH IS DAMAGED DURING HANDLING.
9. MECHANICAL JOINT GASKETS SHALL BE "MEGA-LUX" RETAINER GASKETS.
10. DUCTILE IRON FITTINGS: ANSI A21.10, 350 PSI PRESSURE RATING.
11. JOINTS: MECHANICAL, PUSH-ON, AND FLANGED:
 - A. RUBBER GASKET JOINT, ANSI A21.11
 - B. MECHANICAL AND PUSH-ON JOINTS: ANSI A21.11

LAYING PIPE

1. PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING.
2. WHERE PIPE IS LAID ON A SLOPE OF 5% OR MORE, THE LAYING SHALL START AT THE LOW END AND PROCEED UPHILL, WITH THE BELL ENDS UPGRADE.
3. A WATERTIGHT PLUG SHALL BE PLACED IN THE OPEN ENDS OF INSTALLED PIPE WHEN PIPE LAYING IS NOT IN PROGRESS.
4. MAX. PERMISSIBLE DEFLECTION IS 75% OF ANMA SPEC. C600.
5. CORROSION OF DOMESTIC WATER LINES
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF BEGINNING ANY DISINFECTION OF WATER MAINS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTING AS REQUIRED BY THIS SPECIFICATION AND REFERENCE STANDARDS MENTIONED.
8. DISINFECT ALL NEW PIPELINE SYSTEMS IN ACCORDANCE WITH ANMA C651, INCLUDING:
 - A. METHOD OF CHLORINE APPLICATION. USE CONTINUOUS FEED METHOD OR SLUG METHOD (TABLET METHOD IS NOT ACCEPTABLE).
 - B. FORM OF CHLORINE UTILIZED.
 - C. FINAL FLUSHING.
 - D. BACTERIOLOGICAL TESTING.
 - E. REPETITION OF PROCEDURE.

GATE VALVES

1. RESILIENT SEAT GATE VALVES BY KENNEDY "XEN-SEAL" OR EQUAL.
2. IRON BODY GATE VALVES TO MEET ANMA C-509-87.
3. STEM CONSTRUCTION: NON-RISING.
4. STEM SEALS: DOUBLE O-RING.
5. GATE: CAST IRON RESILIENT WEDGE WITH SYNTHETIC ELASTOMER COATING, AND SHALL BE EPOXY COATED (FUSION BONDED) INSIDE AND OUT.
6. BONNET HARDWARE SHALL MEET ASTM A307, CADMIUM PLATED.
7. OUTLET CONNECTION: STANDARD MECHANICAL JOINT.
8. OPERATION: OPEN COUNTERCLOCKWISE.
9. TAPPING SLEEVES AND VALVES

TAPPING VALVES

1. TAPPING VALVES TO MEET ANMA C509-87, STANDARD FOR RESILIENT SEATED GATE VALVES.
2. VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.
3. VALVES SHALL OPEN COUNTERCLOCKWISE.
4. INLET FLANGES SHALL BE CLASS 125, ANSI B16.1, OR ANSI/ANMA C110/A21.10.
5. OUTLET CONNECTION: STANDARD MECHANICAL JOINT.
6. STEM SEALS: O-RING.
7. STEM CONSTRUCTION: NON-RISING.
8. SEATING: PARALLEL SEAT.
9. END CONNECTIONS: MECHANICAL ON RUN, FLANGED ON BRANCH.
10. BURIED TAPPING VALVES SHALL BE PROVIDED WITH A 2 INCH SQUARE WRENCH NUT AND CAST IRON VALVE BOX. IF DEPTH FROM GRADE TO TOP OF VALVE OPERATING NUT IS GREATER THAN 6'-0", A VALVE STEM RISER MADE OF HIGH STRENGTH STEEL SHALL BE PROVIDED. DEPTH FROM VALVE STEM RISER NUT TO GRADE WILL BE 4 TO 6 FEET.

TAPPING SLEEVES

1. ANMA C509, LATEST REVISION.
2. ANMA C207, CLASS D, MAX. WORKING PRESSURE OF 150 PSI.
3. SLEEVES: SPLIT SLEEVES OF CAST IRON OR DUCTILE IRON.
4. MECHANICAL JOINT ENDS WITH END AND GASKET SEALS.
5. BOLTS AND NUTS: MECHANICAL JOINTS: HIGH STRENGTH CAST IRON OR HIGH STRENGTH LOW ALLOY STEEL, ANSI/ANMA C111/A21.11-90.
6. BOLTS AND NUTS, FLANGED JOINTS: HIGH STRENGTH, LOW CARBON STEEL CONFORMING TO ANSI/ANMA C110/A21.10-87, APPENDIX.
7. COAT ALL NUTS AND BOLTS WITH A RUST RESISTANT LUBRICANT.
8. COAT ALL BOLTS AND NUTS USED WITH PIPE SLEEVES SHALL BE BRUSH COATED HEAVILY AFTER FINAL TIGHTENING WITH BITUMASTIC COLD-APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF BOLTS AND NUTS.

VALVE BOXES

1. ACCEPTABLE MANUFACTURERS: MUELLER, CLOW, OR EQUAL.
2. CLOW F-2452 SLIDING TYPE, TWO PIECE, OR EQUAL.
3. 5 1/2 INCH SHAFT.
4. SIZE 684-A (40-60 INCH OVERALL LENGTH).
5. CAST IRON.
6. CLOW F-2490 LIDS OR EQUAL.
7. THE WORD "WATER" TO BE CAST INTO TOP OF COVERS, AND ARROW SHOWING DIRECTION OF OPENING.
8. CONCRETE.

CONCRETE

1. CONCRETE SHALL HAVE:
 - A. MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
 - B. AIR ENTRAINMENT OF 4% TO 6% BY VOLUME.
 - C. WATER CEMENT RATIO OF 0.49 LBS. WATER/CEMENT.
 - D. SLUMP OF 2 TO 4 INCHES.
2. CONCRETE SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
3. CONCRETE SHALL NOT BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
4. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURES FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
5. ALLOW TO SET AND CURE ALL THIRST BLOCKS, CONCRETE SUPPORTS, AND ANCHORS A MINIMUM OF 24 HOURS BEFORE BACKFILLING.
6. COMPLETELY CURE AND SET CONCRETE BEFORE ANY HYDROSTATIC OR LEAKAGE TESTING OF PIPELINE SYSTEMS.
7. NONSHRINK GROUT SHALL BE HALCO TRADEMARK, AS MANUFACTURED BY LEHN & FINK INDUSTRIAL PRODUCTS.
8. DO NOT PLACE ANY MORTAR OR GROUT WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT.
9. MORTAR FOR MANHOLES SHALL CONSIST OF THE FOLLOWING:
 - A. CEMENT-TYPE I, ASTM C150.
 - B. HYDRATED LIME-TYPE N, ASTM C207.
 - C. SAND-ASTM C 33, FINE AGGREGATES FOR CONCRETE.
 - D. WATER-CLEAN, SUITABLE FOR DRINKING.
10. MIX (BY VOLUME): 1 PART CEMENT, 1/2 PART LIME, 4 1/2 PARTS SAND.

1. BEFORE ANY WATER LINE WORK IS COMMENCED BY THE CONTRACTOR, HE SHALL NOTIFY THE WATER
2. "AS BUILT" DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AT THE TIME OF COMPLETION OF THE SYSTEM.

ISSUED FOR
PERMIT REVIEW
12/06/16

Stamp

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Rev. No.	

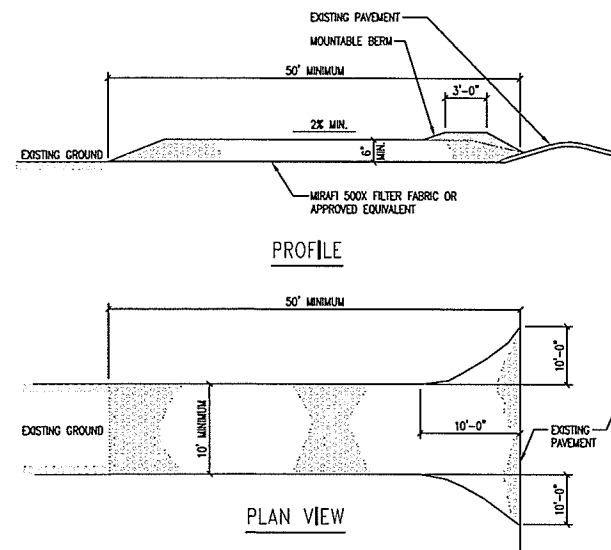
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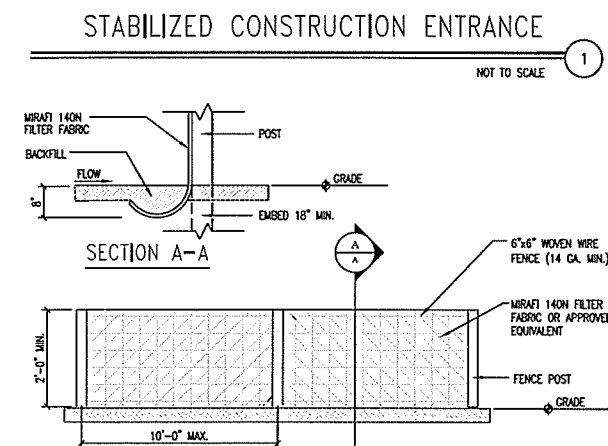
Sheet Title: **Water & Sewer Details**
Project Title: **The Vaults Redevelopment Project**
Pine Street & Howard Street
Burlington, Vermont

Designed By: **KW/HKW**
Checked By: **KW**
Drawn By: **KW**
Scale: **NOT TO SCALE**
Date: **12/06/16**

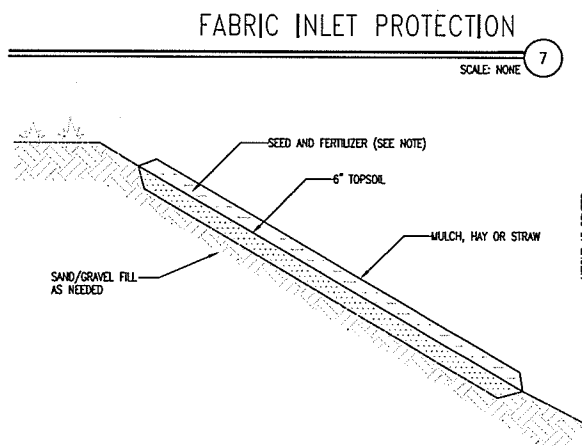
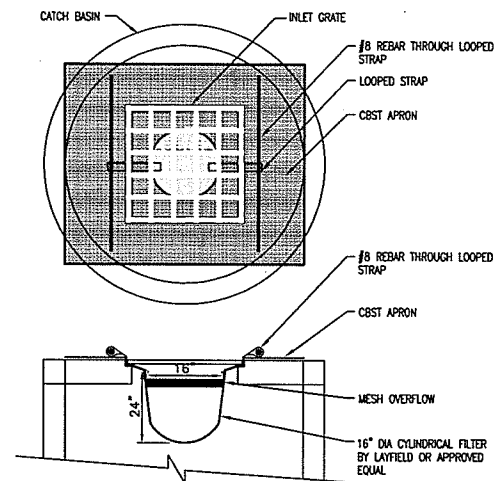
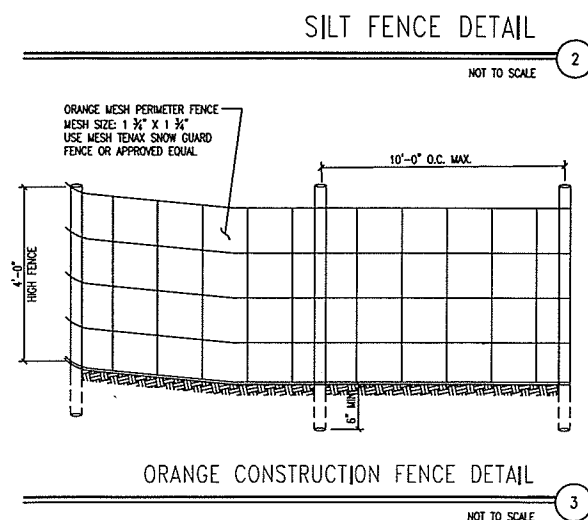
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1. STONE SIZE: USE TYPE 1.
2. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DISPERSED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP.

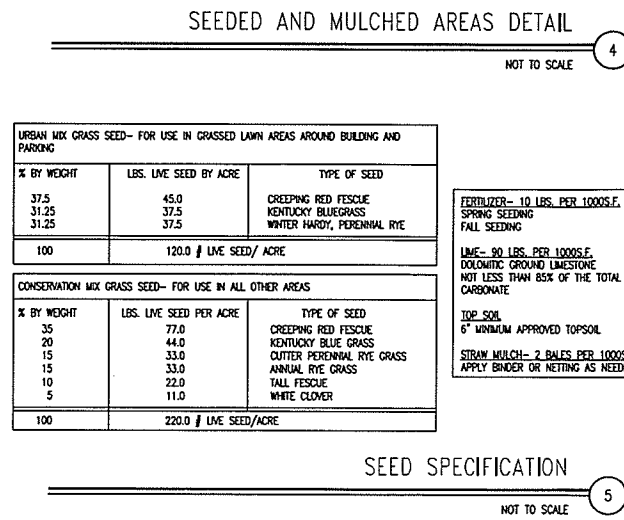


1. Silt fence shall be preabricated erosion control fence by MIRA1 or approved equivalent, or constructed in place as specified herein.
2. Constructed in place silt fence:
 - a. woven wire fence to be fastened securely to fence posts with wire ties or staples.
 - b. filter fabric to be fastened securely to woven wire fence ties spaced every 24" at top of mid section.
 - c. between two sections of filter cloth adjoin each other, they shall be overlapped by 6", folded and stapled.
3. Inspection shall be frequent (minimum once a week and after every rainfall). Maintenance shall be performed as needed, and sediment removed when "baldes" develop in silt fence.



1. MULCH: HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE.
2. SEED: SHALL BE OF THE FOLLOWING MIXTURE:

KENTUCKY BLUE GRASS -----	20 POUNDS / ACRE
CREeping RED FESCUE -----	20 POUNDS / ACRE
RYE GRASS -----	5 POUNDS / ACRE
3. COVER SEED WITH 1 INCH SOIL UNLESS A HYDROSEEDER IS USED.
4. MULCH ANCHORING SHALL BE ACCOMPANIED BY TERRAZO MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
5. TOPSOIL AND MULCHING WAS APPLIED IN AREA TRAVEL WAYS.
6. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.



EROSION CONTROL NOTES

1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE PRESENT ON-SITE FROM DAY-TO-DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ON-SITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ON-SITE AT ALL TIMES.
2. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 24-HOURS PRIOR TO ANY EARTH DISTURBING ACTIVITIES AND SHALL POST THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN NOTICE IN FULL VIEW AT ALL TIMES DURING EARTH DISTURBANCE.
3. DISTURBANCE LIMITS ARE TO BE MARKED, AND THE FOLLOWING MANAGEMENT PRACTICES INSTALLED, PRIOR TO BEGINNING EARTHWORK IN ANY GIVEN AREA: SILT FENCE, CONSTRUCTION ENTRANCE, INLET PROTECTION & TREE PROTECTION FENCING.
4. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VERMONT DEC LOW RISK SITE HANDBOOK FOR EROSION PREVENTION & SEDIMENT CONTROL", DATED 2006.
5. DURING THE NON-WINTER CONSTRUCTION SEASON, ALL DISTURBED AREAS ARE TO BE STABILIZED (TEMPORARY OR PERMANENT) WITHIN 14 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE WITHIN THIS WORK AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
 - A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECAST DURING THAT PERIOD
 - B. WORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, 2-FEET OR MORE IN DEPTH.
6. THE PERIOD BETWEEN NOVEMBER 1ST AND APRIL 15TH IS CONSIDERED THE "WINTER CONSTRUCTION PERIOD". IF SOILS WILL BE EXPOSED AFTER NOVEMBER 1ST, A PLAN FOR WINTER CONSTRUCTION MUST BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER ON OR BEFORE OCTOBER 1ST. THE CONTRACTOR SHALL ENSURE SEDIMENT CONTROL IS INSTALLED PRIOR TO THE SOIL FREEZING. AN INSPECTION WILL BE REQUIRED IF THE PROJECT IS COMPLETED DURING THE WINTER MONTHS TO ENSURE THE SITE IS SECURED FOR THE REMAINDER OF THE SEASON.
7. DURING THE WINTER CONSTRUCTION SEASON, ANY NEW DISTURBANCE MUST BE STABILIZED (TEMPORARY OR FINAL) AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
 - A. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECAST DURING THAT PERIOD
 - B. WORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, 2-FEET OR MORE IN DEPTH.
8. IN NO CASE SHALL SOIL BE EXPOSED FOR MORE THAN 14 DAY WITHOUT BEING STABILIZED.
9. ALL DISTURBED AREAS ARE TO BE PERMANENTLY STABILIZED WITHIN 48 HOURS OF FINAL GRADING.
10. THE PERIMETER OF THE SITE AND ALL BAYS SHALL BE INSPECTED AT THE END OF EACH WORK DAY TO ENSURE SEDIMENT DOES NOT LEAVE THE SITE. IF SEDIMENT HAS TRAVELED BEYOND THE PROJECT LIMITS, IT SHALL BE RELOCATED IN AN UPGRADED AREA ON SITE AT THE END OF EACH WORK DAY.
11. ALL STABILIZATION INCLUDING SEEDING IS TO BE COMPLETED BY SEPTEMBER 15TH.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTION OF THE ADJACENT ROADWAYS FOR OFF-SITE TRACKING OF SOIL MATERIALS. SOIL, STONE, AND DEBRIS FOUND LEAVING THE SITE ARE TO BE REMOVED (WHEN FOUND) BY SWEEPING AT THE END OF EACH CONSTRUCTION DAY, OR MORE FREQUENTLY WHEN NEEDED TO PREVENT IMPACTS TO ADJACENT ROADS AND SIDEWALKS.
13. IF DETERMINING IS REQUIRED FOR CONSTRUCTION, THE CONTRACTOR MUST UTILIZE SEDIMENT FILTER BAGS (OR ALTERNATE APPROVED BY THE ENGINEER) TO PREVENT DISCHARGE OF SEDIMENT-LADEN WATER OFF SITE.
14. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE PLACED ON-SITE IN A LOCATION TO BE APPROVED OF BY THE OWNER AND/OR THE ENGINEER OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
15. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.
16. SLOPES GREATER THAN 3:1 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. NETTING SHALL BE BIODEGRADABLE WITH A 12 MONTH LONGEVITY, 150GSM AS MANUFACTURED OR APPROVED EQUIVALENT. INSTALL NETTING OVER MULCHED SLOPES SO THAT ALL PARTS ARE IN CONTACT WITH THE SOIL AND MULCH. PIN NETTING WITH WIRE STAPLES 3 FEET O.C. TO ENSURE FULL BONDING WITH SOIL SURFACE. THE SLOPE SURFACES MUST BE LEFT SLIGHTLY ROUGHENED AND NOT SMOOTH. IF LARGE AMOUNTS OF OFFSITE WATER WILL DRAIN OVER THESE SLOPES, TEMPORARY DIVERSION SWALES SHALL BE INSTALLED UP SLOPE UNTIL THE SLOPE VEGETATION STABILIZES.
17. THE OWNER SHALL BE NOTIFIED WHEN SITE WORK IS COMPLETED AND THE SITE IS STABILIZED. THE OWNER WILL COORDINATE WITH BURLINGTON DPW TO SCHEDULE A STABILIZATION INSPECTION.

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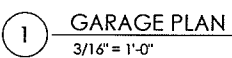
Sheet Title: Erosion Prevention & Sediment Control Details

Project Title: The Vaults Redevelopment Project
Pine Street & Howard Street
Burlington, Vermont

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Checked By:	KW
Drawn By:	HKW
Scale:	NOT TO SCALE
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GENERAL NOTES

1 DIMENSIONS ARE FROM FRAMING-TO-FRAMING, UNLESS NOTED OTHERWISE

THE VAULTS
20 HOWARD STREET, BURLINGTON, VT

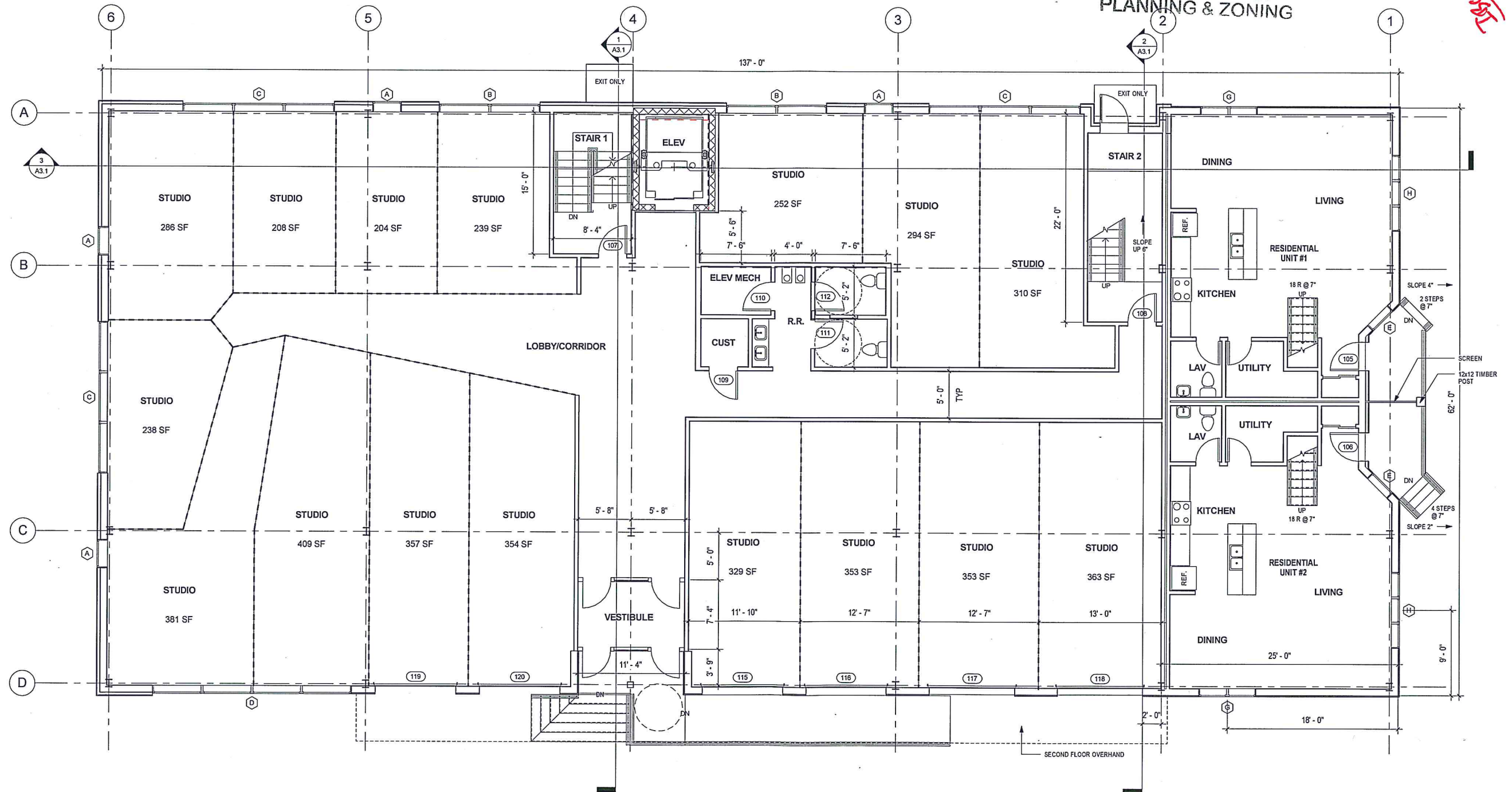
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Final Approved 1/18/17



1 FIRST FLOOR PLAN
3/16" = 1'-0"

FOOTPRINT 8382 SF
RENTAL AREA 4930 SF
RESIDENTIAL 1335 SF

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MEP ENGINEER
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THE VAULTS
20 HOWARD STREET, BURLINGTON, VT

DATE: 12/05
REVISED:

SCALE:
3/16" = 1'-0"

DRAWING:
FIRST FLOOR
PLAN

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SCALE:
 $3/16" = 1'$

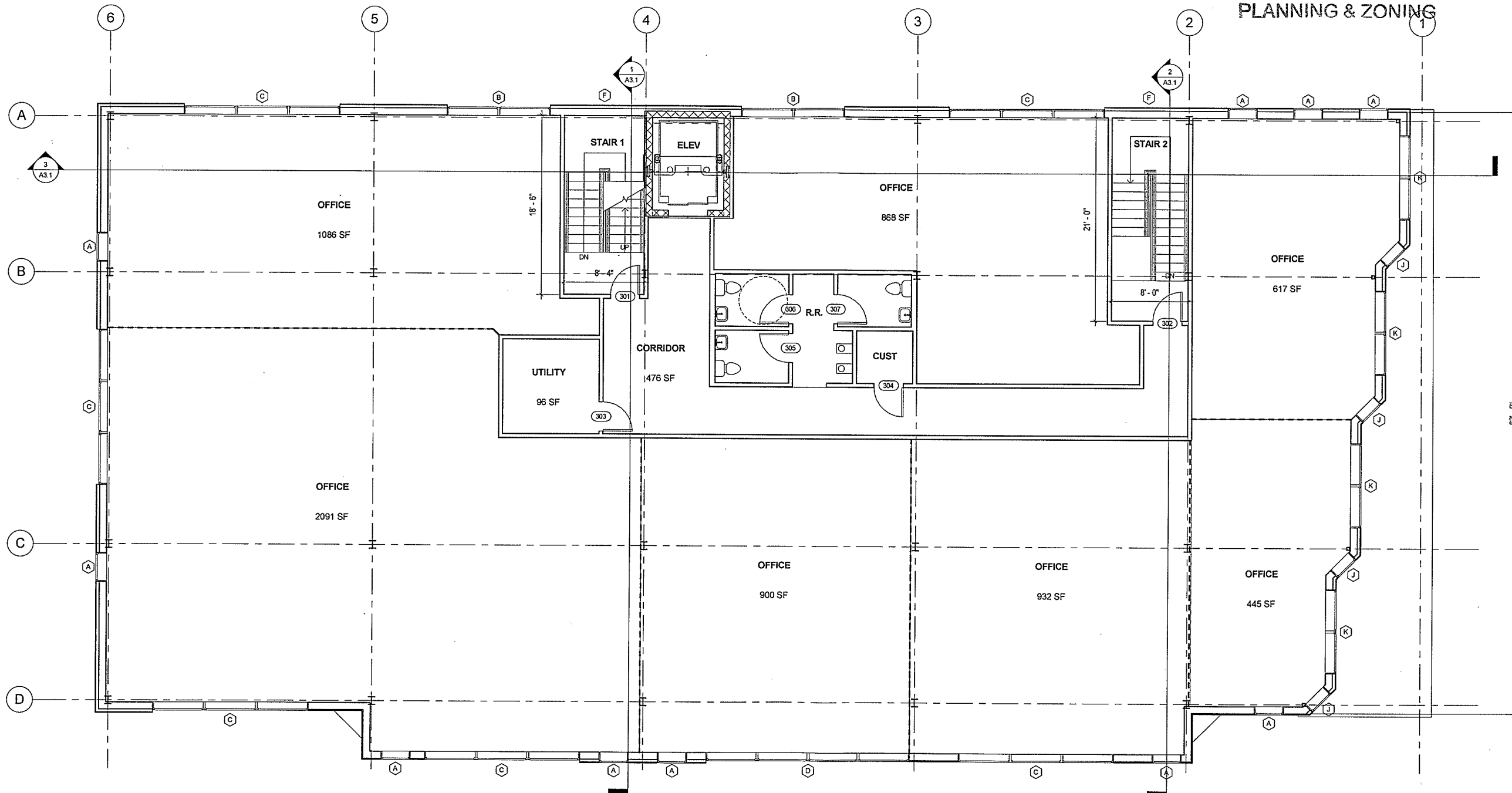
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FLOOR PL

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1 THIRD FLOOR PLAN
3/16" = 1'-0"

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RENTAL AREA 6936 SF

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Engineering Ventures,
208 Flynn Ave #2a
Burlington, VT 05401

MEP ENGINEER
Hillman Associates Inc.,
38 Eastwood Dr #300
South Burlington, VT 05403

THE VAULTS
20 HOWARD STREET, BURLINGTON, VT

DATE: 12/05/16
REVISED:

SCALE:
3/16" = 1'-0"

DRAWING:
THIRD
FLOOR PLAN

SHEET:
A1

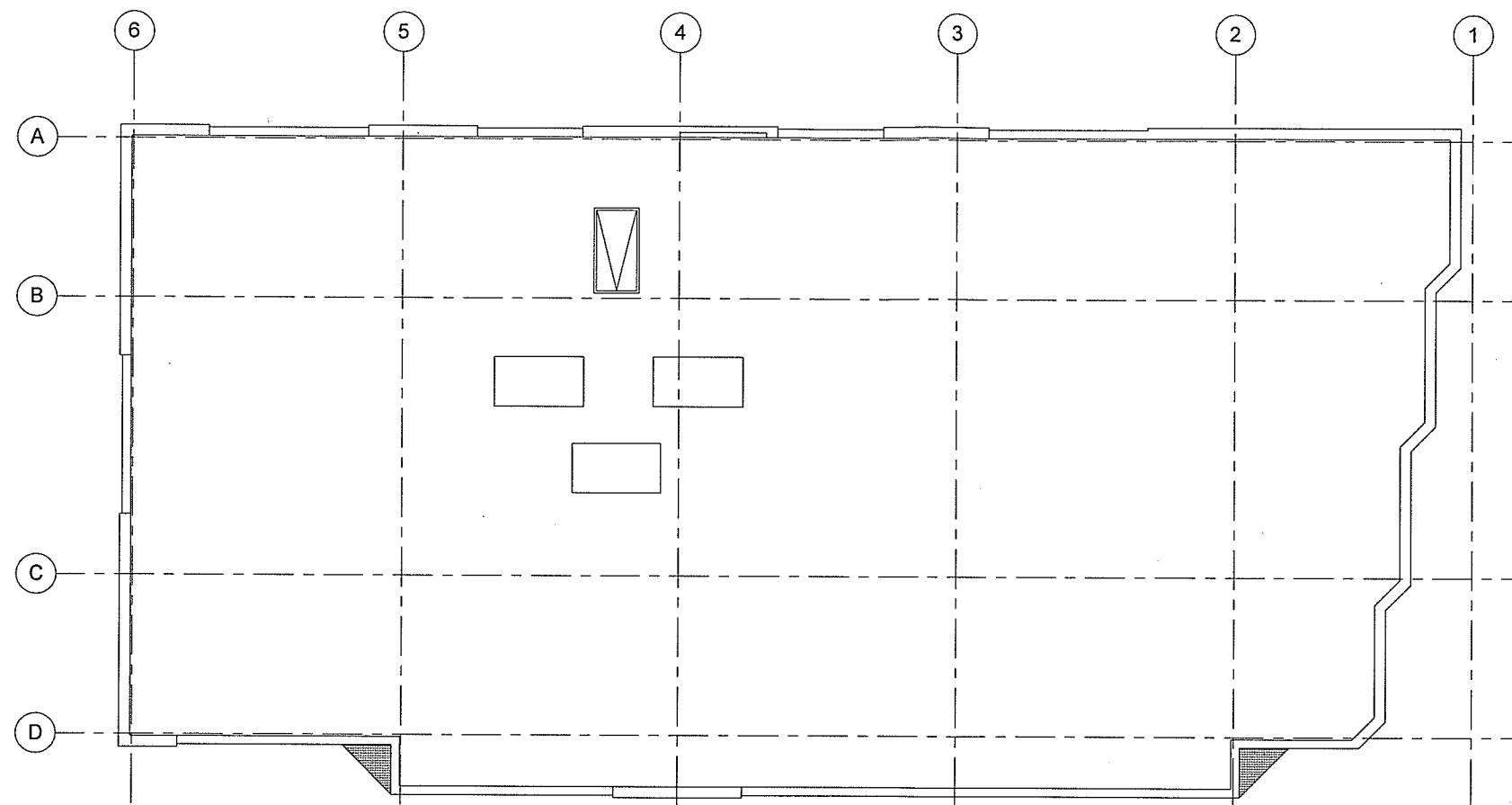
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DATE: 12/05/16
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SCALE:
1/8" = 1'-0"

DRAWING:
ROOF PL

SHEET:
A1

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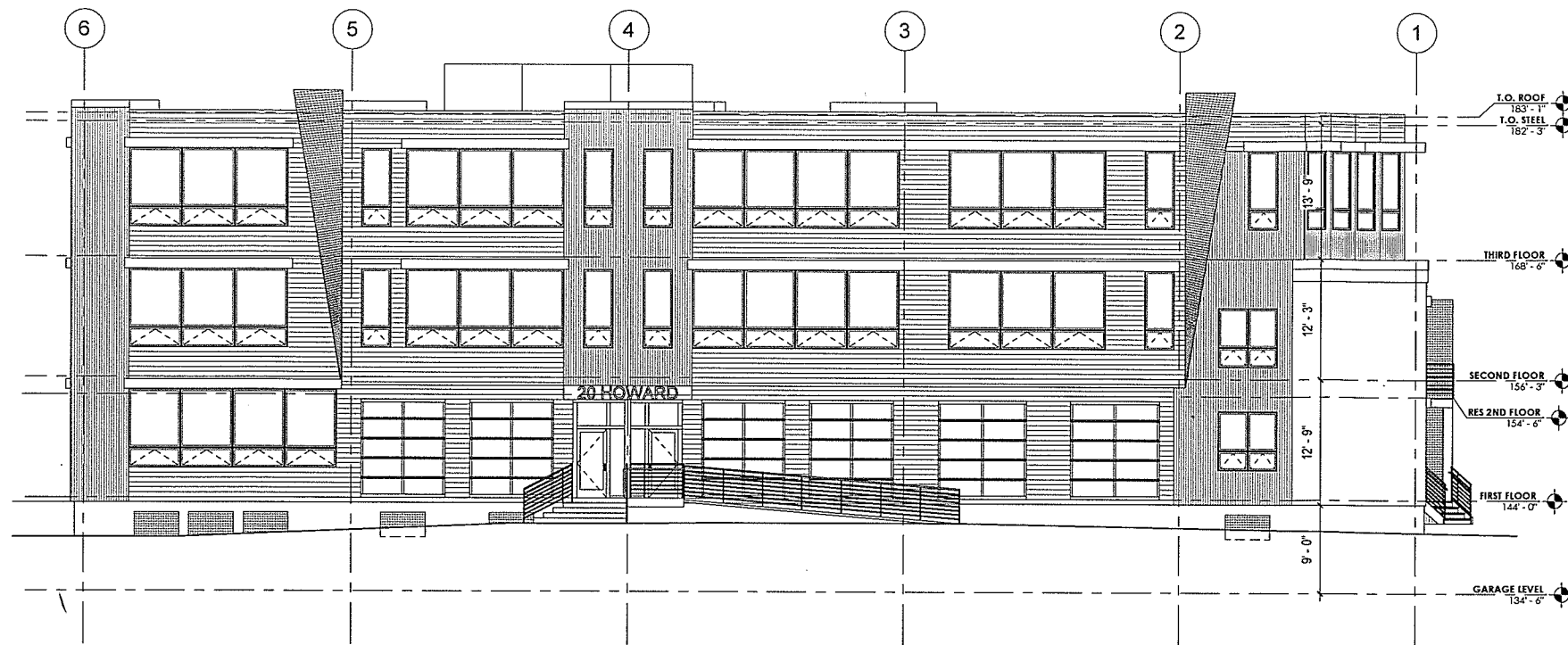
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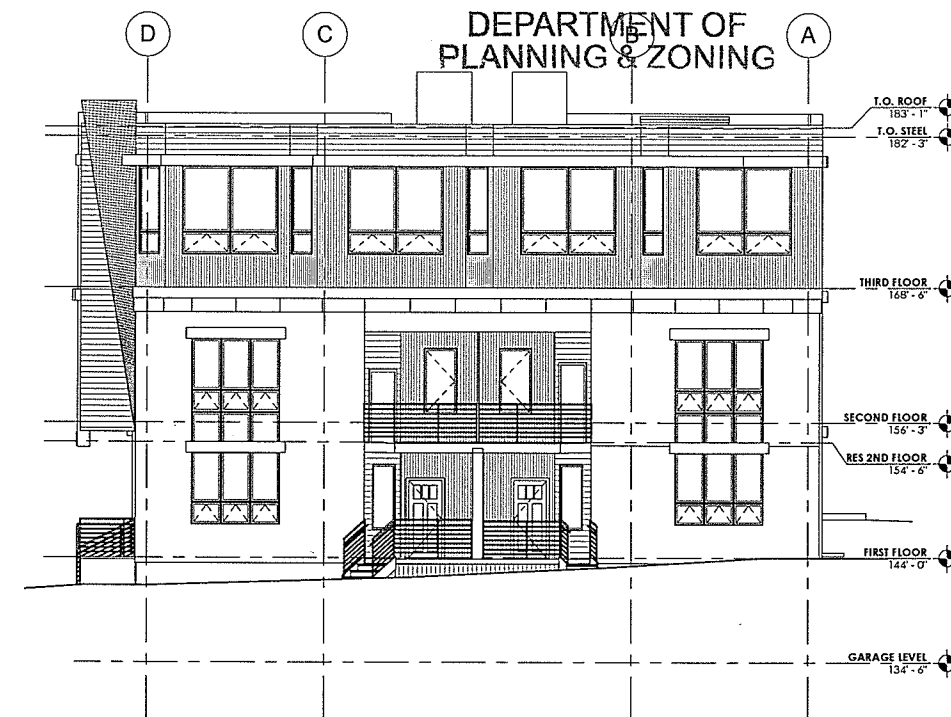
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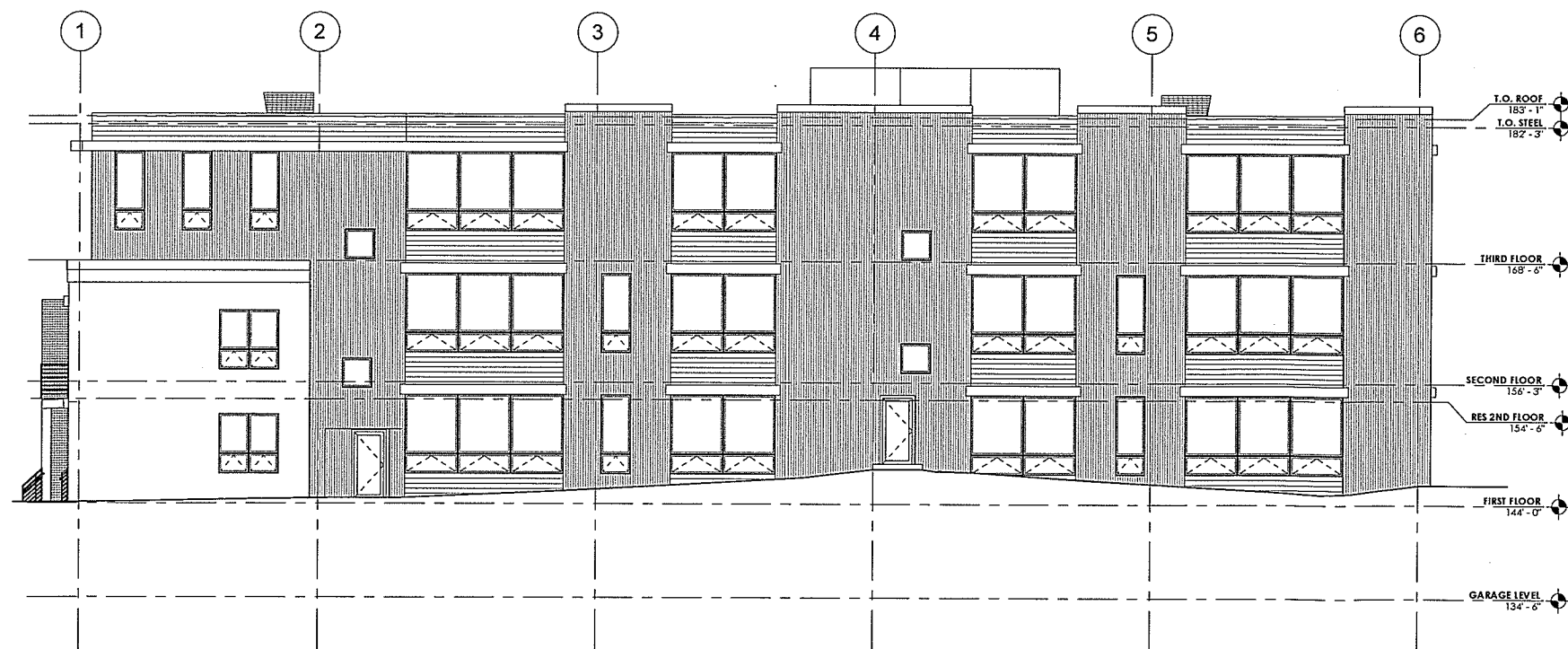
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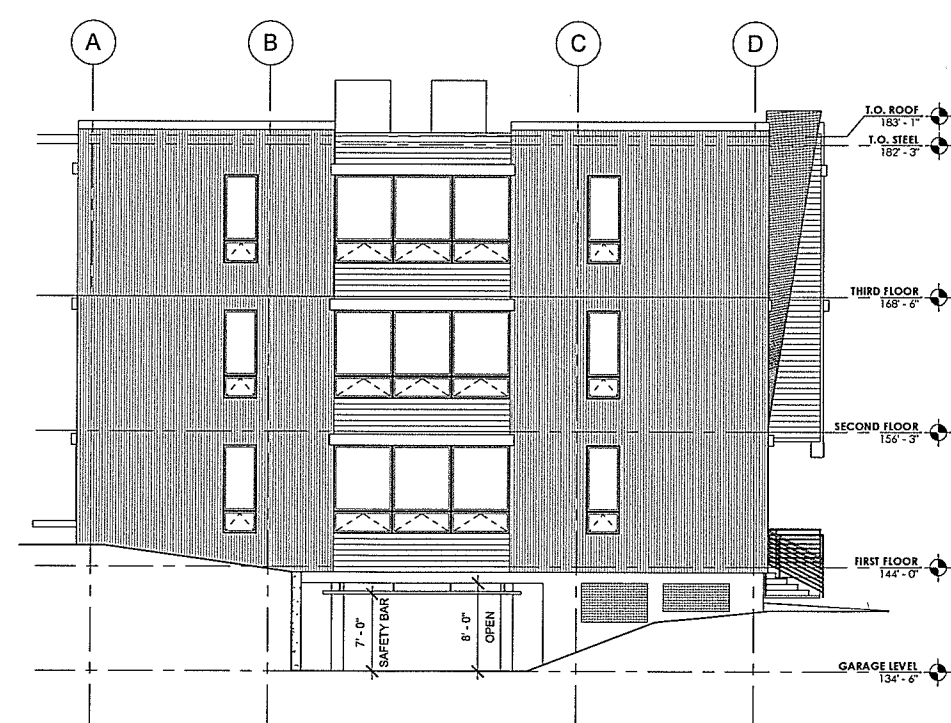
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1/8" = 1'-0"



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



3 EAST ELEVATION
1/8" = 1'-0"



4 NORTH ELEVATION
1/8" = 1'-0"

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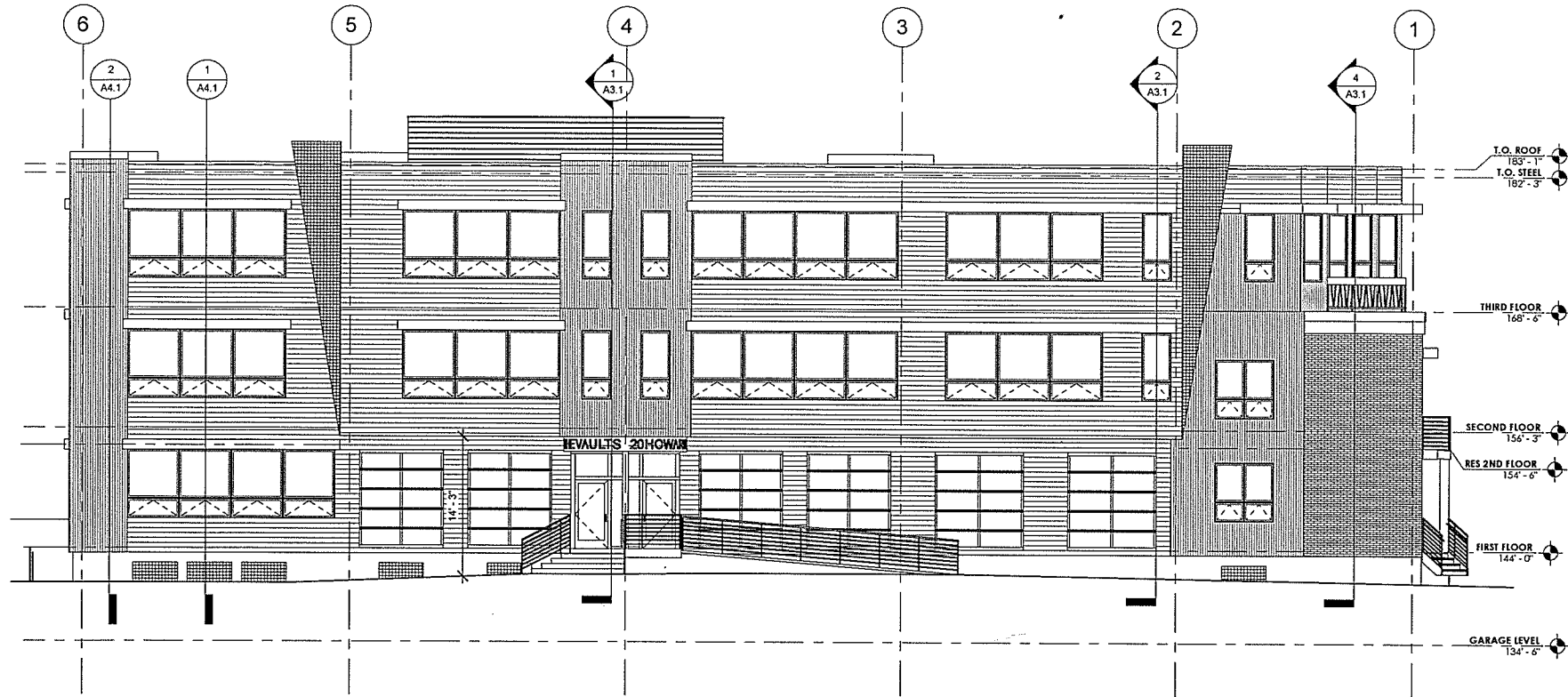
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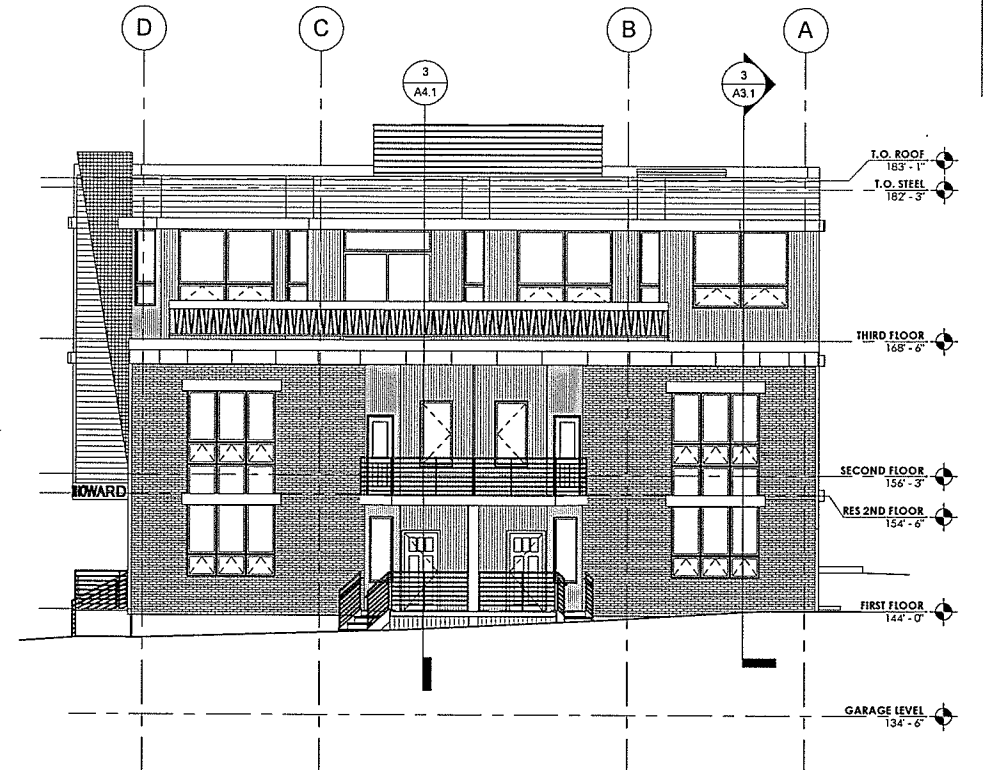
DRAWING:
BUILDING
ELEVATIONS

SHEET:

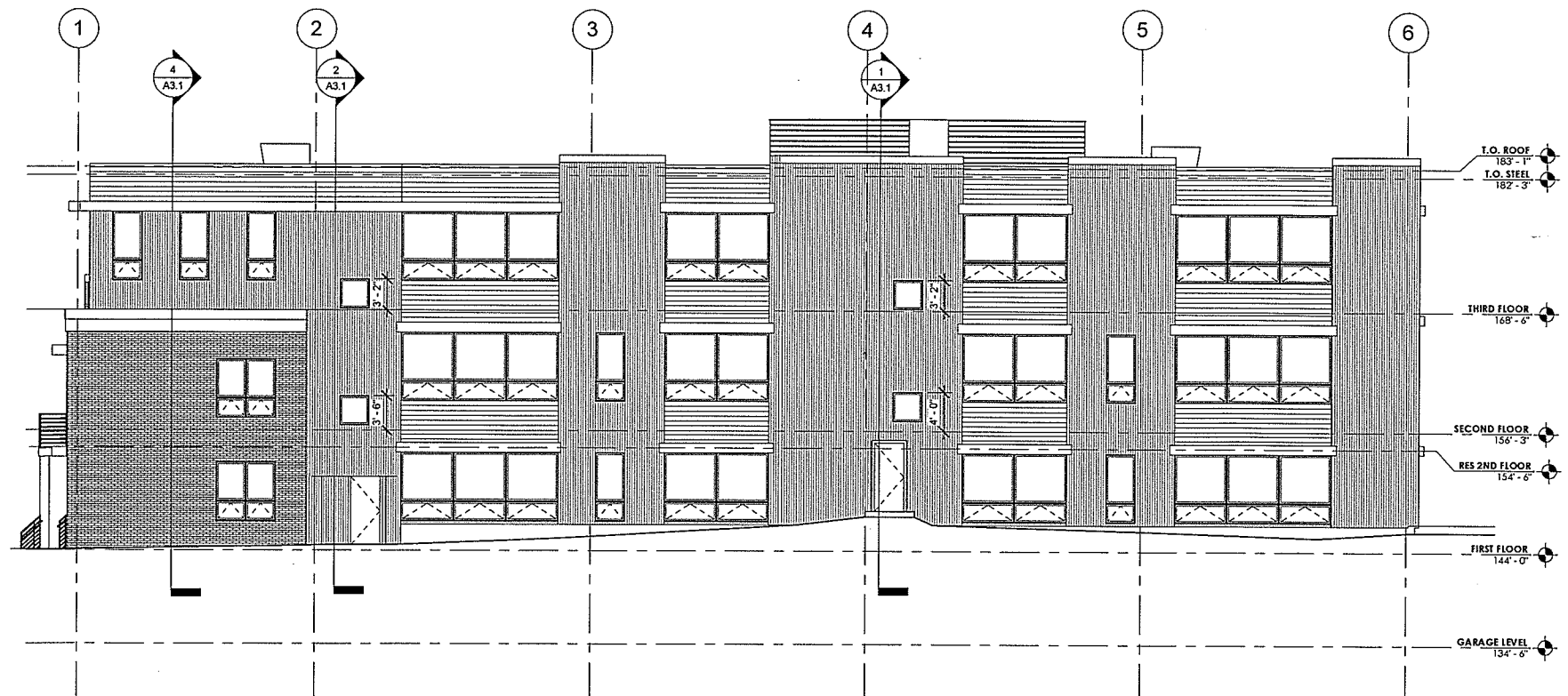
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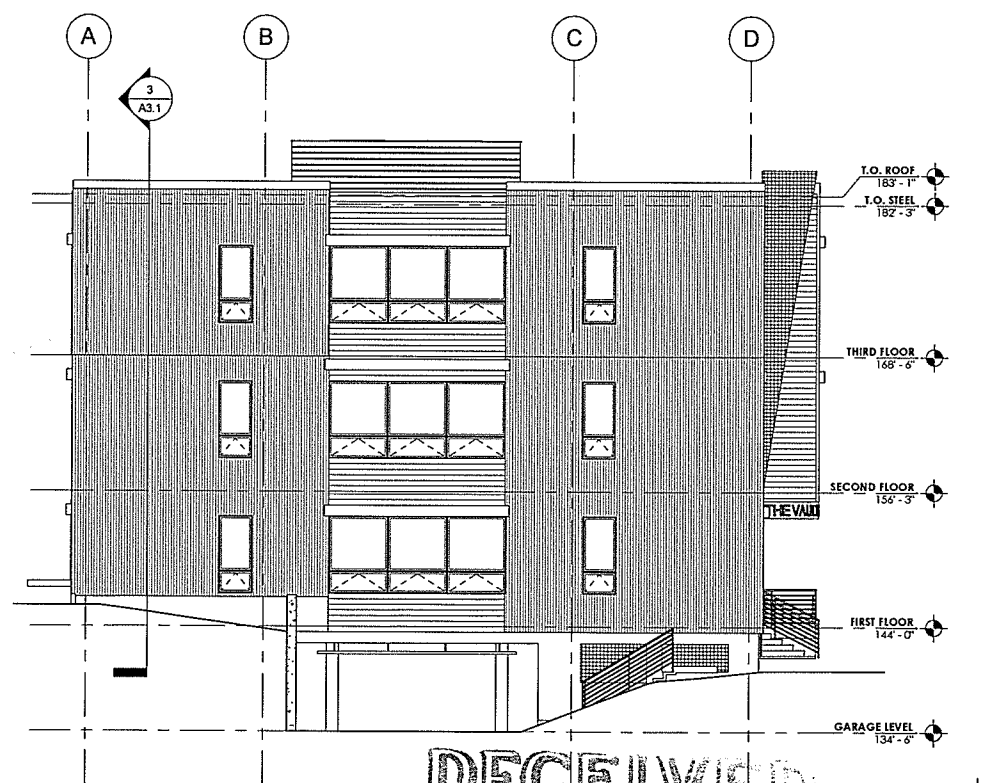
1 WEST ELEVATION
1/8" = 1'-0"



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



3 EAST ELEVATION
1/8" = 1'-0"



4 NORTH ELEVATION
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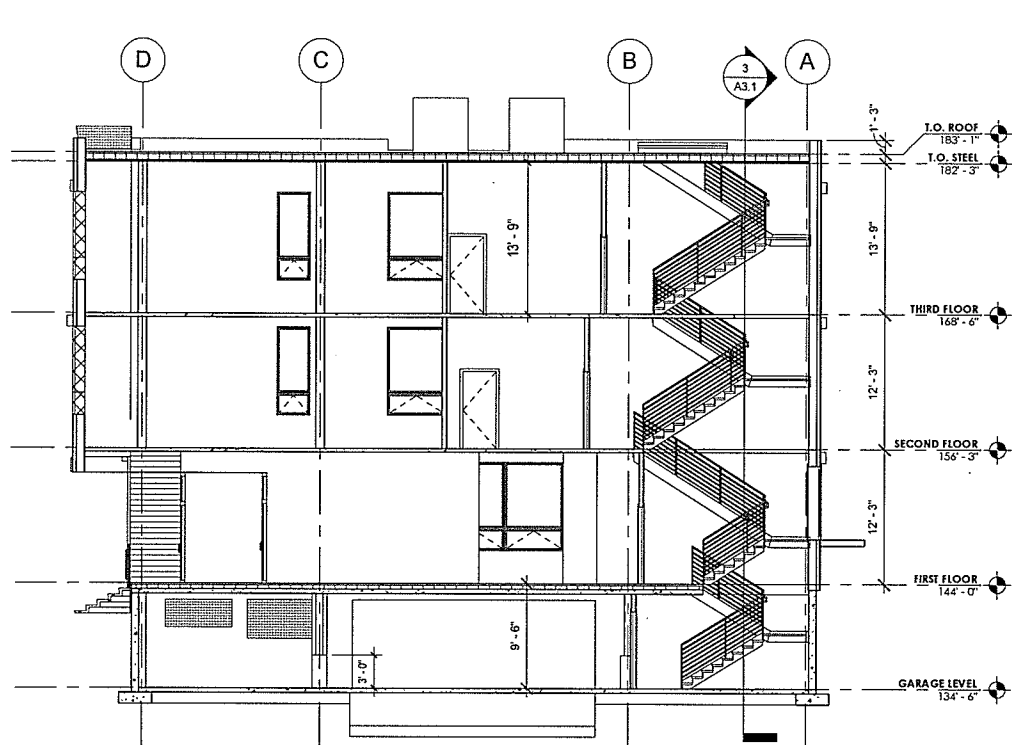
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DRAWING:
BUILDING
ELEVATION

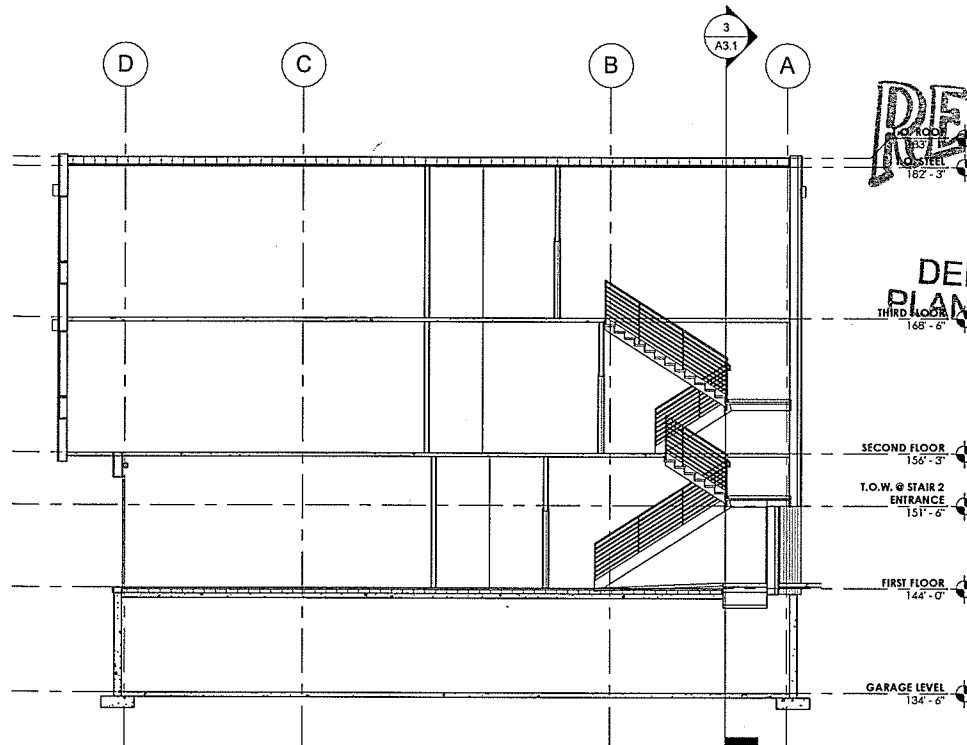
SHEET:
A2

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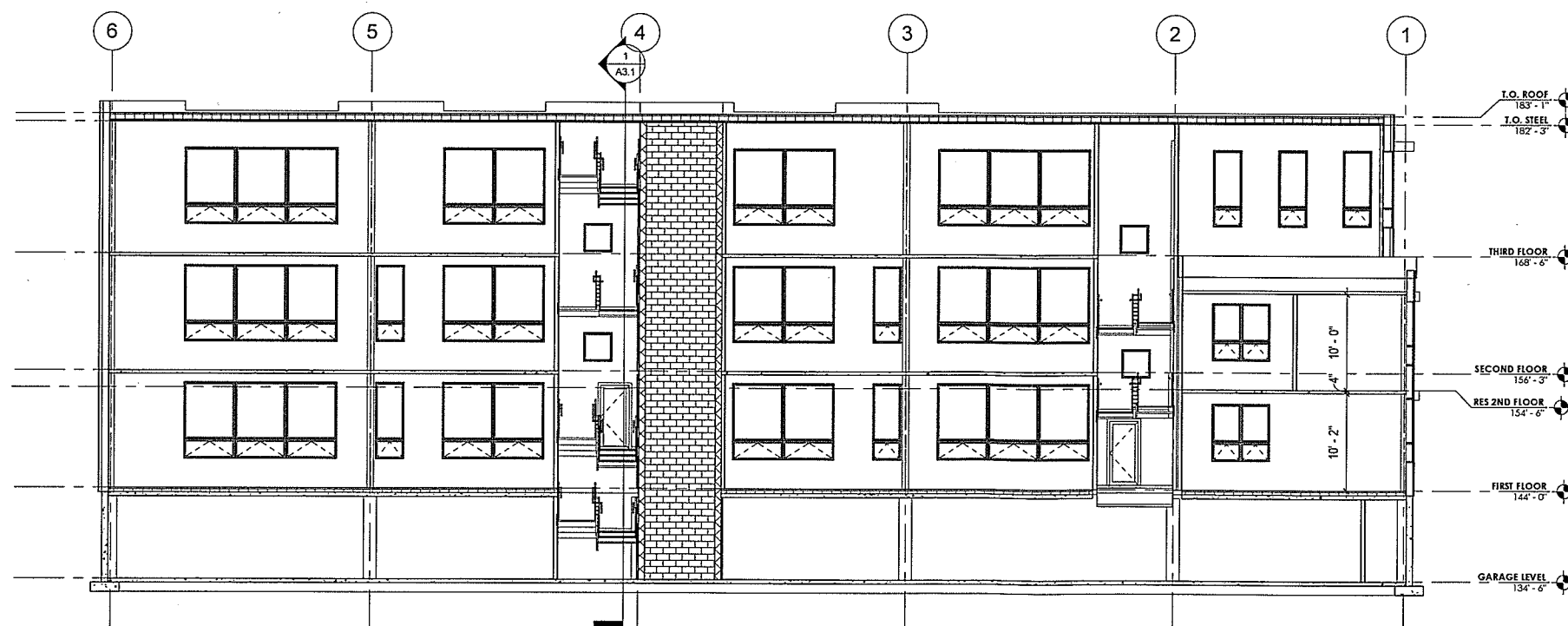
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1 SECTION A
1/8" = 1'-0"



2 SECTION B
1/8" = 1'-0"



3 SECTION C
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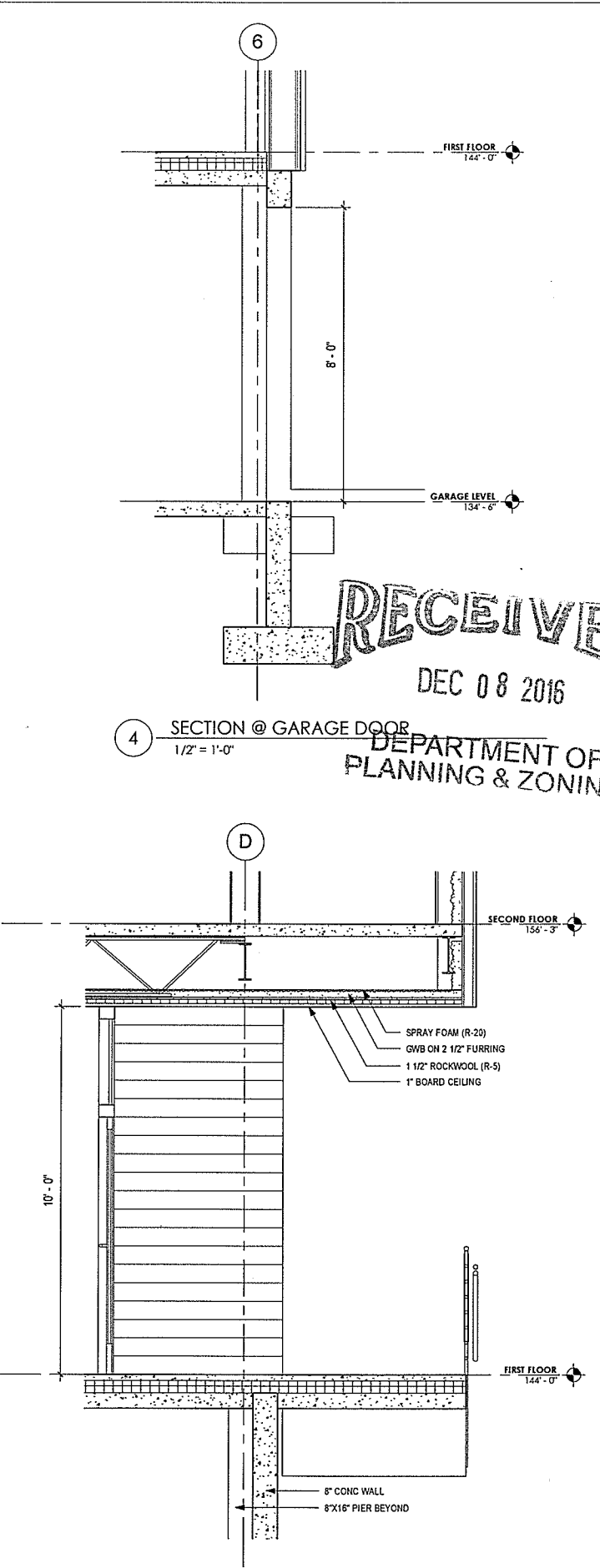
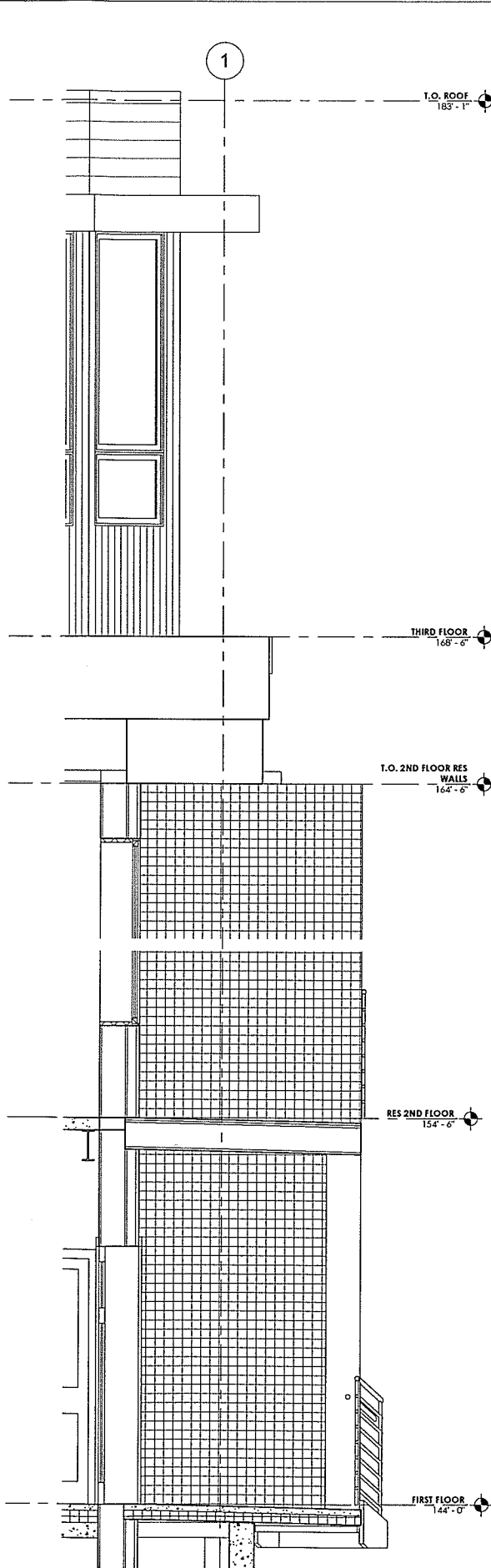
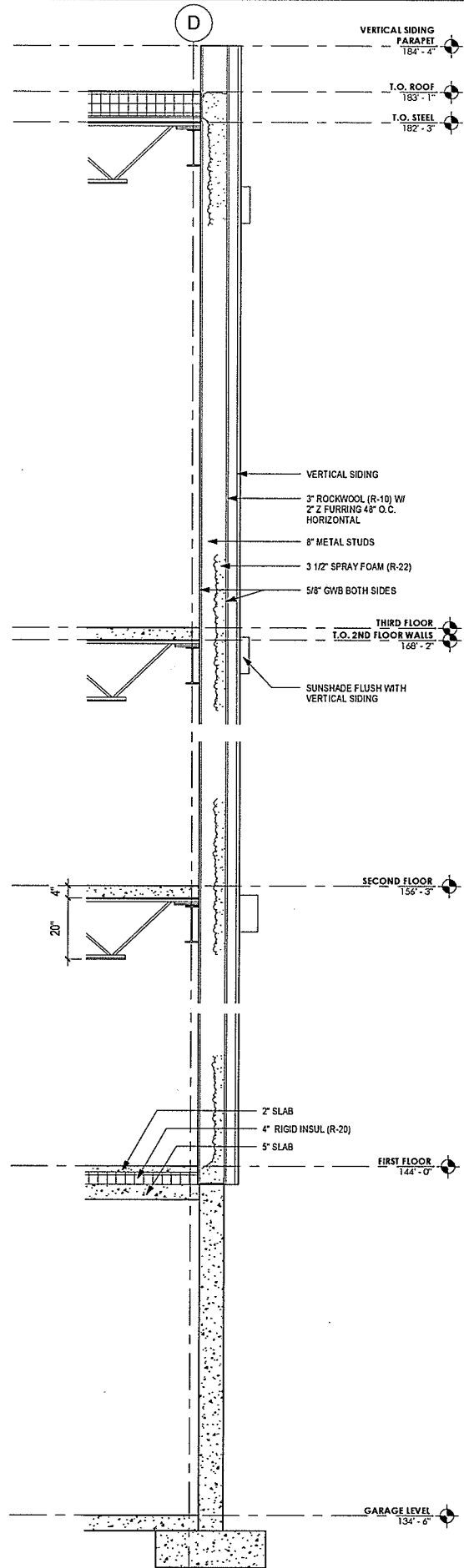
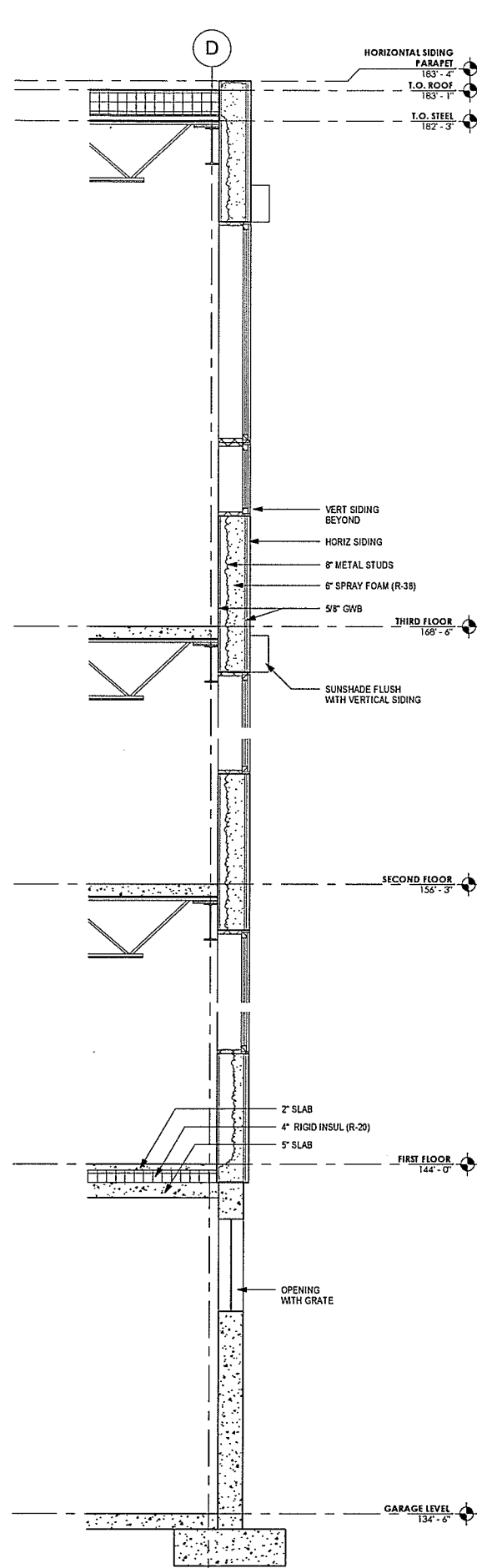
SCALE:
1/8" = 1'-0"

DRAWING:
BUILDING
SECTION

SHEET:
A3

PROGRESS SET

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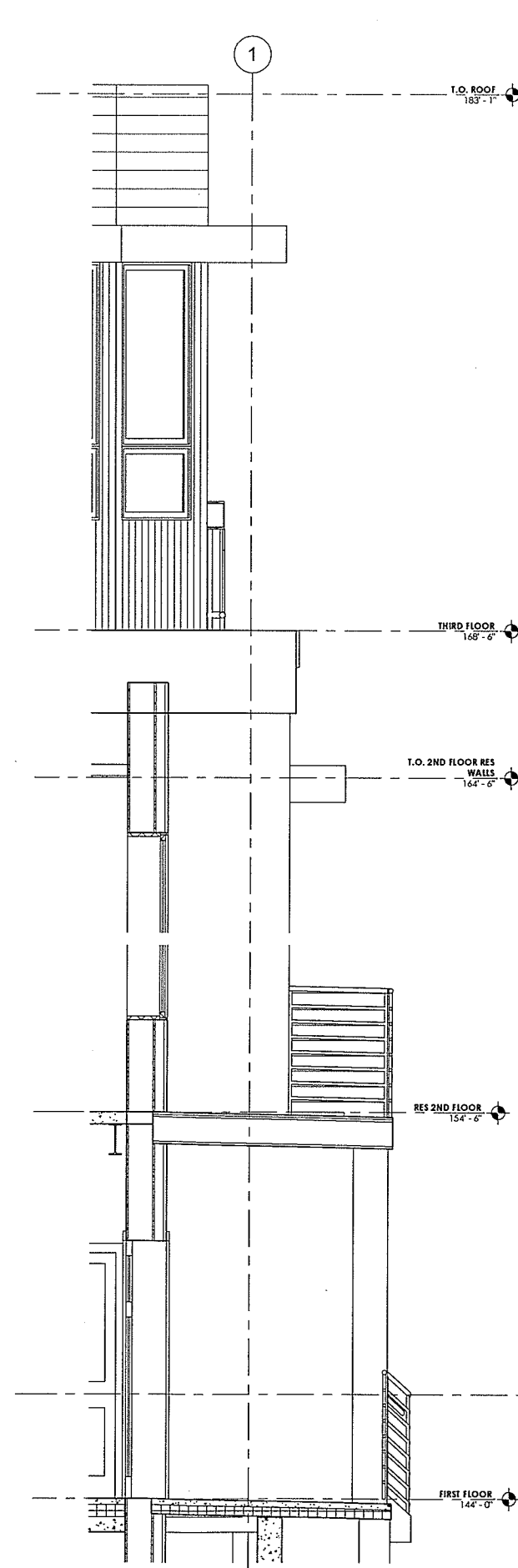
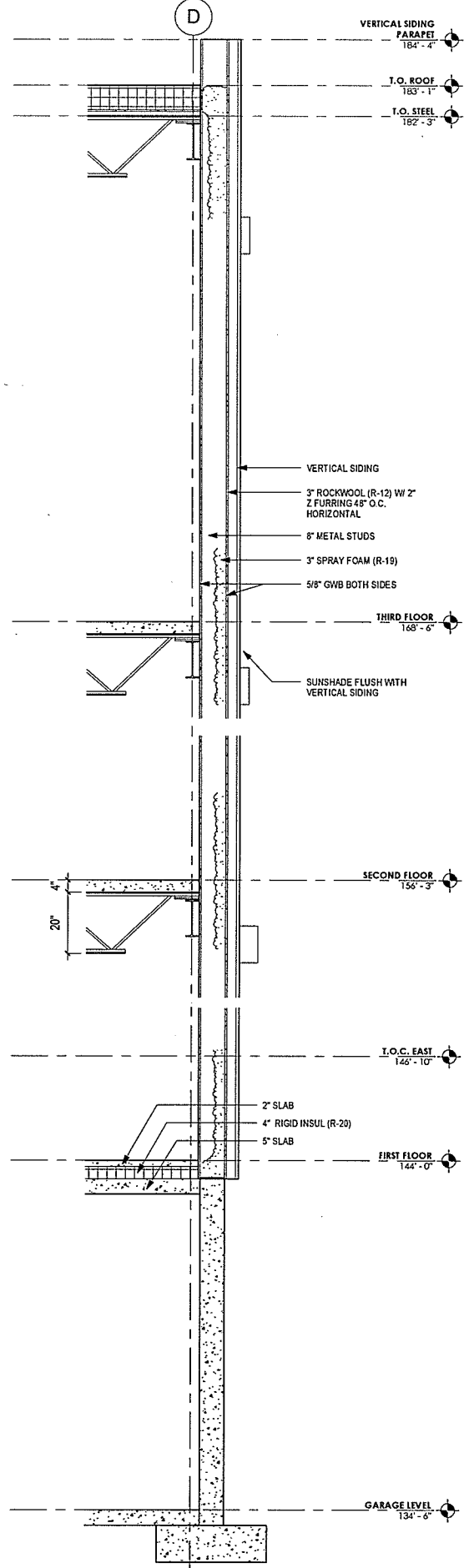
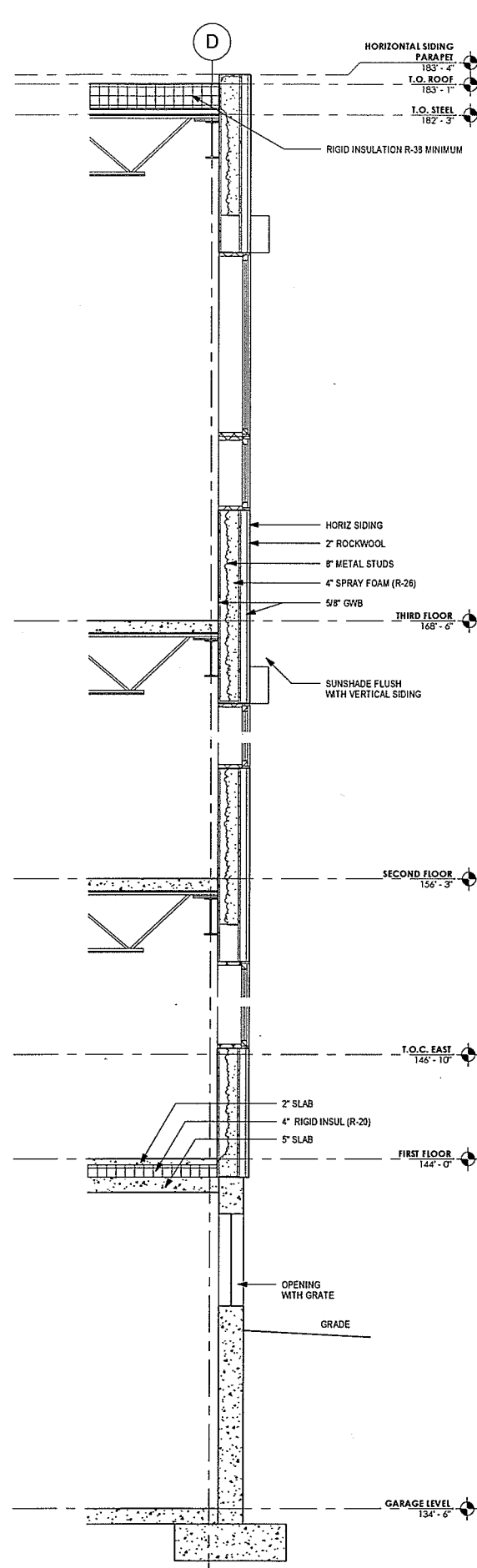
SCALE:
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DRAWING:
WALL
SECTION

SHEET:
A4

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DATE & TIME: 12/05/2016 1:34:20 PM



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1 NE VIEW



2 NW VIEW



3 SE VIEW



4 SW VIEW

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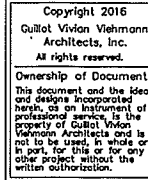
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THE VAULTS
 20 HOWARD STREET, BURLINGTON, VT

DATE: 01/13
 REVISED:
 SCALE:
 DRAWING:
 3D VIEW
 SHEET:
 A9

PLANTING SCHEDULE					
QTY	LATIN NAME	CULTIVAR	COMMON NAME	SIZE	NOTES
1	ACER RUBRUM	NORTHWOOD	RED MAPLE	0'-3"	B&B
3	AMELANCHIER LAEVIS	ALLEGHENY	SERVICEBERRY	4'-5'	B&B
9	BETULA NEGRA	RIVER BIRCH	DURAHEAT BNMTF	5'-6'	PLANT IN CLUMPS OF 3
3	CEPHALANTHUS OCCIDENTALIS	-	BUTTONBUSH	3 GAL	
3	HAMAMELIS VIRGINIANA	-	COMMON WITCHHAZEL	3 GAL	
21	JUNIPERUS CONFERTA	BLUE PACIFIC	SPREADING JUNIPER	1 GAL	
2	PICEA OMORIKA	SERBIAN	SPRUCE	6'-8' HT	
1	QUERCUS RUBRA	NORTHERN	RED OAK	3" CAL	
5	RHODODENDRON CANADENSIS	RHODORA	RHODODENDRON	3 GAL	
15	THUJA OCCIDENTALIS	SMARGD	WHITE CEDAR	3'-4'	
7	VIBURNUM DETATUM	-	ARROWWOOD	3 GAL	
4	VIBURNUM OPULUS	TRILOBUM	HIGHBUSH CRANBERRY	3 GAL	
1	PERRENIAL BED	MIX OF HEIGHT, COLOR AND BLOOM TIME; 1 PLANT/SF			
2	WATER GARDEN	IRIS VARICOLOR, CALTHA PALUSTRIS (MARSH MARIGOLD) CHELONEGLABRA (TURTLEHEAD) EUPATORIUM MACULATUM (JOE PIEWED) TIARELLA CORDIFOLIA (FOAM FLOWER). PLANT WITH SHORT PLANTS IN FRONT AND SHALLOW AREAS			

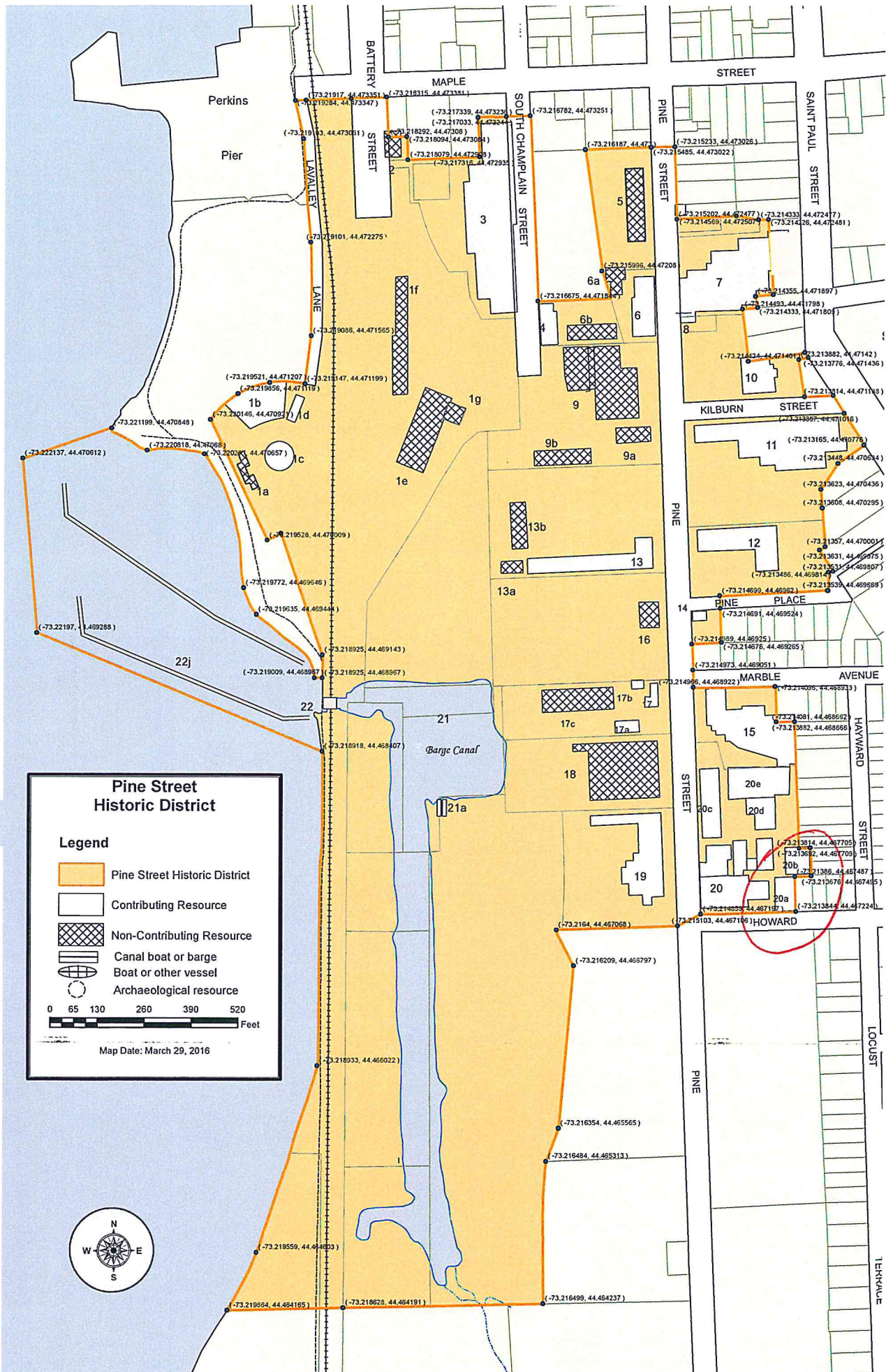


CE
JAN 13 20
ARTMENT
ING & ZO

DATE: 11-30-2016
REVISED:
1-3-2017 - fence

DRAWING:
LANDSCAPE
PLAN

SHEET:



Pine Street Historic District

Chittenden County,
County and State

Name of Property

The southern façade has the same double hung two/two windows with round arched lintels and granite sills – five windows on the third floor and three on second and first floors and in the raised redstone foundation. The remaining two windows are covered by a one-story, flat-roofed, brick addition (ca 1960) with a wooden deck and stair to an entry door.

20. E.B. and A.C. Whiting Company, 400 Pine 1902/1915, Contributing

The first structure in this varied industrial complex dates to 1902, when the large main block on the corner of Pine and Howard was rebuilt following a fire. It was enlarged and most of the other buildings were constructed between 1912 and 1919. One storehouse from 1900 remains, and a final large addition was built ca 1960.

The three-story frame structure with a shallow gable roof has two-story shed-roofed wing along the full length of the west wall. It rests on a concrete foundation. A large bay projecting diagonally from the southwest corner of the third floor has two/two sash and is a prominent feature.

The two-story section of the west wall has been recovered with metal sheathing, but it appears the original iron cladding remains beneath. The second floor has five pairs of twelve/eight double hung windows, then a single one/one, then two eight/eight windows. The first floor has bands of windows, originally consisting of three eighteen-light sash.

The first band has replacement one/one sash, the next band has new five-light wooden windows. A loading door separates the second band from the third, which has the same five-light replacement sash. A final window like the five-light bands has only two lights. The third story of the main structure is visible above the shed roof and appears to retain its iron cladding. It has ten two/two double hung windows evenly spaced along the entire length. The south wall of the main block is sheathed in aluminum clapboard siding. The two-story section has eight/eight double hung windows in bays one to three and bay five on the second floor. Windows on the first floor are all replacements and two are on each side of an entry door. The three-story main block has three two/two double hung windows evenly spaced on the third floor and smaller windows between them. One sixteen-light metal window remains on the second floor along with an eight/eight double hung. What was a large opening with a sliding door on the first floor has been filled in and contains a sixteen-light metal window and a twelve-light wooden window to the east of an entry door.

A two-story shed-roofed section extends to the east of and is set back from the main block. It has a mixture of vertical board, shingle, and aluminum clapboard siding and irregularly placed window openings with a one/one double hung window, two sixteen-light metal windows, and a nine-light window. The variety of siding materials and windows makes it impossible to discern the original fenestration.

Another extension to the east, dating from 1942, is a one-and-a-half story structure with a shallow gable roof and corrugated metal siding on a concrete block foundation. A loading dock runs the length of the south side; a pent roof shelters an entry door, two loading entries with garage doors, another entry door and a bank of three modern vinyl one/one windows. The east

Pine Street Historic District

Chittenden County,
County and State

Name of Property

four now have a large entry with a garage door, and an entry door opens in bay five. The east façade first floor has sixteen-light metal windows with concrete sills in bays one to four, six to nine, and eleven and twelve (sash replaced); a large entry with a garage door opens in bay five and an entry door in bay ten. Twelve-light metal windows with splayed brick lintels and concrete sills were originally in all bays on the second story; they have been covered over in bays three to six, nine and ten, and the sash replaced in bays eleven and twelve.

The west façade second story has the same fenestration, flashing and shadow of the demolished section as seen on the east side of the drying room. The second floor has sixteen-light metal windows with concrete sills in bays one to five, then openings get smaller in bay six and smaller again, to accommodate the sloping roof of the structure that once joined the combing room to its twin; the flashing and shadow of the building are visible on this wall. The first floor had the same windows in bays one to three and an entry door in bay four.

The north wall has sixteen-light metal windows with splayed brick lintels and concrete sills in all six bays on the second floor; sash has been replaced in bays one, two, and four. The first floor has the same windows, lintels, and sills in bays one to three and five and six, but all sash have been replaced; an entry door opens in bay four.

20a. Storage, ca 1915, Contributing

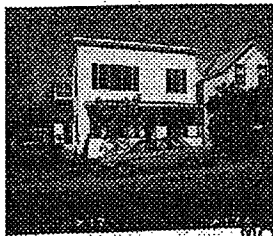
A one-story, shed-roofed structure of brick set in common bond rests on a raised concrete foundation. It is divided into seven sections, each with its own metal double-door loading dock entry with ventilator window above on the west façade. A firewall rises above the roof between the fifth and sixth bays, and the seventh bay is slightly taller. Most of the north façade is obscured because of the proximity of 20b, but a stepped parapet wall is partly visible. The south wall has one double entry door near the west end, and the east wall has no openings.

20b. Storage, 1900, Contributing

This large, two-and-a-half story, frame building is sheathed in corrugated metal and rests on a raised concrete foundation. The very wide gable roof extends to the top of first story level. A vehicle entry with sliding doors and smaller entry door provide access on the west side. The north and east façades have no openings and it nearly touches 20a on the south.

20c. Fiber Machine Shop, ca 1915, Contributing

This long rectangular, four- by one-bay, one-story, common bond brick building is divided into four sections by brick firewalls. It has a low-pitched gable roof with two skylights in each section and rests on a concrete foundation. The west-facing front façade has four double entry doors topped by segmental brick arches and flanked by twelve-light metal windows with splayed brick lintels and brick sills. The door in bay one has been glassed in to create a large shop window; the right-side window in bay two has replacement sash, the left-hand window in the third bay has been enlarged. Both windows in the fourth bay have been altered; the left-hand has replacement sash and the right has been enlarged. The east façade provides service entry to the retail businesses inside and has a shed-roofed wood lean-to section running from the third bay nearly to the north end. The first bay has a window, loading dock, and a window with



STATE OF VERMONT
Division for Historic Preservation
Montpelier, VT 05602

HISTORIC SITES & STRUCTURES SURVEY
Individual Structure Survey Form

SURVEY NUMBER:

32 Howard

NEGATIVE FILE NUMBER:

77-A-276

UTM REFERENCES:

Zone/Easting/Northing

U.S.G.S. QUAD. MAP:

PRESENT FORMAL NAME:

ORIGINAL FORMAL NAME:

PRESENT USE: 2-family

ORIGINAL USE: same

ARCHITECT/ENGINEER:

BUILDER/CONTRACTOR:

PHYSICAL CONDITION OF STRUCTURE

Excellent ☐ Good ☒

Fair ☐ Poor ☐

THEME:

STYLE:

DATE BUILT:

COUNTY:

TOWN:

LOCATION:

COMMON NAME:

FUNCTIONAL TYPE:

OWNER: Antoinette Fay & Benoit

ADDRESS: 32 Howard St.

ACCESSIBILITY TO PUBLIC:

Yes ☐ No ☒ Restricted ☐

LEVEL OF SIGNIFICANCE:

Local ☒ State ☐ National ☐

GENERAL DESCRIPTION:

Structural System

1. Foundation: Stone ☒ Brick ☐ Concrete ☐ Concrete Block ☐
2. Wall Structure
 - a. Wood Frame: Post & Beam ☐ Balloon ☐
 - b. Load Bearing Masonry: Brick ☐ Stone ☐ Concrete ☐ Concrete Block ☐
 - c. Iron ☐ d. Steel ☐ e. Other: ☐
3. Wall Covering: Clapboard ☐ Board & Batten ☐ Wood Shingle ☐ Shiplap ☐ Novelty ☐ Stucco ☐ Sheet Metal ☐ Aluminum ☐ Asphalt Shingle ☐ Brick Veneer ☐ Stone Veneer ☐ Bonding Pattern: ☐ Other: ☐
4. Roof Structure
 - a. Truss: Wood ☐ Iron ☐ Steel ☐ Concrete ☐
 - b. Other: rafter ☐
5. Roof Covering: Slate ☐ Wood Shingle ☐ Asphalt Shingle ☐ Sheet Metal ☐ Built Up ☐ Rolled ☐ Tile ☐ Other: ☐
6. Engineering Structure: ☐
7. Other: ☐

Appendages: Porches ☒ Towers ☐ Cupolas ☐ Dormers ☐ Chimney

Sheds ☐ Ells ☐ Wings ☒ Other: ☐

Roof Style: Gable ☐ Hip ☐ Shed ☐ Flat ☒ Mansard ☐ Gambrel

Jerkinhead ☐ Saw Tooth ☐ With Monitor ☐ With Bellcast ☐

With Parapet ☐ With False Front ☐ Other: ☐

Number of Stories: 2

Number of Bays: 4 x 2

Entrance Location: 3rd bay

Approximate Dimensions:

THREAT TO STRUCTURE:

No Threat ☐ Zoning ☐ Roads ☐

Development ☐ Deterioration ☐

Alteration ☐ Other: ☐

LOCAL ATTITUDES:

Positive ☐ Negative ☐

Mixed ☐ Other: ☐

ADDITIONAL ARCHITECTURAL OR STRUCTURAL DESCRIPTION:

Massing - rectangular block with front porch, 1-story rear wing & side stairway which is enclosed.

Fenestration - modern, aluminum 1 over 1 sashes.

Door - glass - upper portion, horizontal and vertical molded panels below.

RELATED STRUCTURES: (Describe)

STATEMENT OF SIGNIFICANCE:

REFERENCES:

MAP: (Indicate North In Circle)



SURROUNDING ENVIRONMENT:

Open Land ☐ Woodland ☐
Scattered Buildings ☐
Moderately Built Up ☐
Densely Built Up ☒
Residential ☒ Commercial ☐
Agricultural ☐ Industrial ☐
Roadside Strip Development ☐
Other:

RECORDED BY:

Adela Gramer

ORGANIZATION:

VT Division for Historic Preservation

DATE RECORDED:

10/18/77

Burlington Development Review Board

149 Church Street, City Hall
Burlington, VT 05401

www.burlingtonvt.gov/pz/DRB

Telephone: (802) 865-7188

Fax (802) 865-7195

Austin Hart
Brad Rabinowitz
Israel Smith
AJ LaRosa
Geoff Hand
Alexandra Zipparo
Wayne Senville
Jim Drummond, (Alternate)
Robert Purvee, (Alternate)



BURLINGTON DEVELOPMENT REVIEW BOARD

Tuesday January 31, 2017, 5:00 PM

Fletcher Room, Fletcher Public Library, 235 College Street, Burlington, VT

AMENDED AMENDED AGENDA

I. Agenda

II. Communications

III. Minutes

IV. Consent

1. 17-0632CA; 55 Colchester Ave (I, Ward 1E) UVM

Addition of 23,350 sq. ft. to Kalkin Hall; 3 stories plus basement, existing outdoor courtyard for classrooms, study rooms, faculty offices and other spaces to support the Grossman School of Business. (Project Manager, Scott Gustin)

V. Public Hearing

1. 17-0388CA/MA; 66-96 Colchester Ave, 27 Fletcher Place, and 49 Fletcher Place (I, Ward 1E) Frank vonTurkovich

Construct 3 story residential building containing 75 apartments units. Combine and reconfigure surface parking areas. (Project Manager, Mary O'Neil)

2. 17-0643CA/MA and 17-0644CA; 400 Pine Street and 30-32 Howard Street (ELM, Ward 5S) Howard Space Partnership, LLP

Demolish 2 warehouse buildings, and construct new multi-use building. Demolish duplex and move curb cut. (Project Manager, Mary O'Neil)

3. 17-0623CA/MA; 311 North Ave(RM, Ward 4N) and 329-375 North Ave (NAC-CR, Ward 4N) VLTBTV Parkland LLC, BC Community Housing LLC & Eric Farrell

Continued review of the proposed development consisting of 11 buildings containing 733 residential units, approximately 45,000 sq. ft. of non-residential support/amenity space, approximately 45,000 sq. ft. of neighborhood commercial spaces and 1093 parking spaces. (Project Managers, Scott Gustin and Mary O'Neil)

VI. Certificate of Appropriateness

1. 15-0801PD; 140 Grove Street (RL, Ward 1E) Bayberry LLC

Amend final plat approval to relocate community recreation building and to adjust grading around the 8-unit buildings. (Project Manager, Scott Gustin)

VII. Other Business

VIII. Adjournment

Plans may be viewed in the Planning and Zoning Office, (City Hall, 149 Church Street, Burlington), between the hours of 8:00 a.m. and 4:30 p.m.

Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Planning and Zoning office is considered public and cannot be kept confidential.

This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/pz/drdb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

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Individuals who require special arrangements to participate are encouraged to contact the Department of Planning & Zoning at least 72 hours in advance so that proper accommodations can be arranged. For information call 865-7188 (TTY users: 865-7142).

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Department of Planning and Zoning

149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

David White, AICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, CFM, Associate Planner
Anita Wade, Zoning Clerk
Elsie Tillotson, Department Secretary



TO: Development Review Board
FROM: Scott Gustin
DATE: January 31, 2017
RE: 15-0801PD; 140 Grove Street

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: RL Ward: 1E

Owner/Applicant: Bayberry, LLC

Request: Amend final plat approval to relocate community recreation building and to adjust grading around the 8-unit buildings.

Applicable Regulations:

Article 4 (Zoning Maps and Districts), Article 5 (Citywide General Regulations), and Article 6 (Development Review Standards)

Recommendation: Amended final plat approval as per, and subject to, the following findings and conditions:

I. Findings

Background Information:

The applicant is seeking approval to make some adjustments to the layout of the 232-unit residential development. The community center building was originally to be located on the lower plateau within the green. As revised, the community center would be relocated to the green in the upper plateau and would replace a 6-plex previously proposed in this location. The lower plateau would receive a relocated pavilion and new garden beds. The 6 units lost to the deleted 6-plex would be regained by adding 2 units to each of three former 6-plexes (the three 6-plexes along the entry road would become 8-plexes). The 2 additional units in each of these buildings would be added as ground-level units enabled by adjusted grading around these buildings. The overall building mass would remain unchanged; however, more of the foundation would be exposed along the sides and rears. Lastly, parallel on-street parking spaces along interior streets within the lower plateau would be converted to perpendicular spaces resulting in a net increase of 17 parking spaces.

Previous zoning actions for this property are noted below.

- 8/26/16, Amended final plat approval to adjust phasing schedule
- 5/19/15, Final plat approval of 232-unit PUD
- 3/20/14, Preliminary plat approval of 245-unit PUD
- 11/10/97, Approval of lot line adjustment with neighboring parcel

Article 4: Maps & Districts

Sec. 4.4.5, Residential Districts:

(a) Purpose

(1) Residential Low Density (RL)

Nothing about the proposed amendment affects the use of the project nor its relationship to the purpose of the zoning district. **(Not applicable)**

(b) Dimensional Standards & Density

The development contains 232 residential units. This total remains unchanged.

As originally approved, lot coverage within the buildable area was 42.8%. With development bonuses applicable to this project, up to 50% coverage is possible. The proposed changes seemingly affect lot coverage; however, no revised lot coverage information is evident. A revised lot coverage figure is needed.

Within this planned unit development, only peripheral setbacks apply. None are affected by the proposed revisions.

Building height was a significant concern during review of this project. The Development Review Board required that all of the buildings on the upper plateau (nearer Grove Street) remain below 35'. The buildings on the lower plateau were allowed to be taller. The revisions to the three newly expanded 8-plexes along the main entry road do not affect the physical volume of the structures; however, the revised grading does affect their height as calculated under zoning (calculated from the average finished grade around the buildings). Their height as perceived from the upper plateau remains unchanged at 34' 6". They now rise up to ~45' as perceived from the lower plateau. This change is seemingly consistent with the DRB's intent to restrict height within the upper plateau while allowing taller buildings below. As revised, building height is now ~ 40.' No final height calculation is provided and is needed. Within the lower plateau, apartment buildings T and S are slightly below 40' tall, and building R (the tallest) is 49.9' tall. **(Affirmative finding as conditioned)**

(c) Permitted & Conditional Uses

No change in use is requested.

(d) District Specific Regulations

1. Setbacks

No setback encroachments are sought.

2. Height

Not applicable in RL.

3. Lot Coverage

No lot coverage exceptions are sought.

4. Accessory Residential Structures and Uses

The proposed office/clubhouse remains, albeit in a different location with slightly revised appearance. **(Affirmative finding)**

5. Residential Density

All of the residential units are subject an occupancy limit of 4 unrelated adults or a family as defined in the CDO. **(Affirmative finding)**

6. Uses

Not applicable.

7. Residential Development Bonuses

Not applicable to this amendment.

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Sec. 4.4.5 (b) above.

Sec. 5.2.5, Setbacks

See Sec. 4.4.5 (b) above.

Sec. 5.2.6, Building Height Limits

See Sec. 4.4.5 (b) above.

Sec. 5.2.7, Density and Intensity of Development Calculations

See Sec. 4.5.5 above.

Sec. 5.5.1, Nuisance Regulations

Nothing in the amendment appears to constitute a nuisance under this criterion. **(Affirmative finding)**

Sec. 5.5.2, Outdoor Lighting

No additional outdoor lighting is included in this amendment. Lighting will change only insofar as lighting associated with the relocated community center building will also be relocated.

(Affirmative finding)

Sec. 5.5.3, Stormwater and Erosion Control

Stormwater management and erosion control are unaffected by this amendment. **(Affirmative finding)**

Article 6: Development Review Standards:

Part 1, Land Division Design Standards

Sec. 6.1.2, Review Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

Not applicable.

(b) Topographical alterations

As originally approved, the grade around the three 6-plexes was to be built up and held in place, at least in part, with retaining walls along the roadway connecting to the lower plateau. The effect was an essentially even grade on all sides of the buildings. As revised, the grade would not be built up. Prior to reconstruction, the site sloped down from the upper to lower plateaus. While some new grading is proposed to set the buildings into the slope, that general slope will be retained. The retaining walls along the roadway will be eliminated, and more of the building foundations will be exposed. The 6-plexes will become 8-plexes. **(Affirmative finding)**

(c) Protection of important public views

Not applicable.

(d) Protection of important cultural resources

Not applicable.

(e) Supporting the use of alternative energy

Not applicable.

(f) Brownfield sites

Not applicable.

(g) Provide for nature's events

Not applicable.

(h) Building location and orientation

Building layout around the upper green will remain unchanged. The relocated community building will simply replace the former 6-plex in the same location. Entries into the community building face the adjacent streets. **(Affirmative finding)**

(i) Vehicular access

Not applicable.

(j) Pedestrian access

Not applicable.

(k) Accessibility for the handicapped

Handicap parking spaces are depicted on the site plans, including spaces associated with the relocated community building. As with the original approval, the buildings will require handicap accessible features per the ADA as administered through the city's building code. **(Affirmative finding)**

(l) Parking and circulation

Parking was a point of significant discussion during review of the original project. There was significant effort to limit surface parking lots and to incorporate parallel on-street parking. Prior iterations of the project had depicted angled parking along the interior streets. Doing so was discouraged, as it rendered the streets more parking lot-like than neighborhood streets. Some angled parking was included in the final approval; however, it was very limited. The proposed amendment seeks to significantly expand the angled parking within the lower plateau. Doing so has the same effect it had previously – to render the streets more as circulation aisles within

parking lots. This change is unacceptable. The look and feel of neighborhood streets within the development should be preserved insofar as possible. **(Adverse finding)**

(m) Landscaping and fences

Landscaping and fencing are virtually unchanged. Those changes that are proposed are associated only with the relocation of the community building as reflected in sheet L-CC. **(Affirmative finding)**

(n) Public plazas and open space

Not applicable.

(o) Outdoor lighting

See Sec. 5.5.2.

(p) Integrate infrastructure into the design

Not applicable.

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

The proposed amendment includes little change to the architectural qualities of the buildings. Except for some additional siding and fenestration related to grade changes, there is little outward change to the three 8-plexes along the main entry road. The community building is dimensionally similar to the previous approval. It has received some minor cladding changes, revised fenestration, and reworked rooflines. In general, its revised appearance is more consistent with that of the apartment buildings onsite. **(Affirmative finding)**

II. Conditions of Approval

Approval of the amendment without the requested parking changes is recommended.

1. Except as specifically modified in this amendment, all conditions of the original final plat approval dated May 19, 2015 shall remain in effect.
2. No change to the number or configuration of on-street parking is included in this approval.
3. **Prior to release of the zoning permit**, revised lot coverage and building height calculations shall be submitted, subject to staff review and approval.
4. Standard permit conditions 1-15.

Bayberry Commons Apartments

December 23, 2016

RECEIVED
DEC 23 2016

Scott Gustin, Senior Planner
Dept. of Planning & Zoning
149 Church Street
Burlington, VT 05401

DEPARTMENT OF
PLANNING & ZONING

RE: Final Plat Amendment – Bayberry Commons Apartments

Dear Scott,

Please consider this a formal request for Final Plat amendment review and approval for the following revisions to this project:

1. Relocation of the community recreation center and leasing office from the lower plateau to the upper plateau. More specifically, we would like to place it where building F, (a six plex) was approved to be built. Attached you will find revised architectural elevations of this building as well as a revised site/utility plan showing the building footprint, pool area, fence area etc and lastly a revised landscape plan for this building. From an architectural standpoint our goal is incorporate many of the existing and approved building elements of the other buildings into this one but at the same time make it different enough so that our residents and visitors know that it is not one of the apartment buildings.
2. We are proposing to make the remaining six plex buildings into 8 plex buildings by revising the grading in the rear of these buildings and making them walkouts. As discussed with you and Mary last week, you will see from the elevations and site/utility plan provided that we are not changing the height of these buildings rather we are changing the grade on the rear and sides of these buildings by removing the retaining walls on the side elevations between the sidewalk along Winterberry Land and the buildings and on the rear of the buildings. This change allows us to add two more “walk out” units to each of the three remaining six plex units. From a density standpoint these 6 units will take the place of the 6 units that were in the building where we are now proposing the community recreations center and leasing office.

3. Removing the community recreations center and leasing office from the lower plateau has left us with a large expanse of green space on the lower level. We have relocated the pavilion from the rear of building R and placed it in this green space. We will also be offering raised garden beds in this location as well, but mainly we want to keep it open as passive recreational space. The only other change is that we have turned the parking spaces along two sides of the green from parallel to perpendicular which will add 17 parking spaces. As you may recall, we were granted a parking waiver of 1.70 spaces per unit rather than the 2 spaces per unit as required. Adding these spaces will increase that to 1.88 spaces per unit.

Also attached is the application form and check. If you need any additional information please let me know. Thank you very much.



Patrick O'Brien
Project Manager

RECEIVED
DEC 23 2016
DEPARTMENT OF
PLANNING & ZONING

Prior Community Center

ELEVATIONS OF
BUILDING U

MICHAEL DUGAN
ARCHITECT
VERMONT
1000 E. MAIN STREET
BURLINGTON, VT 05401
TEL: 802.254.1111
WWW.MICHAELDUGANARCHITECT.COM

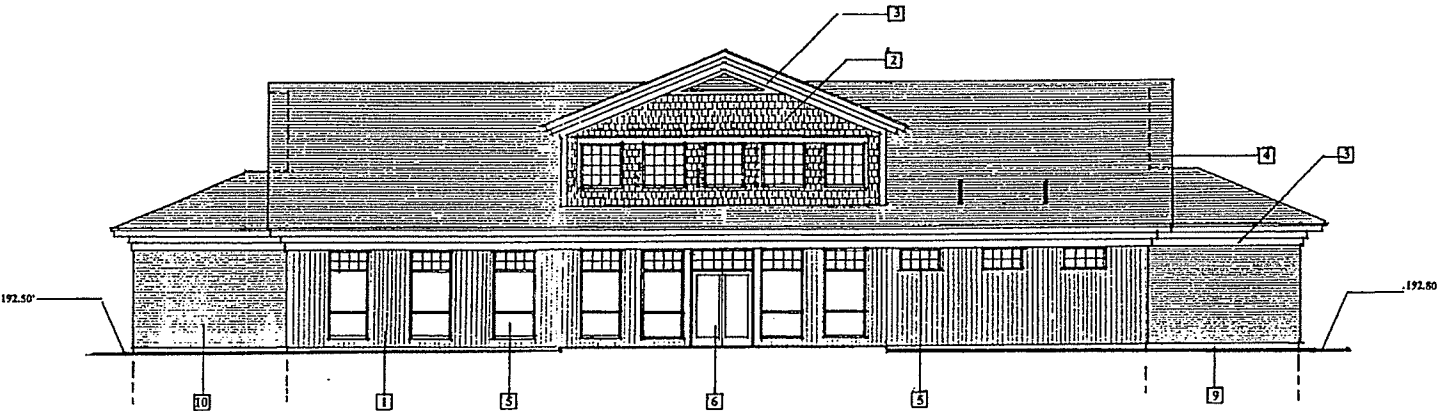
GARDEN STREET APARTMENTS
COMMUNITY CENTER
GARDEN STREET
BURLINGTON VERMONT

FEBRUARY 16, 2015

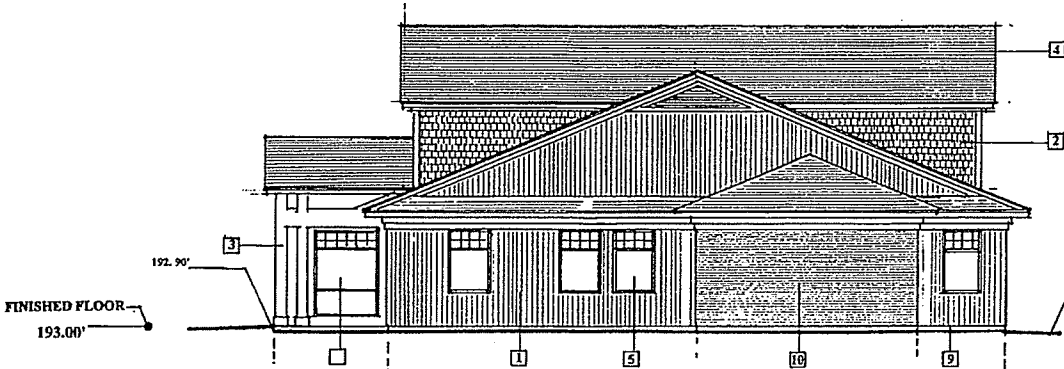
A-7.0

DESCRIPTION OF EXTERIOR MATERIALS

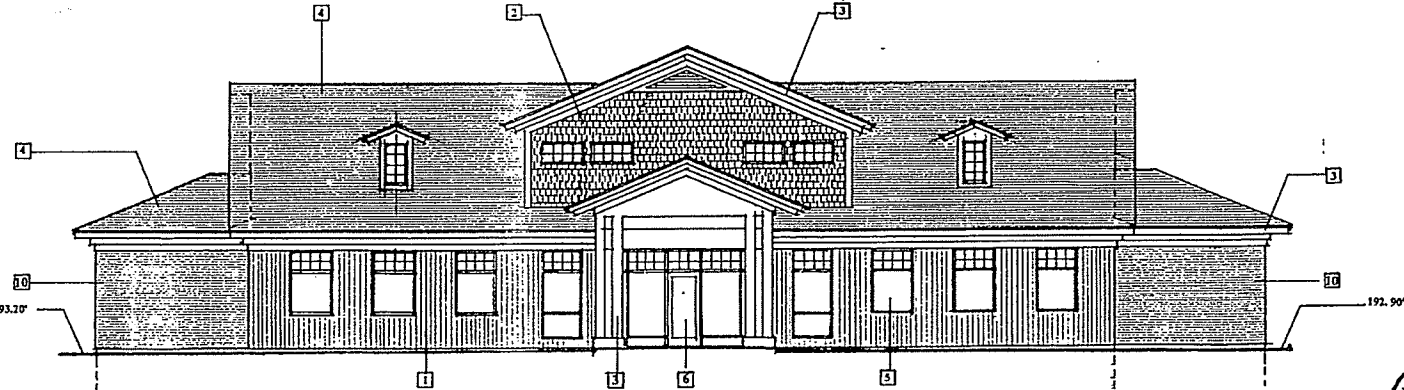
- 1 SIDING TYPE - 1 VINYL LAP SIDING WITH 4 INCH EXPOSURE. COLOR AND TEXTURE AS SELECTED BY ARCHITECT.
- 2 SIDING TYPE - 2 VINYL SHINGLE SIDING WITH 4 INCH EXPOSURE. COLOR AND TEXTURE AS SELECTED BY ARCHITECT.
- 3 STANDING AND RUNNING TRIM TRIM BOARDS "AZEK" TRIM BOARDS OR APPROVED EQUAL. COLOR AS SELECTED BY ARCHITECT. SIZES AS FOLLOWS:
WINDOW TRIM: 1 X 4 DOOR TRIM: 1 X 4
CORNER TRIM: 1 X 6 FRIEZE TRIM: 1 X 6
- 4 ROOFING: ASPHALT 3-DIMENSIONAL STYLE SHINGLES (31 YEAR MIN). COLOR AS SELECTED BY ARCHITECT.
- 5 WINDOWS: EXTRUDED VINYL WINDOWS W/ LOW E COATED, ARGON FILLED INSULATED GLAZING, MAXIMUM U-FACTOR OF 0.33. COLOR SELECTED BY ARCHITECT.
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- 8 PORCH RAILINGS: GUARDRAIL SYSTEM. COLOR AS SELECTED BY ARCHITECT.
- 9 FOUNDATIONS: POURED-IN-PLACE CONCRETE
- 10 SIDING TYPE 3: BRICK VENEER - COMMON BOND. COLOR AS SELECTED BY ARCHITECT.



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



SOUTH ELEVATION NORTH ELEVATION SIM. BUT OPPOSITE
1/8" = 1' - 0"



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

BUILDING U

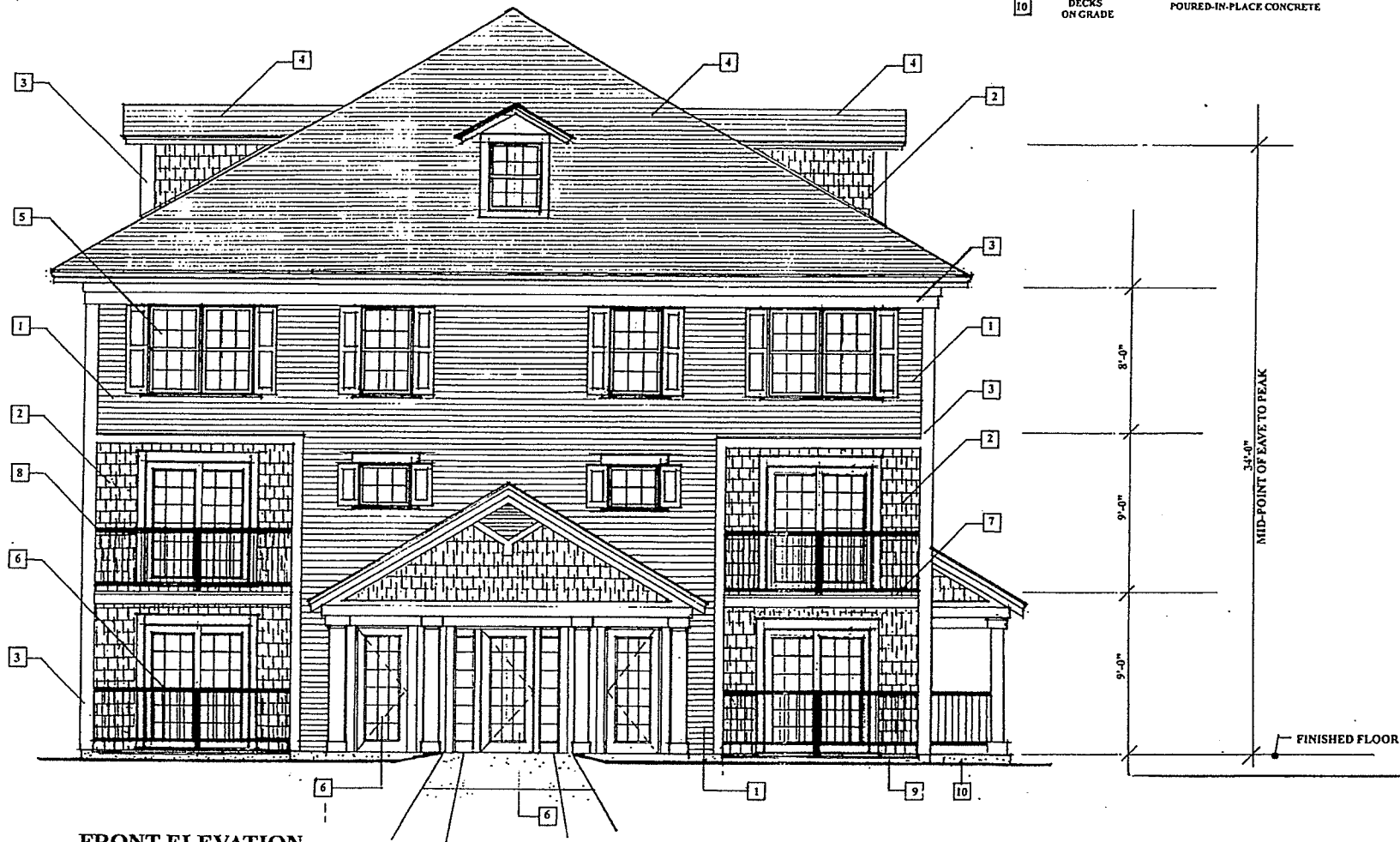
FFE= 193.00'

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GENERAL CONTRACTOR IS TO VERIFY ALL SITE CONDITIONS PRIOR TO CONSTRUCTION.

Prior 6-plex

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CORNER TRIM: 1 X 8 FRIEZE TRIM: 1 X 10
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- 10 DECKS ON GRADE POURED-IN-PLACE CONCRETE



FRONT ELEVATION
1/4" = 1'-0"

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GARDEN STREET APARTMENTS
6 UNIT BUILDING
GARDEN STREET
BURLINGTON VERMONT



FEBRUARY 16, 2015

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REAR ELEVATION OF BUILDINGS
E, L, M AND N



GARDEN STREET APARTMENTS
6 UNIT BUILDING
GARDEN STREET
BURLINGTON VERMONT

FEBRUARY 16, 2015

DESCRIPTION OF EXTERIOR MATERIALS

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| 10 | DECKS
ON GRADE | POURED-IN-PLACE CONCRETE |



REAR ELEVATION
1/4" = 1'-0"

NOTE:
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GENERAL CONTRACTOR IS TO VERIFY ALL SITE
CONDITIONS PRIOR CONSTRUCTION.



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SIDE ELEVATION OF BUILDINGS
E, L, M AND N

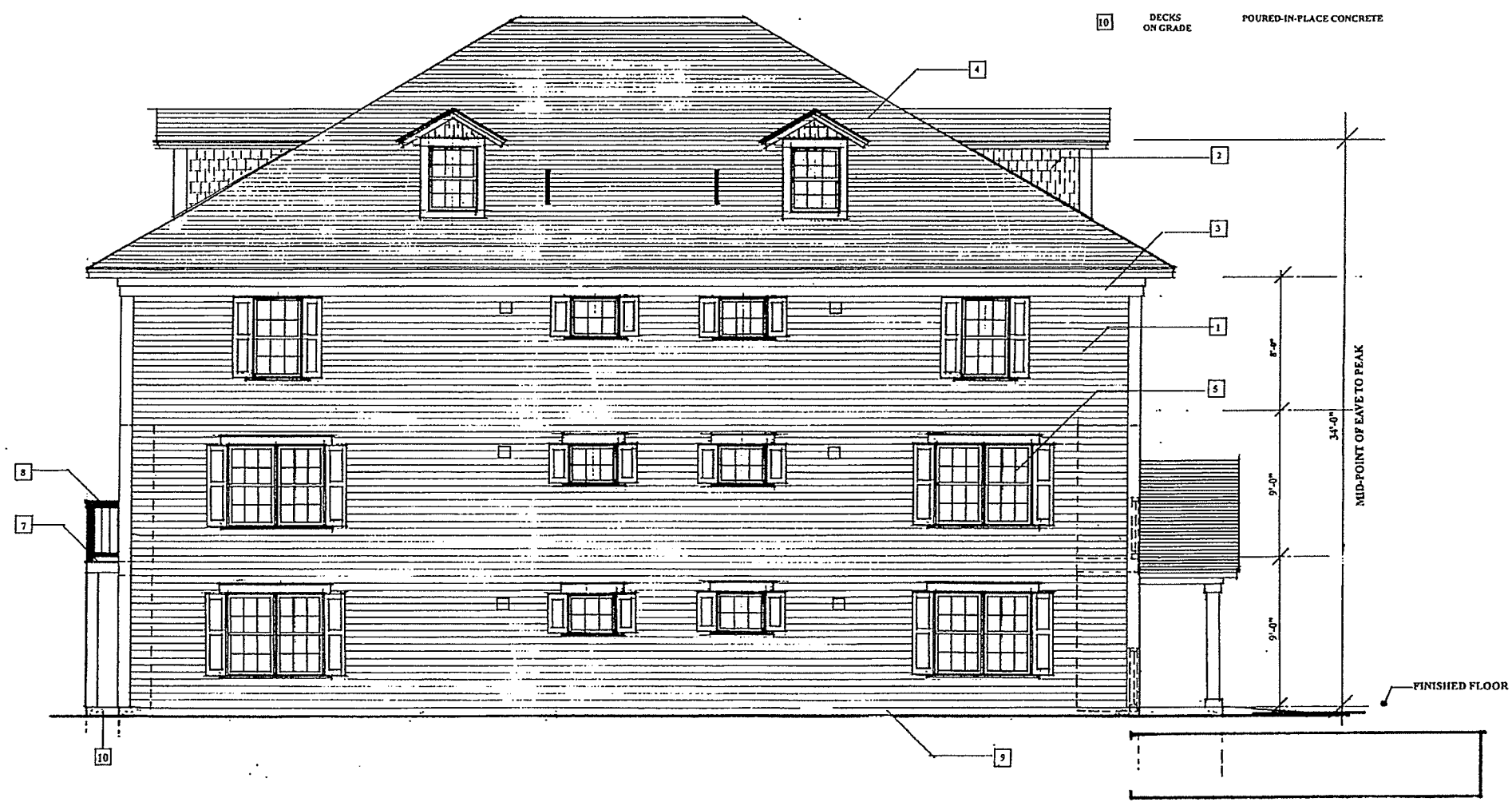


GARDEN STREET APARTMENTS
6 UNIT BUILDING
GARDEN STREET
BURLINGTON VERMONT

FEBRUARY 16, 2015

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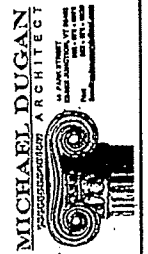
SIDE ELEVATION
1/4" = 1'-0"

NOTE:
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SIDE ELEVATION OF BUILDINGS
E, L, M AND N



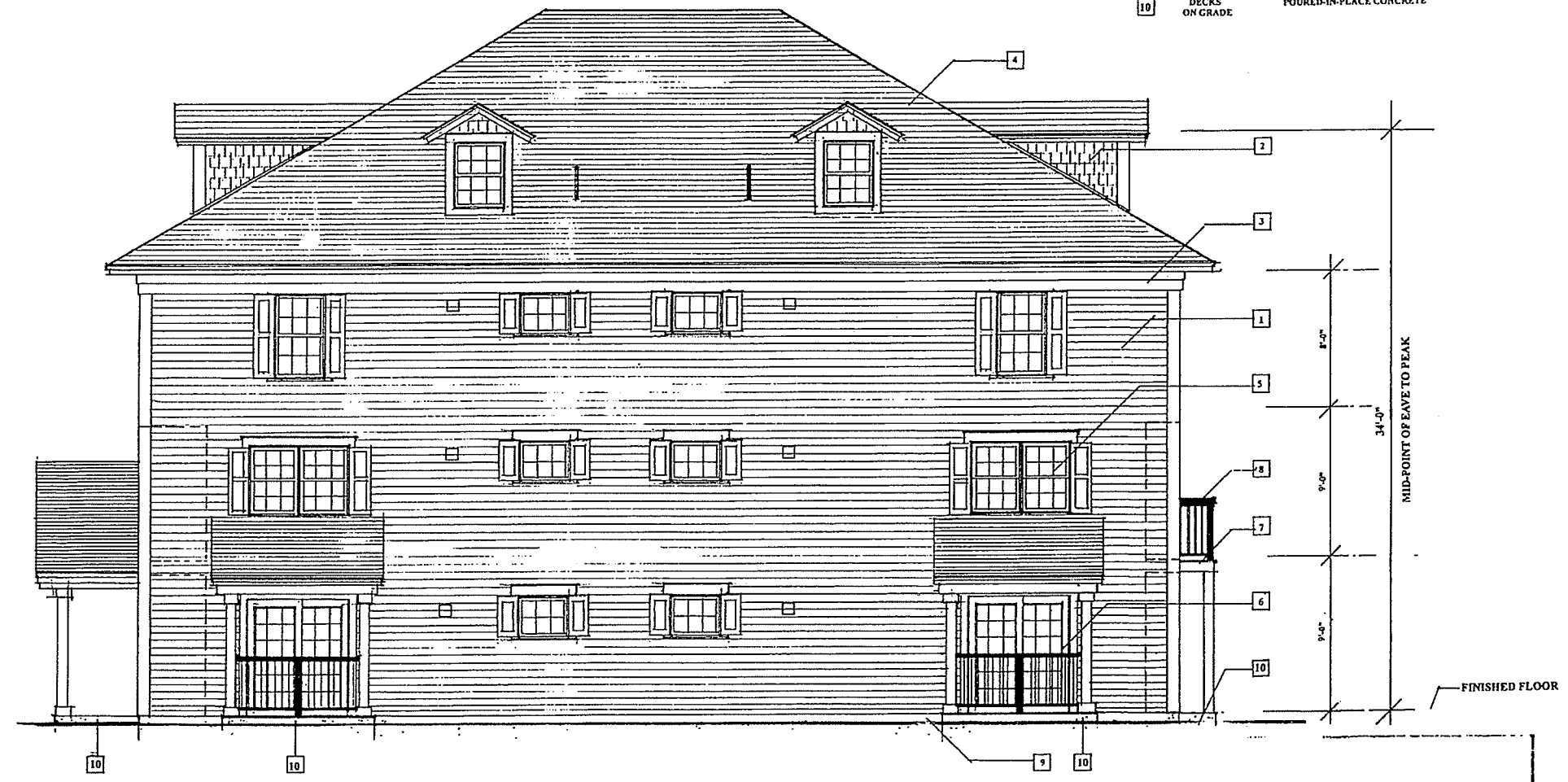
GARDEN STREET APARTMENTS
6 UNIT BUILDING
GARDEN STREET
BURLINGTON VERMONT

FEBRUARY 16, 2015

A-2.3

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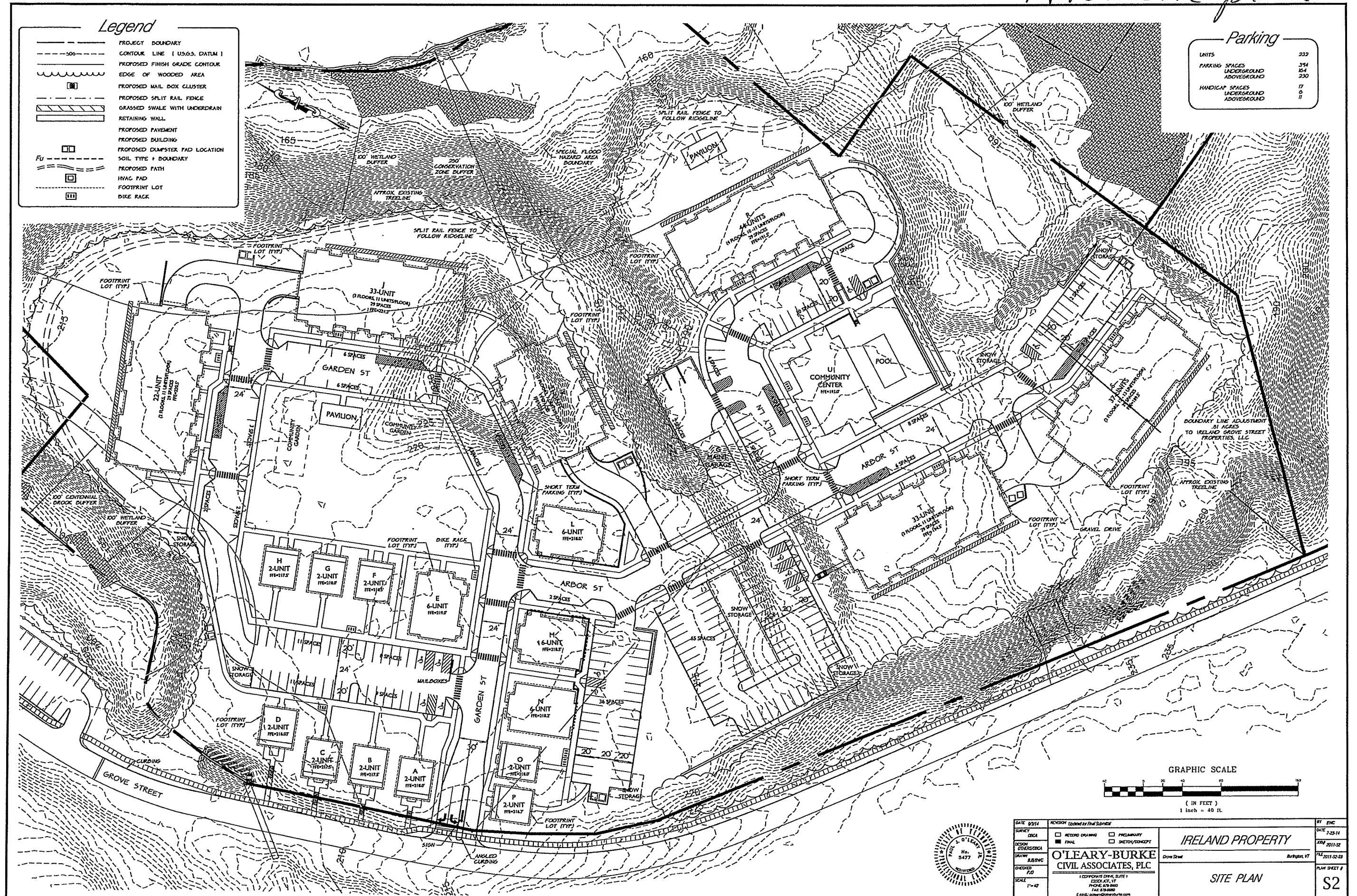


SIDE ELEVATION
1/4" = 1'-0"



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Prior site plan



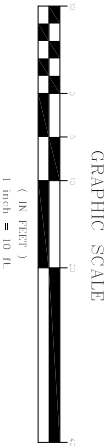
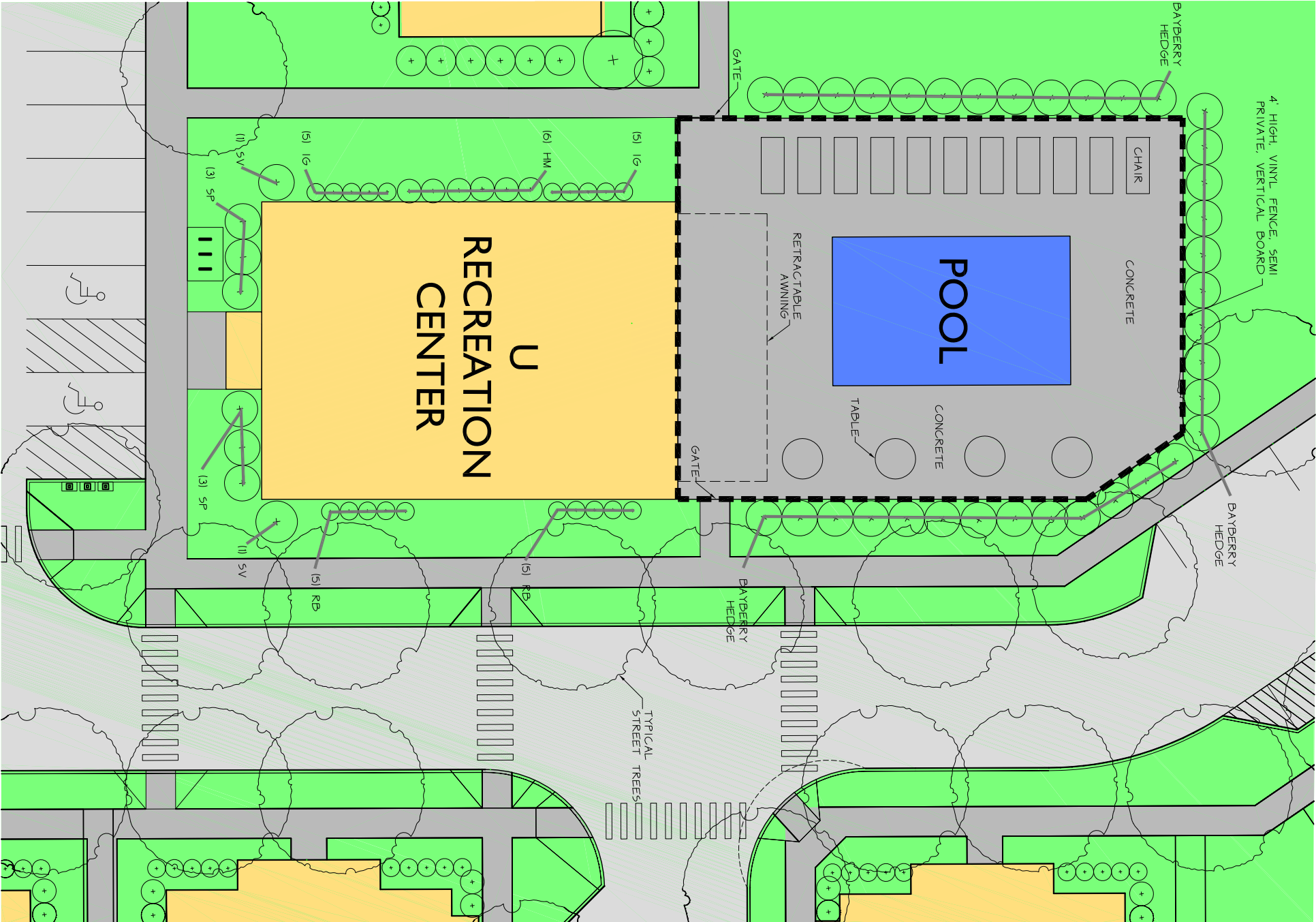


PLANTING SCHEDULE

KEY	QTY	COMMON NAME	SIZE	SPACING
HM	6	HYDRANGEA	3 GALLON	4' O/C
IG	10	INKBERRY	3 GALLON	3' O/C
RB	10	SHRUB ROSE	3 GALLON	3' O/C
SP	6	LILAC	5 GALLON	6' O/C
SV	2	LILAC TREE	5 GALLON	N/A

NOTES:

1. THERE IS NO CHANGE IN THE STREET TREE PLANTING. FOR STREET TREES PLEASE REFER TO ORIGINAL LANDSCAPE PLAN



DATE		REVISION		BY	
SHEET	001	☐ RECORD DRAFTING	☐ PRELIMINARY	DATE	12-23-16
DESIGN	01/15/2016	☒ FINAL	☐ SKETCH/CONCEPT	DESIGN	2017-12-23
DRAWN	12/23/16	O'LEARY-BURKE CIVIL ASSOCIATES, PLC		Drawn Sheet	1/1
DESIGNED	12/23/16			Burke/V	1/1
SCALE	1"=10'	1 CORNERSTONE DRIVE, SUITE 101 PISCATAWAY, NJ 08854 PHONE: 732.880.8800 FAX: 732.880.8801 E-MAIL: BUBURKE@O'LEARY-BURKE.COM		PLAN SHEET #	L-CC
		IRELAND PROPERTY		Recreation Center Landscaping Plan	

	PROJECT BOUNDARY
	CONTIGUOUS LINE (1:50 G.S. DATUM 1)
	PROPOSED FINISH GRADE CONTOUR
	EDGE OF WOODED AREA
	PROPOSED SENEGLINE
	PROPOSED STORMLINE
	PROPOSED WATERLINE
	PROPOSED HYDRANT
	GRASSSED 5% SLOPE WITH UNDERDRAIN
	RETAINING WALL
	PROPOSED PAVEMENT
	PROPOSED BUILDING
	PROPOSED DUMPSITE PAD LOCATION
	SOIL TYPE & BOUNDARY
	PROPOSED PATH
	TRANSFORMER PAD
	EXTENSION ELECTRICAL METER
	EXTENSION NATURAL GAS METER



GRAPHIC SCALE

(in feet)
inch = 40 ft.

	Units		
Service Pipe	21-44	6	2
SDR35 PVC Sewer Service	6 in	6 in	6 in
C900 PVC Water Service	8 in	1 $\frac{1}{2}$ in (PE)	1 in (PE)

Note: Any parking garage drainage is to be connected to an oil/grit separator and discharged to the sanitary sewer

Sewer Infrastructure

SMH #1 Rim = 215.5' 8" Out = 206.5' 8" In = 194.60'	SMH #11 Rim = 206.98' 8" Out = 194.50' 8" In = 194.60'
SMH #2 Rim = 218.96' 8" Out = 203.75' 8" In = 205.85' 8" In = 205.85'	SMH #12 Rim = 192.25' 8" Out = 182.87' 8" In = 182.97' 8" In = 182.97'
SMH #3 Rim = 215.85' 8" Out = 205.07' 8" In = 205.17' 8" In = 205.17'	SMH #13 Rim = 196.69' 8" Out = 188.06' 6" In = 188.16'
SMH #4 Rim = 219.15' 8" Out = 210.15'	
SMH #5 Rim = 215.15' 8" Out = 207.00' 8" In = 207.10'	
SMH #6 Rim = 217.91' 8" Out = 207.74'	
SMH #7 Rim = 220.68' 8" Out = 198.77' 8" In = 198.87'	
SMH #8 Rim = 199.75' 8" Out = 184.61' 8" In = 184.71'	
SMH #9 Rim = 194.40' 8" Out = 185.77' 8" In = 185.87'	
SMH #10 Rim = 189.77' 8" Out = 183.77' 8" In = 183.87'	

Stormwater Infrastructure

CB #41: Rim = 209.80 4° UD = 205.80 12° In = 204.80 15° Out = 204.70	CB #11: Rim = 214.7 4° UD In = 210.70 15° Out = 207.80	CB #21: Rim = 193.57 4° UD = 189.57 15° In = 184.57 15° Out = 184.47
CB #42: Rim = 209.80 4° UD = 205.80 12° In = 204.80 15° Out = 204.52	CB #12: Rim = 215.40 4° UD = 208.00 15° Out = 207.85	CB #22: Rim = 181.25 4° UD = 176.25 15° In = 172.25 15° Out = 175.97
CB #43: Rim = 215.40 4° UD = 204.24 15° Out = 204.14	CB #13: Rim = 207.85 4° UD = 203.85 18° In = 199.32 18° Out = 199.22	CB #23: Rim = 188.80 4° UD = 184.80 12° In = 182.80 15° In = 181.27 15° In = 175.17
CB #44: Rim = 215.20 15° In = 204.06 15° In = 203.96 18° Out = 203.96	CB #14: Rim = 207.85 4° UD = 203.85 18° In = 199.14 12° In = 199.14 18° Out = 199.04	CB #24: Rim = 194.0 4° UD = 188.00 8° In = 180.00 15° In = 181.60 24° In = 181.00 30° Out = 180.90
CB #45: Rim = 210.80 4° UD = 206.80 15° In = 205.62 15° Out = 205.52	CB #15: Rim = 200.06 4° UD = 196.06 12° In = 190.79 18° In = 190.79 18° Out = 187.75	CB #25: Rim = 188.75 4° UD = 184.75 15° In = 182.75 15° Out = 182.65
CB #46: Rim = 210.80 4° UD = 206.80 12° In = 205.80 15° Out = 205.80	CB #16: Rim = 210.70 4° UD = 206.70 18° In = 200.92 15° In = 201.50 18° Out = 200.82	CB #26: Rim = 188.65 4° UD = 184.65 12° In = 182.60 15° In = 182.20 15° Out = 182.10
CB #47: Rim = 216.52 15° In = 202.97 18° In = 202.97 18° Out = 202.87	CB #17: Rim = 208.50 4° UD = 204.50 15° Out = 203.25	CB #27: Rim = 187.75 4° UD = 183.75 15° In = 182.57 15° Out = 182.47
CB #48: Rim = 215.80 4° UD = 211.80 18° In = 201.75 18° Out = 201.65	CB #18: Rim = 201.85 4° UD = 197.85 18° In = 194.68 18° Out = 190.99	CB #28: Rim = 187.75 4° UD = 183.75 12° In = 182.65 15° Out = 182.65
CB #49: Rim = 215.40 4° UD = 206.40 15° In = 206.25 15° In = 207.85 18° In = 201.52 18° Out = 201.42	CB #19: Rim = 202.00 4° UD = 195.13 12° In = 195.13 18° Out = 195.03	CB #29: Rim = 194.70 4° UD = 188.70 15° Out = 188.70
CB #40: Rim = 215.00 4° UD = 211.00 15° In = 207.60 15° Out = 207.50	CB #20: Rim = 199.63 4° UD = 195.63 18° In = 187.60 18° In = 187.60 24° Out = 187.50	CB #30: Rim = 181.25 4° UD = 177.25 12° In = 177.25 15° Out = 176.15

Clean Out #1	Rim = 218.2'
12" In = 212.20"	
12" Out = 212.10"	
Var'd Drain #1	Rim = 220.25'
12" Out = 214.0'	
Var'd Drain #2	Rim = 213.5'
4" ID = 205.50"	
15" Out = 205.04"	
Var'd Drain #3	Rim = 220.25'
12" Out = 214.0'	
Var'd Drain #4	Rim = 218.5'
12" Out = 204.0'	
Var'd Drain #5	Rim = 200.5'
4" ID = 195.5"	
12" Out = 195.5"	
Var'd Drain #6	Rim = 183.5'
12" Out = 177.5"	
Var'd Drain #7	Rim = 192.75'
12" Out = 185.75"	
Var'd Drain #8	Rim = 192.75'
12" Out = 186.75"	
Var'd Drain #10	Rim = 198.5'
12" Out = 190.99"	

DATE 12/22/16	REASON Updated Family Sharing, L.M.N.O. and L.A.M.N.
DATE 12/21/16	REASON Revised Parent Shared Location
DATE 11/18/15	REASON Final Reviews
DATE 11/16/15	REASON Updated contact email address with all water services
DATE 9/18/15	REASON Updated Family Sharing Conditions
DATE 6/15/15	REASON Updated with Print Comments
DATE 8/31/14	REASON Updated to Final Summary
SURVEY	☐ RECORD DRAFTING ☒ FINAL ☐ PRELIMINARY ☐ SKETCH/CONCEPT
DESIGN	
DESIGN ORIGINATOR	
DESIGN ORIGINATOR	
DESIGN	
DESIGN	
DATE 1/10/07	

10000 PINE DRIVE, SUITE 1

RESEARCH VY

PO BOX 9300

PALESTINE, TX 75680

O'LEARY-BURKE
CIVIL ASSOCIATES, P.C.

1 CORPORATE DRIVE, SUITE 1
 ESSEX, VT
 PHONE: 878-9930
 FAX: 878-9989

UTILITY PLAN

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Colchester Avenue Housing Development

DEPARTMENT OF
PLANNING & ZONING

Property Description. Land assemblage consisting of land parcels on Colchester Avenue and Fletcher Place in Burlington, directly across from the entrance to Medical Center Hospital of Vermont and adjoining the University of Vermont campus. The existing buildings on the sites presently contain a mix of residential, medical office and institutional (university related) office and program space uses. The property is bordered by Colchester Avenue to the South, Fletcher Place to the East, and on the North and West by the Mater Christi School campus.

Zoning. The site is located in the city's Institutional Zoning District. Multi-family housing, institutional office and program facilities (university or medical related) are among the permitted and conditional uses allowed.



Development Plan. Plan is construct two new 3-story buildings connected by a first floor walkway and lobby area. The buildings will contain 75 new apartments configured as studio and one bedroom units. Both buildings will have underground parking in the basements accessed via a driveway and ramp located on the west side of the site. Existing surface parking areas and access driveways will be combined and reconfigured as part of the plan, which will improve circulation efficiency and safety. The site enjoys direct access to a traffic light and public transportation facilities located on Colchester Avenue at the driveway

entrance to the hospital campus.

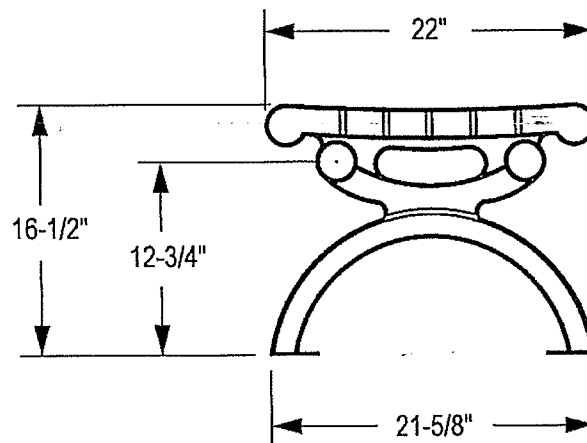
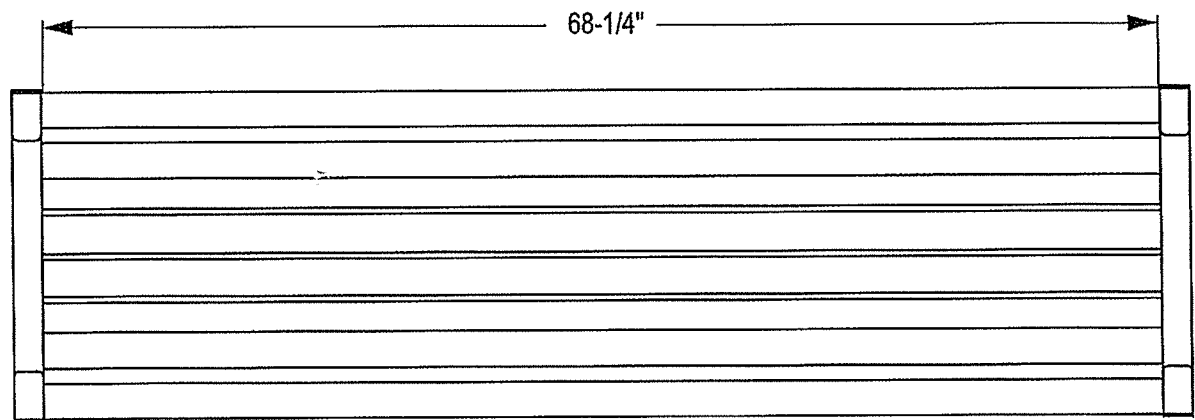
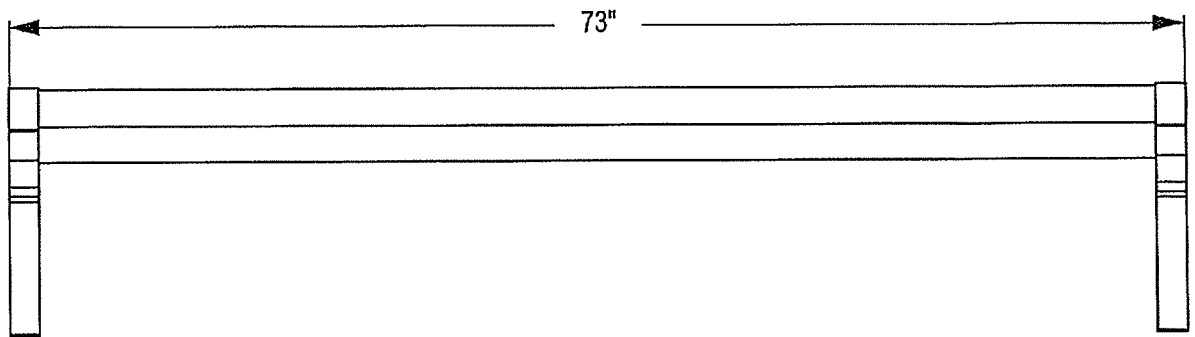
The project will incorporate extensive energy efficiency features, including proposed roof top solar collectors. All of the city's regulations for parking and bicycle storage facilities will be met, but due to the project's location, it is expected that vehicle use will be substantially lower than normal.

The existing buildings located on Colchester Ave. and Fletcher Place will remain in place. All of the Colchester Ave. properties (including properties owned by neighbors not associated with the new building development) will have access to the signalized traffic intersection.

Model # CBPB-6A1NB-BK

Dimension Sheet

6' Black River Powder-Coated Backless Bench



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Your Outdoor Superstore

Contemporary Aluminum Flat Bench

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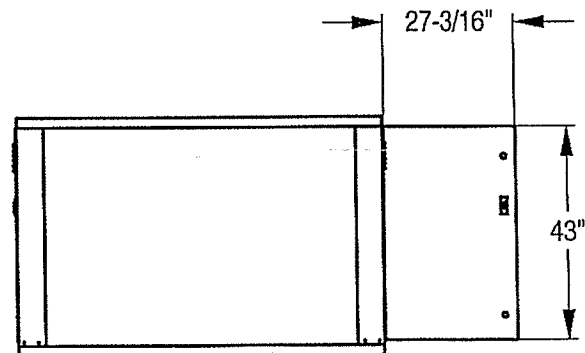
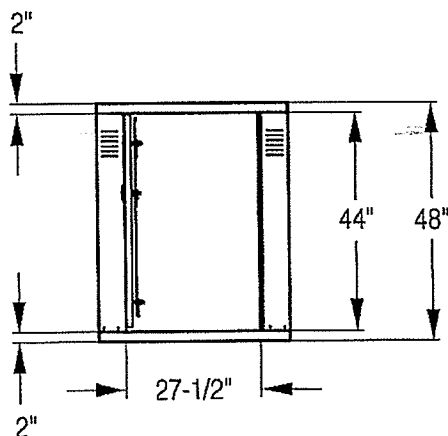
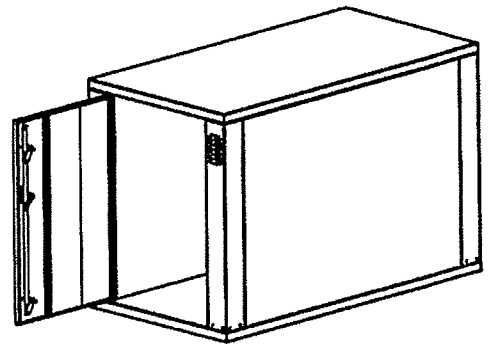
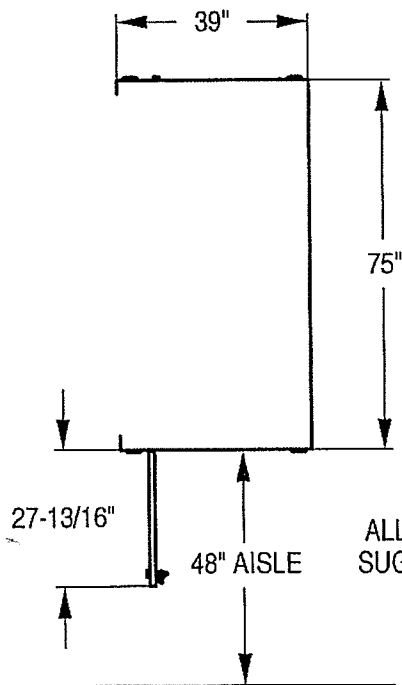


111 North River Road
North Aurora, IL 60542
Phone: (800) 323-5664
Fax: (630) 897-0573
sales@belson.com

Model # DL1001FP-A

Dimension Sheet

DURA BIKE LOCKER™ | SINGLE 1 DOOR ADD-ON UNIT



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ALED26Y/PC

RAB
LIGHTING



ALED Area Lights mount to 4" square steel poles at 15-20'. 1 to 4 fixtures can be mounted to each pole. IES Full Cutoff, Fully Shielded optics. 5 year Warranty.

Color: Bronze

Weight: 6.5 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type:	Constant Current
120V:	0.26A
208V:	N/A
240V:	N/A
277V:	N/A
Input Watts:	29W
Efficiency:	90%

LED Info

Watts:	26W
Color Temp:	3000K
Color Accuracy:	83 CRI
L70 Lifespan:	100000
Lumens:	1,994
Efficacy:	69 LPW

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ALED26Y/PC



Technical Specifications

Other

ALED26 with Photocell:

120V Photocell Included. Photocell is only compatible with 120V.

California Title 24:

ALED26/PC with photocell option complies with 2013 California Title 24 building and electrical codes as a commercial outdoor pole-mounted fixture ≤ 75 Watts.

Equivalency:

The ALED26 is Equivalent in delivered lumens to a 70 W Metal Halide Area Light.

HID Replacement Range:

The ALED26 can be used to replace 42 CFL - 100W Metal Halide Area Light based on delivered lumens.

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 ALED design is protected by U.S. PATENT D608,040 and patents pending in the U.S., 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.

Listings

UL Listing:

Suitable for wet locations.

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.

Dark Sky Approved:

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

DLC Listed:

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

DLC Product Code: P0000175Q

LED Characteristics

Lifespan:

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

Color Consistency:

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

Color Stability:

LED color temperature is warranted 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 C78.377-2011.

Construction

IES Classification:

The Type IV distribution (also known as a Forward Throw) is especially suited for mounting on the sides of buildings and walls, and for illuminating the perimeter of parking areas. It produces a semiCircular distribution with essentially the same candlepower at lateral angles from 90° to 270°.

Housing:

Precision die cast aluminum housing, lens frame.

Gaskets:

High temperature silicone.

Effective Projected Area:

EPA = 0.27.

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:

ALEDs are Mercury, Arsenic and UV free.

Ambient Temperature:

Suitable for use in 40°C ambient temperatures.

Technical Specifications (continued)

Construction

Cold Weather Starting:

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

Thermal Management:

Cast aluminum Thermal Management system for optimal heat sinking. The ALED is designed for cool operation, most efficient output and maximum LED life by minimizing LED junction temperature.

Optical

Lumen Maintenance:

The LED will deliver 70% of its initial lumens at 100,000 hours of operation.

BUG Rating:

B1 U0 G0

Electrical

Driver:

Multi-chip 26W high output long life LED Driver Constant Current, 720mA, Class 2, 6kV Surge Protection, 100V-277V, 50-60 Hz, 100-240V/4 Amps.

THD:

7.8% at 120V, 10.9% at 277V

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PLANNING & DEVELOPMENT

RAB
LIGHTING

High output LED light engine

Maintains 70% of initial lumens at 100,000 hours

Weatherproof high temperature silicone gaskets

Superior heat sinking with die cast aluminum housing and external fins

Family	Watts	Color Temp	Finish	Photocell	Dimming
ALED	26 = 26W	Blank = 5000K (Cool) Y = 3000K (Warm) N = 4000K (Neutral)	Blank = Bronze W = White	Blank = No Photocell /PC = 120V Button /PC2 = 277V Button	Blank = No Dimming /D10 = Dimmable

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C:\Users\FVT Lenovo\Google Drive\FVT Files GD\Colchester Ave. Project\Permits\Burlington\Preliminary Plat Permit Application 9-16-16\Specification Sheets Cover Page.docx

COLCHESTER AVENUE HOUSING

Specification Sheets

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Submittal Data Sheet

1.25-Ton Wall Mounted Unit

FTXN15KVJURKN15KEVJU5

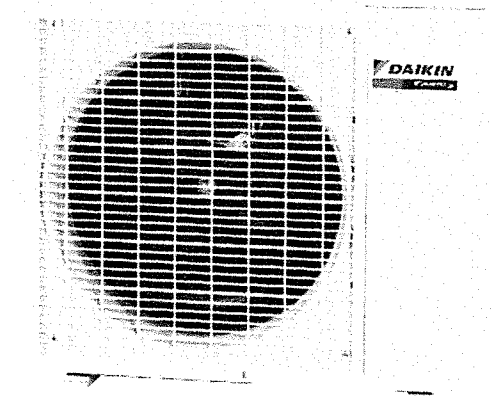
FEATURES

- 10 year limited parts and compressor warranty with online registration

INDOOR UNIT



OUTDOOR UNIT



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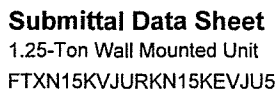


Submittal Data Sheet
1.25-Ton Wall Mounted Unit
FTXN15KVJURKN15KEVJU5

SYSTEM PERFORMANCE			
Indoor Unit Model No.	FTXN15KVJU	Indoor Unit Name:	FTXN15KVJU
Outdoor Unit Model No.	RKN15KEVJU5	Outdoor Unit Name:	RKN15KEVJU5
Rated Cooling Capacity (Btu/hr):	15,000	Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75
Sensible Capacity (Btu/hr):	11,280	Rated Piping Length(ft):	
Max/Min Cooling Capacity (Btu/hr):	15,000 / 6,800	Rated Height Difference (ft):	65.60
Cooling Input Power (kW):	1.290		
SEER (Non-Ducted/Ducted):	18.00 /		
EER (Non-Ducted/Ducted):	12.00 /		
SYSTEM DETAILS			
Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	14 - 115
Holding Refrigerant Charge (lbs):	3.2	Heating Operation Range (°F WB):	-
Additional Charge (lb/ft):	0.21	Max. Pipe Length (Vertical) (ft):	
Pre-charge Piping (Length) (ft):		Cooling Range w/Baffle (°F DB):	0 - 115
Max. Pipe Length (Total) (ft):	98	Heating Range w/Baffle (°F WB):	-
Max Height Separation (Ind to Ind ft):	66		

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Power Supply (V/Hz/Ph):	208-230 / 60 / 1	Airflow Rate (H/M/L/SL) (CFM):	519/438/364/335
Power Supply Connections:	L1, L2, Ground	Moisture Removal (Gal/hr):	
Min. Circuit Amps MCA (A):		Gas Pipe Connection (inch):	1/2
Max Overcurrent Protection (MOP) (A):		Liquid Pipe Connection (inch):	1/4
Dimensions (HxWxD) (in):	11-7/16 x 41-5/16 x 9-3/8	Condensate Connection (inch):	5/8
Panel (HxWxD) (in):		Sound Pressure (H/M) (dBA):	45/36
Net Weight (lb):	27	Sound Power Level (dBA):	
Panel Weight (lb):		Ext. Static Pressure (Rated/Max) (inWg):	0.00 / 0.00

Submittal Data Sheet
1.25-Ton Wall Mounted Unit
FTXN15KVJURKN15KEVJU5

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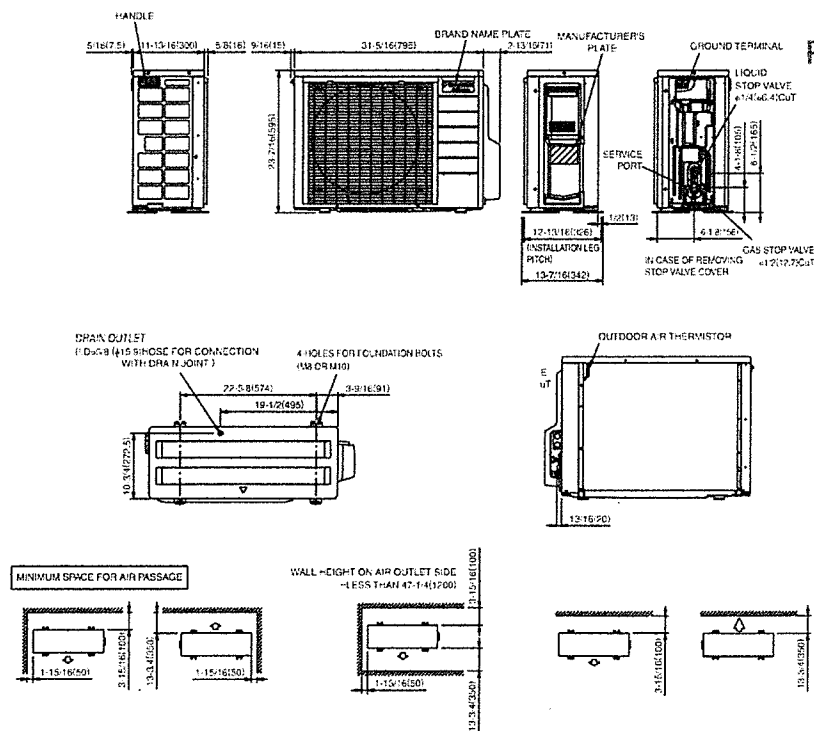
OUTDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208-230 / 60 / 1	Compressor Type:	Inverter
Power Supply Connections:	L1, L2, Ground	Capacity Control Range (%):	-
Min. Circuit Amps MCA (A):	15.00	Airflow Rate (H) (CFM):	1,603
Max Overcurrent Protection (MOP) (A):		Gas Pipe Connection (inch):	1/2
Max Starting Current MSC(A):		Liquid Pipe Connection (inch):	1/4
Rated Load Amps RLA(A):	5.6	Sound Pressure (H) (dBA):	51
Dimensions (HxWxD) (in):	23-7/16 x 31-5/16 x 11-13/16	Sound Power Level (dBA):	65
Net Weight (lb):	93		

DIMENSIONAL DRAWING - OUTDOOR UNIT

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UNIT-INCH(mm)



Submittal Data Sheet

Project Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____

Date: _____

Construction: _____

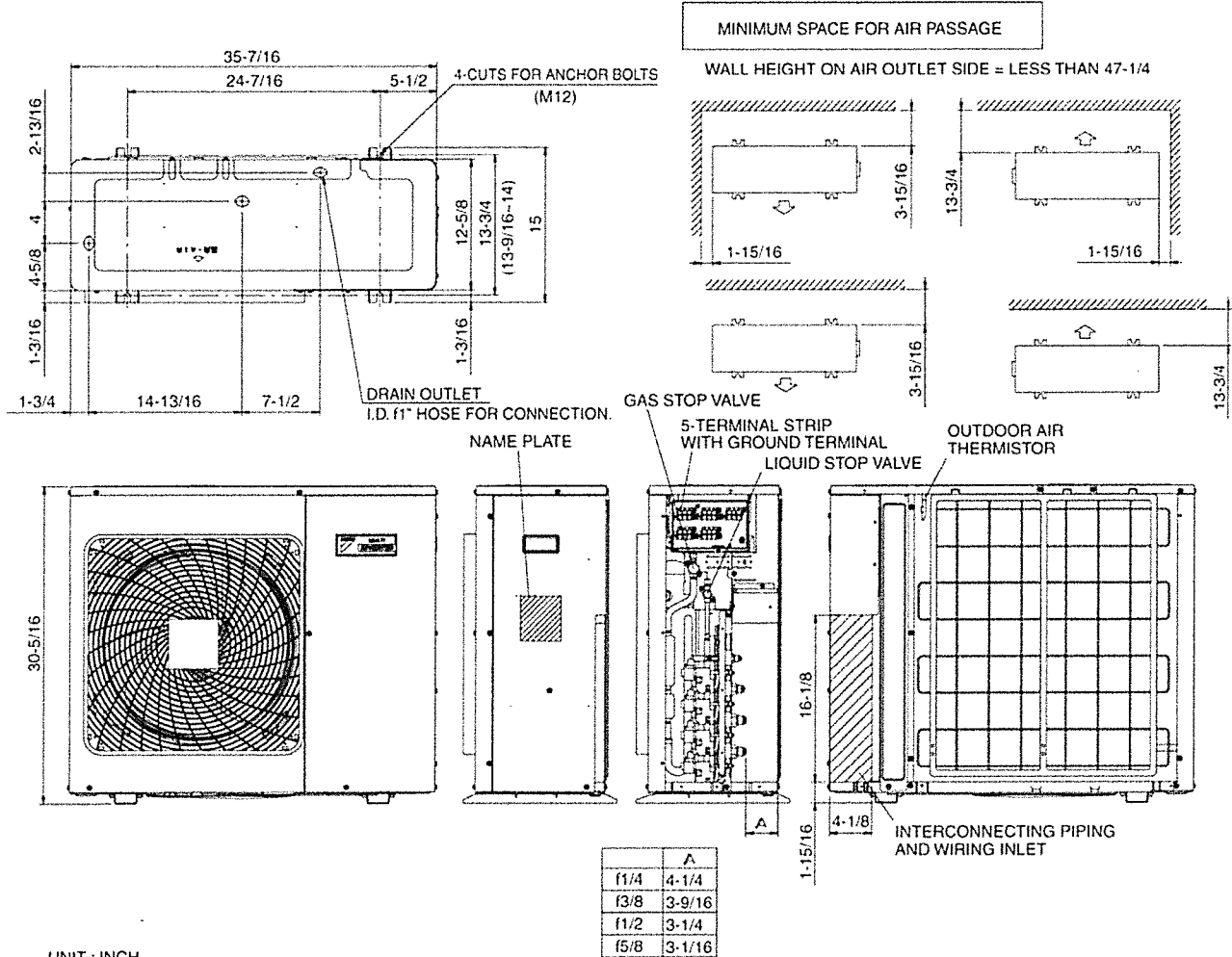
Unit #: _____

Drawing #: _____

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Dimensional Drawing - Condensing Unit

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Submittal Data Sheet

Project Name: _____
Location: _____
Engineer: _____
Submitted to: _____
Submitted by: _____
Reference: _____

Approval: _____
Date: _____
Construction: _____
Unit #: _____
Drawing #: _____

Notes

Std U.S. Warranty: 7yrs Compressor, 5yrs Parts, 1yr Limited Labor

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Submittal Data Sheet

Project Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____
 Date: _____
 Construction: _____
 Unit #: _____
 Drawing #: _____

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Performance

Indoor Unit Model No:	Non-Ducted
Outdoor Unit Model No:	3MXS24JVJU
Cooling Capacity (Btu/hr):	24000
Sensible Capacity (Btu/hr):	0
Cooling Input Power (kW):	
Cooling EER (Btu/hr / kW):	12.5
SEER:	16.6
Heating Capacity (Btu/hr):	30000
Heating Input Power (kW):	
Heating COP (Btu/hr / Btu/hr):	3.2
HSPF:	9.0

Indoor Unit Type:	
Condensing Unit Type:	3 Zone Multi Heat Pump
Cooling Nominal Conditions	Indoor: 80°F DB/67°F WB Outdoor: 95°F DB/75°F WB Water Cooled:
Heating Nominal Conditions	Indoor: 47°F DB/43°F WB Outdoor: 47°F DB/43°F WB Water Cooled:
Nominal Piping Length	25
Nominal Height Separation	0
Nominal Water Flow Rate	

Indoor Unit Details

Power Supply (V/Hz/Ph):	N/A
Power Supply Connections:	
Min. Circuit Amps MCA (A):	
Max. Fusible Amps MFA (A):	
Dimensions (HxWxD):	N/A
Panel (HxWxD):	N/A
Net Weight (lbs):	
Weight with Panel (lbs):	

Airflow Rate (CFM wet coil)	N/A
Moisture Removal (pt/h):	
Gas Pipe Connection (inch):	
Liquid Pipe Connection (inch):	
Condensate Connection (inch):	
Sound Pressure Level (dBA):	
Sound Power Level (dBA):	
Nominal External Static Pressure (inH2O)	
Max Ext Static Pressure (inH2O)	

Condensing Unit Details

Power Supply (V/Hz/Ph):	208-230/60/1ph
Power Supply Connections:	L1, L2, Ground
Min. Circuit Amps MCA (A):	17.8
Max. Fusible Amps MFA (A):	20
Max. Starting Current MSC(A):	12
Rated Load Amps RLA (A):	10.4
Total Overcurrent Amps (A):	
Dimensions (HxWxD):	30-5/16x35-7/16x12-5/8
Net Weight (lbs):	168
Compressor Type:	Inverter
Capacity Control Range (%):	
Capacity Index Limit:	

Airflow Rate (CFM):	2062
Gas Pipe Connection (inch):	data book
Liquid Pipe Connection (inch):	1/4 x3
H/L Pressure Connection (inch):	
H/L Equalizing Connection (inch):	
Water Inlet Connection (inch FPT):	
Water Outlet Connection (inch FPT):	
Condensate Drain Outlet (inch FPS):	
Sound Pressure Level (dBA):	52
Sound Power Level (dBA):	
Unit Heat Rejection (kW):	
Max. No. of Indoor Units:	3

System Details

Refrigerant Type:	R-410A
Holding Refrigerant Charge (lbs):	6.83
Additional Charge (oz/ft):	0.22
Pre-charge Piping (Length ft):	131.6 ft
Max. Pipe Length (Total ft):	230/82 ft
Max. Pipe Length (Vertical ft):	49.2 ft

Cooling Operation Range (°F):	14 - 115
Cooling Range w/Baffle (°F):	14 - 115
Heating Operation Range (°F):	5 - 72
Heating Range w/Baffle (°F):	5 - 72
Cooling Inlet Water Temp (°F):	
Heating Inlet Water Temp (°F):	
Water Flow Range (GPM):	



Submittal Data Sheet

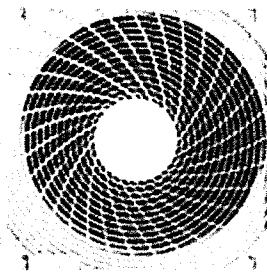
Project Name: _____
Location: _____
Engineer: _____
Submitted to: _____
Submitted by: _____
Reference: _____

Approval: _____
Date: _____
Construction: _____
Unit #: _____
Drawing #: _____

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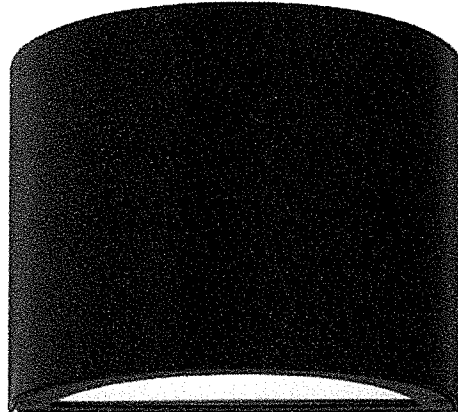
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HINKLEY & R

HINKLEY LIGHTING, INC.
 33000 PIN OAK PARKWAY • AVON LAKE, OHIO 44012
 (PH) 440.653.5500 (F) 440.653.5555
 HINKLEYLIGHTING.COM • FREDBRICKRAMOND.COM



LUNA 1666SK	
SATIN BLACK	

WIDTH:	9.0"
HEIGHT:	7.0"
WEIGHT:	3.0 LBS
MATERIAL:	EXTRUDED ALUMINUM
GLASS:	ETCHED GLASS LENS
BACKPLATE WIDTH:	9.0"
BACKPLATE HEIGHT:	7.0"
SOCKET:	1-75W MED
DARK SKY:	YES
NOTES:	THIS FIXTURE WILL CAST LIGHT DOWN.
EXTENSION:	4.0"
TTO:	3.5"
CERTIFICATION:	C-US WET RATED
VOLTAGE:	120V
UPC:	640665166637

AT HINKLEY, WE EMBRACE THE DESIGN PHILOSOPHY THAT YOU CAN MERGE TOGETHER THE LIGHTING, FURNITURE, ART, COLORS AND ACCESSORIES YOU LOVE INTO A BEAUTIFUL ENVIRONMENT THAT DEFINES YOUR OWN PERSONAL STYLE. WE HOPE YOU WILL BE INSPIRED BY OUR COMMITMENT TO KEEP YOUR 'LIFE AGLOW.'

life AGLOW®

RECEIVED
 JUN 13 2015
 DEPARTMENT OF
 PLANNING & ZONING

JUNO

Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

**6" VERTICAL COMPACT
FLUORESCENT HOUSING**26/32/42W
COMPACT FLUORESCENT LAMP
PL642EU**PRODUCT DESCRIPTION**

PL housing designed for use in non-insulated areas • If installed where insulation is present, the insulation must be pulled back 3" from all sides of the PL housing • Easy access ballast.

PRODUCT SPECIFICATIONS

Lamp One 26/32/42W triple tube (4-pin) CFL lamp.

Socket Supplied with spring to accommodate certain trim installations, or can be attached to top of housing for certain trims.

Ballast 120V thru 277V HPF Rapid Start Electronic with end-of-life lamp protection • UL listed/CSA certified • Mounted between j-box and housing for ease of maintenance.

Trims Trim selection shown on reverse.

Labels UL listed for through-branch wiring and damp locations • Union made • UL and C-UL Listed • Trims 22, 220, 239, 241, 242, 243, 271, 2330, 6101 and 9900 are wet location approved for covered ceiling applications.

Testing All reports are based on published industry procedures; field performance may differ from laboratory performance.

Product specifications subject to change without notice.

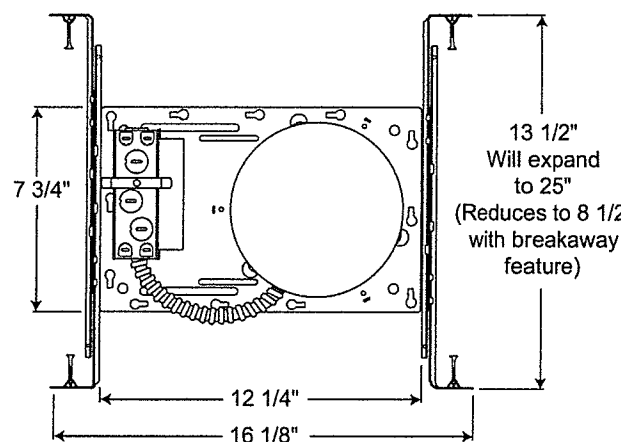
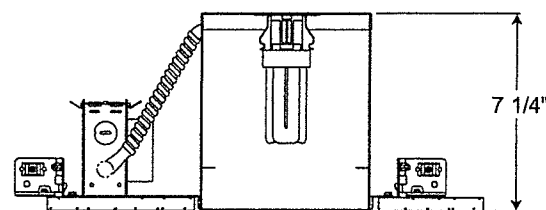
INSTALLATION

Real Nail® 3 Bar Hangers Telescoping, Patented (US Patent D552,969) Real Nail® 3 system permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings • Integral T-bar notch and clip secures housing in suspended ceiling grid – no accessory clips required • 24" expansion stop allows quick placement of fixture in standard grid spacing • Bars scored in two locations for fast, clean breaking, allowing housing installation in tight applications • Bars captive to mounting frame • Edge-mounted for extra strength • Captive bugle-headed ring shank nail for quick one-step installation and easy removal with claw hammer for fixture relocation • Quick-Loc slot and oversized locking set screw lock fixture in position • Bar hanger foot contoured to align to bottom of construction joist • Alternate mounting holes included.

Junction Box Pre-wired junction box provided with (5) ½" and (1) ¾" knockouts, (4) Non-metallic sheathed cable connectors and ground wire, UL and C-UL Listed for through-branch wiring, maximum (8) No. 12 AWG 90° C branch circuit conductors (4 in, 4 out) • Junction box provided with removable access plate • Knockouts equipped with pryout slots.

Mounting Frame 22-gauge die-formed galvanized steel mounting frame • Rough-in section (junction box, mounting frame, housing ballast and bar hangers) fully assembled for ease of installation.

Housing 22-gauge white painted steel • Housing is vertically adjustable to accommodate up to a 2" ceiling thickness.

DIMENSIONS

6 7/8" CEILING CUTOUT

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SEP 23 2016

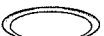
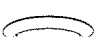
DEPARTMENT OF
PLANNING & ZONING**PRODUCT CODES**

Catalog Number	Input Voltage	Lamp Rating (max.)
PL642EU	120V - 277V	26/32/42W Triple Tube (4-pin) CFL

6" VERTICAL COMPACT FLUORESCENT HOUSING

26/32/42W
COMPACT FLUORESCENT LAMP
PL642EU

TRIMS/LAMPS

	Cat. No.	Description	Lamp Rating
	220-WH ♦ 220-PW ♦	Albalite lens with Reflector Shower/Closet Light	26W Triple Tube (4-pin) CFL
	241-WH ♦ 241-PW ♦	Drop Opal with Reflector Shower/Closet Light	26W Triple Tube (4-pin) CFL
	242-WH ♦ 242-SC ♦ 242-ABZ ♦	Shower Trim, Frosted Lens with Clear Center Shower Trim, Frosted Lens with Clear Center Shower Trim, Frosted Lens with Clear Center	32W Triple Tube (4-pin) CFL
	243-WH ♦	Decorative Swirl Etched Opal Glass	32W Triple Tube (4-pin) CFL*
	239-WH ♦	Frosted Lens with Reflector	32W Triple Tube (4-pin) CFL
	271-PW ♦	Drop Opal with Reflector	32W Triple Tube (4-pin) CFL
	22-WH ♦	Fresnel	32W Triple Tube (4-pin) CFL
	28W-WH 28B-WH	Conical White Baffle Conical Black Baffle	42W Triple Tube (4-pin) CFL Note: For best performance, 26W is recommended.
	29C-WH 29W-WH	Deep Cone - Clear Deep Cone - White	42W Triple Tube (4-pin) CFL Note: For best performance, 26W is recommended.
	232C-WH 232G-WH 232W-WH 232HZ-WH 232WHZ-WH	Multiplier - Clear Alzak* Multiplier - Gold Alzak* Multiplier - Gloss White Multiplier - Haze Multiplier - Wheat Haze	42W Triple Tube (4-pin) CFL*
	2320C-WH 2320HZ-WH 2320WHZ-ABZ 2320WHZ-WH	Multiplier in Clear low Iridescent Alzak* Multiplier in Haze Multiplier in Wheat Haze Multiplier in Wheat Haze	42W Triple Tube (4-pin) CFL
	233C-WH	Multiplier in Clear Alzak* with Black Baffle, White Trim	42W Triple Tube (4-pin) CFL
	261W-WH 261B-WH	Scoop Wall Wash with White Baffle Scoop Wall Wash with Black Baffle	26W Triple Tube (4-pin) CFL*
	2330W-WH ♦ 2330B-WH ♦	White Baffle, Regressed Frosted Dome Lens with Reflector Black Baffle, Regressed Frosted Dome Lens with Reflector	32W Triple Tube (4-pin) CFL 32W Triple Tube (4-pin) CFL
	6101-ABZ ♦ 6101-SC ♦ 6101-WH ♦	Beveled Frame - Frosted Dome Lens with Reflector Beveled Frame - Frosted Dome Lens with Reflector Beveled Frame - Frosted Dome Lens with Reflector	42W Triple Tube (4-pin) CFL
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SEP 23 2016

DEPARTMENT OF
PLANNING & ZONING

Trim Size: Catalog Numbers 242, 243, 239, 271, 232, 2320, 233, 261, 9900 - 7 $\frac{1}{8}$ " O.D. Catalog Numbers 22, 220, 241 - 8" O.D. Catalog Number 23 - 8" O.D. Catalog Number 6101 - 7 $\frac{1}{4}$ " O.D.
Trim Finish: ABZ - Classic Aged Bronze, PW - Plastic (Polycarbonate material shower trim), SC - Satin Chrome, WH - White.
Alzak is a registered trademark of Alcoa Corp.
Note: In Canada when insulation is present, Type IC must be used.
*Use only Osram Sylvania or G.E. lamps.

♦ UL Listed for use in wet location.

** NOTE: TR6 Trim Ring compatible with 9900 trim.



Juno®

Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

6" VERTICAL COMPACT FLUORESCENT HOUSING

26/32/42W
COMPACT FLUORESCENT LAMP
PL642EU

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INSTALLATION

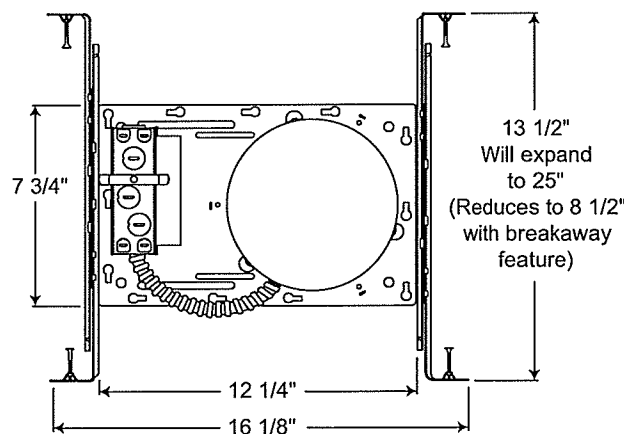
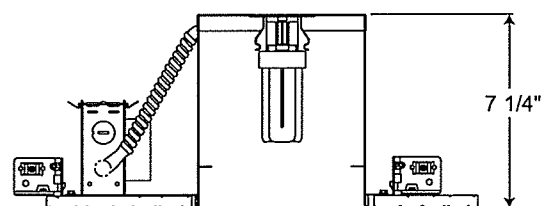
Real Nail® 3 Bar Hangers Telescoping, Patented (US Patent D552,969) Real Nail® 3 system permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings • Integral T-bar notch and clip secures housing in suspended ceiling grid – no accessory clips required • 24" expansion stop allows quick placement of fixture in standard grid spacing • Bars scored in two locations for fast, clean breaking, allowing housing installation in tight applications • Bars captive to mounting frame • Edge-mounted for extra strength • Captive bugle-headed ring shank nail for quick one-step installation and easy removal with claw hammer for fixture relocation • Quick-Loc slot and oversized locking set screw lock fixture in position • Bar hanger foot contoured to align to bottom of construction joist • Alternate mounting holes included.

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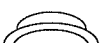
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Note: In Canada when insulation is present, Type IC fix must be used.
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♦ UL Listed for use in wet location.

** NOTE: TR6 Trim Ring compatible with 9900 trim.



RabideauArchitects

**Colchester Avenue Housing
Burlington Vermont**

Window Spec:

Composite Frame/sash
Maximum U factor of .032
Color, shape and style as indicated on elevations
Double glazed, Low-e

Von Turkovich, Frank

From: Andrew Mills <Andrew.Mills@tcevt.com>
Sent: Tuesday, January 10, 2017 11:07 AM
To: Von Turkovich, Frank
Subject: FW: Burlington, VT, Colchester Ave Housing Pump station

Frank,

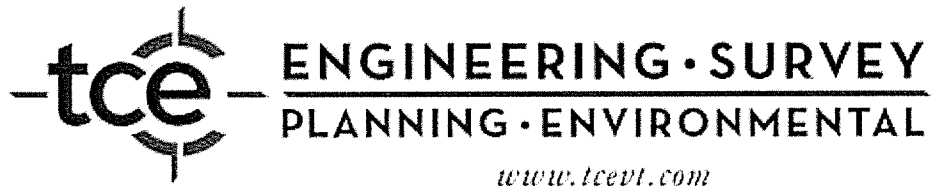
I contacted the pump station manufacturer who provided the information below regarding sound made by the station.

Thanks,

Andrew

Andrew G. Mills, P.E.
Project Engineer

Trudell Consulting Engineers
e. Andrew.Mills@tcevt.com
p. 802.879.6331 x108
c. 508.404.5283



478 Blair Park Road, Williston, VT 05495
42 Mapleville Depot, St. Albans, VT 05478

From: Paul Russell [<mailto:prussell@r-r-inc.com>]
Sent: Thursday, January 05, 2017 2:47 PM
To: Andrew Mills
Subject: Fwd: Burlington, VT, Colchester Ave Housing Pump station

Andrew,

Please see below.

Let me know how we can help!
Thanks,
Paul

From: Alex Tabb <atabb@smithandloveless.com>
Sent: Thursday, January 5, 2017 2:24 PM
Subject: Re: Burlington, VT, Colchester Ave Housing Pump station

To: Paul Russell <prussell@r-r-inc.com>

You would not hear anything from the underground chamber. You would hear the ambient noise of the area - ie traffic, birds, kids playing, wind gusts, etc

Below grade equipment would not be heard above grade in normal operation.

Alex Tabb
Manager, Municipal Pumping Systems



Smith & Loveless Inc.

Pumping, Headworks & Treatment Solutions

14040 Santa Fe Trail Dr.
Lenexa, KS 66215
Office: (913) 888-5201 ext. 370
Cell: (913) 484-5652
smithandloveless.com

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COLCHESTER AVENUE HOUSING

Site Photographs

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SEP 23 2016

DEPARTMENT OF
PLANNING & ZONING





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COLCHESTER AVENUE HOUSING

Traffic Brief

MEMO

To: City of Burlington
 From: Abigail Dery, P.E.
 Date: August 10, 2016
 Re: Colchester Avenue Housing
 Project-Generated Traffic

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 SEP 23 2016

DEPARTMENT OF
 PLANNING & ZONING

The proposed project consists of 75 residential apartment units within a Planned Unit Development (PUD) served by a shared 34-ft wide driveway on Colchester Avenue in Burlington. The primary access will be via an existing curb cut located on the north side of Colchester Ave at the UVM Medical Center driveway traffic signal.

The existing driveway currently serves three businesses, which will remain as part of the project, and will be improved to include an exclusive left egress lane, in addition to the thru/right egress and ingress lanes. A secondary existing ingress-only access will be maintained approximately 168 feet to the east of the signal. The two existing curb cuts to the west of the signal will be closed. The businesses served by these driveways will now share the signalized access.

Estimated project-generated traffic is calculated using the "Apartment" land use from Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. Using the average rate, the seventy five units are calculated to generate approximately 39 trips during the AM peak hour and 47 trips during the PM peak hour.

Table 1: Project-Generated Traffic

	Avg. Rate	Entering Vehicles	Exiting Vehicles	Total Trips
AM Peak	0.51	8	31	39
PM Peak	0.62	31	16	47

These apartment units will be used largely by employees of UVM Medical center and the University of Vermont, which is in close proximity to the project. This will likely result in a reduction in the estimated peak hour project-generated traffic. The project is also located on a bus route, so in addition to personal vehicles, residents have options for public transportation, walking, and bicycling.

Department of Planning and Zoning

149 Church Street

Burlington, VT 05401

<http://www.burlingtonvt.gov/PZ/>

Telephone: (802) 865-7188

(802) 865-7195 (FAX)

*David E. White, AICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, Senior GIS/IT Programmer/Analyst
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, CFM, Associate Planner
Anita Wade, Zoning Clerk*



MEMORANDUM

To: Development Review Board

From: Mary O'Neil, AICP, Principal Planner

Date: January 31, 2017

RE: ZP17-0388CA/MA; 66, 72, 80, 94 and 96 Colchester Avenue; 27 and 49 Fletcher Place

Note: These are staff comments only. Decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

File: ZP17-0388CA/MA

Location: 66, 72, 80, 94, 96 Colchester Avenue

Zone: I **Ward:** 1E

Date application accepted: September 23, 2016

Applicant/ Owner: Colchester Avenue Housing LLC/Frank Von Turkovich

Request: Planned Unit Development, construct 3 story residential building containing 75 apartment units, combine and reconfigure surface parking areas.

1st DAB review: October 12, 2016

2nd DAB review: October 25, 2016

Receipt of supplementary materials: December 2 and 8, 2016

3rd DAB review: January 10, 2017

Revised Plans received: January 12 and 18, 2017



Recommendation: Table the application and review when all missing materials have been submitted and compliance assured.

Background:

66 Colchester Avenue

- **Sketch Plan Review ZP16-0904SP;** Sketch Plan Review for 66, 72, 80, 94 and 96 Colchester Avenue; 27 and 49 Fletcher Place, Construct 2 three story buildings containing 78 apartment units with above-ground and underground parking. April 2016.
- **Sketch Plan Review 16-0746SP;** Sketch Plan review for proposed three story, two building multi-residential building complex with associated parking. December 2015. (Design Advisory review.)
- **Sketch Plan Review ZP16-0393SP,** Construct 79 apartment units in 3 story building with underground and above-ground parking facilities. November 2015.
- **Zoning Permit 87-853;** construct 250 sf. addition to rear of existing office use, provide one additional parking space. (5 + 1 = 6) Approved May 1988.
- **Zoning Permit,** install a 2' x 24' drain trough on the west side of the building. June 1974.
- **Zoning Permit;** convert property to a dental office. Five paved parking spaces. January 1961.

72 Colchester Avenue

- **Sketch Plan Review ZP16-0904SP;** Sketch Plan Review for 66, 72, 80, 94 and 96 Colchester Avenue; 27 and 49 Fletcher Place, Construct 2 three story buildings containing 78 apartment units with above-ground and underground parking. April 2016.
- **Sketch Plan Review 16-0746SP;** Sketch Plan review for proposed three story, two building multi-residential building complex with associated parking. December 2015. (Design Advisory review.)
- **Sketch Plan Review ZP16-0393SP,** Construct 79 apartment units in 3 story building with underground and above-ground parking facilities. November 2015.
- **CU-97-050;** Housing replacement exemption. Approved with conditions March 1997.
- **Zoning Permit 89-051 / COA 89-013;** construct 18' x 20' second story addition on rear of existing single family home, no change to site plan. Approved February 27, 1989.

80 Colchester Avenue

- **Zoning Permit 16-1400LL;** lot line adjustment with 27 and 49 Fletcher Place. September, 2016. Appealed to DRB; DRB upheld administrative approval 12/15/2016.
- **Sketch Plan Review ZP16-0904SP;** Sketch Plan Review for 66, 72, 80, 94 and 96 Colchester Avenue; 27 and 49 Fletcher Place, Construct 2 three story buildings containing 78 apartment units with above-ground and underground parking. April 2016.

- **Sketch Plan Review 16-0746SP**; Sketch Plan review for proposed three story, two building multi-residential building complex with associated parking. December 2015. (Design Advisory review.)
- **Sketch Plan Review ZP16-0393SP**, Construct 79 apartment units in 3 story building with underground and above-ground parking facilities. November 2015.
- **Sketch Plan Review 15-0896SP**, construct 79 apartment units in 3 story building with underground and above-ground parking facilities, April 2015.
- **Zoning Permit 15-0390SN**; install new freestanding sign for Hillel. Approved October, 2014.
- **Zoning Permit 15-0042CA/CU**, change of use from office to membership club; exterior staircase and install bike rack. Approved August 2014.
- **Zoning Permit CU 2004-016**; application for use by UVM affiliated Center for Children, Youth and Families Administrative offices. Approved with conditions, January 2004.
- **Zoning Permit 01-389**; installation of an externally illuminated freestanding sign for the existing medical (chiropractic) office. Approved April 2001; not pick up and confirmed expired in 2011.
- **Zoning Permit CU 2001-035**; change of use of first floor space from office to medical chiropractic office. Removed from agenda as determined that the proposed conversion from a medical billing office to a chiropractic office on the first floor does not require conditional use review. February 2001.
- **Zoning Permit 00-516**; refurbish existing side porch to allow ramping of deck for handicapped accessibility to the existing medical office. No increase in footprint. December, 2000.
- **Zoning Permit 99-277**; removal of slate roofing material, replacing with asphalt shingles for the existing medical office. Approved December 1998.
- **Zoning Permit 92-123**; construction of ten additional parking spaces for a total of sixteen for the existing medical office and residential unit. Existing curb cut to be eliminated, with joint use of adjacent property's (medical office / 94 Colchester Avenue) curb cut. Approved September 1991.
- **Zoning Permit CU92-011 / COA 92-025**; eliminate curb cut and driveway from #80 and utilize widened drive at traffic light at #94. Remove existing garage, change configuration and size of paved parking area. No change to use of #80 as office and apartment. Approved with conditions September 1991.
- **Request for Conditional Use Permit** to construct a private parking lot. July 1990. Application withdrawn by applicant.
- Notice of appeal to the Zoning Board of Adjustment seeking a special exception to erect a 16' x 16' addition to the northeast corner of existing doctor's office. Approved July 1968.

94 Colchester Avenue

- **Sketch Plan Review ZP16-0904SP**; Sketch Plan Review for 66, 72, 80, 94 and 96 Colchester Avenue; 27 and 49 Fletcher Place, Construct 2 three story buildings containing 78 apartment units with above-ground and underground parking. April 2016.
- **Sketch Plan Review 16-0746SP**; Sketch Plan review for proposed three story, two building multi-residential building complex with associated parking. December 2015. (Design Advisory review.)
- **Sketch Plan Review ZP16-0393SP**, Construct 79 apartment units in 3 story building with underground and above-ground parking facilities. November 2015.
- **Sketch Plan Review 15-0896SP**, construct 79 apartment units in 3 story building with underground and above-ground parking facilities, April 2015.
- **Non-Applicability of Zoning Permit Requirements 07-703NA**; replace asphalt shingle roof with same. May 2007.
- **Zoning Permit 92-025**; site changes for combined access with #80. See above. Approved September 1991.
- **Zoning Permit 91-154**; remove two windows and one door from north elevation and install three windows on same side. No change in use. See 89-012. October 1990.
- **Zoning Permit 89-042 / COA 89-012?** (Illegible); replace existing vestibule, new siding and windows, new walkways and landscaping. February 1989.
- **Zoning Permit 780073**; erect an 18' x 30 addition in rear of existing building. June 1977.
- **Zoning Permit**; desire to rent portion of premises for doctor's office. Approved May 1963.

96 Colchester Avenue

- **Zoning Permit 10-0979CA**; convert 304 sf. Of basement into apartment. May 2010.
- **Zoning Permit 08-158SN**; Freestanding sign for OB-Gyn Affiliates. August 2007.
- **Zoning Permit 81-383**; 36' long ramp for handicapped access. March 1981.
- **Zoning Permit 78-109**; connect inside of building to accommodate one physician. No additional coverage. September 1978.
- **Zoning Permit**, erect a 28' x 68'6" addition to the rear of the existing building to be used for two doctor's offices. February 1969.

Overview: The application seeks to construct two connected three story residential buildings. The buildings will contain 75 new apartments configured as studio and one bedroom units. Both buildings will have underground parking. Surface parking, access driveways and interior circulation paths will be reconfigured to serve all associated parcels. As boundary line adjustment have occurred between 80 Colchester Avenue and 27 and 49 Fletcher Place, the latter properties are now segregated from the development area and are therefore no longer included within the PUD.

Applicable Regulations:

Article 3 (Applications, Permit and Project Reviews), Article 4 (Zoning Maps and Districts), Article 5 (Citywide General Regulations), Article 6 (Development Review Standards), Article 8 (Parking), Article 9 (Inclusionary and Replacement Housing), Article 10 (Subdivision), and Article 11 (Planned Unit Development)

Article 3: Applications and Reviews**Section 3.2.1 (c) Sketch Plan Review**

Upon request of the applicant, or as may be required under Article 10 – Subdivision or Article 11 – Planned Development of this ordinance, A Sketch Plan Review may be scheduled before the DRB prior to the submission of an application in order to provide the applicant with constructive suggestions regarding a conceptual development proposal.

The project has had 4 prior Sketch Plan reviews. See dates, above.

Part 3: Impact Fees**Article 3.3.2 Applicability**

Any new development or additions to existing buildings which result in new dwelling units or in new nonresidential buildings square footage are subject to impact fees as is any change of use which results in an added impact according to Section 3.3.4.

Impact fees will be calculated by staff based on the gross new area. New gross area has been provided as 77,222 sq. ft, including the parking decks. An estimate of applicable Impact Fees are as follows:

SF of
Project 77,222

<u>Residential</u>		
Department	Rate	Fee
Traffic	0.190	14,672.18
Fire	0.216	16,679.95
Police	0.043	3,320.55
Parks	0.723	55,831.51
Library	0.448	34,595.46
Schools	0.934	72,125.35
Total	2.554	\$ 197,225.00

Impact Fees may be waived in whole or in part by the Housing Trust Fund Manager, based upon the number of inclusionary units. See Article 9, below. **Affirmative finding as conditioned.**

Section 3.3.7 Time and Place of Payment

(a) New Buildings: Impact fees must be paid at least seven (7) days prior to occupancy of a new building or any portion thereof.

As noted. **Affirmative finding as conditioned.**

Part 5, Conditional Use & Major Impact Review:

Section 3.5.6 Review Criteria

(a) Conditional Use Review Standards (as adopted by City Council 8.10.2015)

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

1. Existing or planned public utilities, facilities, or services are capable of supporting the proposed use in addition to the existing uses in the area.

The proposed development would be served by municipal water and sewer. A request for an allocation letter has been forwarded to the Water department. Wastewater and service capacity is available, but anticipated demand is not yet known. A state wastewater permit will also be needed prior to construction. Impact Fees will be assessed for impacts to public services, which will address newly introduced demand. **Affirmative finding as conditioned.**

2. The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the municipal development Plan;

The project is proposed within the Institutional zone, where greater scale and intensity of use can be considered; however, respect for historic residential buildings and sensitive transitions are required. The character of the area is divided by Colchester Avenue: To the north are existing residential scale buildings; many of those converted to medical offices.

66 Colchester Avenue was permitted as a dental office in 1961, yet retains its historic residential character and massing. 72 Colchester Avenue received an exemption from housing replacement in 1997 when it was a single family house. No change-of-use permit is within the zoning record. If the use will change (duplex suggested within submitted narrative of 10.27.2015), that change should be reflected in this application and decision. Duplex is a permitted use in the Institutional Zoning District.) 80 Colchester Avenue is home to Hillel; both structures reflect the residential character associated with historic Colchester Avenue. 94 Colchester Avenue is a medical office, however residential in appearance and scale.

Fletcher Place properties are no longer part of the PUD.

See Section 3.5.6 (b) 10 for conformance with Municipal Development Plan.

As most of the structures on the north side of Colchester Avenue / west side of Fletcher Place are residential, additional residential development would be in keeping with the current use of the area.

Architectural elevations have been updated for this application. Three stories is generally greater in size than existing buildings within the project area, but the scale is ameliorated with the location behind existing buildings and a distance from public roads. **Affirmative finding as conditioned.**

3. The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;

The new residential units will be located within the rear area, behind existing medical offices, institutional uses and residential units. Impacts will be consistent with existing residential use.

The traffic circulation has been formalized (see Trudell Consulting Engineers memo, dated August 10, 2016); however, several of these parcels already have significant parking areas

associated with their medical practices. The reorganization and formalization of parking and circulation will benefit all involved parcels, and minimize vehicular access drives along the bus corridor.

The dumpster location has been re-defined to facilitate access for trash haulers and minimize visibility.

Odor, dust, heat and vibration are not anticipated as associated impacts. **Affirmative finding.**

4. *The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit circulation, safety for all modes; and adequate transportation demand management strategies;*

The new development proposes to utilize the traffic signal that currently serves UVM Medical Center; organizing the traffic circulation for all uses within the PUD to the traffic light. In-bound access will remain available east of the medical office at 96 Colchester Avenue at an existing entry, which will join the interior circulation path. Two other driveways along Colchester Avenue will be removed. A traffic analysis has been provided (dated August 10, 2016) that anticipates approximately 39 trips during the AM peak hour and 47 trips during the PM peak hour. These apartment units are likely to serve UVM Medical Center employees resulting in an overall reduction in the estimated peak hour project generated traffic.

Additionally, the proposal, within the Institutional zoning district, is anticipated in its proximity to local medical and institutional facilities to provide opportunities for pedestrian and bicycle transportation options.

The applicant team has made contact with CarShare to initiate membership and potentially siting a vehicle within the project area.

An email from the Department of Public Works 1/18/2018 withholds support of the project without further detail as it relates to the connections to Colchester Avenue and the public ROW. That review is ongoing at present.

If a parking waiver is sought, a parking management plan should include those strategies that will demonstrate adequacy of meeting the demand of the new residential units.

Affirmative finding as conditioned.

And

5. *The utilization of renewable energy resources;*
Building plans include the inclusion of a significant solar array on a flat rooftop of both buildings. See Plan A105. **Affirmative finding.**

And

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances.*

Zoning Amendment ZA17-03 (now Section 2.7.8 of the Comprehensive Development Ordinance) will require correcting any open violations and closing all expired permits on all involved parcels prior to application of a Final Certificate of Occupancy for this project. All requirements for Erosion Protection, Sediment Control and Stormwater management, as defined by conditions imposed by the Stormwater Division will be applicable. A state waste water permit will be required. This, and Act 250 Review (if appropriate) are the responsibility of the applicant/owners. **Affirmative finding as conditioned.**

(b) Major Impact Review Standards

1. Not result in undue water, air, or noise pollution;

Stormwater Management and EPSC plans have been forwarded to the Department of Public Works. The applicant has a third review with the Conservation Board, January 23, 2017, and received their approval. The Stormwater Plan has been approved by the Stormwater Division.

As the proposed use (aside from the existing Colchester Avenue medical offices and the Hillel use) is exclusively residential, no undue air or noise pollution is anticipated. **Affirmative finding as conditioned.**

2. Have sufficient water available for its needs;

Written assurance from the city water engineers of adequate water and sewer capacity will be a condition of approval. **Affirmative finding as conditioned.**

3. Not unreasonably burden the city's present or future water supply or distribution system;

An assessment of city water engineers will be critical to understanding demand and capacity. See Section 3.5.6 (a) 4.

4. Not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result;

An erosion prevention and sediment control plan in compliance with Chapter 26, Wastewater, Stormwater, & Pollution Control will be required. Approval has been received from the Stormwater Administrator. **Affirmative finding.**

5. Not cause unreasonable congestion or unsafe conditions on highways, streets, waterways, railways, bikeways, pedestrian pathways or other means of transportation, existing or proposed;

See Section 3.5.6 (a) 4.

6. Not cause an unreasonable burden on the city's ability to provide educational services;

Plan A102 (First Floor Plan) defines 16 one bedroom units and 7 studio apartments. If this is consistent across all three floors, units are limited to one bedroom and studio units. The applicant has defined the intention to serve a professional population associated with area institutions. These limited size units are less likely to have school age children; higher bedroom count increases the possibility. Given the floor plan, the development is unlikely to have school age children; however, required Impact fees will help offset any impact to the school system. **Affirmative finding as conditioned.**

7. Not place an unreasonable burden on the city's ability to provide municipal services;

The proposed development will generate additional impacts on city services; however, Impact Fees will offset those impacts. See condition about providing assurance of waste and water capacity. **Affirmative finding as conditioned.**

8. Not have an undue adverse effect on rare, irreplaceable or significant natural areas, historic or archaeological sites, nor on the scenic or natural beauty of the area or any part of the city; See Section 5.4.8, 6.2.2. and 6.2.3.

9. Not have an undue adverse effect on the city's present or future growth patterns nor on the city's fiscal ability to accommodate such growth, nor on the city's investment in public services and facilities;

The project seeks to utilize open space on the interior of multiple lots. There will be increased demands on city infrastructure; however, the location is advantageous in its proximity to area institutions, travel ways, pedestrian paths and the downtown. Technical Review of this project was held December 11, 2014 (with a differently configured building layout), but the project applicants observed the comments made by department representatives in revised plans.

Affirmative finding as conditioned.

10. Be in substantial conformance with the city's municipal development plan;

The project supports the aspirations of the MDP in the following ways:

- *Support the development of additional housing opportunities within the city, with concentrations of higher-density housing within neighborhood activity centers, the downtown and institutional core campuses. (MDP, Housing Plan, Page IX-1.)* Technically, the project site is within the Institutional zone, not core campus. The addition of new housing units, however, is a consistent theme in the MDP.
- *Provide a range of housing types that meet the needs and interests of the student population. These should include apartments that give students an opportunity to get away from the typical dormitory living situation. (MDP, Housing Plan, Page IX-11.)*
- *Addressing Parking and Circulation. Every effort should be made to provide parking either underground or within a structure to minimize the amount of land dedicated to surface parking. Additionally, traffic circulation patterns within residential neighborhoods and through the University campus must be evaluated to minimize through traffic off campus, and the need to use cars all together. (MDP, Housing Plan, Page IX-11.)*
- *Support the creation of new rental and owner-occupied housing on every parcel of land in Burlington that is zoned for residential development at the number of units allowed by zoning. Identify buildable sites for eventual housing construction/conversion. (MDP, Housing Plan, Page IX-12.)*

Affirmative finding.

11. Not have an undue adverse impact on the present or projected housing needs of the city in terms of amount, type, affordability and location;

The proposal is infill in undeveloped rear yards of existing adjoining neighborhoods. The proposed new residential units will moderately contribute to the city's housing stock. Inclusionary housing units will be required. The location is probably the most desirable feature; in close proximity to area institutions: UVM Medical Center, the university, and downtown.

The project will be providing an estimated 11 inclusionary housing units as well. **Affirmative finding as conditioned.**

12. Not have an undue adverse impact on the present or projected park and recreation needs of the city.

Modest impacts on the city's park and recreation needs are anticipated. Payment of impact fees will help offset such impacts. The project will be enhanced with on-site gardens, park benches and similar amenities for use of the immediate residents. **Affirmative finding.**

(c) Conditions of Approval for Conditional Use applications

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area;

The application includes an evolved landscape plan (See Plan L1-01.) Trees are proposed around the eastern edge of the central parking area, and the western edge of the parking area behind 66 Colchester Avenue; reducing the likelihood of headlight trespass. Additionally, heavy plantings are proposed behind the adjacent properties of Fletcher Place.

Tree requirements must be consistent and compliant with the requirements of 6.2.2. (l).

Affirmative finding as conditioned.

2. Time limits for construction.

Zoning permits are valid for two years; if development is likely to extend beyond that time frame, a phasing schedule will be required for DRB consideration to allow for occupancy of part of the building as the project continues.

The specific hours of construction are typically limited to M-F 7:00 am to 5:30 pm, with Saturday hours restricted to interior work. The DRB has the discretion to alter those hours based on the demands of the project and the context of the development area. **Affirmative finding as conditioned.**

3. Hours of operation and/or construction to reduce the impact on surrounding properties.
See above.

4. That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions,

As a PUD and a Major Impact/Conditional Use, this is a statutory requirement. **Affirmative finding as conditioned.**

And

5. Such additional reasonable performance standards, conditions and safeguards as it may deem necessary to implement the purposes of this chapter and the zoning regulations.
Any such performance standards are at the discretion of the DRB.

Article 4: Maps & Districts

(a) *Purpose: The Institutional District allows for an increased development scale and intensity than would typically be found in the adjacent residential districts to support continued growth and flexibility of the city's major educational and health care institutions within their respective institutional missions. New development is intended to be sensitive to the historic development pattern of the existing campuses as well as the surrounding residential neighborhoods.*

The district is intended to support a broad range of related uses reflecting the resident institutions role as regional educational, health care, cultural and research centers.

Buildings should be designed with a high level of architectural detailing to provide visual interest and create enjoyable, human-scale spaces. Sensitive transitions between adjacent lower scale residential areas and larger scale institutional development should be provided. Sites should be designed to be pedestrian friendly and encourage walking between buildings. Where parking is provided onsite, it is intended to be hidden behind, to the side, within, or underneath structures.

The proposed building is larger in scale than those that surround it on Colchester Avenue and Fletcher Place, but the difference is largely ameliorated with the siting of the building far within the parcel and placement behind existing buildings. The design of the building has been articulated with developed exteriors, including plane changes, building recesses, balconies, articulated window and roofline treatments and site amenities. There is an enhanced pedestrian and parking circulation system that will permit residents to traverse from building to vehicle or building to off site with relative ease and safety. Parking for residents will be undergrounded; the remaining parking to serve on-site existing uses has been reorganized and arranged for broad user benefit. As development is interior to the lot, surface parking is located behind and to the rear of existing buildings. **Affirmative finding.**

Table 4.4.4-1 Dimensional Standards and Density
Calculation of total acreage:

66 Colchester Avenue	.2502 A
72 Colchester Avenue	.3212 A
80 Colchester Avenue	3.38 A
94 Colchester Avenue	.2167 A
96 Colchester Avenue	.2638 A
Total area	4.43 Acres

Institutional District	Max. Intensity 20 du/acre 24 du/acre with IZ	Max. Lot Coverage 40% 48% with IZ	Building setbacks			Max. Height 35'
			Front ² Minimum 15'	Side ³ 10% of lot width, Min. 5', Max 20'.	Rear 25% lot depth, min. 20', max 75'	
Proposed development	15 existing / equivalent units + 75 new = 90/4.43 acres = 20.31, less than the 24-unit limitation with IZ	The applicant has not provided coverage calculated across the entire PUD area, not just 80 Colchester Avenue.	No change to Colchester Avenue.	New building meets max 20' side yard setback from west; parking area on east will meet minimum 5' setback. See	Meets maximum setback.	Measurement from average grade to roof is < 35' (see Plans A201, 202); calculation for allowable exceptions to height limits

				plan C2-03 or L1-01.		defined in roof plan A105 (areas exceeding height limit See ZA 16-14 for amended zoning standards.) ¹
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Boundary line adjustments have already occurred between 80 Colchester Avenue, 27 Fletcher Place and 49 Fletcher Place. Reciprocal easement arrangements for parking and access will be effected for all involved parcels and will be a condition of approval.

As 66, 94 and 96 Colchester Avenue will remain separate lots, their side yard setbacks remain as existing and will only be analyzed for setback compliance along the periphery of the project which is the ultimate consideration for a PUD.

Internal setbacks are not considered, as only setbacks around the periphery of the PUD are scrutinized.

No finding possible without coverage calculated across entire PUD area;

Section 4.4.4 (c) Permitted and Conditional Uses

Attached dwellings, multi-family are a conditional use in the Institutional Zone, per Appendix A. Seer 3.5.6, above and Appendix A. **Affirmative finding as conditioned.**

Article 5: Citywide General Regulations

Section 5.2.3 Lot Coverage Requirements

See Table 4.4.4-1, above. A calculation of coverage for all lots within the PUD will be required. **No finding possible.**

Section 5.2.4 Buildable Area Calculation

Although the combined parcels exceed the 2 acres threshold, they are within the Institutional Zone which is not subject to this criterion. Not applicable.

Section 5.2.5 Setbacks

¹ Section 5.2.6 (b), as amended under ZA-16-14 – Downtown Mixed Use Core Overlay.

3. Ornamental and symbolic architectural features, including towers, spires, cupolas, belfries and domes; greenhouses, garden sheds, gazebos, rooftop gardens, terraces, and similar features; and fully enclosed stair towers, elevator towers and mechanical rooms, where such features are not used for human occupancy or commercial identification, **are exempt from specific height limitations** but shall be subject to the design review provisions of Art. 3 and 6. Such features and structures shall be designed and clad in a manner consistent and complementary with the overall architecture of the Building. 4. Exposed mechanical equipment shall be allowed to encroach beyond the maximum building height by no more than 15-feet provided that portion exceeding the height limit does not exceed **20%** of the roof area.

Exposed mechanical equipment shall be fully screened on all sides to the full height of the equipment, and positioned on the roof to be unseen from view at the street level. Screening may consist of parapets, screens, latticework, louvered panels, and/or other similar methods. Such features and structures shall be designed and clad in a manner consistent and complementary with the overall architecture of the Building. Where mechanical equipment is incorporated into and hidden within the roof structure, or a mechanical penthouse setback a minimum of 10-ft from the roof edge, no such area limit shall apply and the structure shall be considered pursuant with 4 above.

See Table 4.4.4-1, above.

Section 5.2.6 Building Height Limits

Height is limited to 35', except under provisions of Section 5.2.6 (b). Exceptions to Height Limits has recently undergone amendment (ZA16-14, see excerpt in footnote above) which excludes elevator towers. The mechanical equipment is screened, and collectively does not exceed 20% of the roof area. **Affirmative finding.**

Section 5.2.7. Density and Intensity of Development Calculations

See Table 4.4.4-1, above. This meets the limitation for intensity of use including IZ.

Affirmative finding.

Part 3: Non-Conformities

Section 5.3.5 Nonconforming Structures

(a) Changes and modifications:

Any change or modification to a nonconforming structure, other than to full conformity under this Ordinance, shall only be allowed subject to the following:

- 1. Such change or modification may reduce the degree of nonconformity and shall not increase the nonconformity except as provided below.*
- 2. Such change or modification shall not create any new nonconformity,*

There are no changes to the existing non-conformity to setback of 66 or 72 Colchester Avenue. The new building meets the maximum setback of 20' on the easterly boundary of the 80 Colchester Avenue parcel. Other, independent lots (66, 94 and 96 Colchester Avenue will have no implications for setbacks, as they are existing and the lots are within the PUD. A small sliver of the 80 Colchester Avenue parcel connects to Colchester Avenue next to 96, and that will retain its existing setback.

Affirmative finding.

Sec. 5.4.8 Historic Buildings and Sites

72, 80, and 94 Colchester Avenue are all listed on the Vermont State Register of Historic Resources. As the development is proposed for the interior of these combined parcels, the most significant concern may be that of compatibility, particularly in regard to massing and proportion.

(b) Standards and Guidelines:

- 1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.*

Each of the identified historic resources along Colchester Avenue and Fletcher Place were constructed as residential dwellings. The addition of new housing in the rear of these combined parcels will not alter the historic or current use of each structure.

The single car garage behind 72 Colchester Avenue is proposed for removal, to accommodate the interior circulation and parking plan. See Section 5.4.8 (d), below.

2. *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*

No alterations to the structures are proposed for 66, 72, 80, 94 or 96 Colchester Avenue. The roadway that is proposed to be the principle entrance to the development between 80 and 94 Colchester Avenue is currently an access to a parking area. Two driveways west of 80 Colchester Avenue have been eliminated. The most significant change will be the introduction of a large extended residential structure in the rear of the assembled lots. The structure will occupy an area of the backyards behind these older structures, and introduce a building of a larger scale and mass than those on the north side of Colchester Avenue or Fletcher Place. The significant setback from existing buildings and the streetfront tempers the change in massing.

The single car, wood frame garage behind 72 Colchester Avenue is proposed to be removed to accommodate the new circulation and parking plan. It, also, is listed on the Vermont State Register as associated with 72 Colchester Avenue, and dates from 1930-50. In appearance and presentation, the small accessory building clearly recalls the single family residential use of the property. See Section 5.4.8 (d), below.

3. *Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*

There is no proposal for conjectural features on any of the subject properties. **Affirmative finding.**

4. *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*

Other than the removal of the garage at 72 Colchester Avenue, the application does not include alteration to the existing historic properties. See Section 5.4.8 (d), below for discussion of the garage.

5. *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*

No changes to features or finishes are proposed. **Affirmative finding.**

6. *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials recognizing that new technologies may provide an appropriate alternative in order to adapt to ever changing conditions and provide for an efficient contemporary use. Replacement of missing features will be substantiated by documentary and physical evidence.*

No replacement of historic features is proposed. **Affirmative finding.**

7. *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*

No chemical or physical treatments are proposed for the historic buildings. **Affirmative finding.**

8. *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*

As noted.

9. *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion, and massing to protect the integrity of the property and its environment.*

Spatial relationships will be altered in that these included properties will no longer have the expansive rear yards as is currently present. As an example of modern infill, the project provides an opportunity for attractive, functional infill housing complementary to its existing residential neighbors. Other historic examples of residential development off Colchester Avenue would be Nash Place, Thibault Parkway, and even Fletcher Place itself.

Growing cities commonly utilized open area tangent to existing development along major thoroughfares to expand residential opportunities; but each successively created a nucleus neighborhood that was independent of but related to neighboring development. This proposal seeks to introduce a residential nub within a collection of existing buildings.

Revised building elevations define a housing model of more modern vocabulary, contrasting in proportion, massing (3 stories), and scale with its most immediate residential neighbors. The substantial setback from the historic buildings that line Colchester Avenue and Fletcher Place, its influence is assuaged by distance. Modeling studies may help analysis of compatibility with and impact to its abutting neighbors, particularly in regard to scale, proportion, and appearance.

In design, material and scale, the new development is clearly differentiated from older surrounding structures and distinctly new. **Affirmative finding.**

10. *New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

It would be possible to consider the removal of a single large detached structure, so the project might be reversible. **Affirmative finding.**

(d) Demolition of Historic Buildings

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;*

No evidence has been provided that the accessory structure at 72 Colchester Avenue is structurally unsound.

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;*

There is no indication that alternatives to demolition have been explored, including removal to another area on or off site. Its function will be replaced with the new parking garage; its location in conflict with the proposed circulation path of the new development. Even with relocation, the small accessory building would likely look out of context if repurposed in the area of new development. The Design Advisory Board considered the potential for relocation within the project area, potentially to function as a dumpster or recycling enclosure. The structural integrity of the building came into discussion, and the likely difficulty of housing (and emptying) a dumpster within the shell.

Other potential relocation sites were not considered: 27 Fletcher Place may be an opportunity, or some other residential property along Fletcher Place, as its age, function and appearance would be consistent with those dwellings. **Affirmative finding if conditioned.**

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.*

The overall development will provide 75 new housing units in close proximity to major institutions. The subject building is a small accessory structure, common for its period and association with changing mobility and modes of transit. The Design Advisory Board believed the addition of new housing units supported the sacrifice of the small accessory structure.

Affirmative finding.



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;*

This is the sole historic building proposed for alteration or removal within the development area. Its demolition, although regrettable, will not substantively impact the historic importance of the principal buildings that line Colchester Avenue and Fletcher Place. **Affirmative finding.**

- 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;*

Photo documentation of the structure prior to its removal is highly recommended. The building's importance, on the Vermont State Register of Historic Resources, does not rise to the benchmark requiring Historic American Building Survey documentation. **Affirmative finding as conditioned.**

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 removal of the garage is incorporated into a much larger development proposal that includes new construction and parking facilities within new buildings. The timetable of such development, if approved, will be consistent with the life of the zoning permit unless phasing is requested.

New construction must commence within 6 months of the removal of this building per this standard. **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.

If approved by the DRB and documented in photographs for the record, it is recommended that the garage be made available for reuse, relocation, sale, or salvage per this standard. **Affirmative finding if conditioned.**

Section 5.5.1 Nuisance Regulations

Nothing in the proposal appears to constitute a nuisance under this criterion. Lighting, must meet the standards of Section 5.5.2, below. **Affirmative finding.**

Section 5.5.2 Outdoor Lighting

Plan L2-01 defines light distribution acceptable for parking lots/walkways. Entry lighting should not exceed 5 fc. There are 2 hot spots identified; at the principal entrance on the south elevation (7,4 fc) and either side of the connector entry (5.5 and 7.6.) With adjustment of these fixtures, the photometric may be brought into compliance with these standards. **Affirmative finding as conditioned.**

Section 5.5.3 Stormwater and Erosion Control

A stormwater management plan, and Erosion Prevention and Sediment Control Plan has been submitted and has been approved in writing by the City Stormwater staff. Additionally, conditions will require compliance post construction with each approved plan prior to issuance of any Certificate of Occupancy. **Affirmative finding.**

Article 6: Development Review Standards

Part 1: Land Division Design Standards

No land division is proposed. Recent property line boundary adjustments have altered the parcel boundaries of 80 Colchester Avenue, 27 and 49 Fletcher Place. This application reflects those newly defined property boundaries.

Part 2: Site Plan Design Standards

Sec. 6.2.2 Review Standards

(a) Protection of Important Natural Features

There is a significant ravine to the north of the site, which the project development avoids. The proposal intends to incorporate grade changes to facilitate underground parking for the new residential building. **Affirmative finding.**

(b) Topographical alterations

Revised site plan C2-01 defines grade contours post construction. C2-03 is specific for grading and layout. Plan C1-04 clearly defines removal of parking areas, sheds, garage, and walls, as well as the tree clearing limits to the north. **Affirmative finding.**

(c) Protection of important public views

There are no important public views from or through the property. **Affirmative finding.**

(d) Protection of important cultural resources

See Section 5.4.8 (b).

(e) Supporting the use of alternative energy

Submission documents include the intent to incorporate rooftop solar, which is encouraged. A roofplan has been submitted, including a calculation for roof area in excess of the height limitation, allowable under Section 5.2.6 (b) 4. **Affirmative finding.**

(f) Brownfield sites

The properties are not listed on the Vermont DEC Hazardous Waste Site. Not applicable.

(g) Provide for nature's events

A Stormwater Management plan, was approved by the City Stormwater team per **Section 5.5.3**, Stormwater and Erosion Control. The applicant received approval of the Conservation Board January 23, 2017. Newly submitted plans include EPSC construction and stabilization plans (C5-01 and 02), which have received approval of the City Stormwater team.

Snow storage is identified on the b&w Plan L1-01. The applicant defines a plan to move all snow from the westerly parking lot to the easterly lot and store as noted. Some snow may require trucking from the site; it will be evaluated as the project nears completion. **Affirmative finding.**

(h) Building location and orientation

The visible public streetscape along Colchester Avenue is an important component; however, equally important is the establishment of a well-defined built environment, functional open spaces, and interconnectivity between the new dwellings and the existing streetscape/sidewalks that connect physically and visually to Colchester Avenue and on a lesser note, Fletcher Place. The site plan has been redesigned to create and orient a primary façade (south building) to front Colchester Avenue. A pedestrian way and crosswalk to Colchester Avenue are illustrated on the plan. The proposed circular drive will provide visual access to both buildings, providing a ring of parking spaces to the east of both buildings. Pedestrian drop off may casually occur within that circle, or at the pedestrian crosswalk in front of the southerly building. Open space or common land is required as part of Article 11.

The CDO and Municipal Development Plan articulate a vision for vibrant city neighborhoods with a fabric of cohesive streetscapes and call for new neighborhoods to reflect this vision. The proposed development increases residential density through utilization of undeveloped rear yards. This concept is hardly new, with much residential conversion and new construction on rear yards throughout the city. The application here has the potential to introduce a significant number of new residential units in a district that can support the density in a manner that is respectful of the existing pattern of development and streetscape. **Affirmative finding.**

(i) Vehicular access

Access to this inner site is proposed directly across from the UVM Medical Center, intending to utilize the existing traffic light. Two driveways west of this access will be eliminated; all traffic will be directed through the light. Revised plans include proposed signage for traffic flow. The proposed access and circulation pattern will make available interior parking behind 66, 72, 80, 94 and 96 Colchester Avenue. A vehicular connection to 106 Colchester Avenue is illustrated up to the property line; without a companion zoning permit for that specific parcel, no shared drive is acknowledged and any driveway must meet a required setback. That extension

should be eliminated from the plan until such time as shared access is formalized between parcels.

The principal entry at the traffic light would also offer the opportunity to turn “left” in front of the proposed south building; and then turn right to access to the underground garage.

The existing access drive east of 96 Colchester Avenue is proposed to be retained and connected to the inner network as well as specific parking spaces for the existing medical office. This drive is for ingress only; and will have signage to indicate such.

Affirmative finding as conditioned.

(j) Pedestrian access

Sidewalks connect directly to those on Colchester Avenue, and continue along the easterly side of the south building, connecting to the northerly building. A “promenade” type pedestrian path provides a focal entry to the south building from Colchester Avenue; something recommended in earlier sketch plan review.

Revised site plan (C2-01) and Landscape plan (L1-01) reflect the recommended sidewalk west of the new building, with landscaping. A crosswalk has been added to access the dumpster or the dental office at 66 Colchester.

Sidewalks ring both the north and south of the circular parking area behind 94 and 96 Colchester Avenue. A new crosswalk for pedestrian use from the parking lot to the sidewalks in the rear of 94 and 96 Colchester Avenue has been added. **Affirmative finding.**

(k) Accessibility for the handicapped

The project will be required to meet ADA standards, as directed by the building inspector.

Elevators are proposed to serve both the north and south buildings. H/C parking will be required, with identification, signage and access area. Some h/c parking areas are defined on the site plan (specifically, behind 72 Colchester Avenue, immediately east of the south building and one in underground parking of same.) The existing diagonal parking places next to 96 Colchester Avenue are now illustrated on revised plans, and include h/c parking. Adequacy of these parking spaces must be confirmed with the building inspector; additional h/c parking may be appropriate near medical buildings. **Affirmative finding as conditioned.**

(l) Parking and circulation

Parking is proposed under both new buildings and with surface parking. The applicant will be obliged to meet the parking requirements of Table 8.1.8-1 of the CDO. The parking requirement for multi-unit attached dwellings in the Shared Use Parking District is 1/unit.

Circulation as best understood is proposed via an access drive at the traffic light on Colchester Avenue; proceeding through a choice of paths. Turning right will afford access to a circular loop double-lined with 51 surface parking spaces. A secondary surface parking area west of the south building permits access to another 14 surface parking spaces and entrance to two subsurface parking decks. The far easterly access (next to 96 Colchester Avenue) will first admit access to 6 surface parking spaces intended for the medical office (one h/c), and lead to the circular loop.

These parking spaces are now illustrated on revised plans. As circulation paths and parking cross property boundaries, the applicant must effect easement or other instrument to allow use of included parcels within the PUD to provide the suggested access and circulation. This will be critical for the 96 Colchester Avenue parcel, as the parking and circulation lanes rely on that lot.

Access to the 106 Colchester Avenue parcel as a suggested shared driveway will require a separate zoning permit and coverage calculation for that lot. Until that occurs, the access drive to the boundary line shall be omitted from plans and respect the minimum required 5' setback.

The proposed vehicular circulation plans will be dependent on informative signage to direct drivers to correct paths. The applicants have provided such a plan (C2-04). Overall, there is a substantial amount of surface parking proposed, although the plan realizes the abandonment of several access drives and is largely behind the existing buildings on Colchester Avenue.

Surface parking requires shading to reduce the effect on the local microclimate, air quality, and stormwater runoff. At least 30% of the parking lot must be shaded. 1 shade tree shall be provided for every 5 parking spaces with a minimum caliper size of 2 ½ -3" at planting. For the circular loop, 10 trees will be required (only 8 are illustrated on Plan L1-01); for the parking behind 66/72 Colchester four new trees are needed ($5+14=19/5 = 4$. 7 are shown on landscaping plan.) The plant list accompanying L1-01 provides appropriate caliber size at time of planting. Specimen choice and size at maturity should be reviewed by the City Arborist for appropriateness and acceptability. [Plan sent to Warren Spinner 12.19.2016.)

Exterior (short term) bicycle parking is provided east of 72 Colchester Avenue, as required with access along vehicular driveways or paths. Plans C202-204 show this as a six bike parking rack; but there is inconsistency in plan, as L1-01 indicates short term bike parking adjacent to the promenade, behind 80 Colchester Ave. The applicant needs to specifically define. Additional (long term) bike storage will be provided within the new structure. See Plan A101. Given the high number of residential units, more exterior short term bicycle parking will be required than is reflected in the revised plans. Bicycle parking must be linked to pedestrian routes to a building entrance. Bike parking must conform to applicable design and construction details as provided by the City of Burlington Bicycle Parking Guidelines:

https://www.burlingtonvt.gov/uploadedFiles/BurlingtonVTgov/Departments/Public_Works/Transportation_Policy_and_Planning/Bicycling_and_Walking/Bicycle%20Parking%20Guidelines.pdf

A total calculation of required bicycle parking and where provided will be required for DRB review.

No finding possible until bike parking locations confirmed, access drive to 106 Colchester Avenue removed and setback met. **Adverse finding** for inadequate number of trees provided for easterly parking lot.

(m) Landscaping and fences

A landscaping plan has been provided as part of the revised submission packet. See (above) for shading requirements. Landscaping shall be distinctly arranged to prevent parking lot creep, with installation of barriers to prevent vehicles from encroaching into abutting greenspace. This is particularly important with the parking east of 96 Colchester Avenue and at the edge of surface parking areas.

Affirmative finding as conditioned.

(n) Public plazas and open space

While there are no formal public plazas included in the plan, the concourse entrance from Colchester Avenue acts as a public meeting area with benches, lighting, new landscaping and potentially a bike rack. It is appropriate to evaluate the overall availability of open space available for residents as part of a PUD. North of the development site is unreceptive for open

space amenities due to the challenging topography. An open area behind 27 Fletcher Place has been identified as a community garden. An area for picnic tables, clothes lines, or play areas dedicated to the enjoyment of the residents would further this effort. However, as a housing complex intended for professionals, those amenities may not be as critical as they would be for a family residential development. The proposal for a rooftop terrace is more likely an amenity to be appreciated by the anticipated tenants.

The rooftop terrace is exempt from height limitations per Section 5.2. 6 (b) as amended.

Affirmative finding.

(o) Outdoor lighting

A photometric plan has been submitted. See Section 5.5.2, above. **Affirmative finding as conditioned.**

(p) Integrate infrastructure into the design

On-site utilities will need to be undergrounded. Meters, utility connections, HVAC or similar mechanical equipment should be coordinated with the design of the building, and grouped in a service court out of public view. All need to be illustrated on elevations and/or site plans to determine appropriateness of location and necessity of screening.

Rooftop mechanicals are illustrated behind screening on Plans A201 and A202. A detail sheet should be provided for that feature.

As has been frequently mentioned, it would be preferable to integrate trash and recycling operations within the building rather than as a stand-alone. The location of recycling facilities has been redefined behind 66 Colchester Avenue, within an enclosure. This location is less visually obtrusive, and more accessible than previously defined.

The Design Advisory Board accepted the proposed location of the dumpster/enclosure, but conditioned that it should be designed to fit compatibly within the context of the site. The submitted plan (A101, detail) define a 6' high vinyl coated chain link fence surround. This does not meet the standard of "compatible design" with a congregant group of historic structures. New plans meeting that requirement are appropriate.

Any dumpster will be required to be enclosed on all four sides to prevent blowing trash; and must be screened from public view.

The location of residential mailboxes must be defined.

Affirmative finding as conditioned.

Part 3, Architectural Design Standards

Section 6.3.2 Review Standards

(a) Relate development to its environment:

1. Massing, Height and Scale:

66, 72 and 80 Colchester Avenue maintain the 1 ½ story, residential scale of mid 19th century dwellings. 94 Colchester Avenue is a more modern, one story medical office structure; and 96 is a 2 ½ story foursquare. Compared to the existing buildings, the massing and scale of the proposed new residential building diverges from the residential scaled buildings that surround it. The distance between them and the proposed building (and distance from both Colchester Avenue and Fletcher Place) somewhat ameliorates that discord. **Affirmative finding.**

2. Roofs and Rooflines.

Flat roofs are proposed; within the context of the immediate area (north side of Colchester Avenue, west side of Fletcher Place) most buildings have gable, bonnet, hipped or compound roofs with dormers. The exception may be Mater Christi School, west of this parcel, which is flat-roofed.

Porches typically have shed or modified hip roofs. Flat roofs are not commonplace on the residential buildings north of Colchester Avenue.

This development is set back from the surrounding residential scale buildings and removed from their immediate context; differences that reflect the newer construction aesthetic and date are acceptable.

The application submittal includes specification sheets for condensing units. The roof plan also defines the intended location of the units. A barrier is illustrated around those units, but no detail sheet provided.

Affirmative finding if conditioned.

3. Building Openings

Windows on the southerly building are ganged in threes on the south elevation (facing Colchester Avenue), with the principal entry flanked in plate glass. The westerly elevation displays rhythm and thoughtful arrangement. The west elevation of the northerly building features symmetrically organized windows, with a central spine (of glass, or metal?) through which an entry is located. The same elevation of the southerly building has window and door arrangements organized into related groups associated with the arrangement of units. Windows are more vertical than horizontal.

Easterly elevations of both buildings illustrate the desire to distinguish one building from the other with material and window arrangement. The connector between the two is also among glass or metal panels, with a double entry door. First floor doors to units are easily distinguishable by entry stairs and either alcove or canopy.

The north elevation of the northerly building now enjoys more glazing, with triple patio doors onto balconies at the upper floor. Similar features are evident on the south elevation of the same wing. **Affirmative finding.**

(b) Protection of Important Architectural Resources:

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8. The introduction of new buildings to a historic district listed on a state or national register of historic places shall make every effort to be compatible with nearby historic buildings.

See Section 5.4.8.

(c) Protection of Important Public Views:

There are no protected important public views from this site. Not applicable.

(d) Provide an active and inviting street edge:



The core of the development is behind existing structures. The most visible street presence will be the main entry facing Colchester Avenue, which will be visible at the pedestrian entryway between 74 and 80 Colchester. That entrance is defined by the prominence of the façade design, the pedestrian pathway from Colchester Avenue, and the allée of Honey Locust that will give focus and presence to that entry. The building will be marginally visible from the Fletcher Place roadway. The applicant has provided newly rendered plans to illustrate the view from Fletcher Place. No principal point of entry is proposed from that streetscape to the larger development.

Affirmative finding.

(e) Quality of materials:

All development shall maximize the use of highly durable building materials that extend the life cycle of the building, and reduce maintenance, waste, and environmental impacts. Such materials are particularly important in certain highly trafficked locations such as along major streets, sidewalks, loading areas, and driveways. Efforts to incorporate the use of recycled content materials and building materials and products that are extracted and/or manufactured within the region are highly encouraged.

Sheathing is proposed to be a mix of clapboard (fiber cement or wood), metal, hardi-panels, brick and wood panel. The design relies upon alteration of building material to provide interest and articulation to the plan. Window materials are not defined.

All material suggested are of acceptable durability in new construction.

The rooftop screening has not been defined.

The dumpster enclosure is of an inferior design/material, and is recommended for redesign to meet the recommended condition of the Design Advisory Board.

Affirmative finding as conditioned.

(f) Reduce energy utilization:

All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances. **Affirmative finding as conditioned.**

(g) Make advertising features complementary to the site:

No signage is proposed. Any signs will require a separate sign permit.

(h) Integrate infrastructure into the building design:

See Section 6.2.2. (p.)

(i) Make spaces secure and safe:

All applicable building and life safety code as defined by the building inspector and fire marshal will be required. Building entrances need to be adequately illuminated (but not to exceed 5 fc.) An intercom system is recommended to maximize personal safety of the residents. **Affirmative finding as conditioned.**

Article 8: Parking

Section 8.1.8 Minimum Off-Street Parking Requirements

The applicant needs to clearly define the properties and the existing uses that are being included in the overall plan so an accurate parking requirement can be made.

The last approved site plan for 66 Colchester Avenue (1988) featured a paved parking area with 6 spaces. As portrayed, there is a significant expansion in parking behind that structure, which will need to be brought into the PUD to formalize the arrangement, or otherwise brought into compliance.

From an examination of the zoning record, the final number of permitted parking spaces per parcel:

Address	Use	Permitted Bike parking	Permitted Car parking	Zoning Permit
66 Colchester Avenue	Medical office	0	6	87-853
72 Colchester Avenue	Single family house	0	2	97-050
80 Colchester Avenue	Community House (Hillel)	2	5 required; see 94 below)	15-0042CA/CU
94 Colchester Avenue	Med office and basement apartment	0	16 shared with 80 Colchester (above)	92-025
96 Colchester Avenue	Med office with basement apartment	0	25	10-0979CA
Total approved parking with existing uses		2	49	

In the Shared Use Parking District, 1 parking space is required for each dwelling unit. For 75 new residential units, 75 parking spaces will be required in addition to the current demand by existing use. $75 + 49 = 124$ **parking spaces** to meet existing and proposed uses. Plans show 77 surface and 48 interior parking deck, for a total of 125 parking spaces.

Affirmative finding for vehicular parking.

Section 8.2.5 Bicycle Parking Requirements

Table 8.2.5-1 defines the bicycle parking requirement as 1 per 4 units for long term storage, and 1 per 10 units for short term. For 75 new residential units, bicycle parking requirements would be **19 long term spaces, and 8 short term**. Bicycle parking meeting these requirements shall be illustrated on submitted site plan/floor plans, as appropriate. As previously noted, exterior bicycle parking should be linked to pedestrian paths that connect to the buildings and public sidewalks. Interior long term bicycle storage is illustrated on Plan A101 for the proposed residential units, but does not confirm the adequacy of number required.

Previous permitting for 80 Colchester Avenue required 2 bicycle parking spaces for that use (ZP15-0042CA/CU.) Those should be included in the calculation.

A breakdown of bicycle parking (both short and long term) linked to locations on the site will be required.

Affirmative finding as conditioned.

Article 9: Inclusionary and Replacement Housing

Section 9.1.5 Applicability (As amended by the City Council 8/10/2015.)

As the proposed development includes more than 5 new dwelling units, it is subject to the inclusionary housing provisions of this Article. Fifteen percent of the total unit count must be inclusionary (Per Section 9.1.10, 15% of 75 is **11** dwelling units). The project would not meet the exemption from Inclusionary Housing within the Institutional Zone, as the proposed units are not being developed by an educational institution.

Approval for the adequacy of the inclusionary units will be required from the manager of the city's Housing Trust Fund. Any stipulations would be included as a condition of approval.

Affirmative finding as conditioned.

Section 9.1.12 Additional Density and Other Development Allowances

As a covered project, it will be entitled to increases in the development allowances of the underlying zoning district. As per Table 4.4.4-1, Maximum intensity increases from 20 dwelling units/acre to 24; maximum coverage from 40% to 48%. The applicant has not confirmed overall coverage for the PUD area, **so this needs confirmation**. See Table 4.4.1, above. 90 total units (75 + 15 equivalent) calculate to 20.31 units per acre, under the allowable 24 units with IZ inclusion. For the method for calculating intensity of use, see Section 5.2.7 (a).

As noted, the overall coverage for the PUD area needs to be submitted to determine coverage.

Other possible allowances for the provision of Inclusionary Units may include:

(b) 1. A waiver of up to 50% waiver of parking spaces as outlined in Article 8, Section 8.1.14 (not requested or needed);

2. A waiver of a portion of the impact fees associated with the Inclusionary Units, pursuant to the Art. 3, Part 3 Impact Fee Administration Regulations.

The applicant is encouraged to confer with the Housing Trust Fund Manager to confirm the number of required IZ units, and any potential diminution of Impacts Fees.

All provisions of Section 9.1.8 through 9.1.11 (rental and sales, percentage of Inclusionary Units, and income eligibility) shall apply, without exception, to any inclusionary units that are constructed.

No finding possible for compliance with coverage.

Section 9.1.13 Off-Site Option

The applicant has not proposed any inclusionary units be located off site. If the applicant decides to seek an off-site option or to make a payment in lieu of constructing inclusionary units, the provisions of this section will apply. **Affirmative finding as conditioned.**

Section 9.1.14 General Requirements for Inclusionary Units

- (a) *In order to assure an adequate distribution of inclusionary units by household size, the bedroom mix of inclusionary units in any project shall be in the same ratio as the bedroom mix of the non-inclusionary units of the project.*

As noted. Additional provisions of Inclusionary standards, including gross floor area, interior amenities, marketing, and affordability will be required to meet the approval of the City's Housing Trust Manager.

Sec. 9.1.17 DRB Review of Proposal for Phasing

If phasing of the project development is desired, the request shall be reviewed as a component of the initial project review and included in conditions of approval. A schedule setting forth the phasing of the required inclusionary units will need to be presented to the DRB for review and approval. If phasing is not included as part of the review process, no phasing of the inclusionary units shall be allowed. **Affirmative finding as conditioned.**

Sec. 9.1.18 Timeline for Availability/Phasing of Inclusionary Units for Issuance of Certificate of Occupancy

Inclusionary units shall be made available for occupancy on approximately the same schedule as a covered project's market units, except that certificates of occupancy for the last 10% of the market units will be withheld until certificates of occupancy have been issued for all inclusionary units. If the project is to be constructed in phases, certificates of occupancy may be issued on a phased basis consistent with the conditions of approval per Section 9.1.17. **Affirmative finding as conditioned.**

Sec. 10.1.6 Sketch Plan Review

Whenever a subdivision is proposed that will create five (5) or more lots or dwelling units, the applicant shall submit sketch plans and data pursuant to Article 3, Section 3.2.1(c) Sketch Plan Review showing existing conditions within the site and its vicinity and the proposed layout and development of the subdivision prior to the preparation of any preliminary and/or final plats.

The current Sketch Plan Review meets this standard. Additional plans will be required at the time of preliminary plat review (landscaping, elevations, utility, etc.).

Section 10.1.18 Preliminary Plat Review

After sketch plan review if applicable, the applicant may submit an application for Preliminary Plat Review pursuant to requirements specified below and containing any additional information requested by the administrative officer after completion of the sketch plan review.

Zoning amendments relative to subdivision review have largely separated PUDs from Article 10. As no lot will be subdivided as part of the PUD (27 and 49 Fletcher Place boundary line adjustments done separately) and no new lots will be created, no subdivision will occur. There will be no requirements for Preliminary and Final Plat review.

Article 11: Planned Unit Development

Section 11.1.3 General Requirements and Applicability (As adopted by City Council 8.10.2015.)

*Any development involving **multiple lots, tracts or parcels of land to be developed as a single entity**, or seeking to place multiple structures and/or uses on a single lot where not otherwise permitted, may be permitted as a PUD subject to the provisions of this Article.*

A Planned Unit Development may be permitted subject to minimum project size as follows in the following districts:

Institutional – no minimum project size.

Footnote: Subject to Conditional Use Review pursuant to Article 3, Part 5.

This standard allows development of multiple lots with no minimum lot size for a PUD in the Institutional Zone. See Section 3.5.6 for Conditional Use Review standards.

Section 11.1.4 Modification of Regulations

With the approval of the DRB after a public hearing, the following modifications the requirements of the underlying zoning may be altered within a planned unit development:

- *Density, frontage, lot coverage and setback requirements may be met as calculated across the entire project rather than on an individual lot-by-lot basis.*
- *Required setbacks may apply only to the periphery of the project rather than on an individual lot-by-lot basis;*
- *More than one principal use and more than one principal structure may be permitted on a single lot, and*
- *Buildings may be of varied types including single detached, attached, duplex or apartment construction.*

Any proposed modifications of regulations shall be listed in a statement accompanying the application submission and such modifications shall be subject to the provisions of Section 11.1.5 and Section 11.1.6.

Calculations for lot area, intensity of use and setbacks have been provided for 72, 80, 94 and 96 Colchester Avenue. Parking has been calculated for the uses on those lots, in addition to the existing uses. **Affirmative finding.**

Section 11.1.5 Approval Requirements

(a) The minimum project size requirements of Section 11.1.3 shall be met;

There is no minimum project size for a PUD within the Institutional Zone.

(b) The minimum setbacks required for the district have been met at the periphery of the project;
See table 4.4.4-1, above.

(c) The project shall be subject to design review and site plan review of Article 3, Part 4 and the standards of Article 6.

See Articles 3 and 6, above.

(d) The project shall meet the requirements of Article 10 for subdivision review where applicable;

Not applicable. The boundary line adjustments between 80 Colchester Avenue, 27 and 49 Fletcher Place have been finalized.

(e) Density, frontage, and lot coverage requirements of the underlying zoning district have been met as calculated across the entire project;

See Table 4.4.1 (above.) Coverage for the entire development area across all parcels needs to be provided to assure compliance. **No finding possible.**

(f) All other requirements of the underlying zoning district have been met as calculated across the entire project;

See Section 4.4.4, above. **No finding possible** without coverage calculation.

(g) Open space or common land shall be assured and maintained in accordance with the conditions as prescribed by the DRB

A community garden for the residential units is illustrated on the easterly side of the lot; additional common land for the collective use of the intended residents has been suggested and is encouraged. **Affirmative finding.**

(h) The development plan shall specify reasonable periods within which development of each phase of the planned unit development may be started and shall be completed. Deviation from the required amount of usable open space per dwelling unit may be allowed provided such deviation shall be provided for in other sections of the planned unit development.

A phasing schedule has not been requested or suggested. Any proposed phasing plan will need to be approved by the DRB and included as part of decision and conditions.

*(i) The intent as defined in Sec. 11.1.1 is met in a way not detrimental to the city's interests;
Sec. 11.1.1, Intent*

(a) Promote the most appropriate use of land through flexibility of design and development of land;

The concept of developing underutilized area behind existing structures is a traditional method of infill and intensification of use where encouraged though the Municipal Development Plan. See Section 3.5.6. (b) 10, above. **Affirmative finding.**

(b) Facilitate the adequate and economical provision of streets and utilities;

The proposed new structure can be served by extended access road(s) within the site and utilizing public utilities. **Affirmative finding as conditioned.**

(c) Preserve the natural and scenic qualities of open space;

The natural area/open space to the north will be retained and visible from many of the proposed residences within the new development. The revised site plan has re-aligned the building mass to provide greater exposure for vistas to that natural area. Surface parking within the site should not hinder the opportunity to meet the requirement for common area for the development, as required by Section 11.1.6 (g). **Affirmative finding.**

(d) Provide for a variety of housing types;

The new units will be one bedroom or studio units, to satisfy demand for housing for professionals. **Affirmative finding.**

(e) Provide a method of development for existing parcels which because of physical, topographical, or geological conditions could not otherwise be developed;

The project area retains an existing amount of infrastructure, buildings and use that front Colchester Avenue. The ravine area to the north will be partially annexed as part of the PUD; appending the land area to allow for greater development and density within the buildable area of the collective parcels but avoiding the sensitive area to the north. **Affirmative finding.**

And;

(f) Achieve a high level of design qualities and amenities.

As proposed, the building design proposes intensifying the density with construction of a single connected residential building. The building is articulated with differentiated materials and building planes; welcoming building entrances, porches and balconies. Customary residential appurtenances like porches, patios, breezeways, gardens, pergolas, play areas, or clotheslines are recommended for inclusion, as typical and welcome amenities for attractive residential complexes, particularly within established neighborhoods. **Affirmative finding.**

(j) The proposed development shall be consistent with the Municipal Development Plan
See Sec. 3.5.6 (b) 10.

(k) Any proposed accessory uses and facilities shall meet the requirements of Section 11.1.6 below.

Section 11.1.6 Accessory Facilities

(a) A planned unit development may contain a building or buildings intended for non-residential uses, such as but not limited to a community center, recreation facility, and child care center and/or business office if the DRB determines that such use or uses are compatible with the intended principle residential use.

The applicant has suggested the option to convert 94 Colchester Avenue to a business office associated with the management of the new residential units. Inclusion of any accessory facilities shall be confirmed with the DRB for appropriate review and permit issuance.

Affirmative finding as conditioned.

(b) A planned unit development may contain a building or buildings intended for use as a community convenience store if approved by the DRB under the following standards:

- 1. A determination shall be made by the DRB that the community convenience store will not contribute to parking problems on site or in the surrounding area.*
- 2. The maximum size of the store is 1000 sq. ft.*
- 3. Only one sign is permitted limited to the following:*
 - A. The maximum size is 4 sq. Ft.*

- B. *The sign shall be a parallel sign.*
- C. *The sign shall not be illuminated.*
- D. *No window signs, temporary or permanent shall be allowed.*
- E. *No freestanding signs on the site or within the street ROW are allowed.*
- 4. *No outside storage or displays or vending machines, except for a telephone and a screened dumpster, is allowed.*
- 5. *There shall be no exterior service windows or exterior ATM's allowed.*
- 6. *There shall be no gas pumps allowed.*
- 7. *The building(s), sign and site for any such store shall be subject to the development review criteria under Article 6.*
- 8. *Parking shall be in back or at the side of the community convenience store building with the building oriented for pedestrian access.*

The applicant has not suggested the inclusion of a community store in the PUD. Not applicable.

Conditions of Approval:

1. Impacts shall be paid based on the gross new area, and paid at least seven days prior to the occupancy of any part of the building. Based upon submitted gross new area, impact fees are estimated to be:

SF of
Project 77,222

Department	<u>Residential</u>	
	Rate	Fee
Traffic	0.190	14,672.18
Fire	0.216	16,679.95
Police	0.043	3,320.55
Parks	0.723	55,831.51
Library	0.448	34,595.46
Schools	0.934	72,125.35
Total	2.554	\$ 197,225.00

Said fees may be waived in whole or in part based on the number of inclusionary housing units. Any waiver shall be substantiated by the Housing Trust Fund Manager and formalized with a letter of compliance from that office.

2. The use at 72 Colchester Avenue shall be defined and incorporated within this permit approval.
3. The applicant must provide the coverage calculation across all involved parcels to assure compliance with Table 4.4.4-1. Maximum lot coverage is 40% for the Institutional zoning district, up to 48% with inclusionary.
4. Per Zoning Amendment ZA17-03 / Section 2.7.8, all expired zoning permits issued after July 1989 for any of the involved parcels (66, 72, 80, 94, 96 Colchester Avenue) shall be

closed out and Certificates of Occupancy issued prior to issuance of any FCO for this permit.²

5. If Carshare or any similar transportation partner is intended to facilitate parking demand within the project, proof of that alliance shall be submitted for DRB review.
6. **Prior to release of the zoning permit**, a letter from DPW shall be submitted supporting the adequacy of the traffic memorandum for redevelopment of this project.
7. **Prior to release of the zoning permit**, written assurance of adequate waste and water capacity shall be provided.
8. **Prior to release of the zoning permit**, a revised photometric shall be submitted correcting the high illumination levels at building entrances.
9. If a Phasing schedule is desired, it must be clearly defined for the DRB's consideration prior to decision. Permit life will reflect any approved phasing schedule.
10. Unless altered by the DRB, hours of construction are limited to M-F 7:00 am to 5:30 pm, with Saturday hours restricted to interior work. No work shall occur on Sundays.
11. Approval for the adequacy of the inclusionary units will be required from the manager of the city's Housing Trust Fund.
12. It is recommended that the garage, if approved for demolition, is photo-documented in color imaging as a record to be archived in the zoning file. Similarly, the applicant is encouraged to sell or reclaim the structure and all historic building materials, or permit others to safely salvage them and to provide an opportunity for others to purchase or reclaim the building or its materials for future use. An applicant will 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.
13. The illustrated access drive connecting to 106 Colchester Avenue shall be eliminated from the plan, unless a companion permit for that parcel is approved for the suggested shared use. Any new driveway that is not shared must meet required minimum setbacks.
14. For the circular parking area/loop, 10 trees will be required (only 8 are illustrated on Plan L1-01). A revised landscaping plan shall be provided with two additional trees in that area **prior to release of the zoning permit**.
15. Bike parking is inconsistent across revised site plan/landscaping plan. All exterior bicycle parking shall be illustrated and consistent across plans, and calculated within an overall bicycle parking count. Internal bicycle parking shall be identified on floor plans as appropriate. For the new units, **19 long term spaces, and 8 short term bike parking spaces** must be defined.
16. It is recommended that bike lockers, if included, be placed in close proximity to a building entrance but not along the tree lined promenade from Colchester Avenue. Relocation near a residential building is recommended.
17. Garbage and recycling totes located east of 80 Colchester Avenue (Hillel) shall be relocated to a more appropriate (less visible) location than the entrance promenade.

² ZA 17-03, Section 2.7.8: *The administrative officer is also authorized to deny all zoning permits for any property with an expired zoning permit without a final certificate of occupancy. Instead of withholding or denying a zoning permit, the administrative officer may grant such permit subject to the condition that the uncorrected zoning violation is corrected or the expired zoning permit is closed out with a final certificate of occupancy. Such action(s) shall take place before the issuance of a final certificate of occupancy on the new permit.*

18. Improved design for the proposed dumpster enclosure, as recommended by the DAB, shall be submitted for staff review and approval prior to release of the zoning permit.
19. **Prior to release of the zoning permit**, the applicant shall provide a detail sheet about the proposed rooftop mechanical screening.
20. The easterly access drive (next to 96 Colchester Avenue) shall be identified as ingress only.
21. Easements will be required for all involved parcels to assure adequate parking and circulation throughout the site.
22. Parking lots shall have appropriate barriers to prevent vehicular trespass onto greenspace and parking lot creep. Such barriers (curb stops, landscaping, fencing) shall be defined.
23. Two parking spaces on the east side of the parking circle shall be pulled back to assure the minimum 5' side yard setback, and marked as "Compact Spaces Only."
24. New construction must commence within 6 months of the removal of the accessory garage.
25. The applicant shall define any new use proposed for 94 Colchester Avenue; an accessory facility for property management has been suggested and may be included within this permit review.
26. All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.
27. Standard Permit Conditions 1-15.

NOTE: These are staff comments only. The Development Review Board, who may approve, table, modify, or deny projects, makes decisions.

The Vaults Redevelopment Project
Traffic Impact Assessment
400 Pine Street & 30 Howard Street
Burlington, VT

January 18, 2017

Project Introduction

This Project proposes to redevelop “The Vaults” located at 400 Pine Street and 30 Howard Street in Burlington. Two existing commercial buildings, totaling ±10,500 sf, and a 2 apartment duplex will be demolished. In their place will be constructed a new ±25,500 sf building housing 2 apartment units, 6,950 sf of studio space and 15,450 sf of office space. Access to the Project will be via the existing curb cut onto Howard St. The curb cut serving the existing duplex will be closed. On-site parking (24 spaces) will be provided in an underground parking garage beneath the new building. Pedestrian access will be provided via new sidewalks connecting the building entrances to the existing City sidewalk on the north side of Howard St.

Project-Generated Peak Hour Trips

The weekday peak hour vehicular trip generation of the existing and proposed land-uses were calculated using published Institute of Transportation Engineers (ITE) trip generation rates¹ using the number of residential apartment units plus the gross floor area of commercial land-uses.

For the purpose of this traffic impact assessment (TIA), the two existing commercial buildings were classified as warehouse space (ITE Land-Use Category #150). Likewise, the trips generated by the two apartment units and the proposed office space were estimated using ITE Land-Use Categories #210 and #710, respectively. However, the ITE does not have a land-use category for “studios”. Several related land-use categories were compared for that space, including Recreational Community Center (#495), General Office (#710), and Research and Development Center (#760). Of those, Recreational Community Center estimated the greatest number of pm peak hour trips; and therefore has been used to develop the following trip generation estimates. Table 1 presents the resulting existing and proposed weekday peak hour trips.

Table 1 - Project-Generated Peak Hour Trips

ITE Land-Use Category	Determinant	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
<u>Existing</u>							
#150 - Warehousing	10,464 sf	19	5	24	3	11	14
#220 - Apartment	2 units	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>
Subtotal		19	6	25	4	11	15
<u>Proposed</u>							
#220 - Apartment	2 units	0	1	1	1	0	1
#495 - Recreational Community Center	6,950 sf	9	5	14	9	10	19
#710 - General Office Building	15,450 sf	<u>38</u>	<u>5</u>	<u>43</u>	<u>4</u>	<u>19</u>	<u>23</u>
Subtotal		47	11	58	14	29	43
Net Additional		28	5	33	10	18	28

¹ Trip Generation, Institute of Transportation Engineers, 9th Edition

Traffic Congestion

Located in a predominantly residential neighborhood, Howard St functions as an east-west collector linking the major north-south streets (Pine St, St. Paul St, So. Union St and So. Willard St) in the South End. Only the St. Paul St intersection is signalized; all of its other intersections are stop sign controlled.

Existing peak hour traffic volumes in the immediate vicinity of this Project were obtained from:

- » a week-long automatic traffic recorder count performed by the Vermont Agency of Transportation (VTrans) on Pine St north of Locust St (D444) on June 9-15, 2014.,
- » a weekday morning and afternoon peak period turning movement count performed by Chittenden Regional Planning Commission at the Pine St/Howard St intersection on June 25, 2014, and
- » a weekday 12-hour turning movement count performed by VTrans at the St. Paul St/Howard St intersection on August 4 & 5, 2016.

The results of the above traffic counts indicate the following traffic volumes and patterns:

- » The observed annual average daily traffic volume (AADT) on Pine St in 2014 was 11,060 vpd. The 2018 AADT, projected using VTrans' urban growth rates, is estimated to equal 11,400 vpd.
- » The estimated 2018 AADT on Howard St between Pine St and St. Paul St equals 2,000 vpd.
- » Observed morning peak hour (8:00 - 9:00 am) volumes on Pine and Howard Streets from the above turning movement count at the intersection of those two streets equal 1,130 vph and 166 vph, respectively.
- » Observed afternoon peak hour (4:45 - 5:45 pm) volumes on Pine and Howard Streets from the above turning movement count at the intersection of those two streets equal 1,255 vph and 235 vph, respectively.
- » Approximately 55% of the morning peak hour volume on Howard St is traveling in the westbound direction.
- » Approximately 75% of the afternoon peak hour volume on Howard St is traveling in the eastbound direction.

The impact of the additional peak hour trips generated by this Project will be attenuated somewhat by those trips traveling in different directions on Howard St. Based on existing traffic patterns, it is our opinion that a 50/50 split east and west represents a conservative estimate. Thus, this Project will add 17 new am peak hour trips each at the Pine St/Howard St and the St. Paul St/Howard St intersections. The added pm peak hour trips equals 14 at each intersection.

This Project's impact on future levels of service and average delays was analyzed by performing both no-build and build capacity analyses at the Pine St/Howard St intersection, and comparing the results of the two sets of analyses. The results of those analyses, which are summarized in Table 2, indicate that this Project will have a negligible effect on existing and future traffic congestion conditions. They further indicate that the Pine St/Howard St intersection will operate at Level of Service C² during both the morning and afternoon peak hours. Detailed analysis worksheets are enclosed in **Appendix A**.

Safety

The posted speed limit on Pine and Howard Streets is 25 mph. Both streets provide one travel lane in each direction, with on-street parallel parking permitted in front of businesses and residences along much of their length. In the area of the Project, sidewalks are provided on the east side of Pine St and on the north side of Howard St. Pine St also has a designated bicycle lane on its west side in the southbound direction. There are no physical conditions (e.g. inadequate sight distances, sharp curves or steep grades) along Pine St or Howard St that would potentially cause unsafe conditions.

² Levels of Service (LOS) range from A to F; with A representing no congestion and F representing extreme congestion.

Based on the 2010-2014 five-year crash history, several segments along Pine Street have been identified as high crash locations (HCL) by VTrans³. The majority of the crashes in those segments have occurred at intersections; a not uncommon occurrence on streets located in a densely developed city environment having closely spaced intersections. For example, in the HCL segment between mile markers (mm) 0.20 - 0.50 (including Sears Lane, Birchcliff Pkwy and Lakeside Ave), 30 of the 47 crashes occurred at the three intersections. Lakeside Ave alone accounted for 20 crashes. Similarly, in the HCL segment between mm 0.80 - 1.10 (including Howard St, Marble Ave and Kilburn St), 26 of the 38 crashes occurred at the three intersections. Lastly, in the HCL segment between mm 1.10 - 1.40 (including Maple St and King St), 25 of the 53 crashes occurred at the two intersections. None of the above intersections have been identified as an intersection HCL. Without the intersection crashes, only the mm 1.10 - 1.40 segment would have an actual/critical crash ratio above 1.0, and continue to be classified as a high crash location. The foregoing crashes are predominantly minor in nature and largely involve rear-end or sideswipe collisions.

Conclusions

From the foregoing analyses, we have formed the following conclusions and recommendations regarding the potential traffic congestion and safety impacts of this Project:

- Intersection capacity analyses at the Pine St/Howard St intersection indicate that acceptable levels of service will be maintained with this Project.
- We have no reason to anticipate that the small volume of additional traffic resulting from this Project will adversely impact existing traffic safety conditions on Pine and Howard Streets.



³ 2010-2014 High Crash Location Report, Vermont Agency of Transportation, November 2015

APPENDIX A

Intersection Capacity Analysis Worksheets

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	R. Dickinson			Intersection	Pine St & Howard St		
Agency/Co.	L&D			Jurisdiction	Burlington		
Date Performed	1/17/2017			Analysis Year	2018 No-Build		
Analysis Time Period	AM Peak Hour						
Project Description 07004							
East/West Street: Howard St				North/South Street: Pine St			
Intersection Orientation: North-South				Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		443	55	19	607		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	443	55	19	607	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration			TR	LT			
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				25		67	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	25	0	67	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		LT		LR			
v (veh/h)		19		92			
C (m) (veh/h)		1076		415			
v/c		0.02		0.22			
95% queue length		0.05		0.85			
Control Delay (s/veh)		8.4		16.1			
LOS		A		C			
Approach Delay (s/veh)	--	--	16.1				
Approach LOS	--	--	C				

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	R. Dickinson			Intersection	Pine St & Howard St		
Agency/Co.	L&D			Jurisdiction	Burlington		
Date Performed	1/17/2017			Analysis Year	2018 Build		
Analysis Time Period	AM Peak Hour						
Project Description 07004							
East/West Street: Howard St				North/South Street: Pine St			
Intersection Orientation: North-South				Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		443	64	22	607		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	443	64	22	607	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration			TR	LT			
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				26		69	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	26	0	69	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration		LT		LR			
v (veh/h)		22		95			
C (m) (veh/h)		1068		409			
v/c		0.02		0.23			
95% queue length		0.06		0.90			
Control Delay (s/veh)		8.4		16.5			
LOS		A		C			
Approach Delay (s/veh)	--	--	16.5				
Approach LOS	--	--	C				

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	R. Dickinson			Intersection	Pine St & Howard St		
Agency/Co.	L&D			Jurisdiction	Burlington		
Date Performed	1/17/2017			Analysis Year			
Analysis Time Period	PM Peak Hour						
Project Description 07004							
East/West Street: Howard St				North/South Street: Pine St			
Intersection Orientation: North-South				Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		472	95	80	668		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	472	95	80	668	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration			TR	LT			
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				20		40	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	20	0	40	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		LT		LR			
v (veh/h)		80		60			
C (m) (veh/h)		1015		299			
v/c		0.08		0.20			
95% queue length		0.26		0.75			
Control Delay (s/veh)		8.9		20.1			
LOS		A		C			
Approach Delay (s/veh)	--	--	20.1				
Approach LOS	--	--	C				

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	R. Dickinson			Intersection	Pine St & Howard St		
Agency/Co.	L&D			Jurisdiction	Burlington		
Date Performed	1/17/2017			Analysis Year	2018 Build		
Analysis Time Period	PM Peak Hour						
Project Description 07004							
East/West Street: Howard St				North/South Street: Pine St			
Intersection Orientation: North-South				Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		472	99	83	668		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	472	99	83	668	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration			TR	LT			
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				22		43	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	22	0	43	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11 12
Lane Configuration		LT		LR			
v (veh/h)		83		65			
C (m) (veh/h)		1012		293			
v/c		0.08		0.22			
95% queue length		0.27		0.85			
Control Delay (s/veh)		8.9		20.8			
LOS		A		C			
Approach Delay (s/veh)	--	--	20.8				
Approach LOS	--	--	C				



1/26/2017

Mary O'Neil
Department of Planning and Zoning, City Hall
149 Church St.
Burlington VT 05401

Dear Ms. O'Neil:

The Burlington Development Review Board will soon hold hearings to review an application to build 75 workforce apartments on Colchester Avenue directly across the street from the University of Vermont and the University of Vermont Medical Center. This is the project proposed by Frank Vonturkovich et al and has been in the planning process for several years. It recently received unanimous approval from the city's Design Advisory Board.

The Chamber has been advocating for the development of workforce housing to meet the articulated needs of professionals in our region for many years. The size, scope and location of this project aligns nicely with both survey data and anecdotal feedback that we have received from our members and the staff employed by member organizations. This new housing project would provide the area with housing where residents could walk, bike, or take the bus to work and downtown. Similarly, they could take advantage of an onsite rideshare service, such as the Burlington-based CarShare Vermont.

We hope that the Development Review Board will look favorably upon the application. The Chamber would be glad to provide any testimony or additional information that you fee necessary.

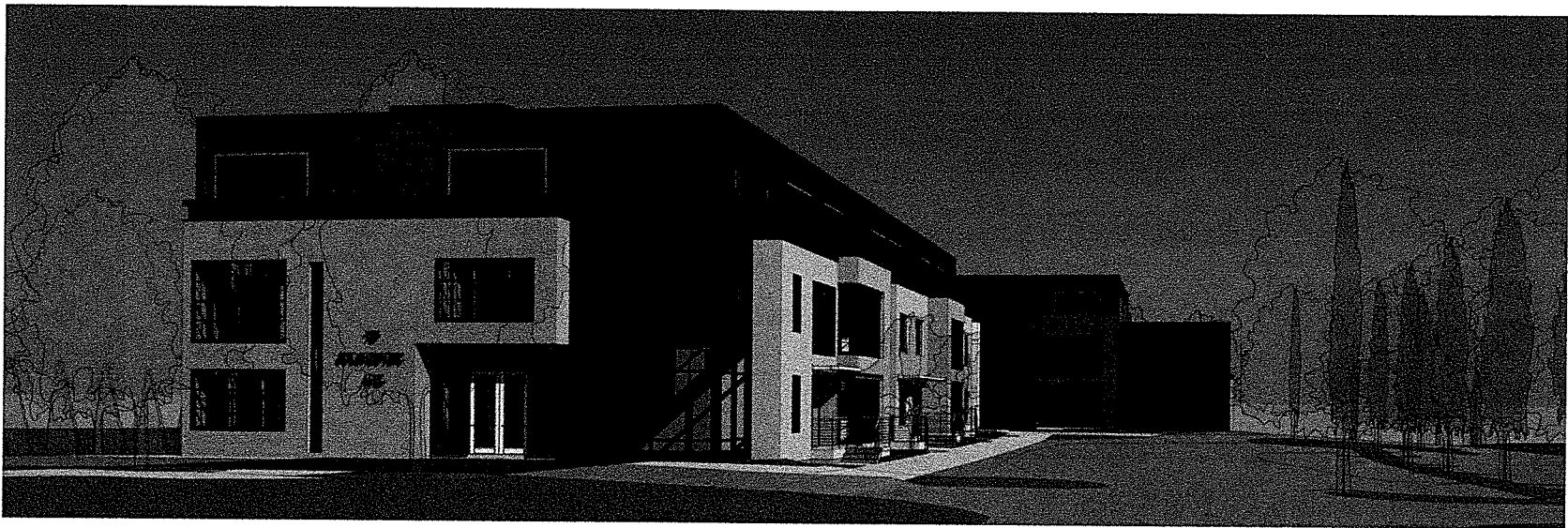
Sincerely,

A handwritten signature in black ink, appearing to read "T. Torti", written in a cursive style.

Thomas W. Torti
President

COLCHESTER AVENUE HOUSING

BURLINGTON, VERMONT



PROJECT DESCRIPTION:
THIS PROJECT IS A PLANNED UNIT DEVELOPMENT (PUD) WITH A MIX OF COMMERCIAL AND RESIDENTIAL USES. THE PUD WILL INCORPORATE THE EXISTING BUILDINGS AND USES AT 66, 72, 80, 94 AND 96 COLCHESTER AVENUE AND PROVIDE FOR THE CONSTRUCTION OF A NEW 75 UNIT RESIDENTIAL BUILDING AT 80 COLCHESTER AVENUE.

Owners/Applicants

EASTERN DEVELOPMENT CORPORATION, AGENT
C/O LAW OFFICES OF F.J. VON TURKOVICH, P.C.
ONE NATIONAL LIFE DRIVE
MONTPELIER, VT 05604
(802)-229-3431

Architect:
RABIDEAU ARCHITECTS
550 HINESBURG ROAD
SOUTH BURLINGTON, VT 05403
(802) 863-0222

Engineer:
TRUDELL CONSULTING ENGINEERS (TCE)
478 BLAIR PARK ROAD
WILLISTON, VT 05495
(802) 879-6331

Sheet List Table	
Sheet Number	Sheet Title
C1-00	COVER SHEET
C1-01	LEGEND & NOTES
C1-02	PRELIMINARY BOUNDARY LINE ADJUSTMENT PLAT
C1-03	PRELIMINARY PLANNED UNIT DEVELOPMENT PLAT
C1-04	EXISTING CONDITIONS & DEMOLITION PLAN
C2-01	OVERALL SITE PLAN
C2-02	UTILITY SITE PLAN
C2-03	SITE GRADING & LAYOUT PLAN
C2-04	PAVEMENT MARKING & SIGNAGE PLAN
L1-01	LANDSCAPING PLAN
L1-02	STORMWATER LANDSCAPING PLAN
L2-01	LIGHTING PLAN
C5-01	EPSC CONSTRUCTION PLAN
C5-02	EPSC STABILIZATION PLAN
C6-01	WATERLINE PROFILE
C6-02	SANITARY PROFILE
C8-01	SANITARY DETAILS
C8-02	STORMWATER DETAILS
C8-03	PUMP STATION PROFILE DETAIL
C8-04	PUMP STATION PLAN VIEW DETAIL
C8-05	WATER DETAILS
C8-06	WATER DETAILS
C8-07	SITE DETAILS
C8-08	EROSION DETAILS
C8-09	EROSION DETAILS
A101	GARAGE PLAN
A102	FIRST FLOOR PLAN
A105	ROOF PLAN
A201	EXTERIOR BUILDING ELEVATIONS
A202	EXTERIOR BUILDING ELEVATIONS
A300	WALL SECTION
A901	3D VIEWS

Stormwater Update	01/17/17 AGM
DAB Comments	01/10/17 AGM
City Comments	12/2/16 JMM

USE AND INTERPRETATION OF THE DRAWINGS	
1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.	
2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/agencies, including but not limited to, the Engineer and the Architect, to ensure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.	
3. Owner and Architect, are responsible for final design and location of buildings shown, including all area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.	
4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.	
5. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.	
6. It is the User's responsibility to ensure this copy contains the most current revisions. If unsure, please contact TCE.	
BEFORE USING THESE PLANS ENSURE THAT YOU HAVE THE LATEST REVISION	
LAST REVISED:	01/23/17 PRELIMINARY APPLICATION

TCE PROJECT NO: 16-077

RECEIVED
JAN 27 2017
DEPARTMENT OF
PLANNING & ZONING

tce
TRUDELL CONSULTING ENGINEERS
478 BLAIR PARK ROAD | WILLISTON, VERMONT 05495
802.879.6331 | WWW.TCEVT.COM



LEGEND							
SITE	LINE			SITE	SYMBOL		
	EXISTING	PROPOSED	REMOVED/ABANDONED		EXISTING	PROPOSED	REMOVED/ABANDONED
PAVED DRIVE OR ROAD	=====	=====	-----	SIGN	+	+	+
GRAVEL DRIVE OR ROAD	-----	-----	-----				
PAVED DRIVE OR ROAD WITH CURB	=====	=====	-----				
TREE LINE	~~~~~	~~~~~	-----				
TRAIL	-----	-----	-----				
WETLAND LIMIT	-----	-----	-----				
TOPOGRAPHIC CONTOURS	124	124	-----				
STREAM	~>~>~>	~>~>~>	~>~>~>				
GUARD RAIL	-----	-----	-----				
UTILITIES				UTILITIES			
SEWER MAINS AND SERVICES	-----	-----	-----	SEWER, STORM OR TELEPHONE MANHOLE (SMH/STMH/TMH)	○	●	○
SEWER FORECMAIN	-----	-----	-----	CLEANOUT (CO)	○	●	○
WATER MAINS AND SERVICES	-----	-----	-----	STORM DRAINAGE MANHOLE (DMH)	○	●	○
STORM DRAINAGE	-----	-----	-----	CATCH BASIN (CB)	○	●	○
CURTAIN DRAIN	-----	-----	-----	OUTLET OR END SECTION	<	<	<
UNDERDRAIN	-----	-----	-----	VALVE	+	+	+
ROOF DRAIN	-----	-----	-----	CURB STOP (CS)	○	●	○
FOOTING DRAIN	-----	-----	-----	FIRE HYDRANT (HYD)	○	●	○
LIQUID PROPANE OR NATURAL GAS	-----	-----	-----	WATER SUPPLY WELL	○	●	○
OVERHEAD POWER	-----	-----	-----	END CAP	┌	┌	┌
UNDERGROUND POWER	-----	-----	-----	BLOWOFF	○	●	○
OVERHEAD TELEPHONE	-----	-----	-----	UTILITY POLE	○	●	○
UNDERGROUND TELEPHONE	-----	-----	-----	MTC OR TRANSFORMER	○	●	○
OVERHEAD POWER & TELEPHONE	-----	-----	-----	TELEPHONE OR TELEVISION PEDESTAL (TEL-PED/TV-PED)	○	●	○
UNDERGROUND POWER & TELEPHONE	-----	-----	-----	LUMINAIRE	○	●	○
OVERHEAD POWER, TELEPHONE & CABLE	-----	-----	-----	BOLLARD LIGHT	+	+	+
UNDERGROUND POWER, TELEPHONE & CABLE	-----	-----	-----	FIELD			
CABLE TELEVISION	-----	-----	-----	CALCULATED POINT	△	△	△
FIBER OPTIC	-----	-----	-----	TCE CONTROL POINT STEEL REBAR	▲	▲	▲
SURVEY				TCE CONTROL POINT MAG NAIL	●	●	●
PROPERTY LINE	=====	=====	-----	OBSERVATION WELL	+	+	+
EASEMENTS	-----	-----	-----	PERCOLATION TEST	△	△	△
FENCE	-----	-----	-----	SOIL TEST PIT	+	+	+
STONEWALL	-----	-----	-----	SOIL BORING	○	●	○
SETBACKS	-----	-----	-----	BENCHMARK	+	+	+
				SURVEY			
				FOUND	TO BE SET	SET	
				IRON PIPE	●	●	●
				STEEL REBAR	○	○	○
				CONCRETE MONUMENT	○	○	○
				MARBLE OR STONE MONUMENT	○	○	○
				IRON PIN (IP)	○	○	○

LEGEND NOTE:

SOME INFORMATION MAY BE PROVIDED BY OTHERS AND COULD BE SHOWN WITH A DIFFERENT SYMBOL NOT SHOWN ON THE LEGEND. HOWEVER, THEY ARE LABELED ON RESPECTIVE PLANS. IN SOME CASES A CHANGE IN COLOR OR PRINTER CAN ALTER INFORMATION TO NOT SHOW AN EXACT MATCH ON THIS LEGEND. IF ANY QUESTIONS EXIST CONTACT THE ENGINEER TO CLARIFY. ADDITIONAL LEGEND INFORMATION IS SUPPLIED SEPARATELY ON EROSION CONTROL PLANS AND SOME SURVEY PLATS.

PARCEL INFORMATION:

66 COLCHESTER AVE.
BURLINGTON PROPERTY ID NO. 045-4-016-000
SPAN 114-035-16367

66 COLCHESTER AVENUE, LLC
66 COLCHESTER AVE.
BURLINGTON, VT 05401

72 COLCHESTER AVE.
BURLINGTON PROPERTY ID NO. 045-4-017-000
SPAN 114-035-16368

VON TURKOVICH, EDWARD B AND VON TURKOVICH, MICHELE A
41 BREWER PKWY.
S. BURLINGTON, VT 05403

80 COLCHESTER AVE.
BURLINGTON PROPERTY ID NO. 045-4-018-000
SPAN 114-035-16396

MILLER, RANDALL J; VON TURKOVICH, EDWARD B.; VON TURKOVICH, FRANCIS J.
C/O JERICHO MANAGEMENT COMPANY, LLC
ONE NATIONAL LIFE DR.
MONTPELIER, VT 05604

94 COLCHESTER AVE.
BURLINGTON PROPERTY ID NO. 045-4-019-000
SPAN 114-035-16370

MILLER, RANDALL J; VON TURKOVICH, EDWARD B.; VON TURKOVICH, FRANCIS J.
C/O JERICHO MANAGEMENT COMPANY, LLC
ONE NATIONAL LIFE DR.
MONTPELIER, VT 05604

96 COLCHESTER AVE.
BURLINGTON PROPERTY ID NO. 045-4-020-000
SPAN 114-035-16371

CLIFFORD, PATRICK P, MD; BLAKE, TIMOTHY R, MD; BLAKE, KIMBERLY D, MD; LACROIX, JOHN JR., MD; LACROIX, DALE JEAN, MD
96 COLCHESTER AVE.
BURLINGTON, VT 05401

VON TURKOVICH, EDWARD B.; VON TURKOVICH, FRANCIS J.; 72 COLCHESTER AVENUE, LLC
C/O JERICHO MANAGEMENT COMPANY, LLC
ONE NATIONAL LIFE DR.
MONTPELIER, VT 05604

49 FLETCHER PLACE
BURLINGTON PROPERTY ID NO. 045-4-023-000
SPAN 114-035-16374

REID, NANCY
49 FLETCHER PL.
BURLINGTON, VT 05401

EPSC LEGEND

	PROJECT AREA		STABILIZED CONSTRUCTION ENTRANCE
	PHASE LIMIT		SEDIMENT TRAP
	BARrier TAPE		FIBER ROLL
	SILT FENCE		TEMPORARY VEGETATED DIVERSION SWALE
	SOIL STOCK PILE		
	STONE CHECK DAM		
	INLET PROTECTION		

PROJECT INFORMATION:

- OWNER OF RECORD: R. MILLER & E. F. VON TURKOVICH
80 COLCHESTER AVE.
BURLINGTON, VERMONT 05401
TAX ID: 045-4-018
PARCEL SIZE: 1.09 AC

N. REID
49 FLETCHER PLACE
BURLINGTON, VERMONT 05401
TAX ID: 045-4-023
PARCEL SIZE: 0.91 AC

72 COLCHESTER AVE., LLC
27 FLETCHER PLACE
BURLINGTON, VERMONT 05401
TAX ID: 046-2-006
PARCEL SIZE: 1.48 AC
- ZONING DISTRICT: INSTITUTIONAL

CONSTRUCTION NOTES FOR CONTRACTOR & CLIENT/OWNER:

- CONTRACT DOCUMENTS: THESE PLANS WERE PREPARED BY TRUDELL CONSULTING ENGINEERS (TCE) AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, #C-700 PREPARED BY THE ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), LATEST EDITION. COPIES ARE AVAILABLE AT WWW.EJCDC.ORG/EJCDC.
- UNDERGROUND IMPROVEMENTS: THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE ASSUMED BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE AVAILABLE AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER.
- DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS: IF CONTRACTOR BELIEVES THAT ANY SUBSURFACE OR PHYSICAL CONDITION AT OR CONTIGUOUS TO THE SITE THAT IS UNCOVERED OR REVEALED EITHER: (1) IS OF SUCH A NATURE AS TO ESTABLISH THAT ANY "TECHNICAL DATA" ON WHICH CONTRACTOR RELIED IS MATERIALLY INACCURATE; OR (2) IS OF SUCH A NATURE AS TO REQUIRE A CHANGE IN THE PLANS/CONTRACT DOCUMENTS; OR (3) DIFFERS MATERIALLY FROM THAT SHOWN OR INDICATED IN THE PLANS/CONTRACT DOCUMENTS; OR (4) IS OF AN UNUSUAL NATURE, AND DIFFERS MATERIALLY FROM CONDITIONS ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLANS/CONTRACT DOCUMENTS; THEN CONTRACTOR SHALL PROMPTLY AFTER BECOMING AWARE THEREOF AND BEFORE FURTHER DISTURBING THE SUBSURFACE OR PHYSICAL CONDITIONS OR PERFORMING ANY WORK IN CONNECTION THEREWITH (EXCEPT IN AN EMERGENCY), NOTIFY OWNER AND ENGINEER ABOUT SUCH CONDITION. CONTRACTOR SHALL NOT FURTHER DISTURB SUCH CONDITION OR PERFORM ANY WORK IN CONNECTION THEREWITH (EXCEPT AS AFORESAID) UNTIL RECEIPT OF WRITTEN ORDER TO DO SO. ALL PARTIES INVOLVED (OWNER, ENGINEER, ARCHITECT AND MUNICIPALITY IF APPLICABLE) SHALL AGREE UPON HOW TO PROCEED AND ANY RELATED COST IMPLICATIONS.
- UTILITIES: PRIVATE AND PUBLIC UTILITIES SUCH AS ELECTRIC, TELEPHONE, GAS, CABLE, FIBER OPTIC ETC. ARE THE RESPONSIBILITY OF THE RESPECTIVE UTILITY COMPANY. ANY INFORMATION SHOWN BY TCE SHOULD BE CONSIDERED PRELIMINARY (USUALLY TO ASSIST WITH PERMITTING). FINAL DESIGN, CONSTRUCTION AND MAINTENANCE ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANIES. COMPLIANCE WITH EASEMENTS AND REGULATIONS (STATE AND LOCAL) ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANY.
- DISSEASE: IN ACCORDANCE WITH VERMONT STATE LAW (VSA TITLE 30 CHAPTER 86 AND PSB RULE 3.000) THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT DISSEASE SYSTEMS, INC. "DISSEASE" AT LEAST 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, BUT NOT MORE THAN 30 DAYS BEFORE COMMENCING EXCAVATION ACTIVITIES. EXCEPT IN AN EMERGENCY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRE-MARKING THE SITE AND MAINTAINING DESIGNATED MARKINGS. FOR MORE INFORMATION ON DISSEASE REQUIREMENTS SEE WWW.DISSEASE.COM.
- JOB SITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF TRUDELL CONSULTING ENGINEERS (TCE), NOR THE PRESENCE OF TCE OR ITS EMPLOYEES AND SUB CONSULTANTS AT A CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. TCE AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND WARRANTIES THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENT'S AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, TCE AND TCE'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONALLY INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- CODES AND STANDARDS COMPLIANCE: TCE SHALL EXERCISE USUAL AND CUSTOMARY PROFESSIONAL CARE IN ITS EFFORTS TO COMPLY WITH CODES, STANDARDS, REGULATIONS AND ORDINANCES IN EFFECT. THE OWNER ACKNOWLEDGES THAT SUCH REQUIREMENTS MAY BE SUBJECT TO VARIOUS AND CONTRADICTORY INTERPRETATIONS. TCE, THEREFORE, WILL USE ITS REASONABLE PROFESSIONAL EFFORTS AND JUDGMENT TO INTERPRET APPLICABLE REQUIREMENTS AS THEY APPLY TO THE PROJECT. TCE, HOWEVER, CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THE PROJECT WILL COMPLY WITH ALL INTERPRETATIONS OF SUCH REQUIREMENTS.
- CONSTRUCTION OBSERVATION: TCE MAY VISIT THE PROJECT AT APPROPRIATE INTERVALS DURING CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER HAS NOT RETAINED TCE TO MAKE DETAILED INSPECTIONS OR TO PROVIDE EXHAUSTIVE OR CONTINUOUS OBSERVATION SERVICES. TCE DOES NOT GUARANTEE THE PERFORMANCE OF, AND SHALL NOT HAVE RESPONSIBILITY FOR, THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB-CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY FURNISHING MATERIALS OR PERFORMING ANY WORK ON THE PROJECT. TCE SHALL NOT SUPERVISE, DIRECT OR HAVE CONTROL OVER THE CONTRACTOR'S WORK NOR HAVE ANY RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF THE CONTRACTOR. IF THE OWNER DESIRES MORE EXTENSIVE PROJECT OBSERVATION OR FULL-TIME PROJECT REPRESENTATION, THE OWNER SHALL REQUEST SUCH SERVICES BE PROVIDED BY TCE AS ADDITIONAL SERVICES.
- UTILITIES SHOWN ARE APPROXIMATE AND DO NOT NECESSARILY REPRESENT ALL UTILITIES LOCATED ON OR ADJACENT TO THE AREA SURVEYED. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
- ALL EXISTING UTILITIES NOT INCORPORATED INTO THE FINAL DESIGN ARE TO BE REMOVED OR ABANDONED AS INDICATED ON THE PLANS.
- THE CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS (WITH TIES) FOR ALL UNDERGROUND UTILITIES. THOSE PLANS SHALL BE SUBMITTED TO THE OWNER AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL REPAIR/RESTORE ALL DISTURBED AREAS (ON OR OFF THE SITE) AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION.
- ALL GRASSED AREAS SHALL BE MAINTAINED UNTIL FULL VEGETATION IS ESTABLISHED.
- MAINTAIN ALL TREES OUTSIDE OF CONSTRUCTION LIMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY FOR COMPLETE AND OPERABLE FACILITIES AND UTILITIES.
- IN ADDITION TO THE REQUIREMENTS SET IN THESE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLETE THE WORK IN ACCORDANCE WITH ALL PERMIT CONDITIONS, LOCAL PUBLIC WORKS STANDARDS AND ALL CONSTRUCTION SAFETY REGULATIONS.
- ANY DERATERING NECESSARY FOR THE COMPLETION OF THE SITEWORK SHALL BE CONSIDERED AS PART OF THE CONTRACT, AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE ITEM(S) IN QUESTION.
- ALL SYSTEM COMPONENTS (TANKS, PIPES, JOINTS) SHALL BE WATERTIGHT.
- CONTRACTOR TO ADJUST ANY POTABLE WATER LINE CROSSINGS AND CONSULT WITH ENGINEER TO MEET REQUIREMENTS SHOWN ON THE DETAIL SHEET "WATER/SEWER CROSSING" DETAIL.
- SEWER LATERAL CONNECTIONS ARE SOMETIMES NOT SHOWN FOR CLARITY. CONTRACTOR TO CONSULT WITH ENGINEER AND SUPPLY BENDS, CLEANOUTS, ETC. AS NECESSARY TO FACILITATE PROPER CONNECTION BETWEEN FOUNDATION WALL AND SEWER MAIN LINE.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL RELEVANT PARTIES (INCLUDING, BUT NOT LIMITED TO OWNER, ARCHITECT AND UTILITY COMPANIES) TO DETERMINE FINAL LAYOUT AND DESIGN.
- DESIGN AND CONSTRUCTION OF PEDESTRIAN WALKS, RAMPS AND DECKS BETWEEN BUILDINGS AND PARKING LOTS IS PROVIDED BY THE ARCHITECT AND INCORPORATED INTO THE BUILDING DESIGN.
- ALL CURB STOP VALVES TO BE INSTALLED WITH ACCESS COVER AT FINISHED GRADE.
- ALL WATER LINE TAPS SHALL BE LIVE TAPS; EXISTING WATER LINE MUST REMAIN IN SERVICE DURING CONNECTION, UNLESS INDICATED OTHERWISE.
- ROOF DOWNSPOUT CAN CONNECT TO ROOF DRAIN MANHOLE (RD) AS DETERMINED BY ARCHITECT AND OWNER. THIS CONNECTION PIPE IS INCLUDED AS PART OF THE DESIGN PLAN BUT NOT SHOWN TO ALLOW FLEXIBILITY IN LOCATION AS NEEDED.
- THRUST BLOCKS FOR PRESSURE LINES NOT SHOWN FOR CLARITY. PROVIDE THRUST BLOCKS AT ALL BENDS, TEE AND REDUCES. PROJECT ENGINEER TO OBSERVE ALL THRUST BLOCKS PRIOR TO BACKFILL.
- WATER MAIN OPERATED AT HIGH PRESSURE. ALL BUILDINGS SHALL CONFIRM STATIC INTAKE PRESSURE AND PROVIDE PRESSURE-REDUCING VALVES AS DEEMED APPROPRIATE BY THE MECHANICAL ENGINEER (OR ARCHITECT).
- CONTRACTOR TO SUPPLY DAYLIGHT PIPING FOR FOOTING DRAINS WITHIN CONSTRUCTION LIMITS. THE EXACT LOCATION MAY NOT BE CRITICAL. COORDINATE WITH OWNER AND PROJECT ENGINEER.
- FOOTING DRAINS AROUND BUILDING MAY BE SHOWN BY OTHERS (BECAUSE IT IS WITHIN THE 5' ZONE AROUND BUILDING). FOOTING DRAINS AND PIPE TO DAYLIGHT SHALL BE INCLUDED EVEN IF NOT SHOWN. DAYLIGHT PIPE LOCATION TO SWALE MAY NOT BE CRITICAL SO LONG AS IT DOES NOT CREATE ANY CONFLICT WITH OTHER UTILITIES, OR IMPACT ENVIRONMENTALLY SENSITIVE AREAS SUCH AS WETLANDS.
- SEWER CONNECTIONS TO EXISTING MANHOLES SHALL INCLUDE WATERTIGHT CONNECTIONS, REFORMING INVERT TO PROVIDE SMOOTH FLOW STREAM AND TESTING TO ENSURE STRUCTURE IS WATERTIGHT. IF AN EXISTING MANHOLE IS FOUND NOT TO BE WATERTIGHT IT SHALL BE EXPEDITED AND REPAIRED ON THE OUTSIDE, PRIOR TO CONNECTING TO EXISTING MANHOLES. SUBMIT SHOP DRAWINGS ON SHORE LOCATION, ANY REQUIRED PIPING (FOR JUMP MANHOLES) AND CHANGES TO INVERT FORM.
- FINAL RING OF SEWER MANHOLES AND WATER VALVES SHALL BE CONFIRMED AND COORDINATED WITH FINAL SITE GRADING. MINOR ADJUSTMENTS FROM DESIGN GRADES MAY BE REQUIRED BY OWNER OR ENGINEER AND SHALL BE INCLUDED.
- ROCK REMOVAL WORK FOR BOLDERS UNDER 2.5 CUBIC YARDS IS INCLUDED AS PART OF EXCAVATION. ANY ROCK REMOVAL FOR 2.5 CUBIC YARDS OR GREATER SHALL BE TREATED AS LEDGE REMOVAL. THIS SHOULD BE REVIEWED AND AGREED UPON BY OWNER PRIOR TO CONDUCTING ROCK REMOVAL.
- THE GENERAL CONTRACTOR IS REQUIRED TO CONFORM TO THE STRICTEST INTERPRETATION OF THE CONTRACT DRAWING, SPECIFICATION, PERMITS AND CONSTRUCTION CONTRACT. ALL EXISTING MATERIAL EXPOSED OR DISPOSED FROM OUTSIDE SOURCES SHALL COMPLY WITH APPLICABLE PERMITS AND REGULATIONS. SHOP DRAWING SUBMITTALS SHALL INCLUDE CONTRACTOR'S CERTIFICATION STATEMENT OF COMPLIANCE AND COPIES OF RELEVANT PERMITS FOR OUTSIDE SOURCES.
- CONTRACTOR SHALL PAY FOR ALL REQUIRED TESTING. THIS SHALL INCLUDE BUT IS NOT LIMITED TO: SOIL TESTING, COMPACTION TESTING, SIEVE ANALYSIS, CONCRETE TESTING, ASPHALT PENETRATION TESTING, BACTERIOLOGICAL TESTING FOR WATER AND OTHER TESTING AS PART OF STANDARD PRACTICE FOR A CONSTRUCTION PROJECT OF THIS NATURE, UNLESS INDICATED OTHERWISE AND APPROVED BY THE OWNER.

CONSTRUCTION PHASE:

LISTED BELOW IS A BRIEF SUMMARY OF CONSTRUCTION PHASE REQUIREMENTS. THIS LIST IS NOT INTENDED TO BE ALL-INCLUSIVE. CONSTRUCTION SPECIFICATIONS, PERMIT REQUIREMENTS AND ANY SUBSEQUENT CONTRACTUAL AGREEMENTS FROM PARTIES INVOLVED SHALL PREVAIL.

PRE-CONSTRUCTION

- OWNER TO ESTABLISH SCOPE OF SERVICES WITH PROJECT ENGINEER(S)
- OWNER TO IDENTIFY WORK SCOPE AND SCHEDULE
- UPON OWNER REQUEST, ASSIST WITH CONTRACTOR BID AND SELECTION PROCESS
- FINALIZE PLANS FOR CONSTRUCTION READINESS INCLUDING SPECIFICATIONS
- MEETING BETWEEN OWNER, ENGINEER(S), CONTRACTOR(S), ARCHITECT(S), REGULATORY AUTHORITIES AND OTHER PERTINENT PARTIES TO REVIEW AND DISCUSS THE WORK

PRE-CONSTRUCTION MEETING

- CONTRACTOR TO IDENTIFY SUBCONTRACTORS
- CONTRACTOR TO ESTABLISH SCHEDULE
- CONTRACTOR TO DESIGNATE RESPONSIBLE PERSONNEL
- CONFIRM PROCEDURE FOR RFIs, CHANGE ORDERS, EXTRAS AND PAY REQUESTS
- CONTRACTOR TO SUBMIT SHOP DRAWINGS
- CONTRACTOR TO OUTLINE SAFETY, SECURITY, AND WORKING HOURS
- CONTRACTOR OR OWNER TO IDENTIFY TESTING COMPANY

CONSTRUCTION PHASE

- INITIAL CONTROL SUPPLIED BY OWNER AND CONTRACTOR RESPONSIBLE FOR LAYOUT
- OWNER TO PROVIDE PROJECT ENGINEER TO OBSERVE CONSTRUCTION PERIODICALLY, DURING CRITICAL PHASES AND TESTING
- WEEKLY JOB MEETINGS DURING CONSTRUCTION
- OWNER TO PROVIDE PROJECT ENGINEER TO REVIEW AND DISCUSS PLANS, ANSWER QUESTIONS, RESPOND TO CHANGES AND OTHER BUSINESS COMMON TO CONSTRUCTION SERVICES
- OBSERVE TESTING AND COLLECT RESULTS
- OWNER AND CONTRACTOR TO COMPLY WITH PERMITS



ENGINEERING
PLANNING • ENVIRONMENTAL
418 BLAIR PARK ROAD 1 WILLISTON, VT 05491
802.879.4431 | WWW.TCEVT.COM

Revisions

No.	Description
1	City Comments
2	Stormwater Update

TAX ID:

Use of These Drawings

1. Unless otherwise noted, these drawings are preliminary planning, coordination with utilities, and/or approved from the responsible parties. They are not intended as construction documents as such or marked approved by a regular professional engineer.

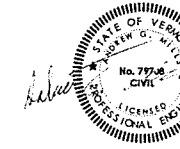
2. By use of these drawings for construction the Owner represents that they have reviewed and accepted the drawings, obtained and have met with all applicable parties including but not limited to, the Engineer, to insure these plans are properly coordinated, not limited to, contract documents, special owner/contractor agreements, building plans, private and public utilities, and of for construction.

3. Owner and Architect, are responsible location of utilities shown, including a minimum five (5) feet around any building and utility connections shown on these drawings.

4. Prior to using these plans for construction shall contact TCE to ensure the plan is current revisions.

5. These Drawings are specific to the Project and are not transferable. As instruments of service, copies thereof, furnished by TCE are its property and are to be returned to TCE upon completion of the project. Changes to the drawings may only be made if approved by TCE. If any errors or omissions are discovered, they are the responsibility of TCE immediately.

6. It is the user's responsibility to ensure the most current revisions, if unsure, please contact TCE.



Project Title

Colchester Ave
Housing
Burlington, Vermont

Sheet Title

Legend & Notes

Date: _____

Scale: _____

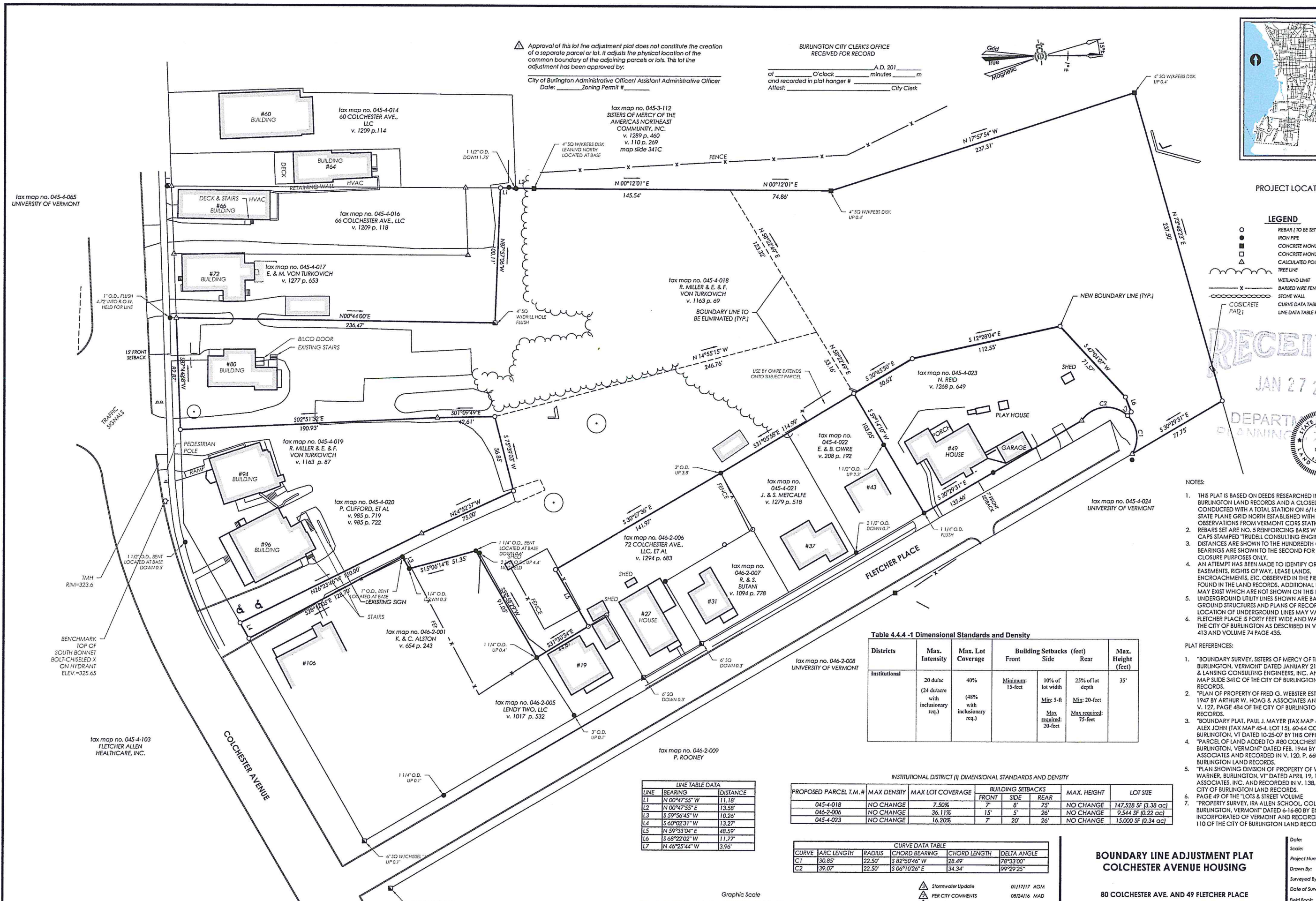
Project Number: _____

Drawn By: _____

Project Engineer: _____

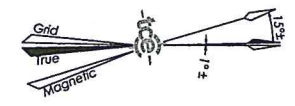
Approved By: _____

Field Book: _____



Approval of this lot line adjustment plat does not constitute the creation of a separate parcel or lot. It adjusts the physical location of the common boundary of the adjoining parcels or lots. This lot line adjustment has been approved by:
City of Burlington Administrative Officer/ Assistant Administrative Officer
Date: _____ Zoning Permit # _____

BURLINGTON CITY CLERK'S OFFICE
RECEIVED FOR RECORD
A.D. 201
at _____ O'clock _____ minutes _____ m
and recorded in plat hanger # _____
Attest: _____ City Clerk



PROJECT LOCATION

- LEGEND**
- REBAR (TO BE SET)
 - IRON PIPE
 - CONCRETE MONUMENT
 - CONCRETE MONUMENT
 - △ CALCULATED POINT
 - TREE LINE
 - WETLAND LIMIT
 - BARBED WIRE FENCE
 - STONE WALL
 - CURVE DATA TABLE REFERENCE
 - LINE DATA TABLE REFERENCE



- NOTES:**
- THIS PLAT IS BASED ON DEEDS RESEARCHED IN THE BURLINGTON LAND RECORDS AND A CLOSED FIELD CONDUCTED WITH A TOTAL STATION ON 6/16/16. STATE PLANE GRID NORTH ESTABLISHED WITH RTK OBSERVATIONS FROM VERMONT CORS STATION VT1947 BY ARTHUR W. HOAG & ASSOCIATES AND RECORD V. 127, PAGE 484 OF THE CITY OF BURLINGTON LAND RECORDS.
 - REBAR SET ARE NO. 5 REINFORCING BARS WITH AL CAPS STAMPED "TRUDEL CONSULTING ENGINEERS". DISTANCES ARE SHOWN TO THE HUNDRETH OF A FOOT. BEARINGS ARE SHOWN TO THE SECOND FOR MATHEMATICAL CLOSURE PURPOSES ONLY.
 - AN ATTEMPT HAS BEEN MADE TO IDENTIFY OR DELINEATE EASEMENTS, RIGHTS OF WAY, LEASE LANDS, ENCROACHMENTS, ETC. OBSERVED IN THE FIELD OR FOUND IN THE LAND RECORDS. ADDITIONAL ENCUMBRANCES MAY EXIST WHICH ARE NOT SHOWN ON THIS PLAT.
 - UNDERGROUND UTILITY LINES SHOWN ARE BASED ON GROUND STRUCTURES AND PLANS OF RECORD. LOCATION OF UNDERGROUND LINES MAY VARY.
 - FLETCHER PLACE IS FORTY FEET WIDE AND WAS CORNERED BY THE CITY OF BURLINGTON AS DESCRIBED IN VOLUME 413 AND VOLUME 74 PAGE 435.

- PLAT REFERENCES:**
- "BOUNDARY SURVEY, SISTERS OF MERCY OF THE DISTRICT OF BURLINGTON, VERMONT" DATED JANUARY 21, 1999 BY LANSING CONSULTING ENGINEERS, INC. AND RECORD MAP SLIDE 341C OF THE CITY OF BURLINGTON LAND RECORDS.
 - "PLAN OF PROPERTY OF FRED G. WEBSTER ESTATE" 1947 BY ARTHUR W. HOAG & ASSOCIATES AND RECORD V. 127, PAGE 484 OF THE CITY OF BURLINGTON LAND RECORDS.
 - "BOUNDARY PLAT, PAUL J. MAYER (TAX MAP 45-4, L. ALEX JOHN (TAX MAP 45-4, LOT 15), 60-64 COLCHESTER AVENUE, BURLINGTON, VT DATED 10-25-07 BY THIS OFFICE.
 - "PARCEL OF LAND ADDED TO #80 COLCHESTER AVENUE, BURLINGTON, VERMONT" DATED FEB. 1944 BY HOAG & ASSOCIATES AND RECORDED IN V. 120, P. 660 OF THE BURLINGTON LAND RECORDS.
 - "PLAN SHOWING DIVISION OF PROPERTY OF W.K. & WARNER, BURLINGTON, VT" DATED APRIL 19, 1956 BY ASSOCIATES, INC. AND RECORDED IN V. 138, P. 230 OF THE CITY OF BURLINGTON LAND RECORDS.
 - PAGE 49 OF THE "LOTS & STREET VOLUME
 - "PROPERTY SURVEY, IRA ALLEN SCHOOL, COLCHESTER, BURLINGTON, VERMONT" DATED 6-16-60 BY ENGINE INCORPORATED OF VERMONT AND RECORDED IN VOLUME 110 OF THE CITY OF BURLINGTON LAND RECORDS.

Table 4.4.4 -1 Dimensional Standards and Density

Districts	Max. Intensity	Max. Lot Coverage	Building Setbacks (feet)			Max. Height (feet)
			Front	Side	Rear	
Institutional	20 du/ac (24 du/acre with inclusionary req.)	40% (48% with inclusionary req.)	Minimum: 15-feet	10% of lot width Min: 5-ft Max required: 20-feet	25% of lot depth Min: 20-feet Max required: 75-feet	35'

INSTITUTIONAL DISTRICT (I) DIMENSIONAL STANDARDS AND DENSITY

PROPOSED PARCEL T.M.#	MAX DENSITY	MAX LOT COVERAGE	BUILDING SETBACKS			MAX. HEIGHT	LOT SIZE
			FRONT	SIDE	REAR		
045-4-018	NO CHANGE	7.50%	7'	8'	75'	NO CHANGE	147,528 SF (3.38 ac)
046-2-006	NO CHANGE	36.11%	15'	5'	26'	NO CHANGE	9,544 SF (0.22 ac)
045-4-023	NO CHANGE	16.20%	7'	20'	26'	NO CHANGE	15,000 SF (0.34 ac)

CURVE DATA TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH	DELTA ANGLE
C1	30.85'	22.50'	S 82°50'46" W	28.49'	78°33'00"
C2	39.07'	22.50'	S 06°10'26" E	34.34'	99°29'25"

LINE TABLE DATA

LINE	BEARING	DISTANCE
L1	N 00°47'55" W	11.18'
L2	N 00°47'55" E	13.58'
L3	S 59°56'45" W	10.26'
L4	S 60°02'31" W	13.27'
L5	N 59°33'04" E	48.59'
L6	S 68°22'02" W	11.77'
L7	N 46°25'44" W	3.96'

Graphic Scale

Feet

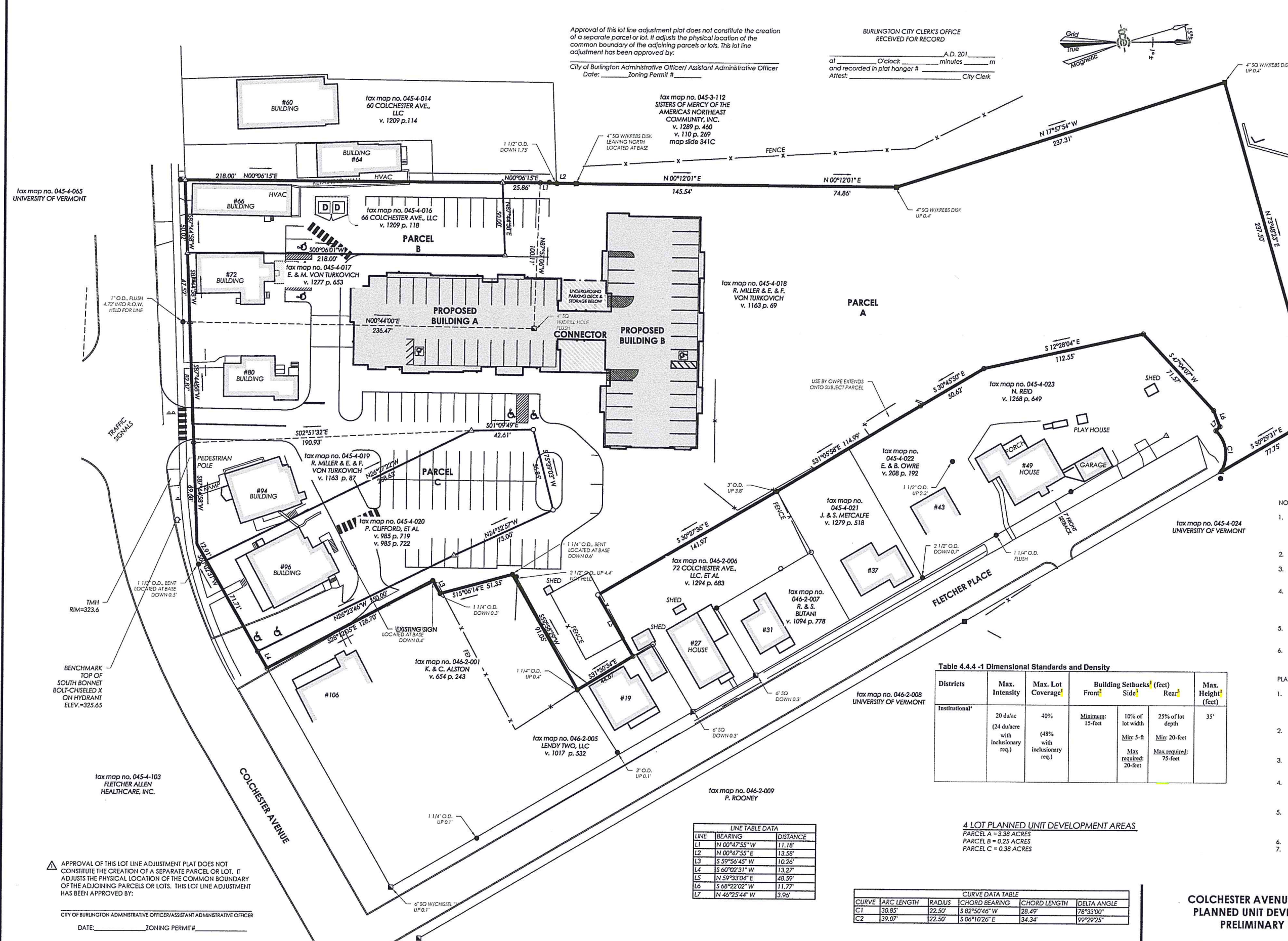
- Stormwater Update 01/17/17 AGM
- PER CITY COMMENTS 08/24/16 MAD
- ADD ZONING SG. & PARKING NOTE 6/22/16 MAD

**BOUNDARY LINE ADJUSTMENT PLAT
COLCHESTER AVENUE HOUSING**

80 COLCHESTER AVE. AND 49 FLETCHER PLACE

Date:
Scale:
Project Number:
Drawn By:
Surveyed By:
Date of Survey:
Field Book:
Cred. By:

an original inkjet on mylar.

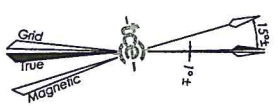


Approval of this lot line adjustment plat does not constitute the creation of a separate parcel or lot. It adjusts the physical location of the common boundary of the adjoining parcels or lots. This lot line adjustment has been approved by:

City of Burlington Administrative Officer/ Assistant Administrative Officer
Date: _____ Zoning Permit # _____

BURLINGTON CITY CLERK'S OFFICE
RECEIVED FOR RECORD

at _____ O'clock _____ minutes _____ m
and recorded in plat hanger # _____
Attest: _____ City Clerk



PROJECT LOCATION

LEGEND

- REBAR (TO BE SET)
- IRON PPE
- CONCRETE MONUMENT
- CONCRETE MONUMENT
- CALCULATED POINT
- TREE LINE
- WETLAND LIMIT
- BARBED WIRE FENCE
- STONE WALL
- CURVE DATA TABLE REFERENCE
- LINE DATA TABLE REFERENCE



NOTES:

- THIS PLAT IS BASED ON DEEDS RESEARCHED IN THE BURLINGTON LAND RECORDS AND A CLOSED FIELD CONDUCTED WITH A TOTAL STATION ON 6/16/16. V. STATE PLANE GRID NORTH ESTABLISHED WITH RTK OBSERVATIONS FROM VERNON CORIS STATION. V. REBAR SET ARE NO. 5 REINFORCING BARS WITH ALL CAPS STAMPED "TRUDEL CONSULTING ENGINEERS". DISTANCES ARE SHOWN TO THE HUNDRETH OF A FOOT. BEARINGS ARE SHOWN TO THE SECOND FOR MATHEMATICAL CLOSURE PURPOSES ONLY.
- AN ATTEMPT HAS BEEN MADE TO IDENTIFY OR DELINEATE EASEMENTS, RIGHTS OF WAY, LEASE LANDS, ENCROACHMENTS, ETC. OBSERVED IN THE FIELD OR FOUND IN THE LAND RECORDS. ADDITIONAL ENCUMBRANCES MAY EXIST WHICH ARE NOT SHOWN ON THIS PLAT.
- UNDERGROUND UTILITY LINES SHOWN ARE BASED ON GROUND STRUCTURES AND PLANS OF RECORD. LOCATION OF UNDERGROUND LINES MAY VARY.
- FLETCHER PLACE IS FORTY FEET WIDE AND WAS CORNERED BY THE CITY OF BURLINGTON AS DESCRIBED IN VOLUME 413 AND VOLUME 74 PAGE 435.

PLAT REFERENCES:

- "BOUNDARY SURVEY, SISTERS OF MERCY OF THE DIocese OF BURLINGTON, VERMONT" DATED JANUARY 21, 1999 & LANSING CONSULTING ENGINEERS, INC. AND RECORD MAP SLIDE 341C OF THE CITY OF BURLINGTON LAND RECORDS.
- "PLAN OF PROPERTY OF FRED G. WEBSTER ESTATE" DATED 1947 BY ARTHUR W. HOAG & ASSOCIATES AND RECORD V. 127, PAGE 484 OF THE CITY OF BURLINGTON LAND RECORDS.
- "BOUNDARY PLAT, PAUL J. MAYER (TAX MAP 45-4, LOT 13), 60-64 COLCHESTER AVENUE, BURLINGTON, VT DATED 10-25-07 BY THIS OFFICE.
- "PARCEL OF LAND ADDED TO #80 COLCHESTER AVENUE, BURLINGTON, VERMONT DATED FEB. 1944 BY HOAG & ASSOCIATES AND RECORDED IN V. 120, P. 660 OF THE BURLINGTON LAND RECORDS.
- "PLAN SHOWING DIVISION OF PROPERTY OF W.K. & WARNER, BURLINGTON, VT DATED APRIL 19, 1956 BY ASSOCIATES, INC. AND RECORDED IN V. 138, P. 235 OF THE BURLINGTON LAND RECORDS.
- PAGE 49 OF THE "LOTS & STREET VOLUME
- "PROPERTY SURVEY, IRA ALLEN SCHOOL, COLCHESTER, BURLINGTON, VERMONT" DATED 6-16-80 BY ENGINEER INCORPORATED OF VERMONT AND RECORDED IN V. 110 OF THE CITY OF BURLINGTON LAND RECORDS.

Table 4.4.4 -1 Dimensional Standards and Density

Districts	Max. Intensity	Max. Lot Coverage	Building Setbacks (feet)	Max. Height (feet)
Institutional ¹	20 du/ac (24 du/acre with inclusionary req.)	40% (48% with inclusionary req.)	Front: Minimum: 15-feet Side: 10% of lot width Rear: 25% of lot depth	35'
			Min: 5-ft Max required: 20-feet	Min: 20-feet Max required: 75-feet

4 LOT PLANNED UNIT DEVELOPMENT AREAS

PARCEL A = 3.38 ACRES
PARCEL B = 0.25 ACRES
PARCEL C = 0.38 ACRES

LINE TABLE DATA

LINE	BEARING	DISTANCE
L1	N 00°47'35" W	11.18'
L2	N 00°47'35" E	13.58'
L3	S 59°56'45" W	10.26'
L4	S 60°02'31" W	13.27'
L5	N 59°33'04" E	48.59'
L6	S 68°22'02" E	11.77'
L7	N 46°25'44" W	3.96'

CURVE DATA TABLE

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH	DELTA ANGLE
C1	30.85'	22.50'	S 82°50'44" W	28.49'	78°33'00"
C2	39.07'	22.50'	S 06°10'26" E	34.34'	99°29'25"

Graphic Scale

PER CITY COMMENTS

08/24/16 MAD

COLCHESTER AVENUE HOUSING
PLANNED UNIT DEVELOPMENT
PRELIMINARY PLAT

80 COLCHESTER AVE. AND 49 FLETCHER PLACE

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Surveyed By: _____
Date of Survey: _____
Field Book: _____

APPROVAL OF THIS LOT LINE ADJUSTMENT PLAT DOES NOT CONSTITUTE THE CREATION OF A SEPARATE PARCEL OR LOT. IT ADJUSTS THE PHYSICAL LOCATION OF THE COMMON BOUNDARY OF THE ADJOINING PARCELS OR LOTS. THIS LOT LINE ADJUSTMENT HAS BEEN APPROVED BY:

CITY OF BURLINGTON ADMINISTRATIVE OFFICER/ ASSISTANT ADMINISTRATIVE OFFICER
DATE: _____ ZONING PERMIT # _____

tax map no. 045-4-103
FLETCHER ALLEN
HEALTHCARE, INC.

tax map no. 045-4-065
UNIVERSITY OF VERMONT

tax map no. 045-4-014
60 COLCHESTER AVE.
LLC
v. 1209 p. 114

tax map no. 045-4-016
66 COLCHESTER AVE., LLC
v. 1209 p. 118

tax map no. 045-4-017
E. & M. VON TURKOVICH
v. 1277 p. 653

tax map no. 045-4-019
R. MILLER & E. & F.
VON TURKOVICH
v. 1163 p. 87

tax map no. 045-4-020
P. CLIFFORD, ET AL
v. 985 p. 719
v. 985 p. 722

tax map no. 046-2-001
K. & C. ALSTON
v. 654 p. 243

tax map no. 046-2-005
LENDY TWO, LLC
v. 1017 p. 532

tax map no. 045-3-112
SISTERS OF MERCY OF THE
AMERICAS NORTHEAST
COMMUNITY, INC.
v. 1289 p. 460
v. 110 p. 269
map slide 341C

tax map no. 045-4-018
R. MILLER & E. & F.
VON TURKOVICH
v. 1163 p. 69

tax map no. 045-4-022
E. & B. OWRE
v. 208 p. 192

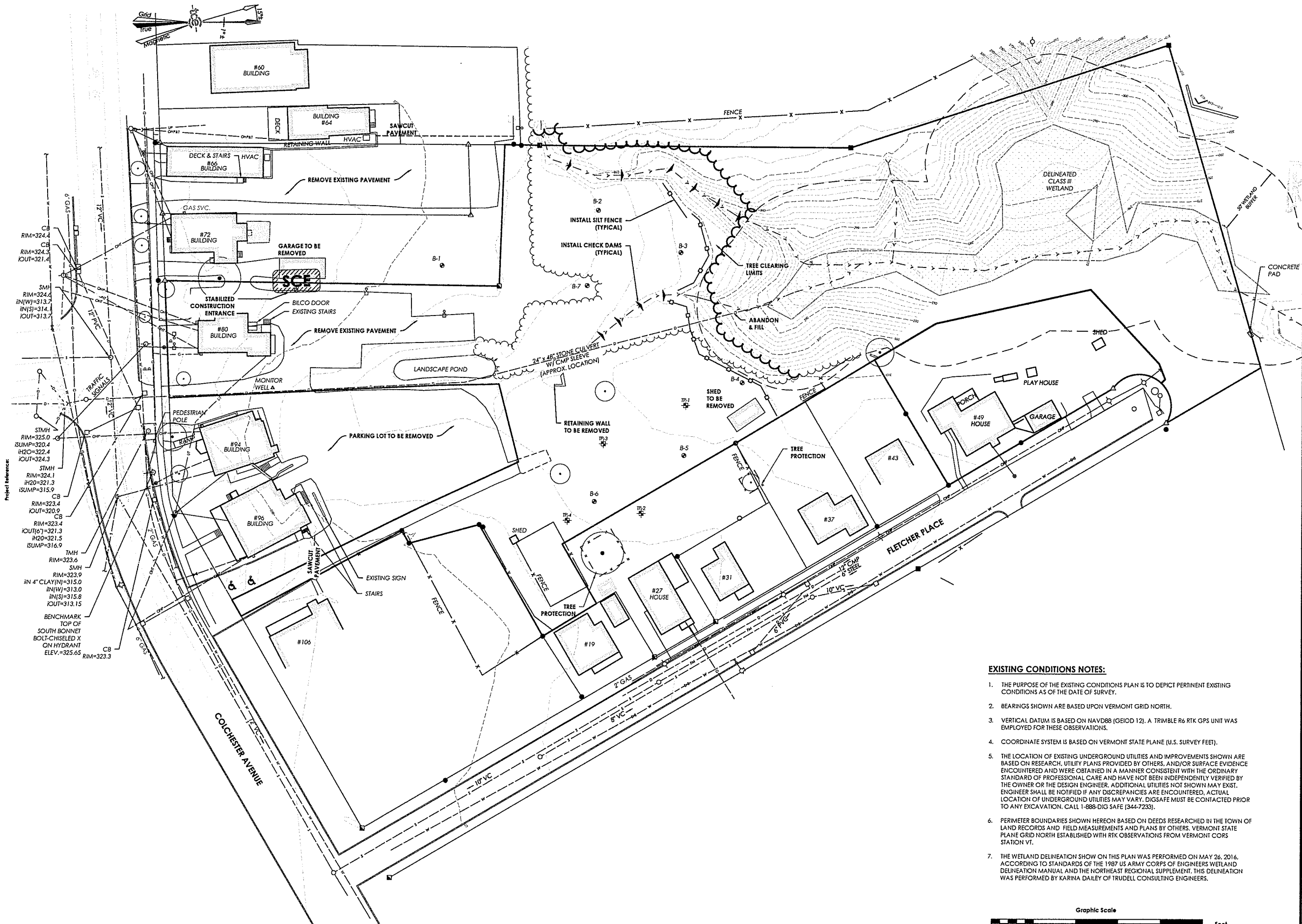
tax map no. 045-4-021
J. & S. METCALFE
v. 1279 p. 518

tax map no. 046-2-007
R. & S.
BUTANI
v. 1094 p. 778

tax map no. 046-2-008
UNIVERSITY OF VERMONT

tax map no. 045-4-023
N. REID
v. 1268 p. 649

tax map no. 045-4-024
UNIVERSITY OF VERMONT



EXISTING CONDITIONS NOTES:

1. THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT PERTINENT EXISTING CONDITIONS AS OF THE DATE OF SURVEY.
2. BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH.
3. VERTICAL DATUM IS BASED ON NAVD88 (GEIOD 12). A TRIMBLE R6 RTK GPS UNIT WAS EMPLOYED FOR THESE OBSERVATIONS.
4. COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE ENCOUNTERED AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. ENGINEER SHALL BE NOTIFIED IF ANY DISCREPANCIES ARE ENCOUNTERED. ACTUAL LOCATION OF UNDERGROUND UTILITIES MAY VARY. DIGSAFE MUST BE CONTACTED PRIOR TO ANY EXCAVATION. CALL 1-888-DIG SAFE (344-7233).
6. PERIMETER BOUNDARIES SHOWN HEREON BASED ON DEEDS RESEARCHED IN THE TOWN OF LAND RECORDS AND FIELD MEASUREMENTS AND PLANS BY OTHERS. VERMONT STATE PLANE GRID NORTH ESTABLISHED WITH RTK OBSERVATIONS FROM VERMONT CORRS STATION VI.
7. THE WETLAND DELINEATION SHOWN ON THIS PLAN WAS PERFORMED ON MAY 26, 2016, ACCORDING TO STANDARDS OF THE 1987 US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE NORTHEAST REGIONAL SUPPLEMENT. THIS DELINEATION WAS PERFORMED BY KARINA DAILEY OF TRUDELL CONSULTING ENGINEERS.

Revisions
No. Description
1 City Comments
2 DAB Comments
3 Stormwater Update

TAX ID:

Use of These Drawings

1. Unless otherwise noted, these Drawings are preliminary planning, coordination with utilities, and/or approved from the regular. They are not intended as construction documents as such or marked approved by a regular.
2. By use of these drawings for construction the Owner represents that they have reviewed and accepted the drawings, obtained and have met with all applicable parties including but not limited to, the Engineer, to ensure these plans are properly coordinated not limited to, contract documents, specifications, owner/contractor agreements, building plans, private and public utilities, and all for construction.
3. Owner and Architect, are responsible location of buildings shown, including an minimum five (5) feet around any building and utility connections shown on these plans.
4. Prior to using these plans for construction shall contact TCE to ensure the plan contains current revisions.
5. These Drawings are specific to the Project. As instruments of service, the copies thereof, furnished by TCE are the property of TCE and shall not be used for any other project. Changes to the drawings may only be made by TCE. If any changes are discovered, they shall be the responsibility of TCE to ensure the most current revisions, if unsure, please contact TCE.
6. It is the User's responsibility to ensure the most current revisions, if unsure, please contact TCE.



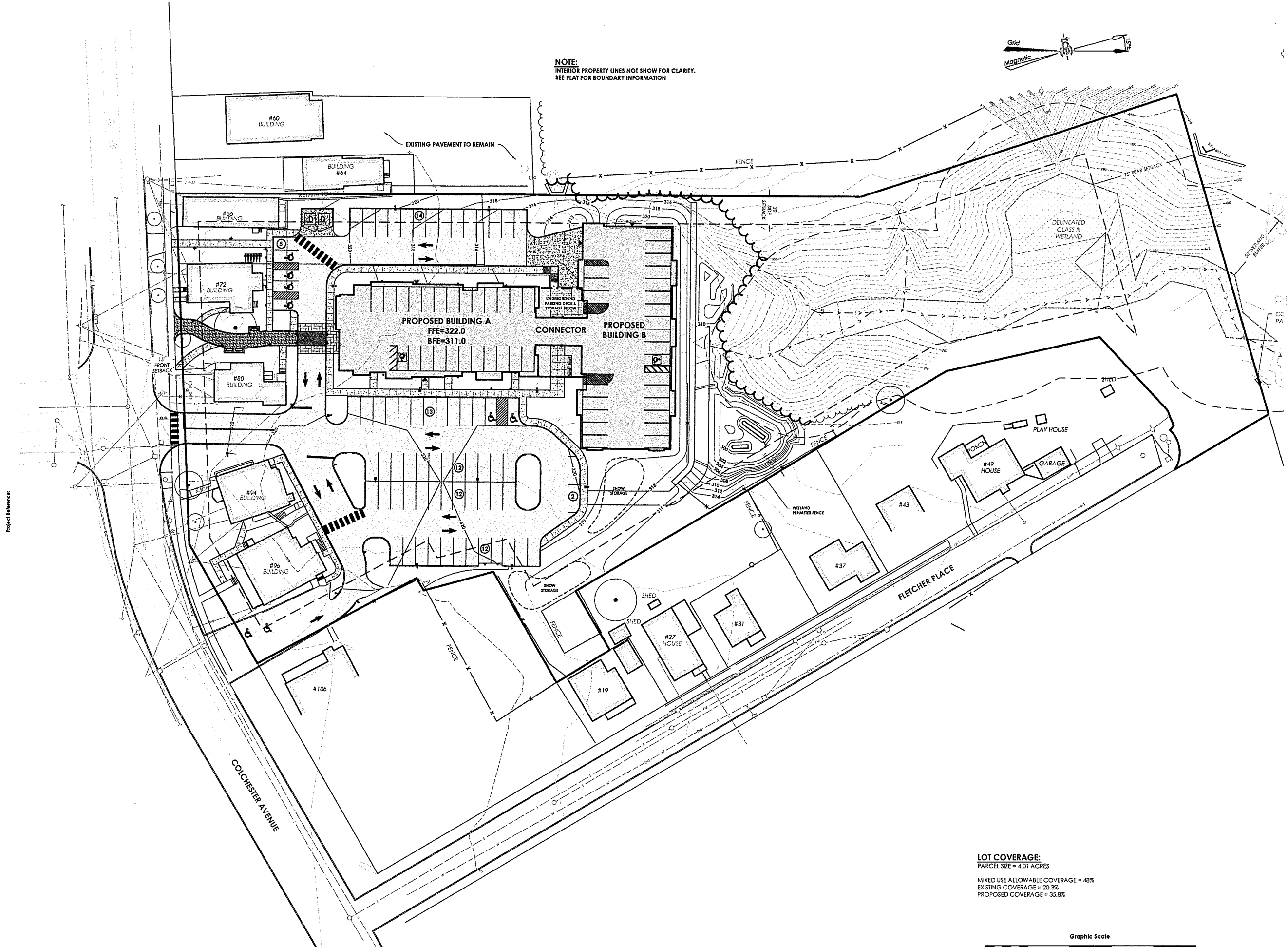
Project Title

Colchester Avenue Housing
Burlington, Vermont

Sheet Title

Existing Conditions & Demolition

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____



Revisions

No.	Description
1	City Comments
2	DAB Comments
3	Stormwater Update

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JAN 27 2017
DEPARTMENT OF
PLANNING & ZONING

- USE OF THESE DRAWINGS**
1. Unless otherwise noted, these drawings are preliminary planning, coordination with utilities, and/or approval from the regulatory agencies. They are not intended as construction documents as such or marked approved by a regulatory agency.
 2. By use of these drawings for construction, the Owner represents that they have reviewed and accepted the drawings, obtained all necessary permits, and have met with all applicable parties. Including but not limited to, the Engineer, to insure these plans are properly coordinated, not limited to, contract documents, specifications, owner/contractor agreements, building plans, private and public utilities, and all other for construction.
 3. Owner and Architect, are responsible for location of buildings shown, including a minimum five (5) feet around any building. Final utility connections shown on these drawings.
 4. Prior to using these plans for construction, the Owner shall contact TCE to ensure the plan is current and correct.
 5. These Drawings are specific to the project. As instruments of service, copies thereof, furnished by TCE are for informational purposes only. Changes to the drawings may only be made if errors or omissions are discovered, they shall be the responsibility of TCE immediately.
 6. It is the User's responsibility to ensure that the most current revisions are used. If unsure, please contact TCE.



Project Title
Colchester Avenue Housing
Burlington, Vermont

Sheet Title
Overall Site

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____



ENGINEERING •
PLANNING • ENVIRONMENTAL
415 BLAIR PARK ROAD 1 WILLISTON, VT 05495
802.879.4331 | WWW.TCEVT.COM

Revisions
No. Description
1 City Comments
2 DAS Comments
3 Stormwater Update

TAX ID:

- Use of these drawings for preliminary planning, coordination with utilities, and/or approval from the regulatory agency as such or marked approved by a regulatory agency.
- By use of these drawings for construction, the Owner represents that they have reviewed and accepted the drawings, obtained all necessary permits, and have met with all applicable parties including but not limited to, the Engineer, to insure these plans are properly coordinated with all applicable laws, regulations, and other documents, including but not limited to, contract documents, specifications, and other documents.
- Owner and Architect are responsible for location of buildings shown, including any minimum five (5) feet around any building and utility connections shown on these plans.
- Prior to using these plans for construction, the user shall contact TCE to ensure the plan contains current revisions.
- These drawings are specific to the project and are not to be used for any other project. As instruments of service, the drawings are the property of TCE and are to be used only for the project and location shown. Any changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be the responsibility of TCE immediately.
- It is the user's responsibility to ensure the most current revisions. If unsure, please contact TCE.



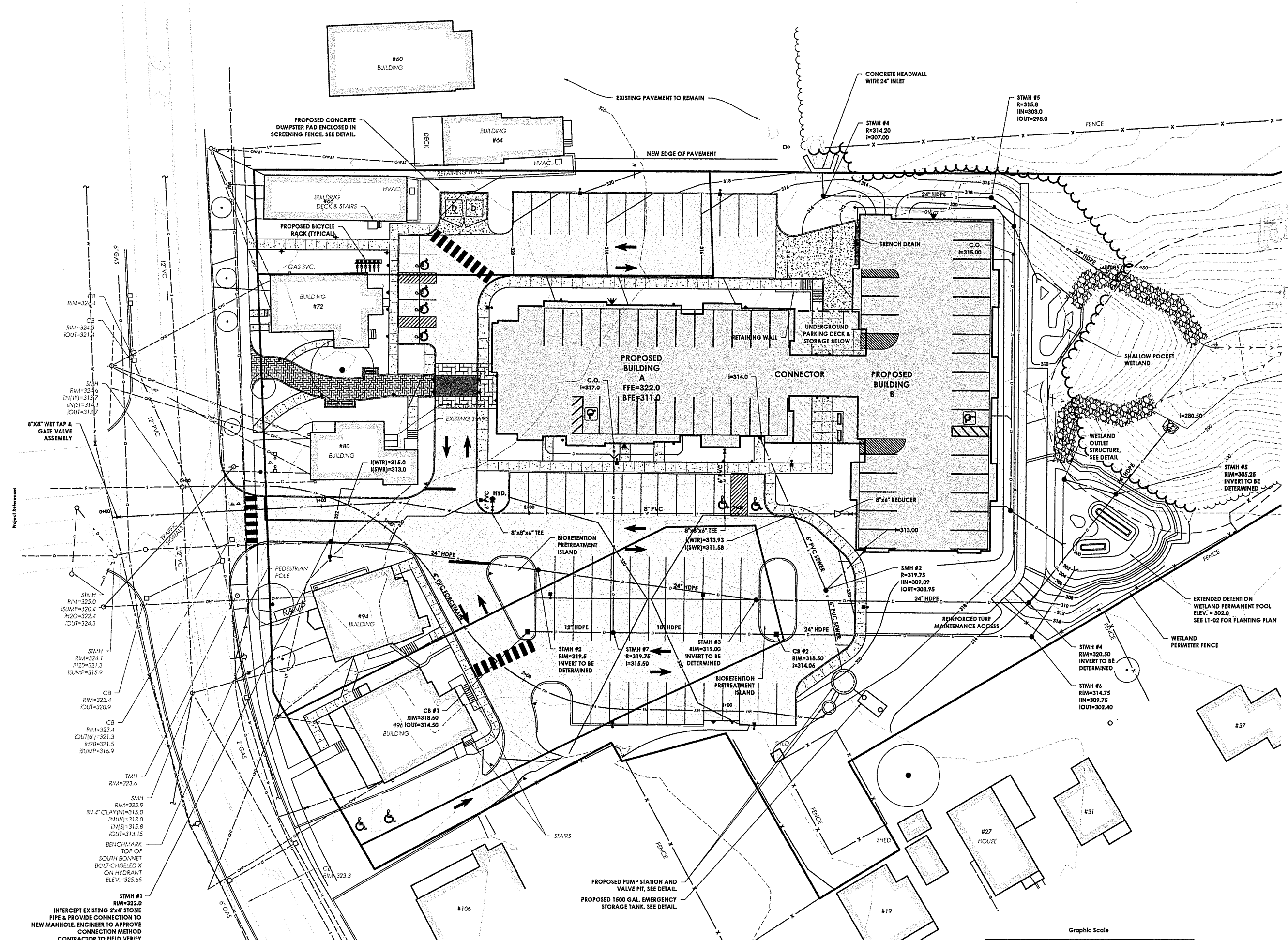
Project Title

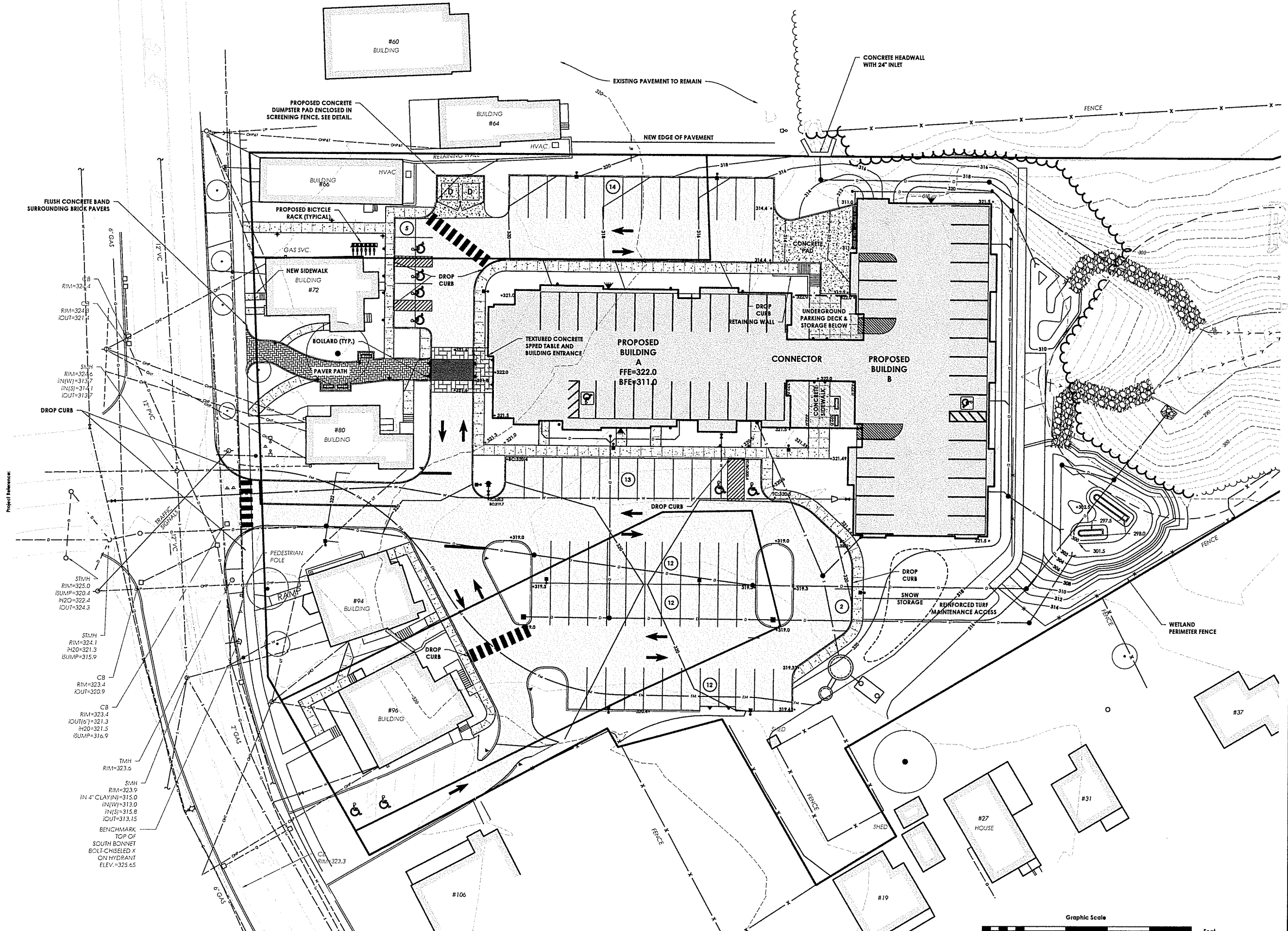
Colchester Ave
Housing
Burlington, Vermont

Sheet Title

Utility Site Plan

Order: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____

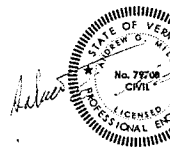




Revisions	No.	Description
City Comments		
DAB Comments		
Stormwater Update		

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JAN 27 2024
DEPARTMENT OF
PLANNING & ZONING

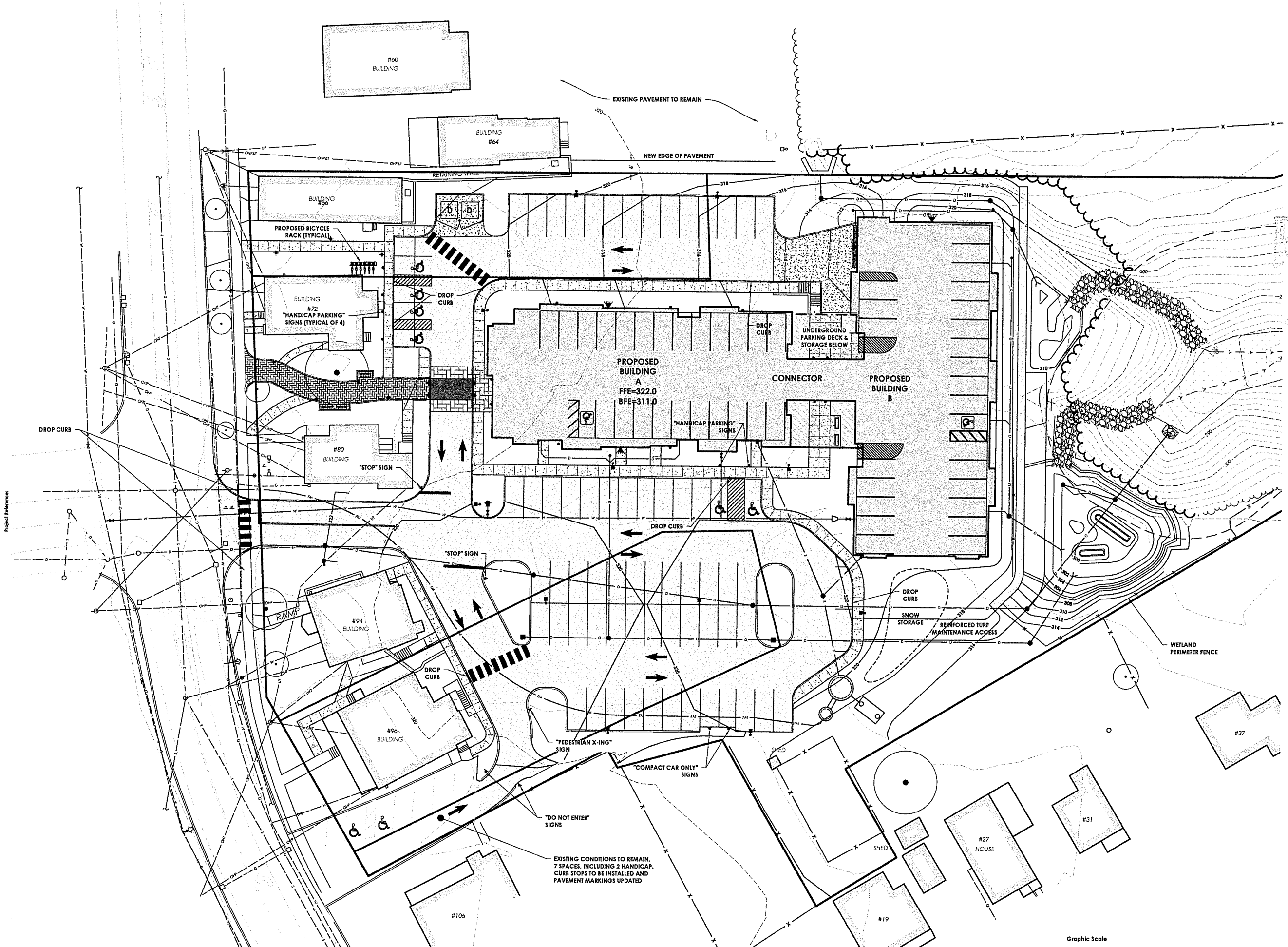
- TAX ID: _____
- Use of these Drawings
1. Unless otherwise noted, these Drawings are preliminary planning, coordination with utilities, and/or approval from the regulatory agencies. They are not intended as construction documents as such or marked approved by a registered professional engineer.
 2. By use of these drawings for construction, the Owner represents that they have read and accepted the drawings, obtained and have met with all applicable parties including but not limited to, the Engineer, to insure these plans are properly coordinated. The drawings are not intended to, contract documents, specifications, private and public utilities, and other documents for construction.
 3. Owner and Architect, are responsible for the location of buildings shown, including a minimum five (5) feet around any building. Final utility connections shown on these drawings.
 4. Prior to using these plans for construction, the user shall contact TCE to ensure the plan contains current revisions.
 5. These Drawings are specific to the Project. As instruments of service, copies thereof, furnished by TCE are its property. Changes to the drawings may only be made if the user or its consultants are notified by TCE of any errors or omissions or discovered, they shall be the responsibility of TCE immediately.
 6. It is the User's responsibility to ensure the most current revisions. If unsure, please contact TCE.



Project Title
Colchester Avenue Housing
Burlington, Vermont

Sheet Title
**Site Grading
Layout Plan**

Dated: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____

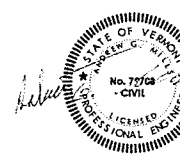


Revisions

No.	Description
1	City Comments
2	DAB Comments
3	Stormwater Update

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JAN 27 2024
DEPARTMENT OF TRANSPORTATION

- TAX ID:**
- Use of These Drawings
1. Unless otherwise noted, these drawings are preliminary planning, coordination with the owner, utilities, and/or approval from the regulatory agencies. They are not intended as construction documents as such or marked approved by a regulatory agency.
 2. By use of these drawings for construction, the Owner represents that they have reviewed and accepted the drawings, obtained all necessary permits, and have met with all applicable parties including but not limited to, the Engineer, to insure these plans are properly coordinated. Not limited to, contract documents, specifications, owner/contractor agreements, building plans, private and public utilities, and other documents for construction.
 3. Owner and Architect, are responsible for the location of buildings shown, including any minimum five (5) feet around any building and utility connections shown on these plans.
 4. Prior to using these plans for construction, the user shall contact TCE to ensure the plan contains current revisions.
 5. These Drawings are specific to the project shown. As Instruments of Service, they are not transferable. If copies thereof, furnished by TCE are lost or stolen, the user shall notify TCE immediately. Changes to the drawings may only be made if approved in writing by TCE. If errors or omissions are discovered, they shall be the responsibility of the user to notify the attention of TCE immediately.
 6. It is the user's responsibility to ensure that the most current revisions, if unsure, please contact TCE.



Project Title
Colchester Avenue Housing
Burlington, Vermont

Sheet Title
Pavement Markings & Signage Plan

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____

PLANT LIST											
KEY	SCIENTIFIC NAME	COMMON NAME	QUAN.	SIZE	SPACING	KEY	SCIENTIFIC NAME	COMMON NAME	QUAN.	SIZE	SPACING
Trees						Shrubs					
AB	<i>Abies balsamea</i>	Balsam Fir	6	6-7"	As Shown	AAR	<i>Amelanchier arborea</i>	Serviceberry	2	10 gal.	As Shown
AF	<i>Acer x freemanii</i> 'Autumn Blaze'	Autumn Blaze Maple	1	2 1/2'-3'	As Shown	AL	<i>Amelanchier laevis</i>	Allegheny Serviceberry	10	10 gal.	As Shown
AR	<i>Acer rubrum</i>	Red Maple	5	2 1/2'-3'	As Shown	CA	<i>Clethra alnifolia</i> 'Ruby Spice'	Red Summersweet	13	2 gal.	36" Centers
GIS	<i>Gleditsia triacanthos</i> 'Sunburst'	Sunburst Honeylocust	4	2 1/2'-3'	As Shown	CAM	<i>Comus amomum</i>	Silky Dogwood	23	2 gal.	36" Centers
PS	<i>Pinus strobus</i>	White Pine	5	6-7"	As Shown	CS	<i>Comus sericea</i>	Redosier Dogwood	23	2 gal.	36" Centers
QM	<i>Quercus macrocarpa</i>	Bur Oak	2	2 1/2'-3'	As Shown	HV	<i>Homalepis virginiana</i>	Common Witchhazel	5	3 gal.	60" Centers
QR	<i>Quercus rubra</i>	Red Oak	1	2 1/2'-3'	As Shown	HYP	<i>Hypericum kalmianum</i>	Kalm's St. John's Wort	250	2 gal.	36" Centers
						IV	<i>Ilex verticillata</i> 'Red Sprite' & 'Jim Dandy'	Winterberry	24	3 gal.	48" Centers
						JHPC	<i>Juniperus horizontalis</i> 'Plumosa Compacta'	Compact Andorra Juniper	140	1 gal.	36" Centers
						PO	<i>Physocarpus opulifolius</i> 'Diablo'	Red Leaf Ninebark	26	3 gal.	48" Centers
						RHA	<i>Rhus aromatica</i> 'Gro-Low'	Dwarf Fragrant Sumac	38	3 gal.	48" Centers
						SIC	<i>Stephanandra incisa</i> 'Crispa'	Cutleaf Stephanandra	85	2 gal.	36" Centers
						Perennials	Variety including bioswale				As Shown

STORMWATER PLANT NOTES:

ZONE 2A (UPLAND MOIST)
ZONE 2B (SATURATED SOIL)
ZONE 2C (SHALLOW WATER BENCH) - OUTER RIM OF PERMANENT POOL

ZONE 2A
NATIVE GRASS/WILDFLOWER SEED MIX PER ACRE AS FOLLOWS:

PREPARE SURFACE OF BASIN AS SHOWN ON THE PLANS UPWARD TO THE CREST WITH 3 INCHES OF TOPSOIL. DO NOT ADD FERTILIZER. SPREAD AND LIGHTLY RAKE THE FOLLOWING SEED MIX AT A RATE OF EIGHT POUNDS PER ACRE. PLANT WITH A TEMPORARY COVER CROP OF MIXED COMMON OAT AND ANNUAL RYE AT A RATE 28 POUNDS PER ACRE. MULCH WITH STERILE MULCH AND LIGHTLY ROLL. REMULCH AS NECESSARY OR USE PREFABRICATED MULCH BLANKET. SPRING OR EARLY FALL PLANTING IS RECOMMENDED.

SCIENTIFIC NAME	COMMON NAME
ASTER ERICOIDES	HEATH ASTER
ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
CAREX GRACILIMA	GRACEFUL SEDGE
ELYMUS HYSTRIX	BOTTLEBRUSH GRASS
MONARDA FISTULOSA	BERGAMOT
PANICUM VIRGATUM	SWITCH GRASS
RUDBECKIA HIRTIA	BLACK-EYED SUSAN
SOLIDAGO RIGIDA	STIFF GOLDENROD

ZONE 2B

HERBACEOUS PLUGS AS FOLLOWS:

PLANT PLUGS SHALL BE PLANTED IN TWO STAGGERED ROWS AROUND THE UPPER BAND OF THE ZONE ONCE THE PERMANENT POOLS ARE ESTABLISHED. PLANTS IN EACH ROW SHALL BE SPACED ONE FOOT APART HORIZONTALLY. ROWS SHALL BE SPACED 6 INCHES APART VERTICALLY.

THE HERBACEOUS PLUGS SHALL BE SELECTED FROM THE FOLLOWING MIX OF SPECIES. A MINIMUM OF THREE SPECIES SHALL BE USED WITH ANY INDIVIDUAL SPECIES NOT COVERING MORE THAN 50% OR LESS THAN 15% OF AREA TO BE PLANTED. PLANTS SHALL BE GROUPED IN CLUSTERS OF 5-12 OF THE SAME PLANT SPECIES, WITH GROUPS DISTRIBUTED UNIFORMLY THROUGHOUT THE PLANTING ZONE. THE VENDOR SHALL RECOMMEND AN APPROPRIATE SUBSTITUTION OF SPECIES BASED ON AVAILABILITY AND TIME OF PLANTING.

SCIENTIFIC NAME
ANEMONE CANADENSIS
ASTER NOVAE-ANGLIAE
CAREX COMOSA
CAREX VULPINODEA
IRIS VIRGINICA
JUNCUS EFFUSUS
LIATRIS SPICATA
SCIRPUS ATROVIRENS

COMMON NAME
MEADOW ANEMONE
NEW ENGLAND ASTER
BRISTLY SEDGE
BROWN FOX SEDGE
BLUE FLAG
COMMON RUSH
BLAZING STAR
DARK GREEN RUSH

ZONE 2C

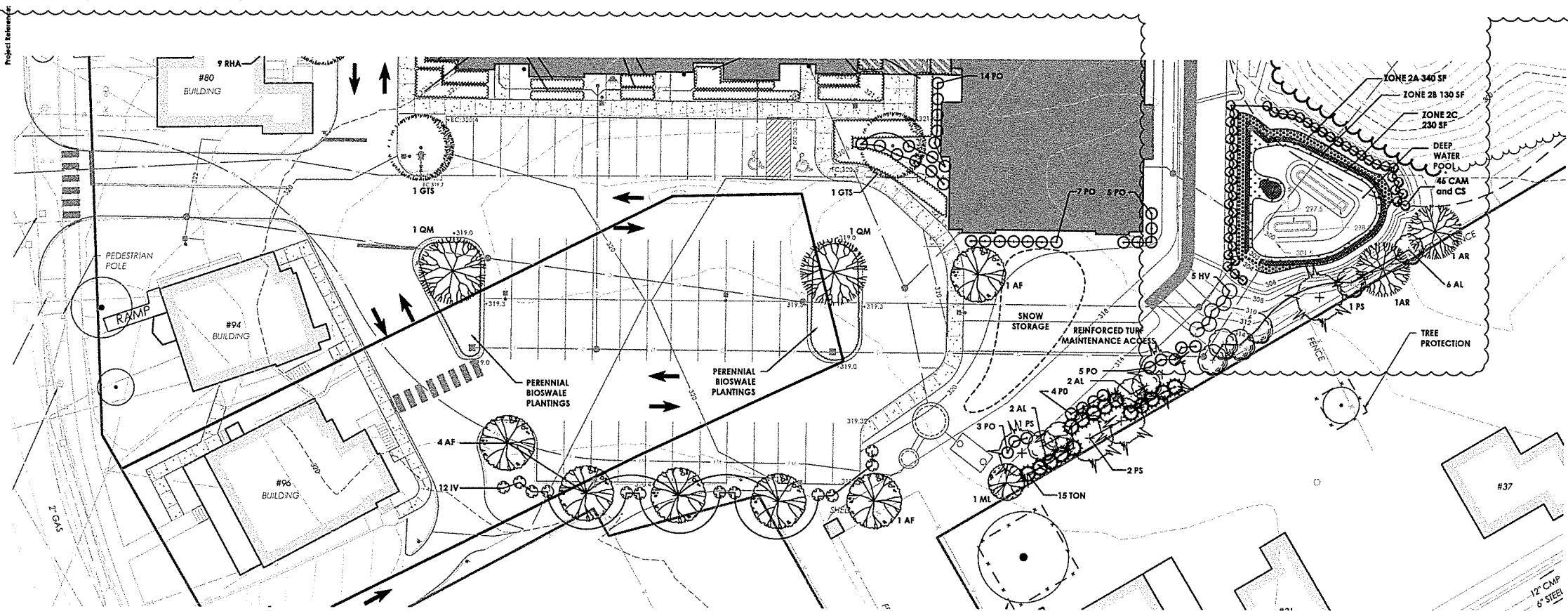
HERBACEOUS PLUGS AS FOLLOWS:

PLANT PLUGS SHALL BE PLANTED IN TWO STAGGERED ROWS AROUND THE UPPER BAND OF THE ZONE ONCE THE PERMANENT POOLS ARE ESTABLISHED. PLANTS IN EACH ROW SHALL BE SPACED ONE FOOT APART HORIZONTALLY. ROWS SHALL BE SPACED 6 INCHES APART VERTICALLY. A MINIMUM OF 2/3RDS OF EACH PLANT SHOOT SHOULD REMAIN ABOVE THE WATER LEVEL.

THE HERBACEOUS PLUGS SHALL BE SELECTED FROM THE FOLLOWING MIX OF SPECIES. A MINIMUM OF THREE SPECIES SHALL BE USED WITH ANY INDIVIDUAL SPECIES NOT COVERING MORE THAN 50% OR LESS THAN 15% OF AREA TO BE PLANTED. PLANTS SHALL BE GROUPED IN CLUSTERS OF 5-12 OF THE SAME PLANT SPECIES, WITH GROUPS DISTRIBUTED UNIFORMLY THROUGHOUT THE PLANTING ZONE. THE VENDOR SHALL RECOMMEND AN APPROPRIATE SUBSTITUTION OF SPECIES BASED ON AVAILABILITY AND TIME OF PLANTING.

SCIENTIFIC NAME
SAGITTARIA LATIFOLIA
SCIRPUS VALIDUS
PONTEDERIA CORDATA
POTAMOGETON NODOSUS
CAREX LACUSTRIS
ACORUS CALAMUS

COMMON NAME
BROADLEAF ARROWHEAD
SOFTSTEM BURRUSH
PICKERELWEED
LONGLEAF PONDWEED
COMMON LAKE SEDGE
SWEET FLAG



Graphic Scale



ENGINEERING
PLANNING • ENVIRONMENTAL
100 E. PARK ROAD | WILLIAMSBURG, VA 23187
804.278.4331 | WWW.TCEVA.COM

Revisions
No. Description
1 Stormwater Update

RECEIVED
JAN 27 2024
DEPARTMENT OF
PLANNING & ZONING

- TAX ID:**
- Use of these Drawings
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Project Title

Colchester Avenue
Housing
Burlington, Vermont

Sheet Title

Stormwater
Landscaping

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____



LUMINAIRE SCHEDULE					
SYMBOL	LABEL	QTY	CATALOG NUMBER	DESCRIPTION	LAMP
	A	11	DSXLED20C33040KITVWS	Ultronic D-Series Size 0 - Forward Throw w/ House-side Shield	20 LED, 33W
	B	2	DSXLED20C33040KITSM	Ultronic D-Series Size 0 - TYPE S Medium	20 LED, 72W
	C	3	LUNA 1665K	LUNA Wall Sconce Down Cast	75W CFL
	D	12	PL642EU-23-2C-WH	Juno 6" Vertical Housing Recessed Fixture	42W CFL
	E	11	BR-42-42-CF	McGraw-Edison 42" Round Louvered Bollard	42W CFL

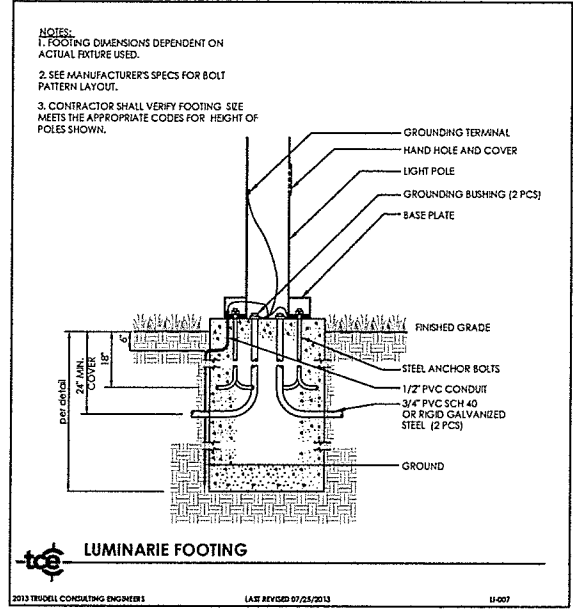
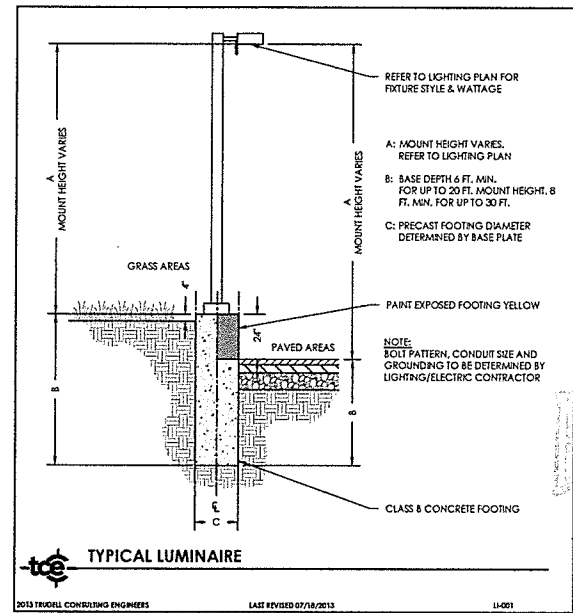
		AVG. ILLUMINATION LEVEL	UNIFORMITY RATIO (MAX/MIN)	MAX. POINT ILLUMINATION	MIN. POINT ILLUMINATION	MAX @ 20'
PARKING AREA	REQUIRED	-	20:1	4.0 fc	-	0.1 fc
	CALCULATED	1.2 fc	140:1	2.8 fc	0.2 fc	0.0 fc
WALKWAYS	REQUIRED	0.5 fc	-	2.0 fc	-	-
	CALCULATED	0.5 fc	-	1.9 fc	-	-

LEGEND

0.1 FOOTCANDLES (fc)

0.5 FOOTCANDLES (fc)

1.0 FOOTCANDLES (fc)



- NOTES:**
- AREA LIGHT AND BUILDING LAYOUT AS SHOWN FOR PERMITTING PURPOSES. BUILDING-MOUNTED FIXTURES ARE SHOWN FOR PERMITTING PURPOSES ONLY.
 - DISCREPANCIES BETWEEN L2-01 AND OTHER CIVIL, ELECTRICAL, OR ARCHITECTURAL PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION.
 - QUANTITIES AND CATALOG NUMBER SHOWN IN TABLE SHOULD BE VERIFIED BY ELECTRIC CONTRACTOR PRIOR TO ORDERING.
 - LUMENS PER ACRE OVER SITE = 35,700 lumens/acre

Graphic Scale

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603.879.4331 | WWW.TCEV.COM

Revisions

No.	Description
1	Stormwater Update

RECEIVED

JAN 27 2013

DEPARTMENT OF PLANNING & ZONING

TAX ID:

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- It is the user's responsibility to ensure the most current revisions. If unsure, please contact TCE.

Colchester Affordable Housing

Burlington, Vermont

Project Title

Sheet Title

Date: _____ 07

Scale: _____

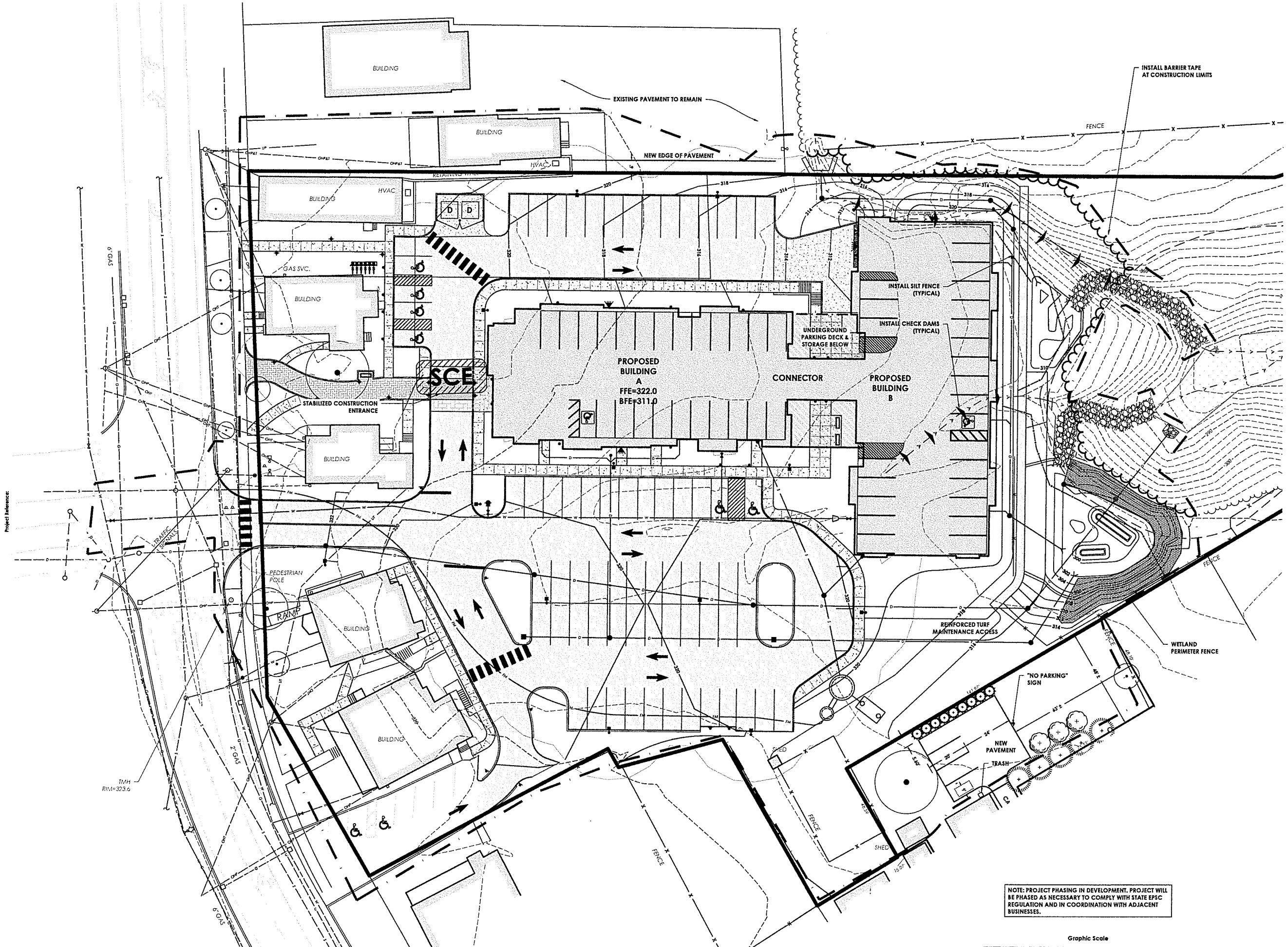
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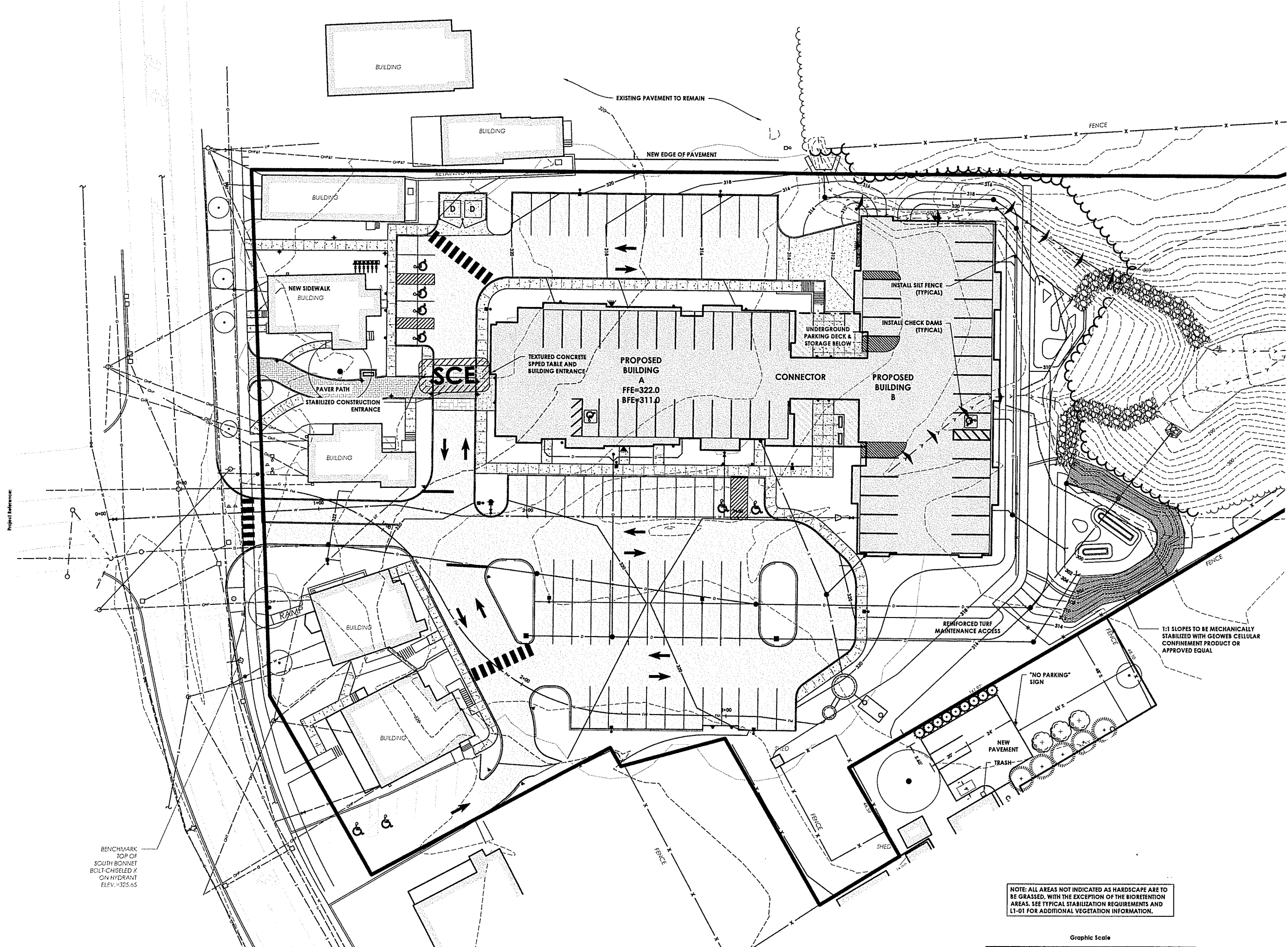
Drawn By: _____

Project Engineer: _____

Approved By: _____

Field Book: _____





Project Reference

BENCHMARK
TOP OF
SOUTH BONNET
BOLT CHISELED X
ON HYDRANT
ELEV.=325.65

NOTE: ALL AREAS NOT INDICATED AS HARDSCAPE ARE TO BE GRASSED, WITH THE EXCEPTION OF THE BIORETENTION AREAS. SEE TYPICAL STABILIZATION REQUIREMENTS AND L1-01 FOR ADDITIONAL VEGETATION INFORMATION.

Graphic Scale

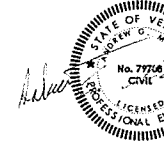


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802 679 6331 | WWW.TCE

Revisions	No.	Description
City Comments		
Stormwater Update		

PROJECT
JAN 2
DEPARTMENT

- TAXID:**
- Use of these Drawings
 - By use of these drawings for construction
 - Owner and Architect, are responsible
 - Prior to using these plans for construction
 - These Drawings are specific to the project
 - It is the User's responsibility to ensure



Project Title
Colchester Area Housing
Burlington, Vermont

Sheet Title
EPSC Stabilization

Date: _____

Scale: _____

Project Number: _____

Drawn by: _____

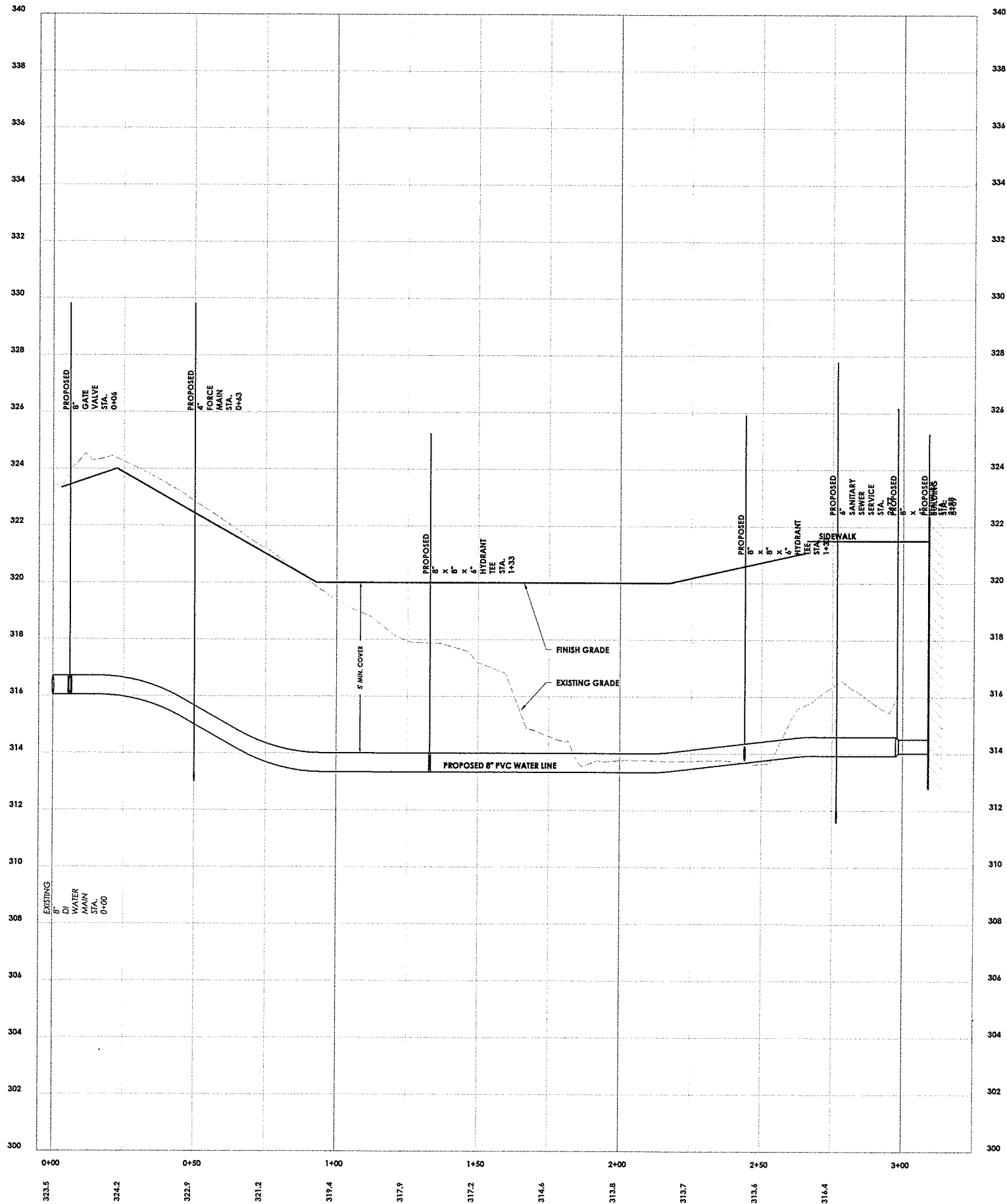
Project Engineer: _____

Approved by: _____

Field book: _____

C5

Project Reference:



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418 BLAIR PARK ROAD | WILLISTON, VT 05495
802.879.5531 | WWW.TCEVT.COM

Revisions
No. Description
1 Stormwater Update

SCHEMATIC
JAN 27 2024

DEPARTMENT OF TRANSPORTATION
JAN 27 2024

TAX ID:
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2. By use of these drawings for construction, the Owner represents that they have reviewed and accepted the drawings, obtained all necessary permits, and have met with all applicable parties including but not limited to, the Engineer, to ensure these plans are properly coordinated with all existing plans, specifications, and contract documents, and are not intended to be used for construction.
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Project Title

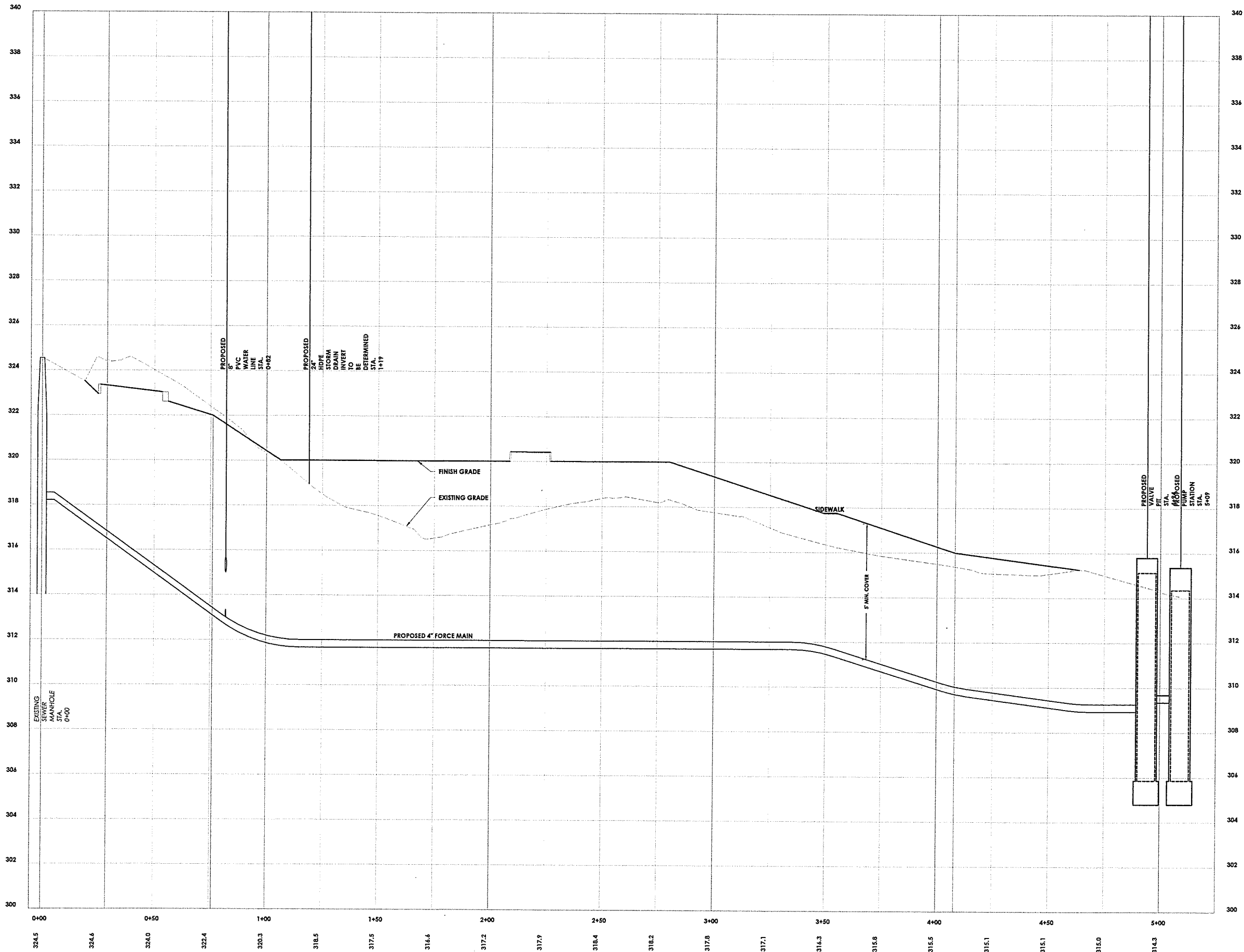
Colchester Avenue
Housing
Burlington, Vermont

Sheet Title

Waterline Plan

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____

Project Reference:



4\"



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Revisions
No. Description
1 Stormwater Update

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DEPARTMENT OF
PUBLIC WORKS

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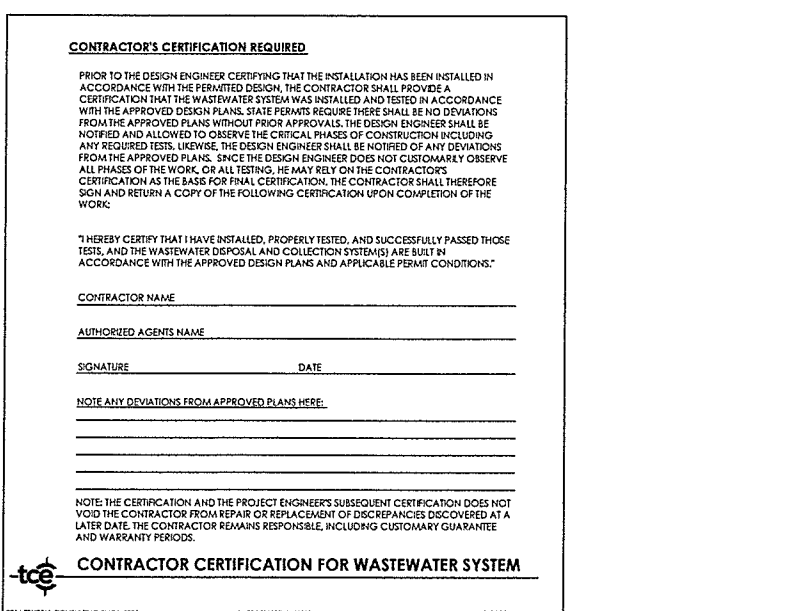
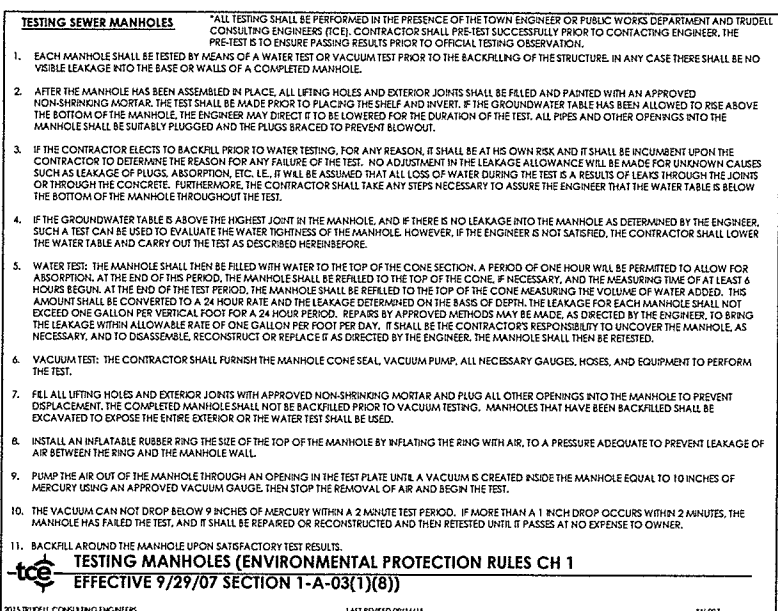
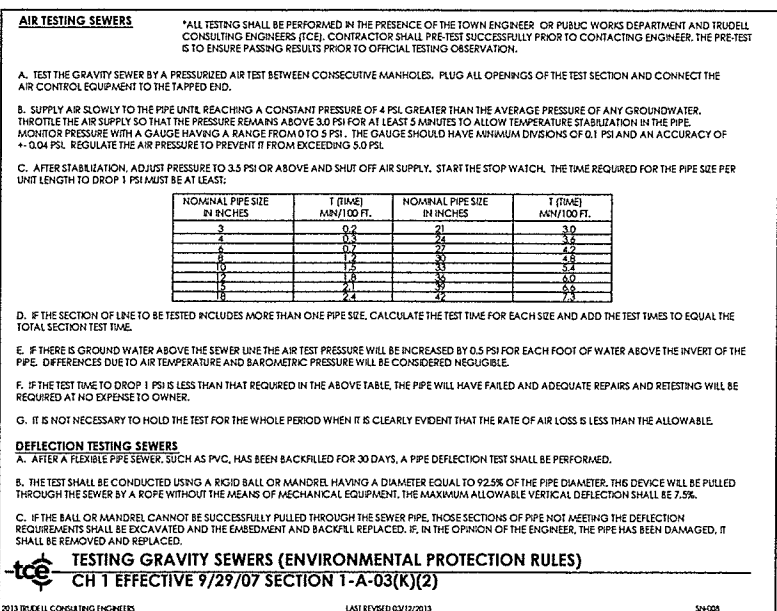
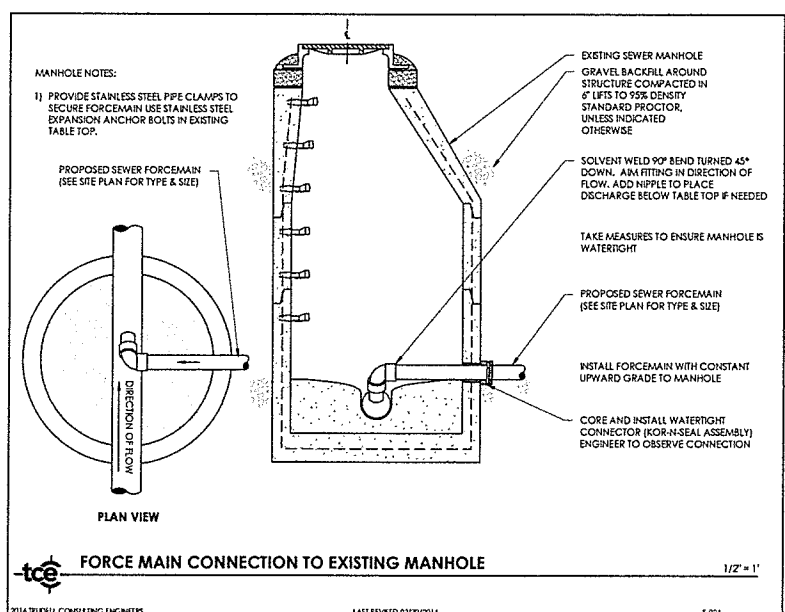
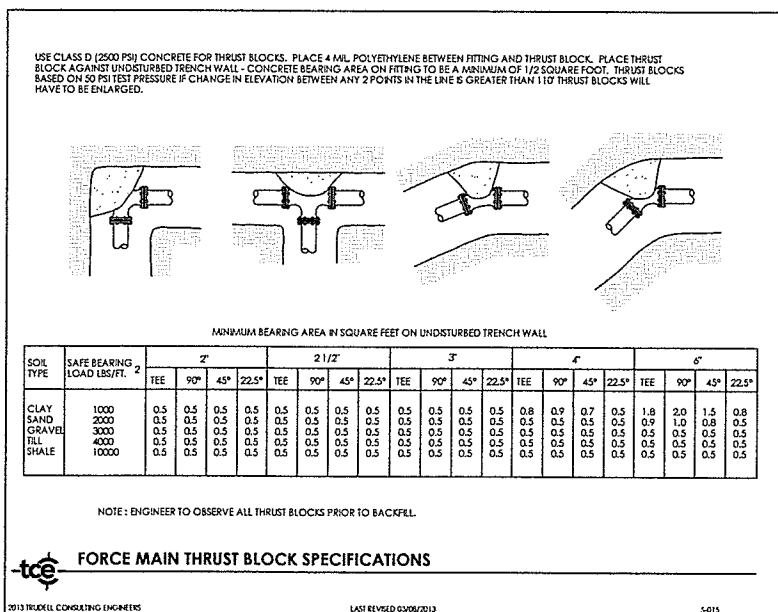
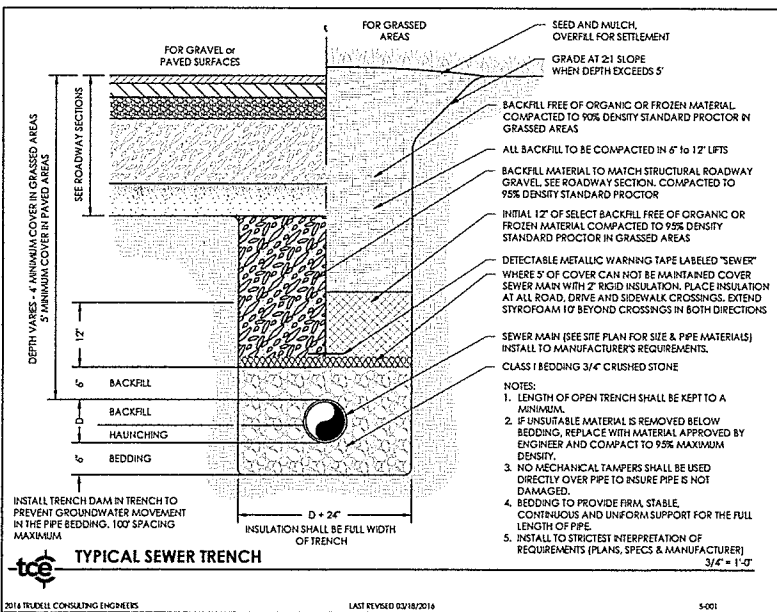
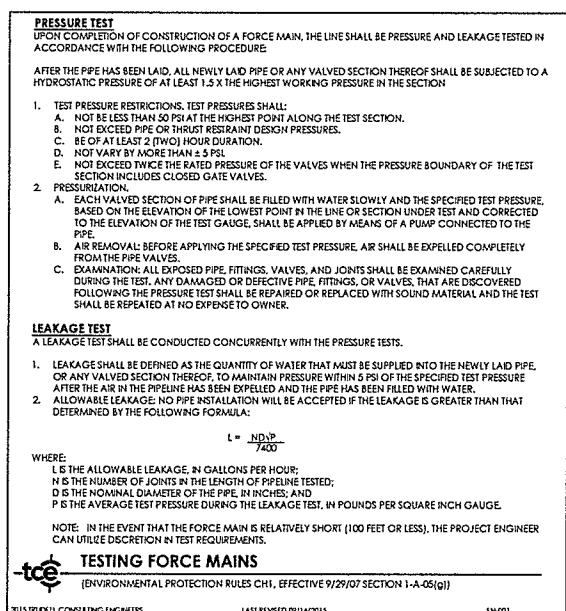
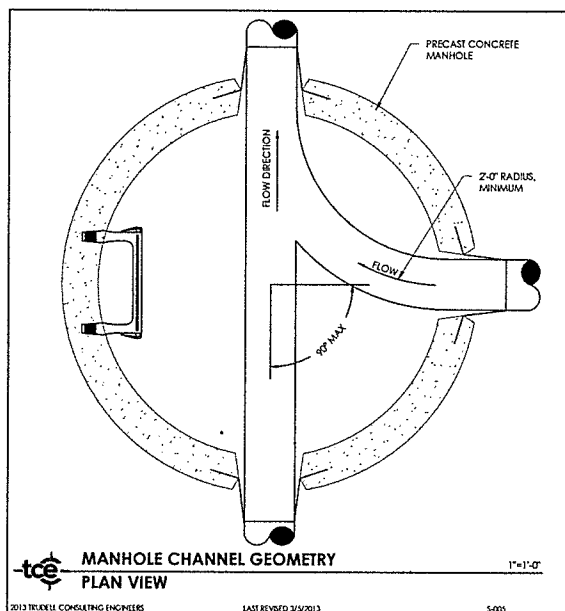
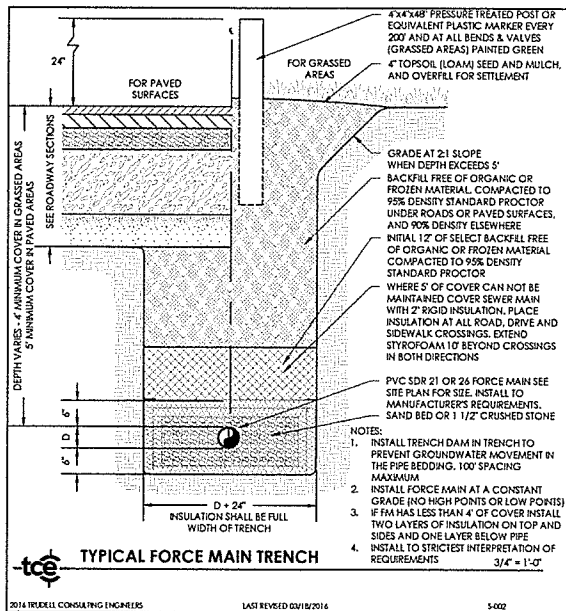
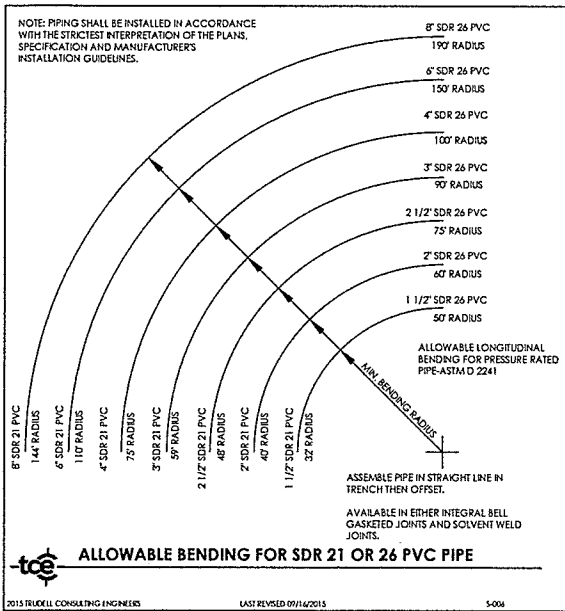
Project Title

Colchester Avenue
Housing
Burlington, Vermont

Sheet Title

Sanitary Sewer

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____



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Revisions
No. Description
△ Stormwater Update

DESIGNED BY
JAN 27 2007

DEPARTMENT
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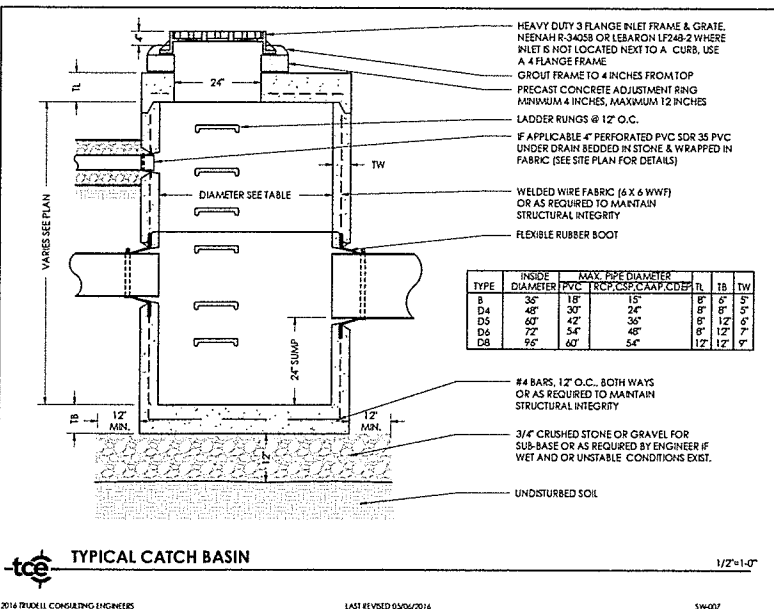
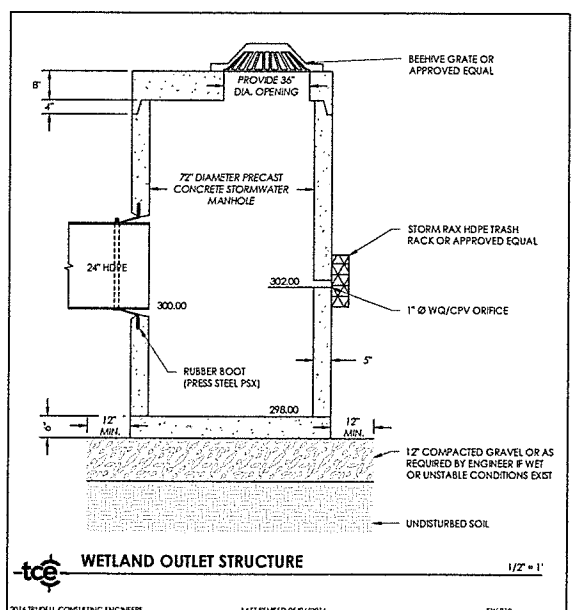
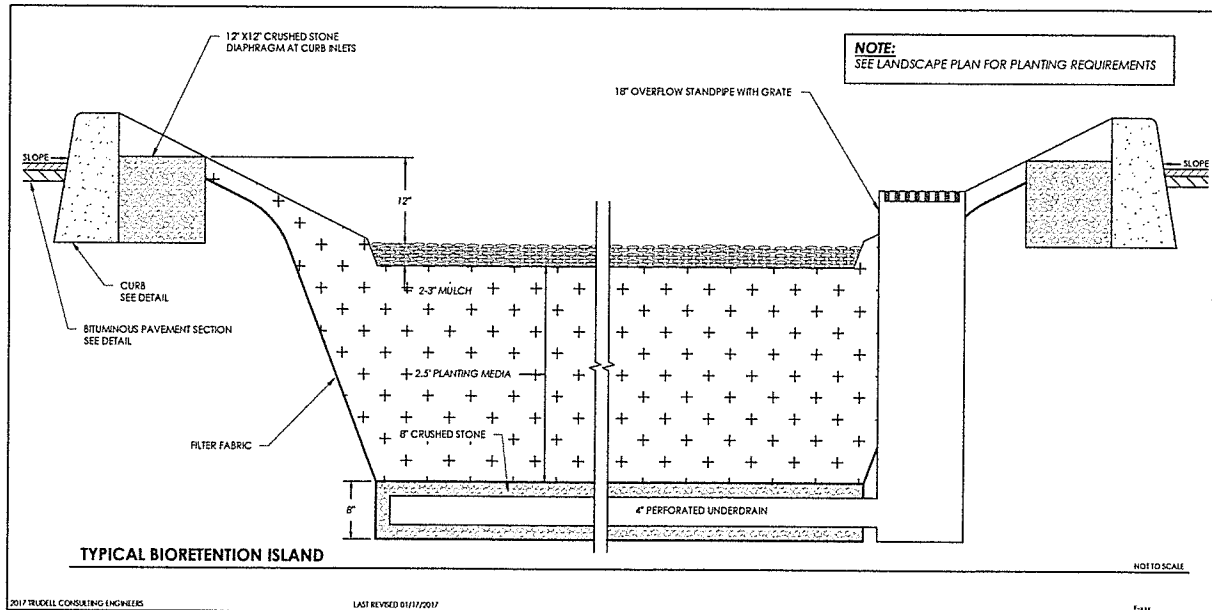
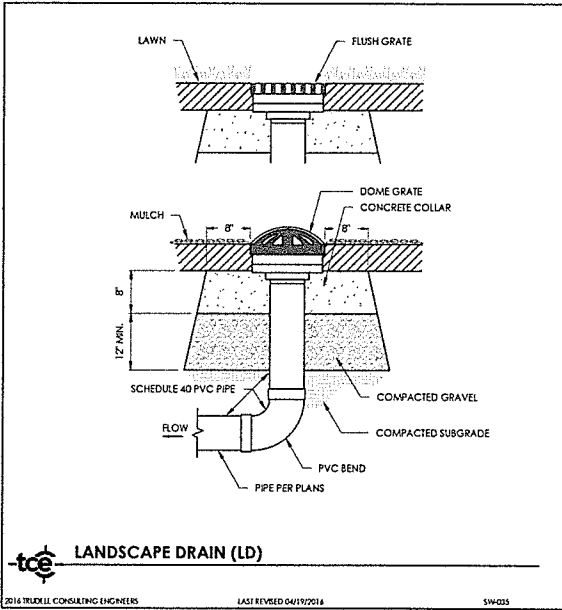
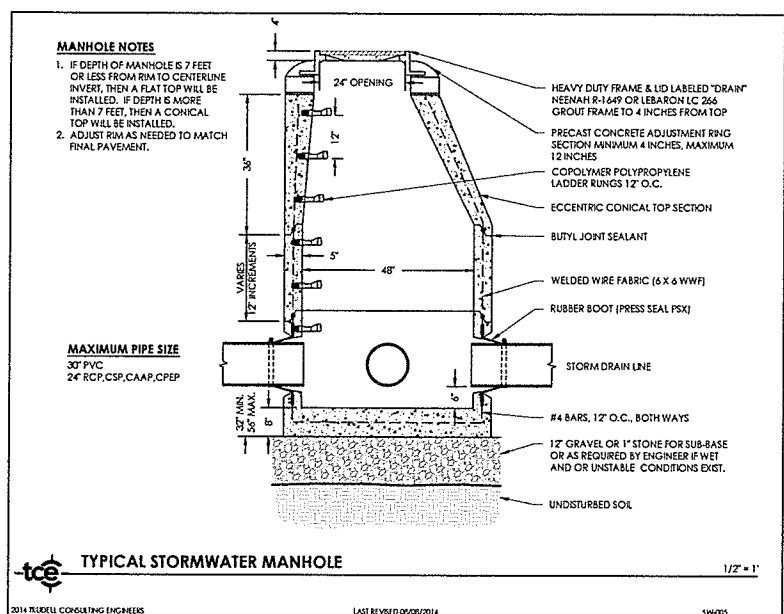
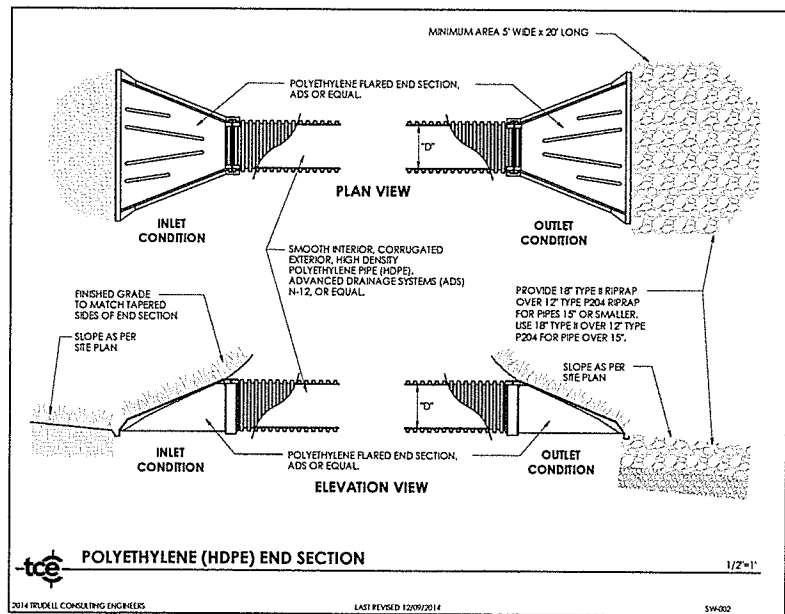
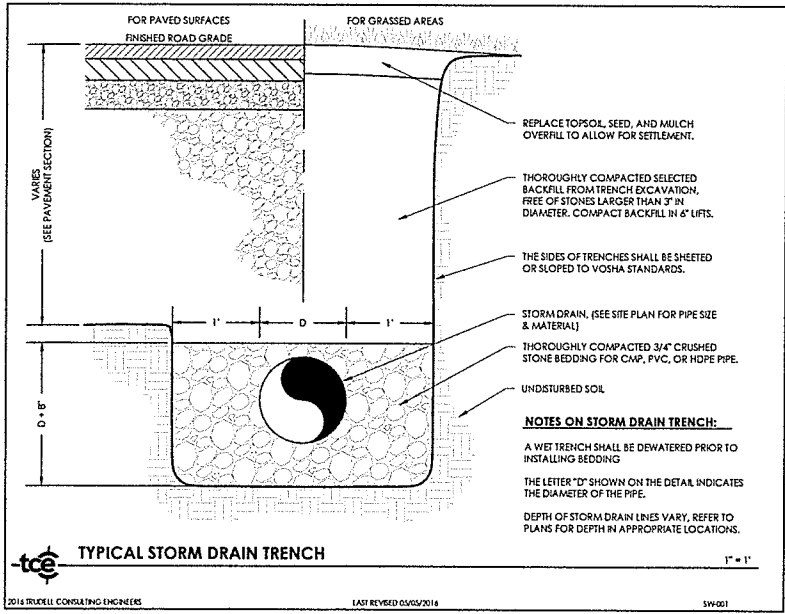
6. It is the User's responsibility to ensure it is the most current revisions. If unsure, please

Project Title
Colchester Av
Housing
Burlington, Vermont

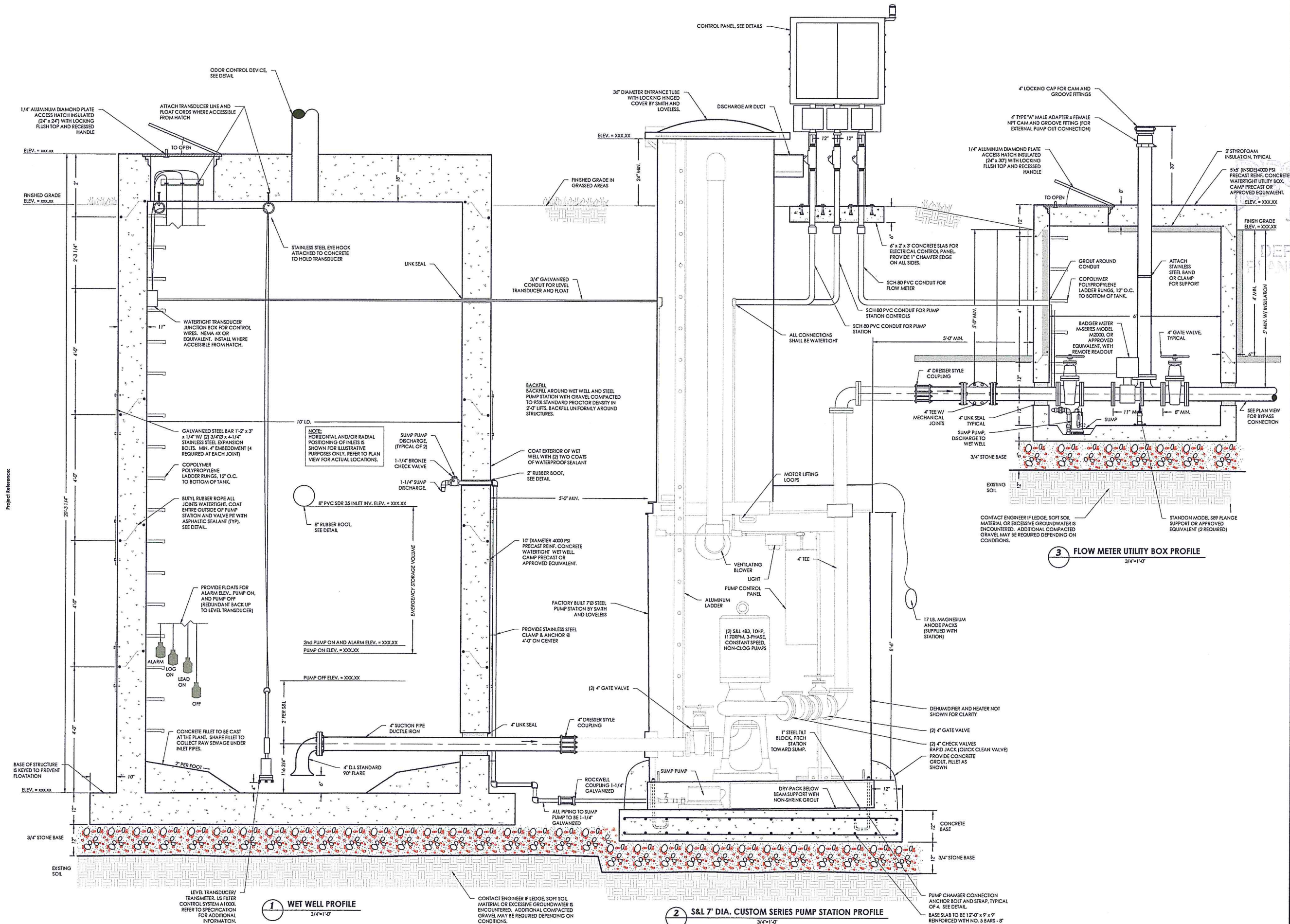
Sheet Title
Sanitary Design

Date: _____
Scale: _____
Project Number: _____
Drawn by: _____
Project Engineer: _____
Approved by: _____
Field Book: _____

STATE OF VERMONT
NOTARY PUBLIC
No. 77708
CIVIL
L. J. L. L.



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Revisions

No.	Description
1	Stormwater Update

TAXES:

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Project Title: **Colchester Av Housing**
Burlington, Vermont

Sheet Title: **Pump Station Detail**

Date: _____

Scale: _____

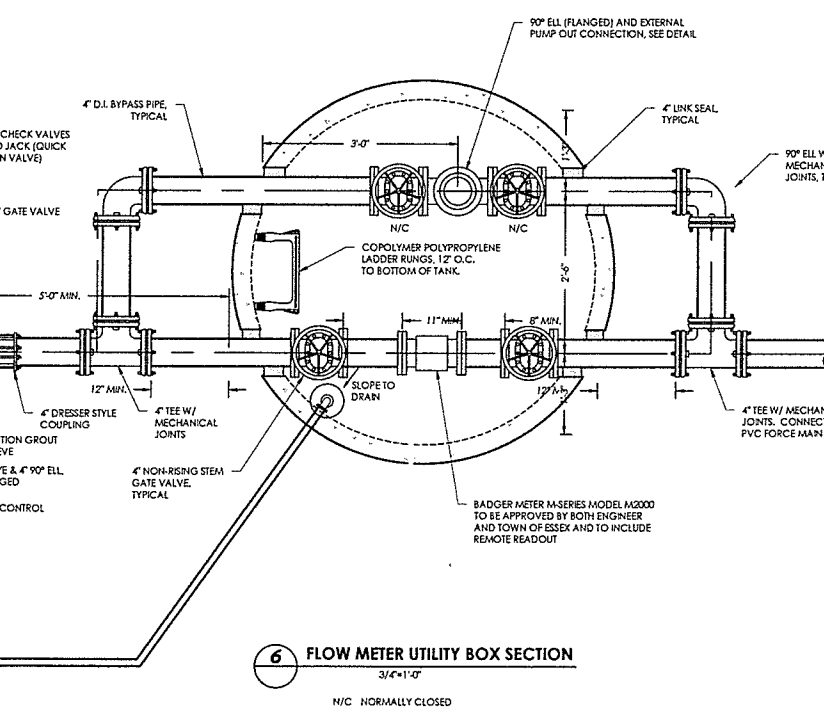
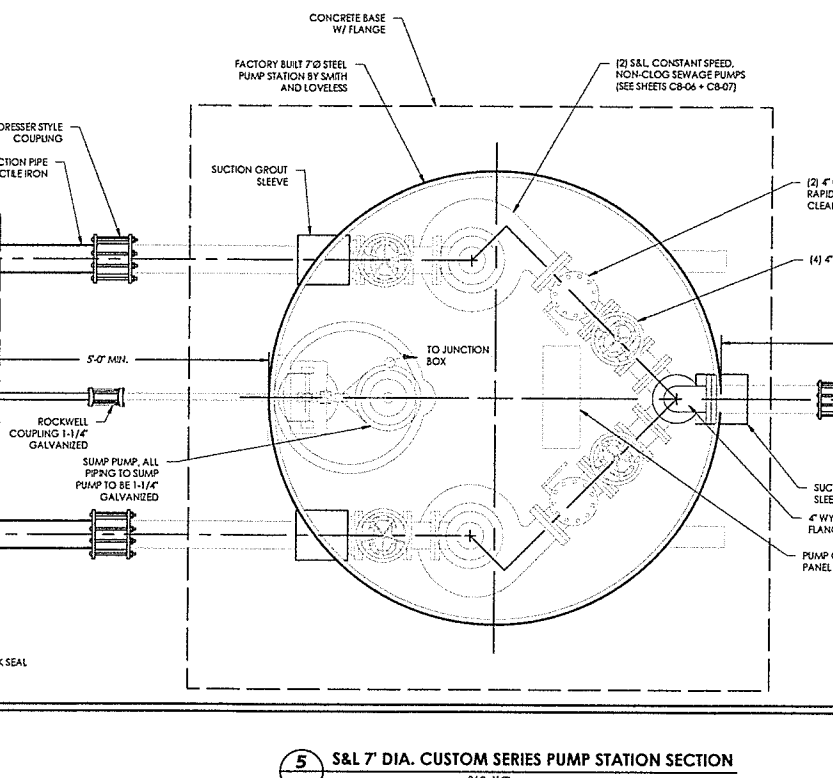
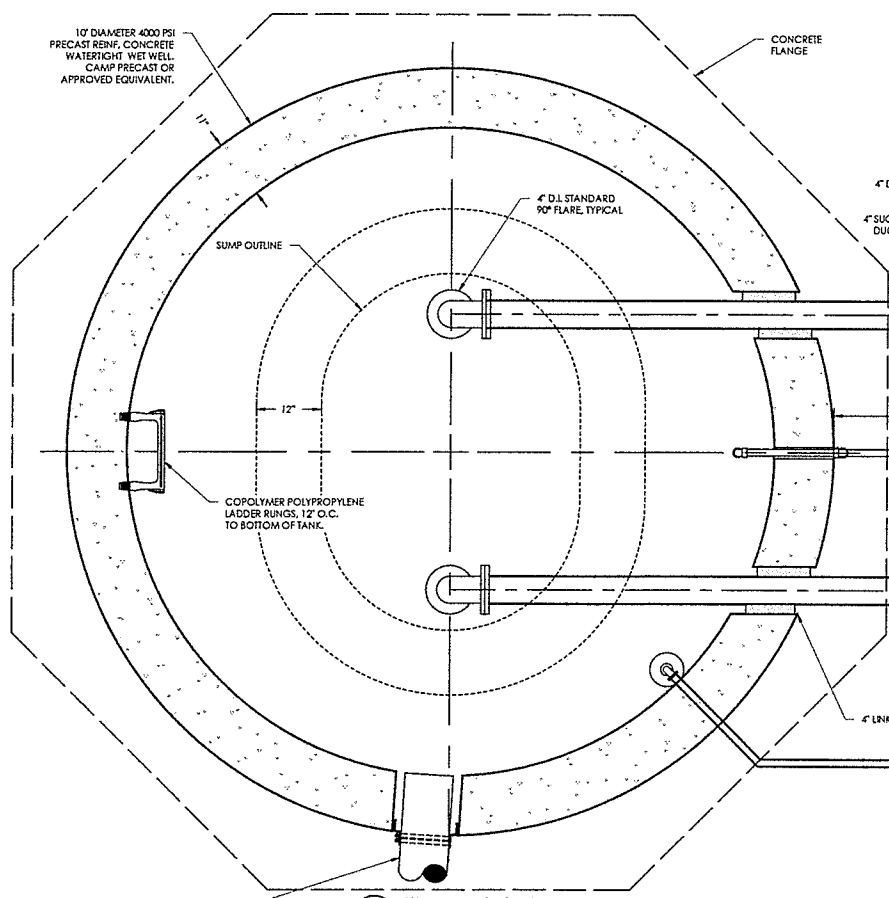
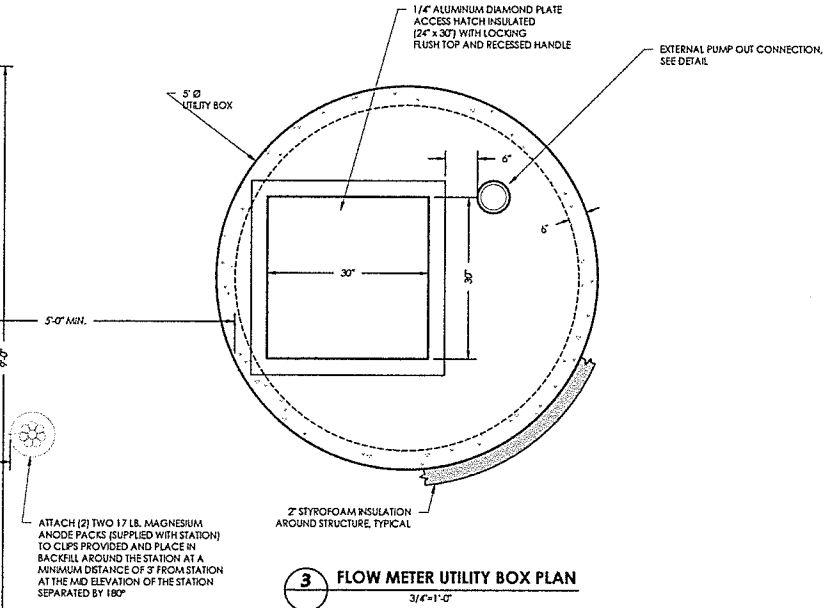
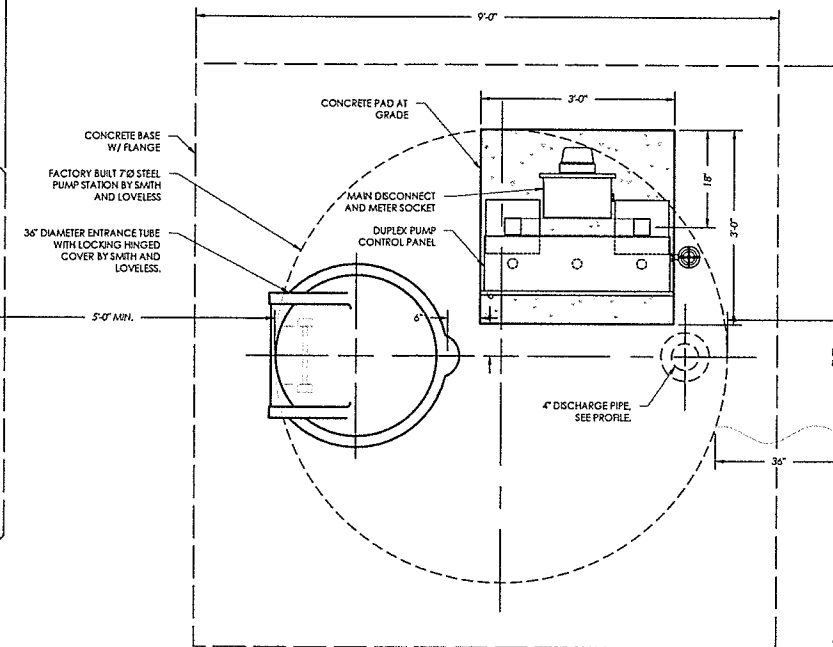
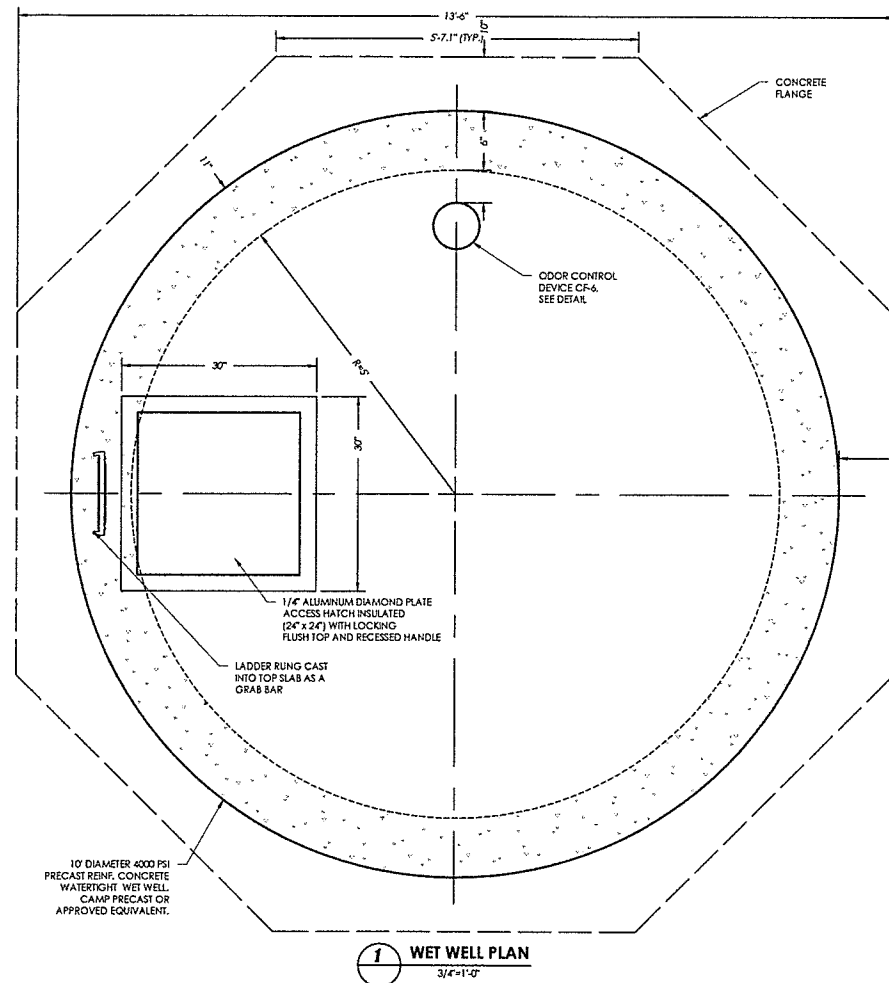
Project Number: _____

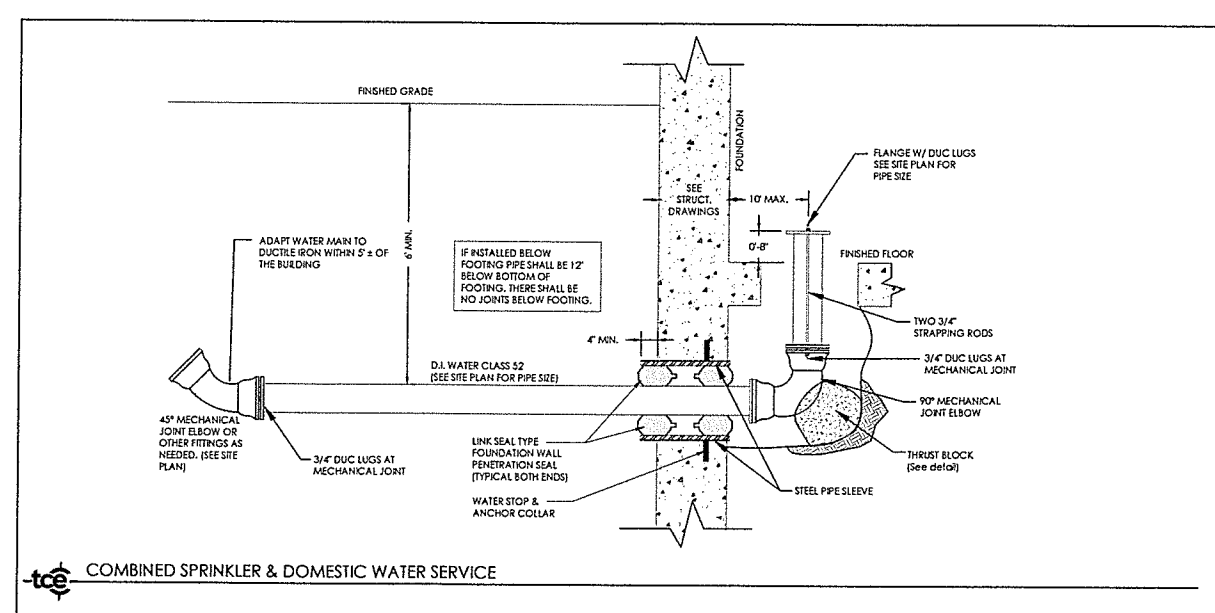
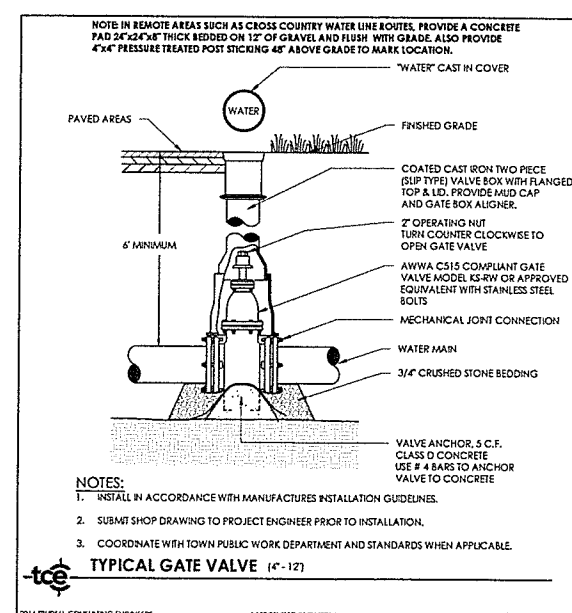
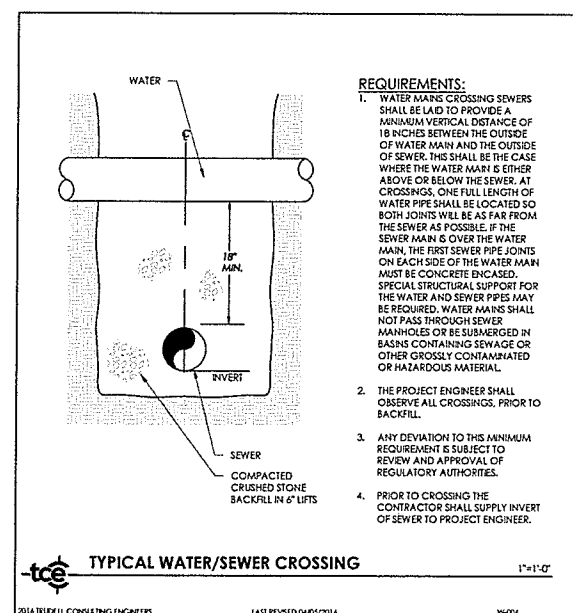
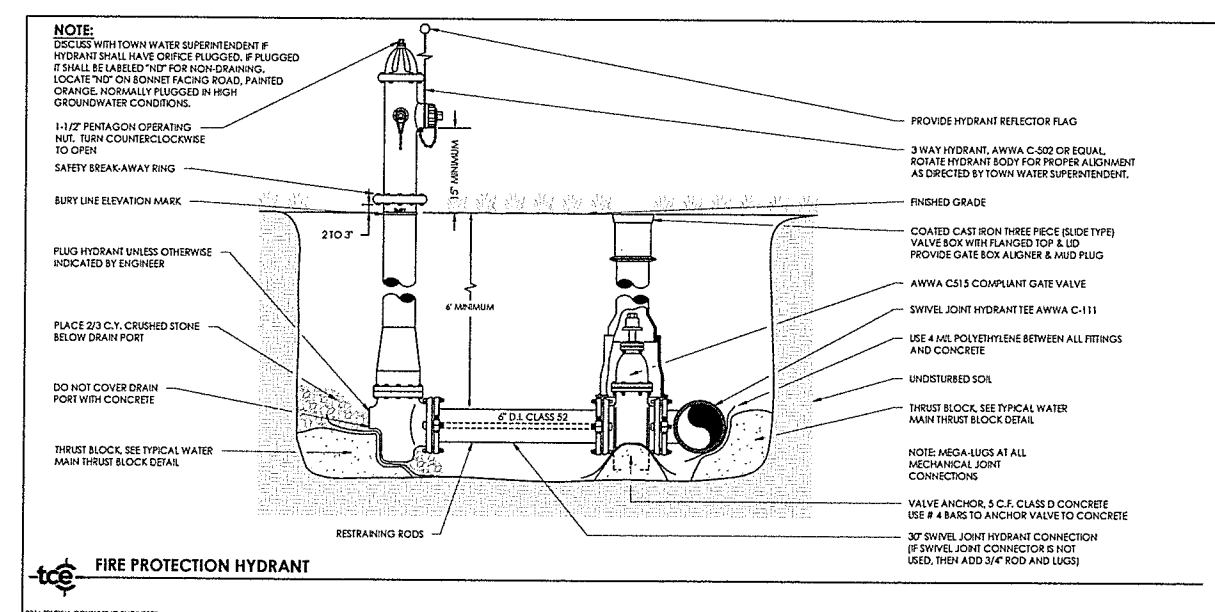
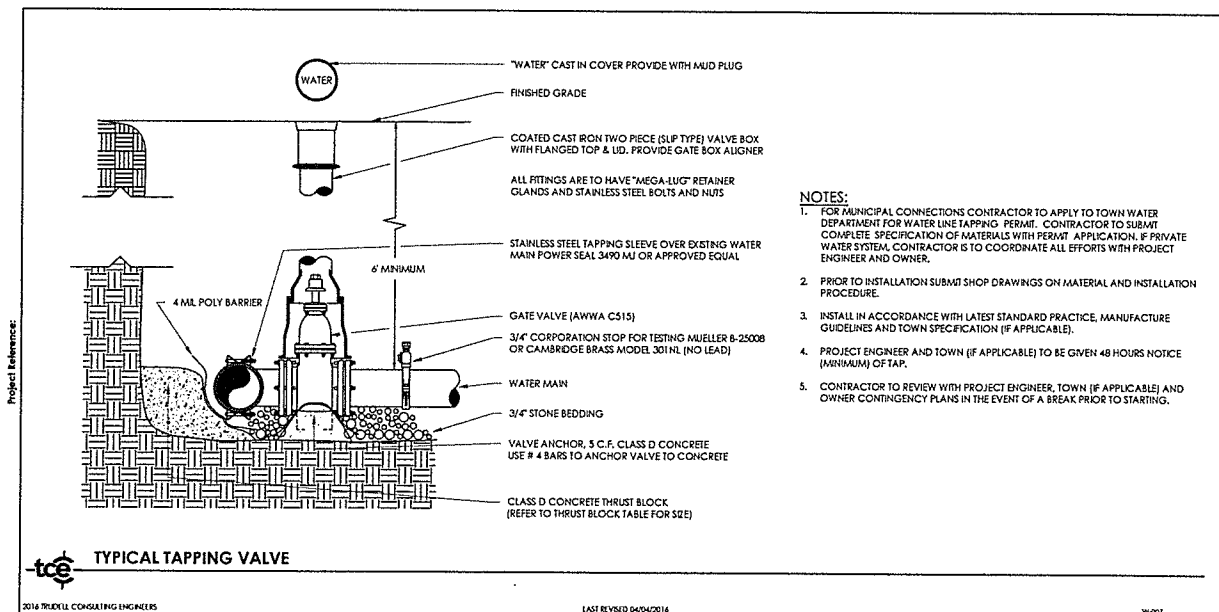
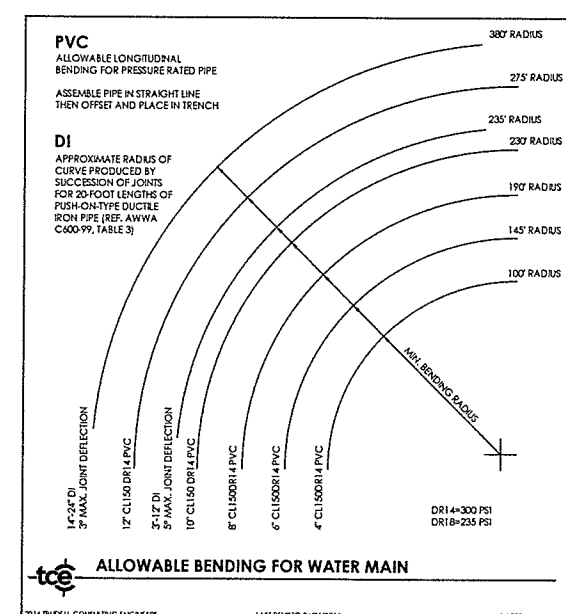
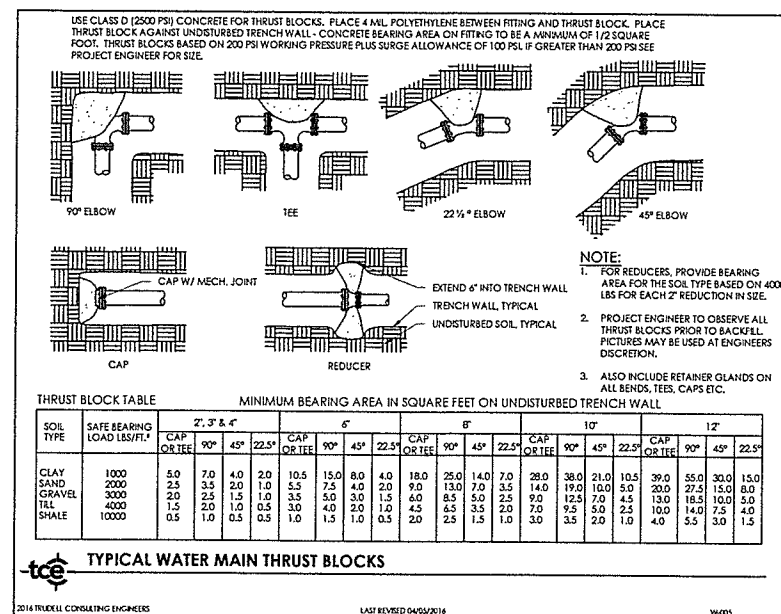
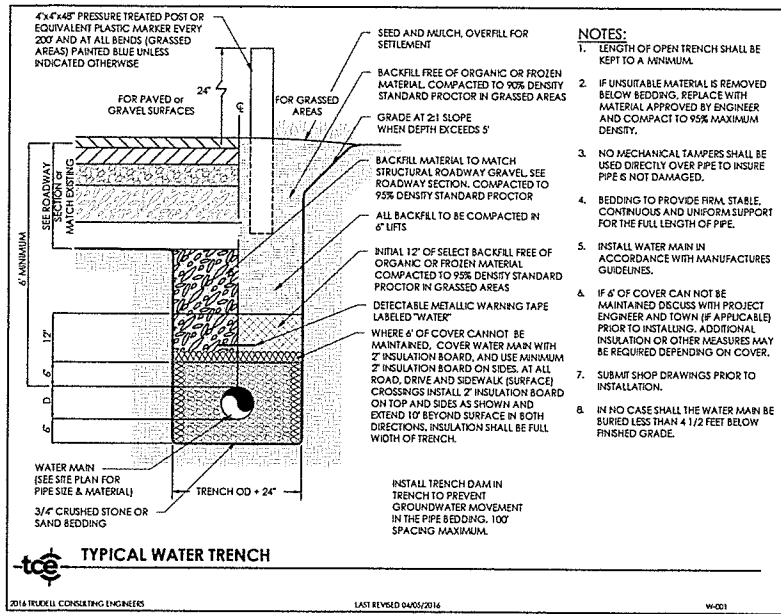
Drawn By: _____

Project Engineer: _____

Approved By: _____

Field Book: _____





CONTRACTOR'S CERTIFICATION REQUIRED

PRIOR TO THE DESIGN ENGINEER CERTIFYING THAT THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH THE PERMITTED DESIGN, THE CONTRACTOR SHALL PROVIDE A CERTIFICATION THAT THE WATER SYSTEM WAS INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS. STATE PERMITS REQUIRE THERE SHALL BE NO DEVIATIONS FROM THE APPROVED PLANS WITHOUT PRIOR APPROVALS. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ALLOWED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. LIKEWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL PHASES OF THE WORK, OR ALL TESTING, HE MAY RELY ON THE CONTRACTOR'S CERTIFICATION AS THE BASIS FOR FINAL CERTIFICATION. THE CONTRACTOR SHALL THEREFORE SIGN AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK:

"I HEREBY CERTIFY THAT I HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WATER SYSTEM(S) ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE PERMIT CONDITIONS."

CONTRACTOR NAME:

AUTHORIZED AGENTS NAME:

SIGNATURE:DATE:

NOTE ANY DEVIATIONS FROM APPROVED PLANS HERE:

NOTE: THE CERTIFICATION AND THE PROJECT ENGINEER'S SUBSEQUENT CERTIFICATION DOES NOT VOID THE CONTRACTOR FROM REPAIR OR REPLACEMENT OF DISCREPANCIES DISCLOSED AT A LATER DATE. THE CONTRACTOR REMAINS RESPONSIBLE, INCLUDING CUSTOMARY GUARANTEE AND WARRANTY PERIODS.

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CONTRACTOR'S CERTIFICATION
FOR POTABLE WATER SYSTEMS

2013 TRUCKELL CONSULTING ENGINEERSLAST REVISED 9/10/2015VH-002

DISINFECTING WATER MAINS AND SYSTEMS

"ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT AND PROJECT ENGINEER (AS DESIGNATED BY OWNER).

A. PRIOR TO BEING PUT INTO SERVICE, WATER MAINS SHALL BE DISINFECTED ACCORDING TO THE LATEST EDITION OF AWWA SPECIFICATION C-651. THE TABLET METHOD IN AWWA STANDARD 651 IS NOT ACCEPTABLE.

B. THE NEW LINE SHALL BE FLUSHED AT A VELOCITY OF NOT LESS THAN 2.5 FEET PER SECOND (OPEN 2-1/2 INCH HYDRANT CONNECTION). FLUSH FOR A PERIOD DETERMINED BY THE PROJECT ENGINEER FOR THE LENGTH OF MAIN TO BE DISINFECTED.

C. CHLORINATION SHALL BE ACCOMPLISHED BY INTRODUCING A SODIUM HYPOCHLORITE SOLUTION FOR A RESULTANT CONCENTRATION OF GREATER THAN 25 PARTS PER MILLION OF FREE CHLORINE.

D. USING A NOZZLE AT EACH END HYDRANT, CONTROL THE RATE OF FLOW INTO THE NEW MAIN AND PROPORTIONALLY FEED THE SODIUM HYPOCHLORITE SOLUTION INTO THE MAIN. AFTER THE SOLUTION HAS REACHED ALL POINTS IN THE SYSTEM, CLOSE THE VALVE SUPPLYING WATER FROM THE EXISTING MAIN AND THE END HYDRANTS. MAINTAIN THE HEAVILY CHLORINATED WATER IN THE MAIN FOR 24 HOURS DURING WHICH TIME ALL MAIN LINE VALVES SHOULD BE OPERATED. AFTER 24 HOURS THE MINIMUM CHLORINE RESIDUAL MUST BE AT LEAST 10 PARTS PER MILLION.

E. FLUSH HEAVILY CHLORINATED WATER FROM THE LINE AND REFILL THE LINE FOR SERVICE (USE CHLORINE DIFFUSER). TAKE AND SUBMIT TWO BACTERIOLOGICAL SAMPLES (TAKEN 24 HOURS APART) OF THE WATER TO THE STATE OF VERMONT OR A STATE APPROVED TESTING LABORATORY. IF THE RESULTS ARE UNSATISFACTORY, THE DISINFECTION PROCEDURE WILL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.

F. FINISHED WATER STORAGE STRUCTURES SHALL BE DISINFECTED IF APPLICABLE. IN ACCORDANCE WITH CURRENT AWWA STANDARD C-652, TWO OR MORE SUCCESSIVE SETS OF SAMPLES, TAKEN AT 24 HOUR INTERVALS, SHALL INDICATE MICROBIOLOGICALLY SATISFACTORY WATER BEFORE THE FACILITY IS PLACED INTO OPERATION.

G. DISPOSAL OF HEAVILY CHLORINATED WATER FROM THE DISINFECTION PROCESS SHALL BE DE-CHLORINATED OR OTHERWISE HANDLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VERMONT AGENCY OF NATURAL RESOURCES.

H. THE DISINFECTION PROCEDURE (AWWA CHLORINATION METHOD 3, SECTION 4.3 C-652) WHICH ALLOWS USE OF THE CHLORINATED WATER YIELD IN THE STORAGE TANK FOR DISINFECTION PURPOSES IS NOT RECOMMENDED. WHEN THAT PROCEDURE IS USED, IT IS REQUIRED THAT THE INITIAL HEAVILY CHLORINATED WATER BE PROPERLY DISPOSED IN ORDER TO PREVENT RELEASE OF WATER WHICH MAY CONTAIN VARIOUS CHLORINATED ORGANIC COMPOUNDS INTO THE DISTRIBUTION SYSTEM.

tce

DISINFECTION OF WATER SYSTEM

2013 TRUCKELL CONSULTING ENGINEERSLAST REVISED 7/12/2013VH-003

SPRINKLER WATER SERVICE NOTES

1. SCOPE OF WORK

Install new 4 inch underground sprinkler water service connection. Work begins 5 feet from building exterior and ends with a flanged adapter connection 12 inches inside building. Flange connection to be restrained from movement by ridding back to mechanical joint on a 4" X 90° elbow. 90° elbow to be restrained from movement by ridding back to mechanical joint on a 4 inch 45° elbow. Foundation penetration shall be sealed on the interior of building with non-shrink grout and on the exterior of the building with 4000 psi ready mix concrete to provide waterproofing. See Civil drawings and specifications for connection outside building. See Mechanical drawings and specifications for connection inside building.

2. CODES AND REGULATIONS

The equipment and installation shall be in conformity with all city, state, and federal codes, laws, and regulations as well as National Fire Protection Association Standards, as follows:

A. National Fire Protection Association Standards.
NFPA 13-2002, Installation of Sprinkler Systems.
NFPA 24-2002, Installation of Private Fire Service Mains and Their Appurtenances.

B. Boca Code (BOCA) 1999.

C. Local building Codes.

The system design and equipment furnished shall be in accordance with the specifications herein and the applicable code requirements of municipality. The Contractor shall be held strictly responsible for any violations of codes, laws, or regulations and shall make all changes in work to conform with the above without cost to the Owner.

3. PIPING

All underground pipe and fittings shall be listed for fire Protection service and comply with AWWA standards. Steel piping shall not be used. Piping shall be ductile iron class 52.

4. JOINTS

Joints shall be of an approved type.

The following apply to joints used with the various types of pipe:
AWWA C111, Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
AWWA C115, Flanged Ductile Iron Pipe with Threaded Flanges.

5. FITTINGS

Fittings shall be of an approved type with joints and pressure class ratings compatible with the pipe used.

Fittings shall be ductile iron with joints to specifications of the manufacturer of the particular type of pipe. Sprinkler lead-in shall terminate with flange adapter connection. The following standards apply to fittings:
AWWA C110, Ductile Iron and Gray Iron Fittings, 3-in. Through 48-in., for Water and Other Liquids.

6. RESTRAINING RODS

Restraining rods shall be 3/4 inch. Threaded sections of rods shall not be formed or bent. Rods shall be used in pairs. Rods shall be steel. When more than one section of rod needs to be used, rods shall be joined by approved rod couplings of malleable iron in accordance with ASTM A 197.

7. CORROSION RESISTANCE OF RESTRAINTS

After installation, rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly coated with a bituminous or other acceptable corrosion-retarding material.

8. FLUSHING

See Engineering drawings for additional flushing requirements.

Lead-in connections to system risers shall be flushed thoroughly before connection is made to system piping in order to remove foreign material that might have entered the main during the course of installation or that might have been present in existing pipe. The minimum rate of flow shall be not less than the water demand rate of the system, which is determined by the system design, or not less than that necessary to provide a velocity of 10 fpm whichever is greater. For all systems the flushing operations shall be continued for sufficient time to ensure thorough cleaning. When planning the flushing operations consideration shall be given to disposal of wastewater from the test. Adequate final restraint shall be provided during flushing and testing.

9. TESTING

See Engineering drawings for additional testing requirements.

a. The installing company shall furnish a Contractor's Material and Test Certificate for Underground Piping countersigned by the property owner or representative prior to requesting final approval from the authority having jurisdiction.

b. The trench shall be backfilled between joints before testing to prevent movement of pipe.

c. All new lead-in connections shall be tested hydrostatically at not less than 200 psi pressure for two hours, or at 50 psi in excess of the maximum static pressure when the maximum static pressure is in excess of 150 psi.

d. The amount of leakage in buried piping shall be measured at the specified test pressure by pumping from a calibrated container. For new pipe, the amount of leakage at the joints shall not exceed two quarts per hour per 100 gaskets or joints irrespective of pipe diameter. See Civil Engineering drawings for additional flushing and testing requirements.

e. The amount of allowable leakage specified above shall be permitted to be increased by one fluid ounce per inch valve diameter per hour for each metal seated valve isolating the test section.

f. Tests shall be made by the contractor in the presence of the authority having jurisdiction or the representative of the owner.

g. Additional, corrosive chemicals such as sodium silicate, boric, or other chemicals shall not be used while hydrostatically testing systems or for stopping leaks.

h. All control valves shall be fully closed and opened under system water pressure to ensure proper operation.

ACKNOWLEDGEMENT:

This information was supplied by the Architect. We have reviewed this and made minor amendments on the note and specification to customize it for Jay Peak Resort. The purpose of this plan is to provide the contractor with a detail and specification that brings the water main into the building.

tce

COMBINED SPRINKLER & DOMESTIC WATER SERVICE NOTES

2013 TRUCKELL CONSULTING ENGINEERSLAST REVISED 11/01/2013VH-025b

TESTING WATER MAINS

"ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE TOWN ENGINEER OR PUBLIC WORKS DEPARTMENT IF APPLICABLE OR PRIVATE OWNER/OPERATOR AND PROJECT ENGINEER (AS DESIGNATED BY OWNERS). CONTRACTOR SHALL PRE-TEST SUCCESSFULLY PRIOR TO CONTACTING PROJECT ENGINEER. THE PRE-TEST IS TO ENSURE PASSING RESULTS PRIOR TO OFFICIAL TESTING OBSERVATION.

A. AFTER THE PIPE HAS BEEN LAID AND 7 DAYS AFTER THE CONCRETE THRUST BLOCKS AND ANCHORS HAVE BEEN PLACED, THE WATER MAIN SHALL BE HYDROSTATICALLY TESTED ACCORDING TO THE LATEST EDITION OF THE AWWA SPECIFICATION C-400.

B. CONTRACTOR SHALL SUPPLY ALL NECESSARY APPARATUS TO PERFORM THE HYDROSTATIC TEST.

C. TEST PRESSURE SHALL BE 200 POUNDS PER SQUARE INCH OR 1.5 TIMES THE WORKING PRESSURE MEASURED AT OR NEAR THE HIGH POINT IN THE SYSTEM, WHICHEVER IS GREATER. TEST SHALL BE A MINIMUM OF 2 HOURS IN DURATION. TESTING ALLOWANCE SHALL BE DEFINED AS THE QUANTITY OF MAKEUP WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI (34.5 kPa) OF THE SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FULLED WITH WATER AND THE AIR HAS BEEN EXPELLED. TESTING ALLOWANCE SHALL NOT BE MEASURED BY A DROP IN PRESSURE IN A TEST SECTION OVER A PERIOD OF TIME. REFER TO PIPE MANUFACTURERS RECOMMENDED TESTING PROCEDURE INCLUDING PIPE STABILIZATION PRIOR TO START OF TEST.

D. THE PROJECT ENGINEER AND THE MUNICIPALITY SHALL BE CONTACTED 48 HOURS PRIOR TO TESTING.

E. ALL VALVES SHOULD BE VERIFIED AS BEING OPEN OR CLOSED AS APPROPRIATE FOR THE PORTION OF THE WATER MAIN BEING TESTED.

F. ALLOWABLE LEAKAGE SHALL BE COMPUTED BY THE FORMULA: $L = S \times D \times \pi^2 / 748,000$ WHERE L IS LEAKAGE IN GALLONS PER HOUR, S IS THE LENGTH OF PIPE TESTED IN FEET, D IS THE NOMINAL DIAMETER OF THE PIPE IN INCHES AND P IS THE AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH DURING THE TEST.

G. REPLACE AND RETEST ANY WORK FOUND TO BE DEFECTIVE AT NO EXPENSE TO OWNER.

TESTING HYDRANTS (IF APPLICABLE)

A. AFTER TESTING THE WATER MAINS, OPEN THE HYDRANT FULLY AND FILL WITH WATER. TO PREVENT CAPS FROM BEING BLOWN OFF, VENT AIR FROM ONE OF THE CAPS WHILE IT IS BEING FILLED. WHEN ALL THE AIR HAS ESCAPED, TIGHTEN THE CAP.

B. ALLOW THE PRESSURE TO BUILD UP TO MAIN LINE PRESSURE AND CHECK FOR LEAKAGE AT FLANGES, NOZZLES AND THE OPERATING STEM. RECORD STATIC PRESSURE IN PSI.

C. FLOW HYDRANT AND RECORD FLOW RATE IN GPM AND RESIDUAL PRESSURE IN PSI.

D. CLOSE THE HYDRANT, REMOVE ONE NOZZLE CAP AND PLACE THE PALM OF YOUR HAND OVER THE OPENING. DRAINAGE SHOULD CREATE A NOTICEABLE SUCTION. IF NO SUCTION OR HYDRANT DOESN'T HAVE DRAIN, MANUALLY PUMP WATER OUT OF BARREL.

E. AT PROJECT ENGINEER DISCRETION ASSIST WITH FLOW TESTING. ENGINEER TO RECORD STATIC AND RESIDUAL PRESSURE AS WELL AS FLOW RATE.

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TESTING WATER MAINS AND HYDRANTS

2016 TRUCKELL CONSULTING ENGINEERSLAST REVISED 01/21/2016VH-001

Project Reference:

tce

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Revisions

No.	Description
1	Stormwater Update

002548

JAN 27 2016

DEPARTMENT OF

CONSTRUCTION

TAXID:

Use of these Drawings:
1. Unless otherwise noted, these Drawings are preliminary planning, coordination with utilities, and/or approval from the regulatory agencies. They are not intended as construction documents as such or marked approved by a regulatory agency.

2. By use of these drawings for construction, the Owner represents that they have reviewed and accepted the drawings, obtained all necessary permits and have met with all applicable parties, including but not limited to, the Engineer, to insure these plans are properly coordinated. The Owner/contractor agreement, building plans, private and public utilities, and all other utility connections shown on these drawings.

3. Owner and Architect, are responsible for location of buildings shown, including a minimum five (5) feet around any building and all utility connections shown on these drawings.

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5. These Drawings are specific to the Project location. As instruments of service, the copies thereof, furnished by TCE are its property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be corrected by TCE immediately.

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STATE OF VERMONT
JAN 27 2016
No. 7770a
CIVIL
LICENSED PROFESSIONAL ENGINEER

Project Title

Colchester Avenue Housing
Burlington, Vermont

Sheet Title

Water Detention

Notes

Date: _____

Scale: _____

Project Number: _____

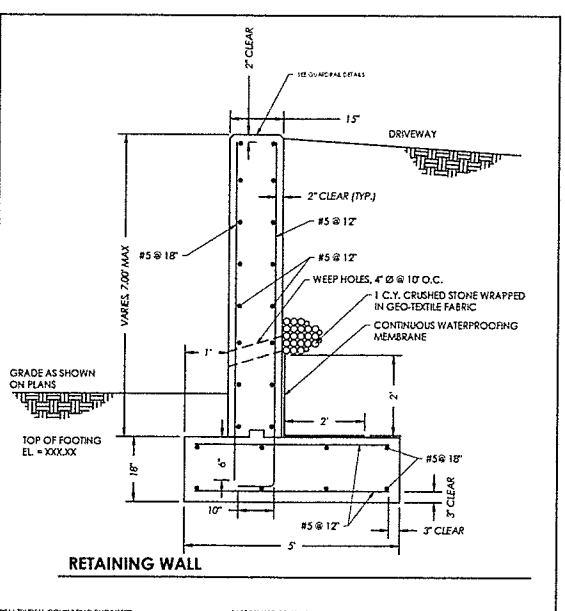
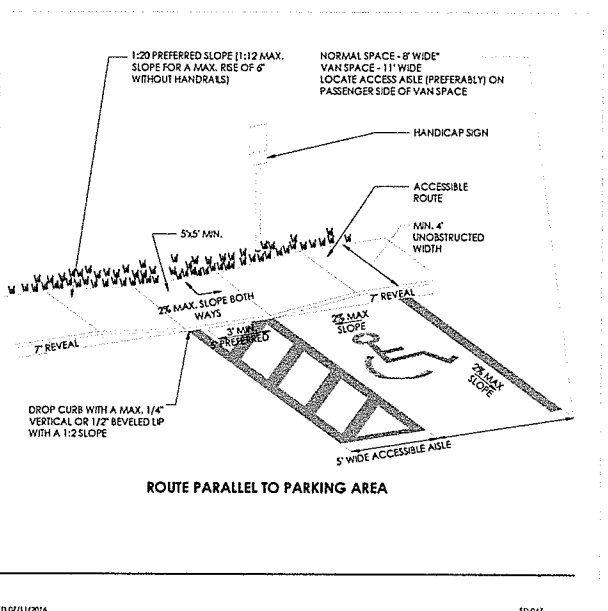
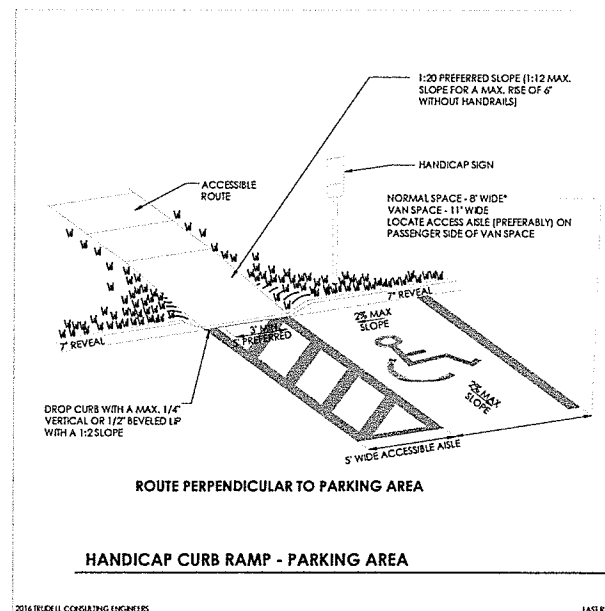
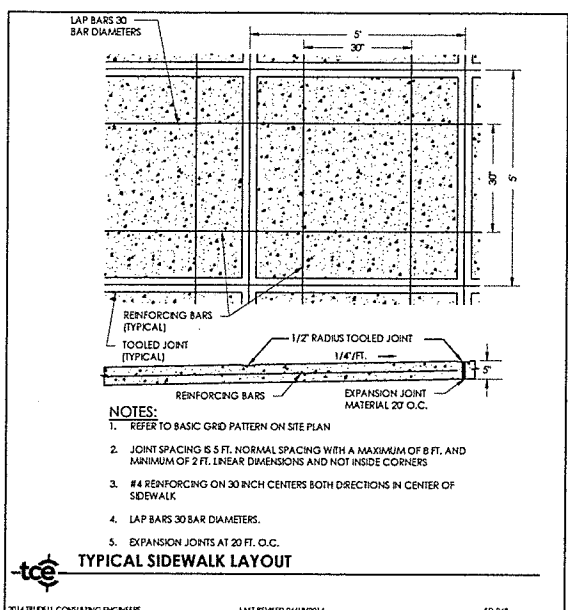
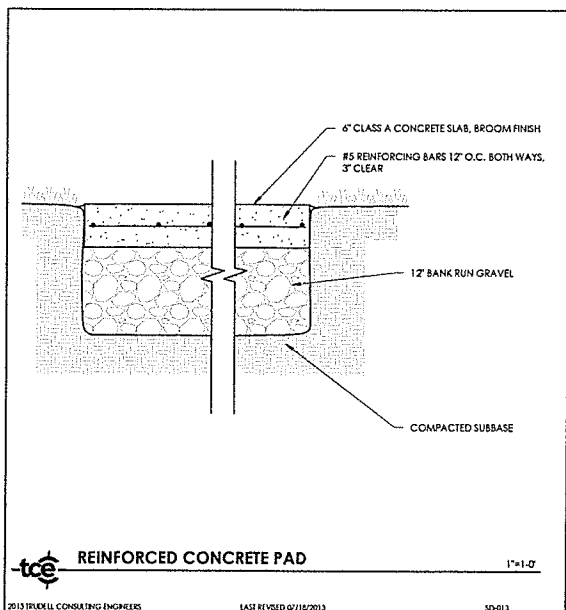
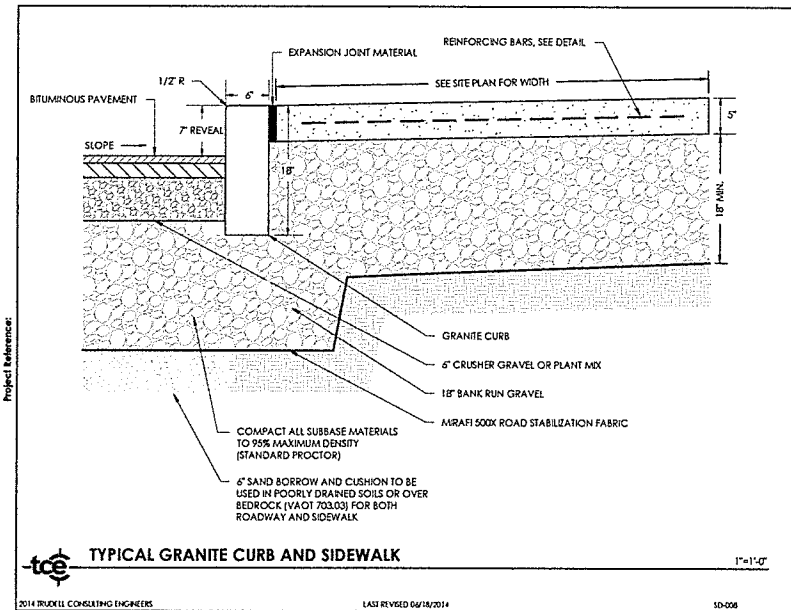
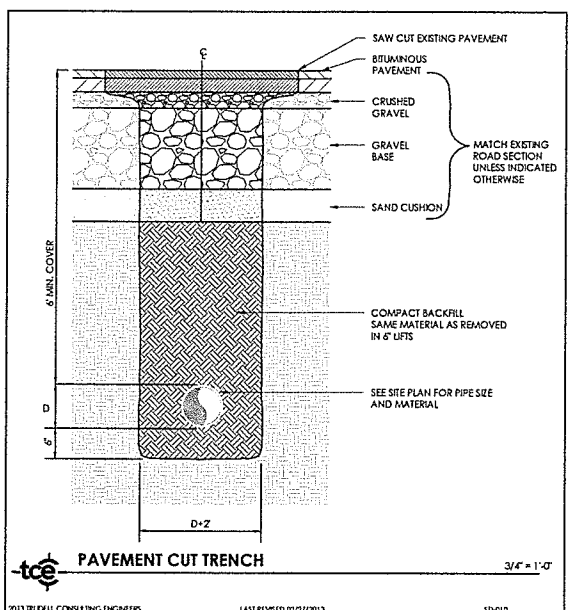
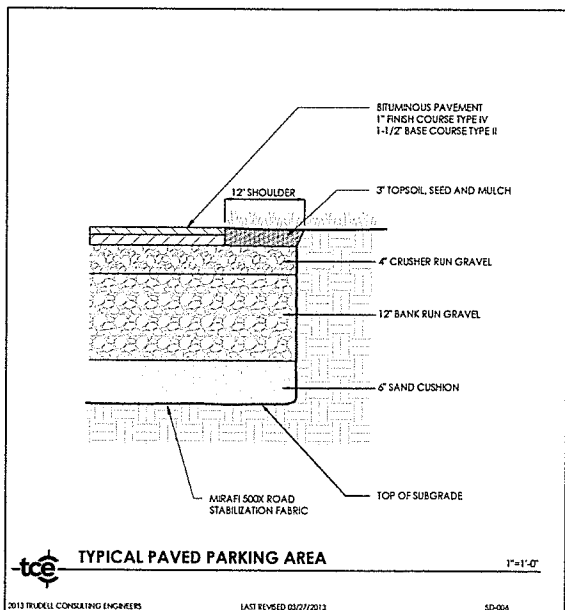
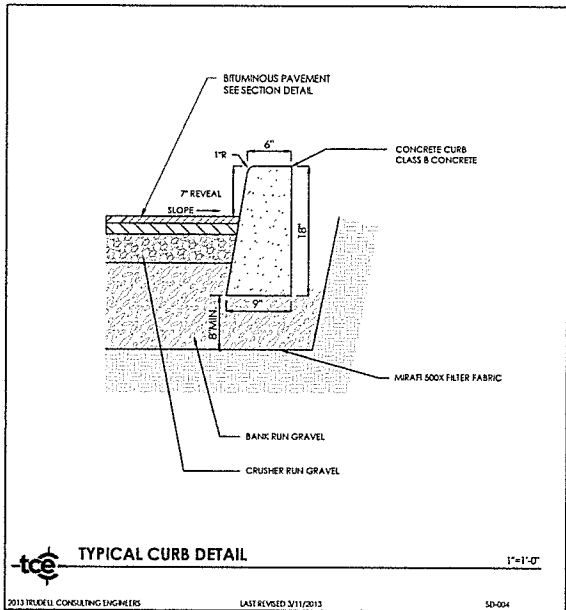
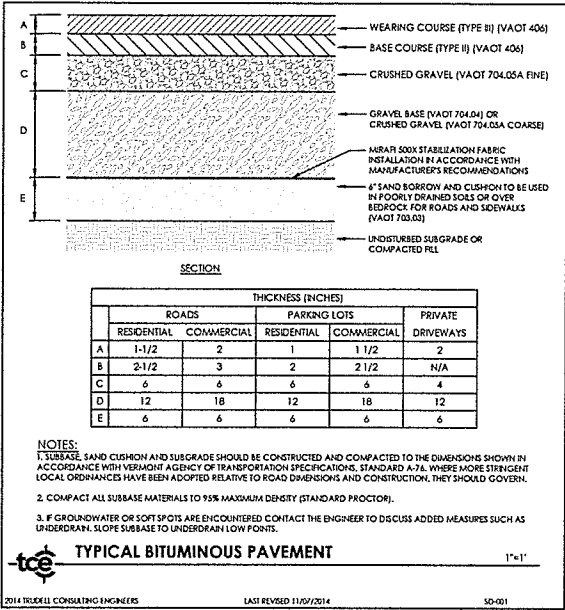
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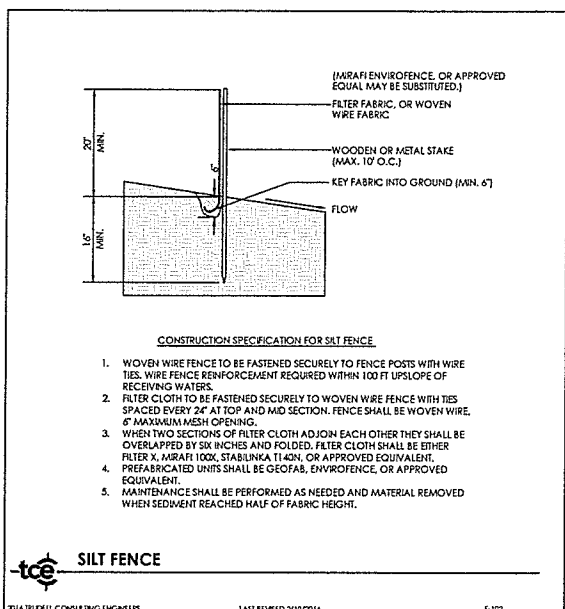
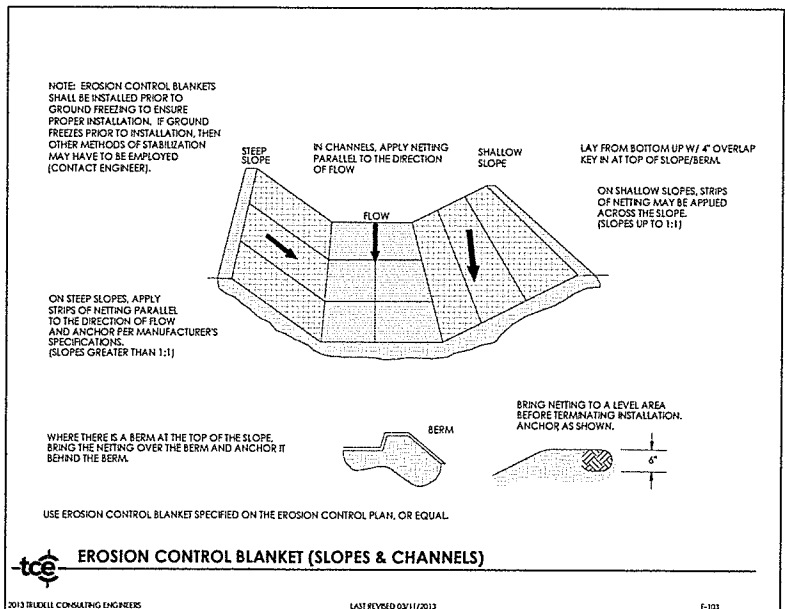
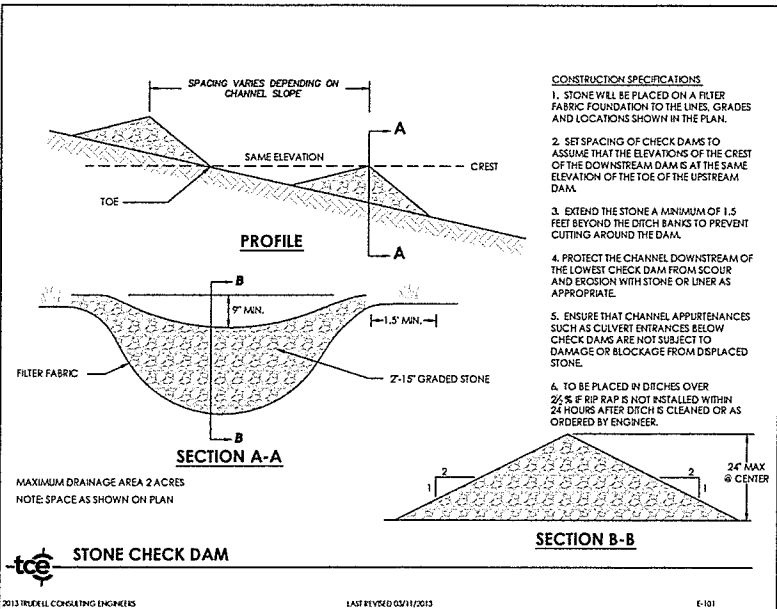
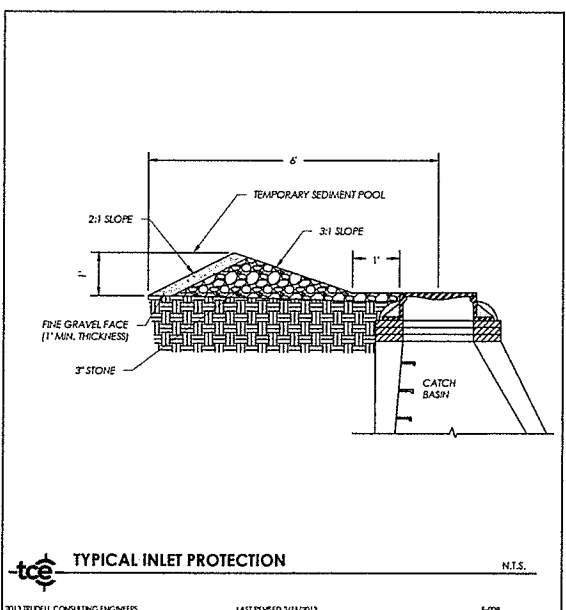
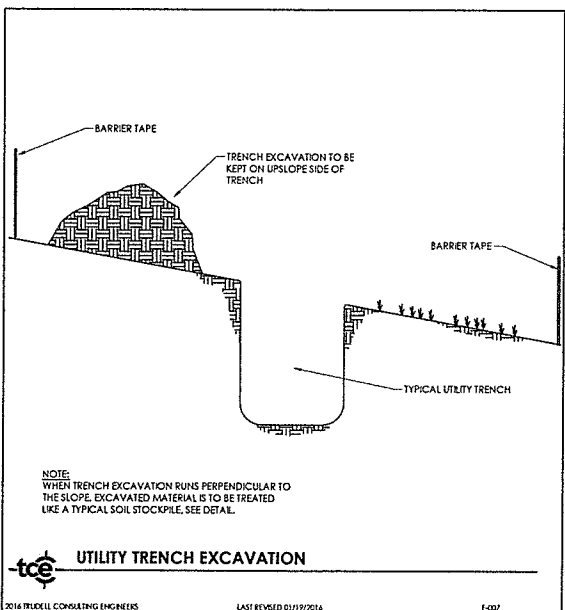
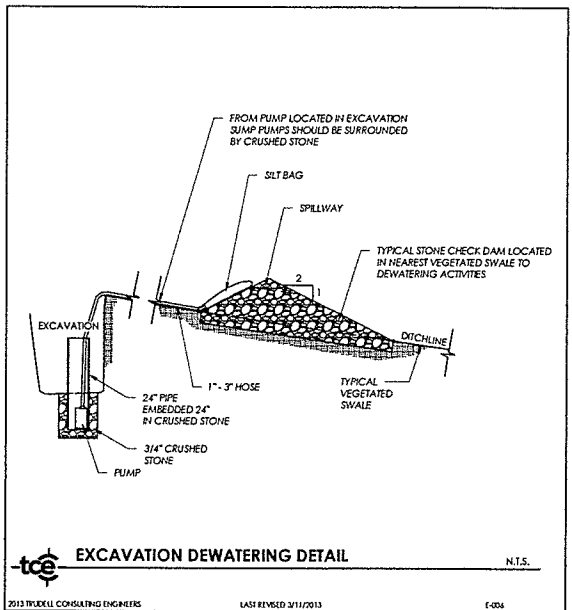
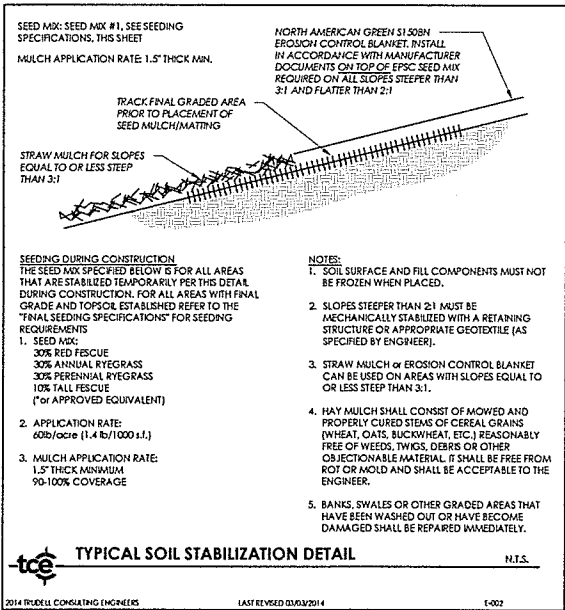
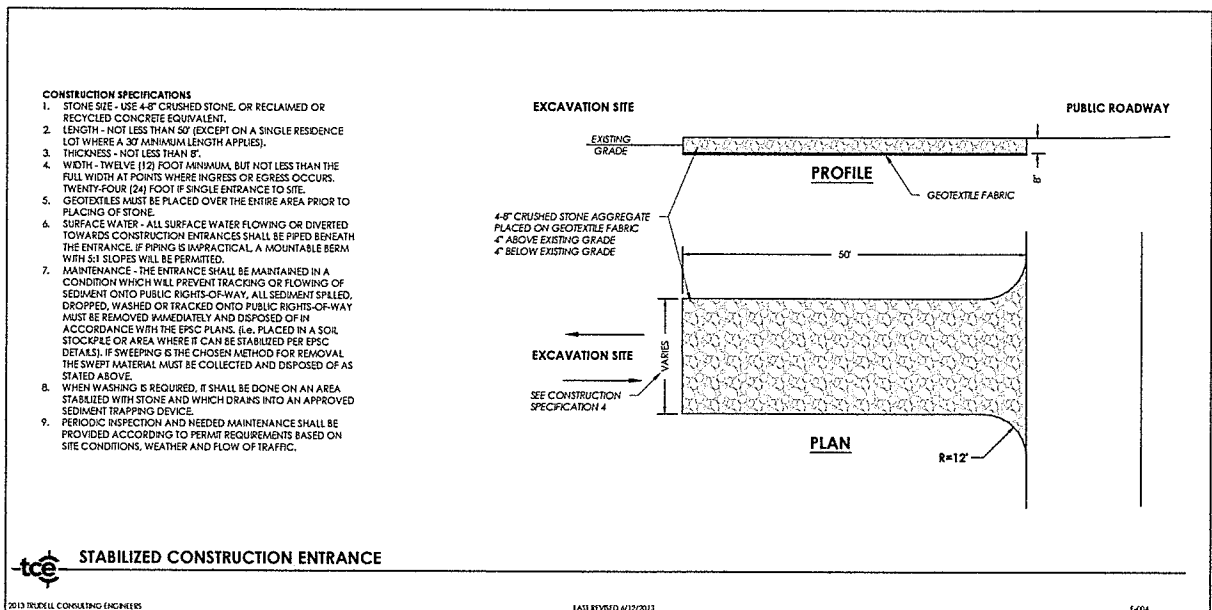
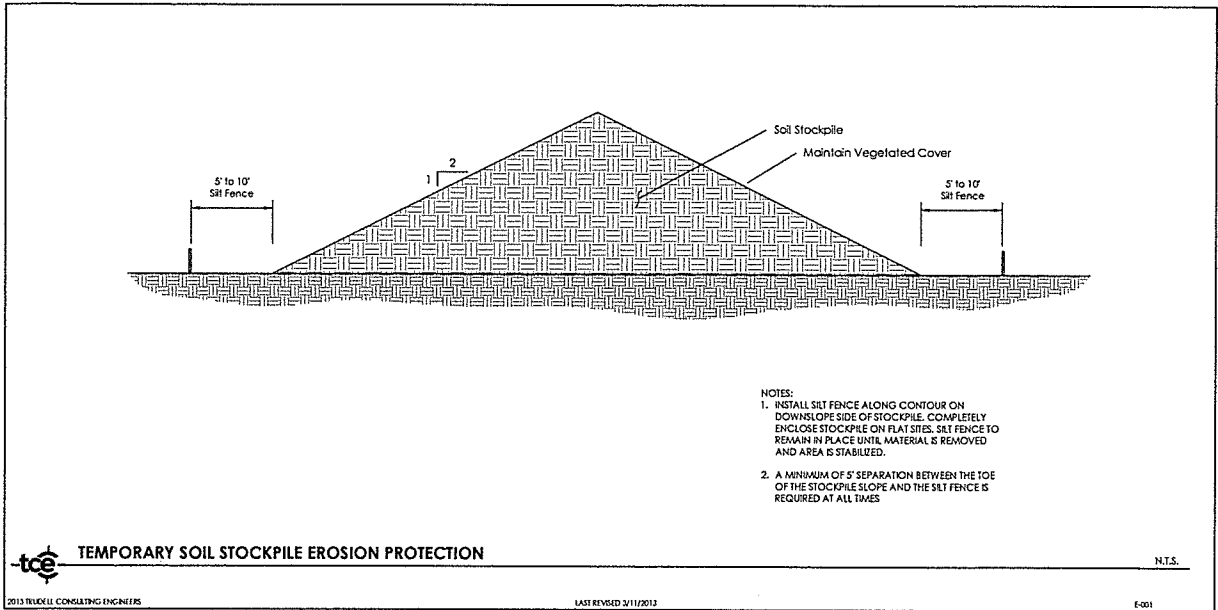
Project Engineer: _____

Approved By: _____

Field Book: _____

C8-1





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Revisions
No. Description
1. Stormwater Update

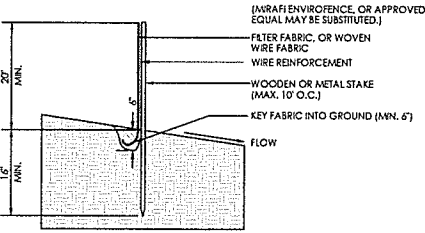
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Project Title: Colchester Avenue Housing, Burlington, Vermont

Sheet Title: Erosion Det

Date: _____
Scale: _____
Project Number: _____
Drawn By: _____
Project Engineer: _____
Approved By: _____
Field Book: _____

2013 TRUCKELL CONSULTING ENGINEERS



CONSTRUCTION SPECIFICATION FOR SILT FENCE

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. WIRE FENCE REINFORCEMENT REQUIRED WITHIN 100 FT UPSLOPE OF RECEIVING WATER.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100K, STABILINKA T140N, OR APPROVED EQUIVALENT. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHED HALF OF FABRIC HEIGHT.

SILT FENCE WITH WIRE REINFORCEMENT

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 2/10/2016 EN-104

AFTER THE FINISHED GRADE HAS BEEN ESTABLISHED AND THE FERTILIZER SPREAD, PLANT THE SPECIFIED SEED MIXTURE AT A RATE OF 4 POUNDS PER 1000 SQUARE FEET AND WORK FIRMLY INTO THE SOIL. APPLY SEED ON THE PREPARED SEED BED WITH APPROVED MECHANICAL SEEDERS OR HYDROSEEDING EQUIPMENT. UPON COMPLETION OF THE ABOVE PLANTING OPERATIONS, ROLL ALL AREAS WITH A WATER FILLED GARDEN ROLLER, LEAVING THE SURFACE OF ALL AREAS TRUE TO GRADE, SMOOTH, AND FREE FROM HOLLOWES OR OTHER IRREGULARITIES. THOROUGHLY WATER ALL NEWLY PLANTED LAWNS IMMEDIATELY AFTER PLANTING, USING A FINE SPRAY.

PROTECT BANKS AND SWALES, AND PREVENT OR REPAIR EROSION THAT OCCURS. BANKS, SWALES OR OTHER GRADED AREAS THAT HAVE BEEN WASHED OUT OR HAVE BECOME DAMAGED SHALL BE REPAIRED IMMEDIATELY. UNLESS APPROVAL IS GRANTED BY THE ENGINEER TO PLANT OFF SEASON, SEEDING WILL BE CONDUCTED ONLY DURING THE PERIOD FROM APRIL 15 TO JUNE 1 OR AUGUST 15 TO OCTOBER 15. SO AS NOT TO CAUSE INTERFERENCE, NO SEEDING IS TO PROCEED BEFORE OTHER PHASES OR THE WORK HAS PROCEEDED SUFFICIENTLY.

SEED SHALL BE FRESH, CLEAN, NEW SEED. SEED WHICH HAS BECOME WET AND/OR MOLDY WILL NOT BE ACCEPTABLE. THE FOLLOWING SEED MIXTURE SHALL BE USED:

COMMON NAME	WEIGHT (POUNDS PER ACRE)	GERMINATION
CREeping RED FESCUE	30-40	85
KENTUCKY BLUEGRASS	30-40	80
PERENNIAL RYE	25-30	90
RED TOP	0-5	85
WHITE CLOVER	0-5	-

SEEDING

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 03/11/2013 EN-001

- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS.
- CONTRACTOR AND/OR OWNER (OR APPOINTED DESIGNATE) SHALL INSPECT ALL EROSION CONTROL FEATURES AT LEAST ONCE PER WEEK AND AFTER ANY STORM EVENT GENERATING RUNOFF FROM THE SITE.
- AFTER VEGETATION HAS BEEN FULLY ESTABLISHED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED.
- PROVIDE EROSION CONTROL MATTING ON ALL DISTURBED SLOPES WITH A PITCH OF 3H:1V OR GREATER.
- EXCAVATION AND PIPE INSTALLATION SHALL BE AVOIDED DURING PERIODS OF SIGNIFICANT PRECIPITATION.
- ALL SEDIMENT AND EROSION CONTROL PRACTICES AND VEGETATIVE STABILIZATION SHALL BE IN ACCORDANCE WITH THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL (AHR 2006).

EROSION CONTROL NOTES

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 3/11/2013 EN-002

THE PRODUCTS LISTED BELOW (OR APPROVED EQUAL) ARE TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS AND IN THE LOCATIONS SPECIFIED ON THE PLANS AND PERMITS.

SILT FENCE:

- Geofab, Envirofence, or approved equal

EROSION CONTROL BLANKETS:

- North American Green S1500N
- North American Green C3500N
- North American Green P550

FIBER ROLE:

- North American Green Sediment Trap

GEO-SYNTHETIC FABRIC:

- Miraf-500X

SILT BAG:

- Granite Environmental - Deweaving Bag, 15'x25', 10 oz, non-woven

EPSC PRODUCTS

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 3/11/2013 EN-004

1. INSTALL BARRIER TAPE.

2. INSTALL CONSTRUCTION ENTRANCE AS SPECIFIED IN PHASE.

3. INSTALL SILT FENCE IN LOCATION SHOWN ON PLANS AS DETAILED.

4. STAKE OUT CONSTRUCTION, CLEAR AND GRUB.

5. STOCK PILE, PROCESS, AND DISPOSE OF TREES.

6. CONSTRUCT NECESSARY STABILIZED CONSTRUCTION ROADS, ESTABLISH DITCHLINES FROM DOWNHILL TO UPHILL. INSTALL CHECK DAMS AND EROSION CONTROL FABRIC IN DITCHLINES AS DETAILED. MAINTAIN TRAFFIC FLOW AS SHOWN.

7. CONSTRUCT SITE FEATURES.

8. VEGETATE AND STABILIZE AS NECESSARY WITHIN SEVEN DAYS.

9. RECEIVE APPROVAL FROM ON-SITE CO-ORDINATOR PRIOR TO MOVING TO NEXT PHASE.

GENERAL CONSTRUCTION SEQUENCE

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 3/11/2013 EN-003

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY OR FINAL STABILIZATION WITHIN SEVEN DAYS OF THE INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE IN THE AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY. THE FOLLOWING EXCEPTIONS APPLY:

- STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN THE NEXT 24 HOURS AND THERE IS NO PRECIPITATION FORECAST FOR 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 FEET OR GREATER (E.G. HOUSE FOUNDATION EXCAVATION, UTILITY TRENCHES).

STABILIZATION IS TO BE ACCOMPLISHED IN ACCORDANCE WITH DETAILS SHOWN.

STABILIZATION REQUIREMENTS

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 4/9/2013 EN-006

WINTER CONSTRUCTION

THIS WINTER CONSTRUCTION EROSION PREVENTION AND SEDIMENT CONTROL PLAN MUST BE ADHERED TO FOR CONSTRUCTION BETWEEN OCTOBER 15 AND APRIL 15.

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 FOUNDATIONS OR OPEN UTILITY TRENCHES.

PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO A THICKNESS OF NO MORE THAN 1 INCH.

MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE, OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.

SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.

DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.

A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCES.

IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, SILT FENCE SHALL BE REINFORCED.

ALL AREAS THAT ARE DISTURBED DURING WINTER CONSTRUCTION SHALL BE STABILIZED BY APPLYING SEED AND MULCH AT TWICE THE NORMAL RATE AND THEN COVERED WITH STRAW MATTING.

SNOW MANAGEMENT

TO ENSURE ADEQUATE STORAGE AND CONTROL OF MELTWATER, CLEARED SNOW MUST BE STOCKPILED DOWNSLOPE OF DISTURBED AREAS.

SNOW STOCKPILES MUST BE KEPT CLEAR OF STORMWATER TREATMENT STRUCTURES. DRAINAGE STRUCTURES SHOULD BE CHECKED REGULARLY AND KEPT FREE OF SNOW AND ICE JAMS.

REQUIREMENTS FOR WINTER CONSTRUCTION

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 4/9/2013 EN-007

RP-RAP SHALL BE A WELL GRADED ROCK MIXTURE DOWN TO 1 INCH SIZE PARTICLES, SUCH THAT 50 PERCENT OF THE MIXTURE BY VOLUME SHALL BE LARGER THAN THE LEAST DIMENSION.

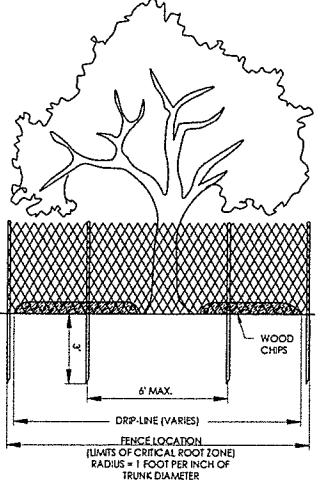
TYPE	SIZE (INCHES)	LEAST DIMENSION (50% OF VOLUMES)
P-204	1-5	2
I	1-12	4
II	2-36	12
III	3-48	16
IV	3-60	20

A WELL GRADED ROCK MIXTURE SHALL BE DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZES, BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN STONES.

STONE FOR RIP-RAP SHALL BE APPROVED, ROUGH, BROKEN, QUARRY STONE WITH IRREGULAR FACES PER-MITTING PLACEMENT IN A TIGHT INTERLOCKING MANNER WITH THE SMALLER STONES FILLING VOIDS BETWEEN LARGER STONES. THE STONES SHALL BE HARD, SOUND, RESISTANT TO WATER ACTION, WEATHERING, AND SUITABLE FOR THE PURPOSE INTENDED.

RIP-RAP STABILIZATION NOTES

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 02/24/2013 EN-011

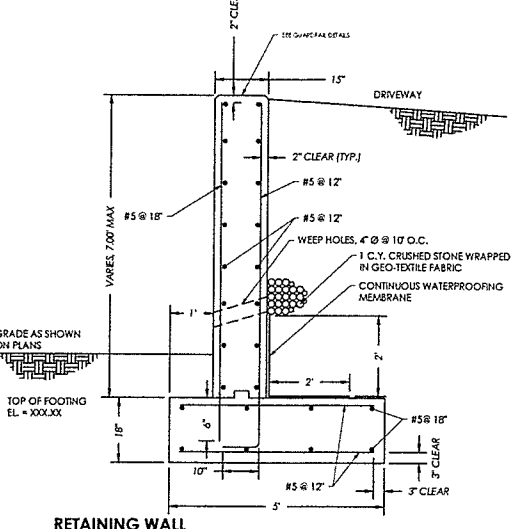


NOTES

- PRUNE LIMBS IN THE WAY OF IMPROVEMENTS. CONSULT WITH LANDSCAPE ARCHITECT PRIOR TO PRUNING.
- FERTILIZE AND WATER TREES.
- UTILIZE WOOD CHIPS FROM CLEARING ON SITE TO PREVENT SOIL COMPACTION OF DRP LINE, IF APPLICABLE.
- PLACE FENCE
- FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION, WHERE PLANS SHOW DISTURBANCE WITHIN TREE PROTECTION AREA, TEMPORARILY REMOVE FENCE TO PROCEED WITH WORK, THEN IMMEDIATELY REPLACE FENCE WHEN WORK IS COMPLETED WITHIN THE PROTECTED AREA.
- 4' HIGH WOVEN ORANGE PLASTIC SAFETY FENCE ON FIRMLY DRIVEN METAL "T" STAKES OR EQUIVALENT, STAKE 6'-0" O.C., BURY POST 3" MINIMUM.
- WHERE ROOT LOSS IS ENCOUNTERED, PRUNE ROOT 1' BEYOND FENCE USING A VIBRATING KNIFE OR NARROW TRENCHER AND BACKFILL IMMEDIATELY.
- PLACE 2' TREE PROTECTION ZONE DO NOT DISTURB SIGNS IN EACH DESIGNATED AREA

TREE PROTECTION FENCE (TEMPORARY)

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 09/03/2013 EN-004



RETAINING WALL

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 02/18/2014 EN-005

tce

ENGINEERING & ENVIRONMENTAL PLANNING

475 BLAIR PARK ROAD • WILMINGTON, MA 01897-1030 • 800.878.4330 | WWW.TCE-MA.COM

Revisions

No.	Description
1	Stormwater Update

2016 TRUELL CONSULTING ENGINEERS LAST REVISED 02/27/2017 EN-006

PROJECT INFORMATION

Project Title: Colchester Avenue Housing, Burlington, Vermont

Sheet Title: Erosion Detention

Date: _____

Scale: _____

Project Number: _____

Drawn By: _____

Project Engineer: _____

Approved By: _____

Field Book: _____

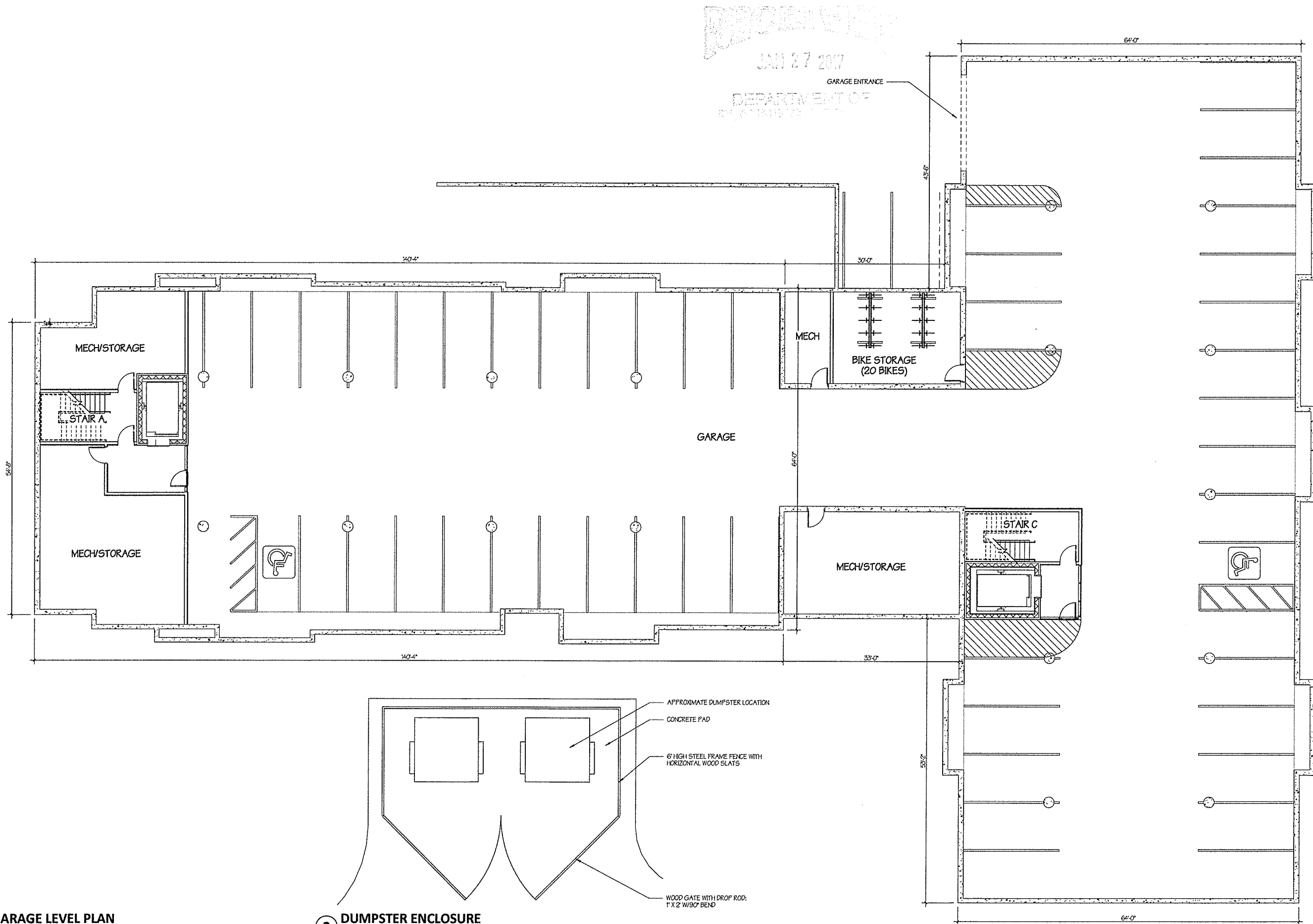
STATE OF VERMONT

JOHN G. MELLOR

No. 79704

CIVIL

REGISTERED PROFESSIONAL ENGINEER



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

2 DUMPSTER ENCLOSURE
1/4" = 1'-0"

PRELIMINARY
NO
CONSTRUCTION

REVISIONS		No.	Description	Date
1		DAB SUBMISSION		11/30/2016

GARAGE LEVEL PLAN
SCALE: As Indicated

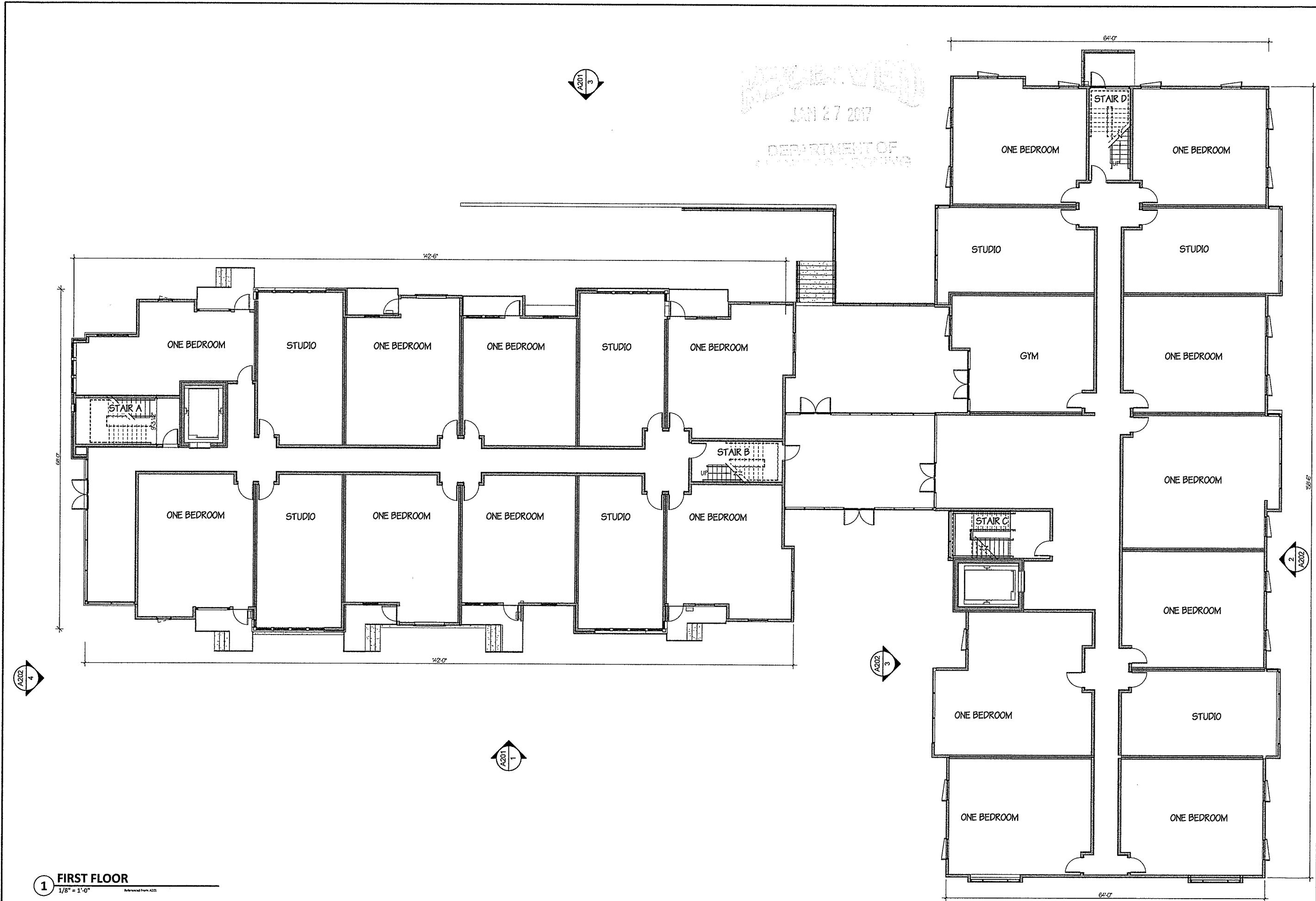
550 Freshburg Road
Suite 101
South Plainfield, NJ 07080
908-396-5000



PROJECT #:

SHEET

A1



1 FIRST FLOOR
1/8" = 1'-0"
Referenced From: A201

PRELIMINARY NO. 1	
REVISIONS	DATE
No. 1	Date 11/30/2016
Description	
DAB SUBMISSION	

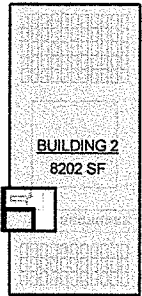
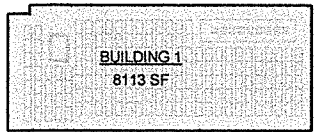
FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

550 Haverhill Road
Suite 101
Burlington, VT 05401
802.488.1200

PROJECT #:

SHEET

A1

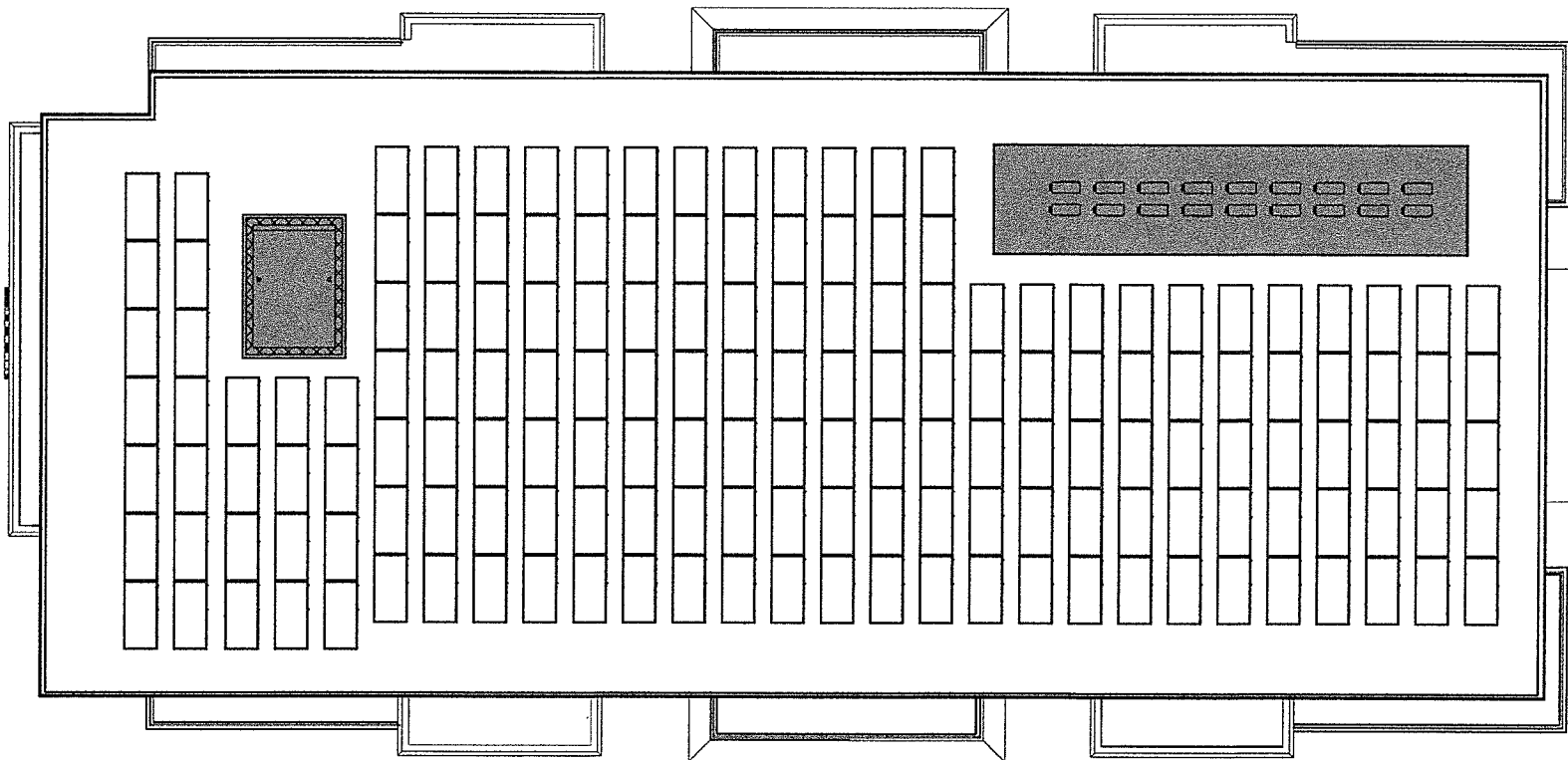


EXCEPTIONS TO HEIGHT LIMIT ARTICLE 5, SEC. 5.2.6 (b) 4	
	TOTAL ROOF AREA: 16,315 SF
	10% OF TOTAL ROOF AREA: 1,632.6 SF
	AREA EXCEEDING HEIGHT LIMIT: 1,515 SF



2 ROOF AREA
1" = 40'-0"

Referenced From: A201

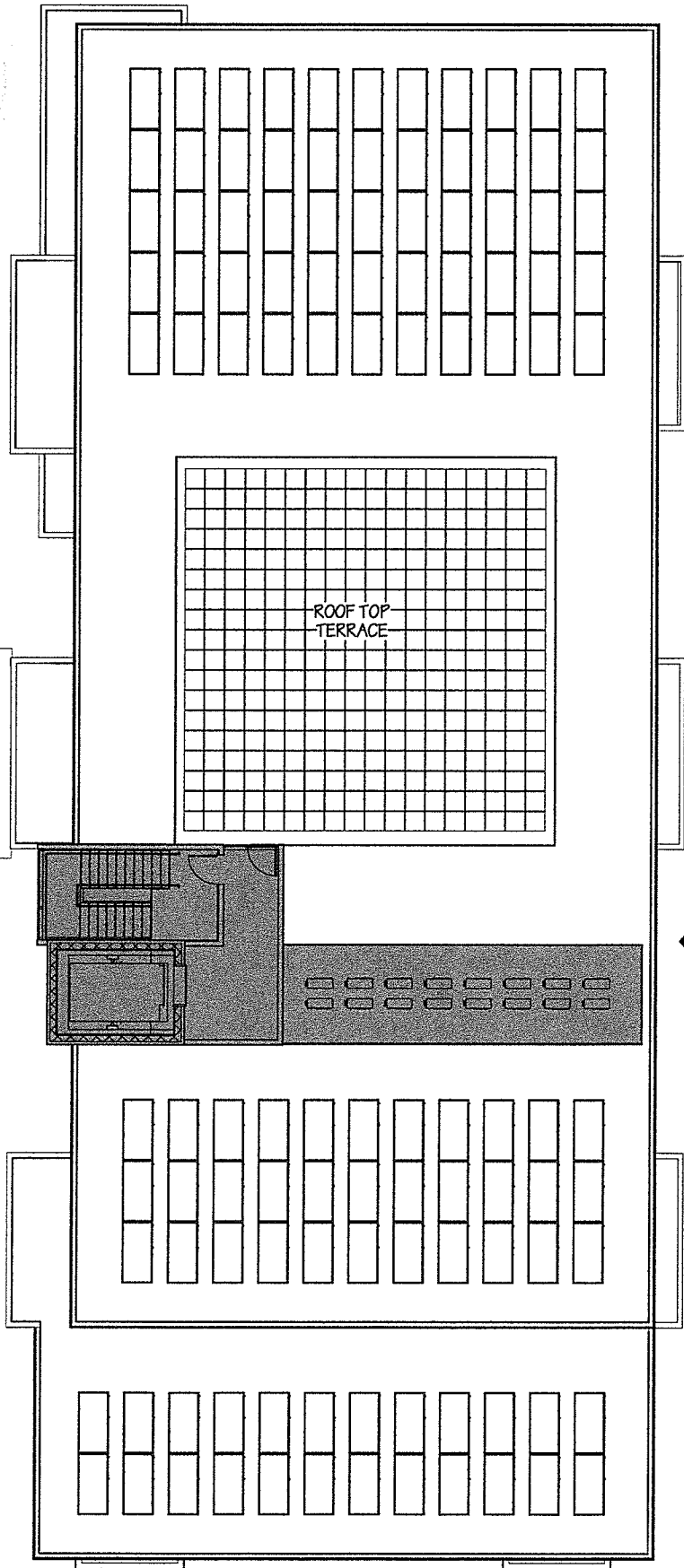


1 ROOF PLAN
1/8" = 1'-0"

Referenced From: A201



RECEIVED
JAN 27 2017
DEPARTMENT OF
RECORDS & ADMINISTRATION



NOT
CONS

REVISIONS	
No.	Description
1	FOR SUBMISSION
Date	
11/27/2016	

ROOF PLAN
SCALE: As Indicated

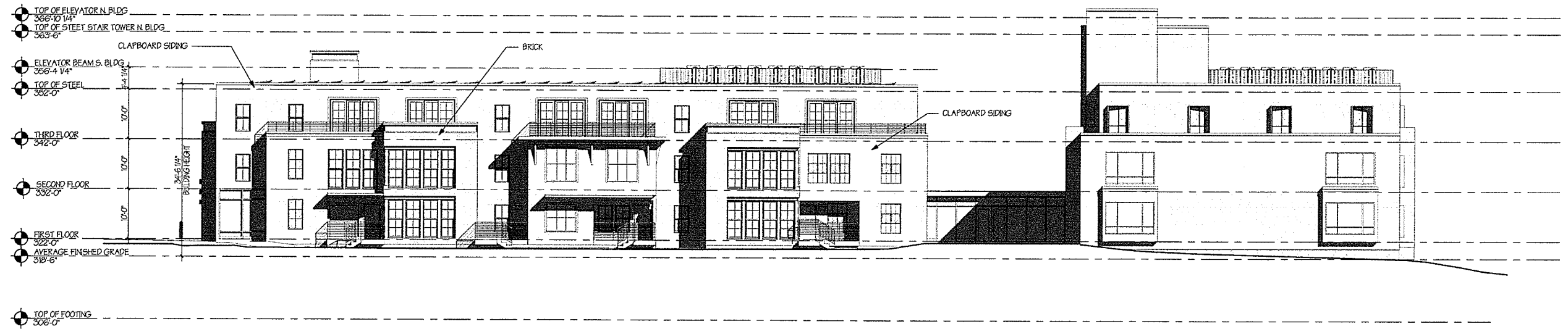
550 Winchester Road
Suite 101
South Burlington, VT 05403



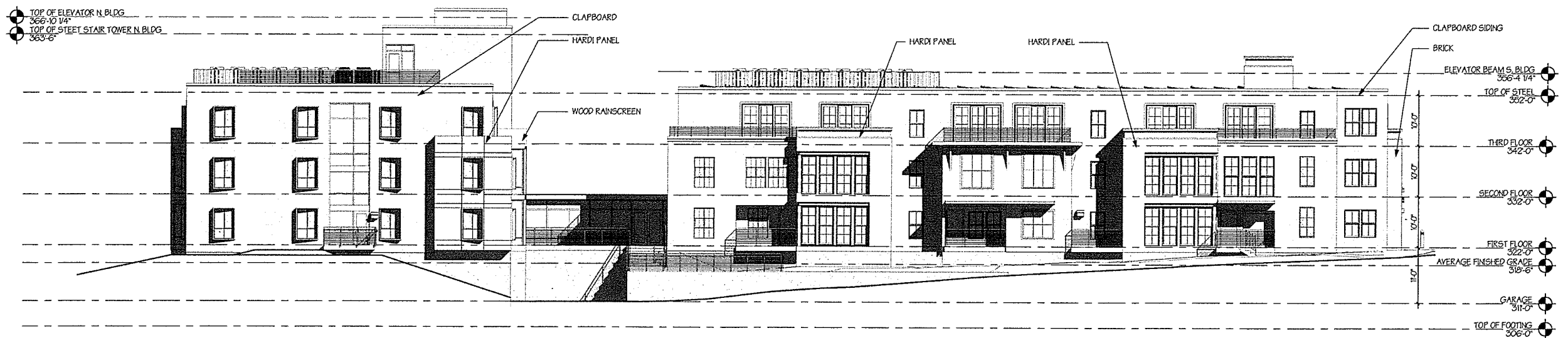
PROJECT #:

SHEET

A1



1 EAST ELEVATION
3/32" = 1'-0" Referenced From: A102



3 WEST ELEVATION
3/32" = 1'-0" Referenced From: A102

RECEIVED
JAN 27 2017
DEPARTMENT OF
STANDARD & ZONING

PREL
NO
CONST

REVISIONS		No.	Date
Description		1	11/30/2016
DAB SUBMISSION			

EXTERIOR BUILDING ELEVATIONS
SCALE: 3/32" = 1'-0"

550 Highgate Road
Suite 101
South Burlington, VT 05403



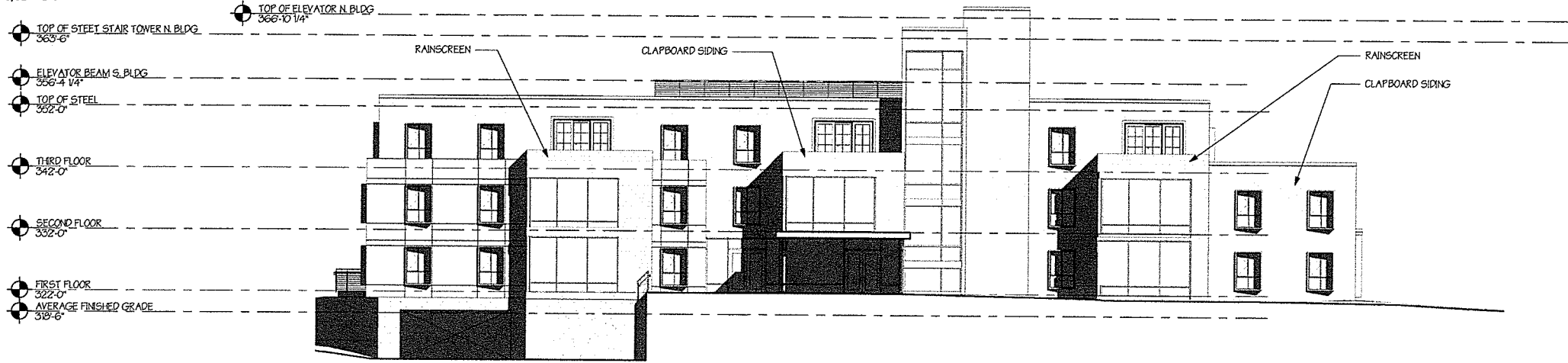
PROJECT #:

SHEET

A2



2 NORTH ELEVATION BLDG 2
3/32" = 1'-0" Referenced From: A102



3 SOUTH ELEVATION BLDG 2
3/32" = 1'-0" Referenced From: A102



4 SOUTH ELEVATION BLDG 1
3/32" = 1'-0" Referenced From: A102

APPROVED
JAN 27 2017
DEPARTMENT OF
CONSTRUCTION

PRELIMINARY
NO
CONSULT

REVISIONS		No.	Description	Date
		1	DAB SUBMISSION	11/30/2016

EXTERIOR BUILDING ELEVATIONS
SCALE: 3/32" = 1'-0"

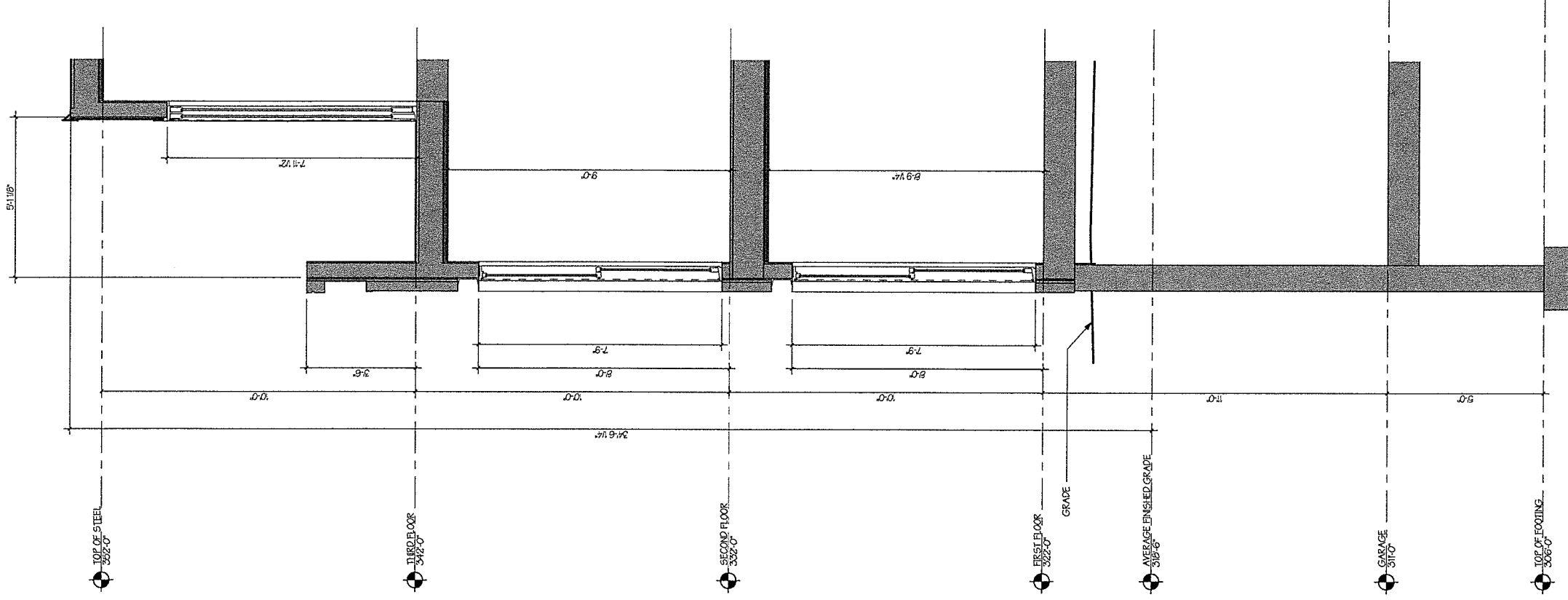
550 Lincoln Road
Suite 101
Burlington, VT 05403
802.233.0727



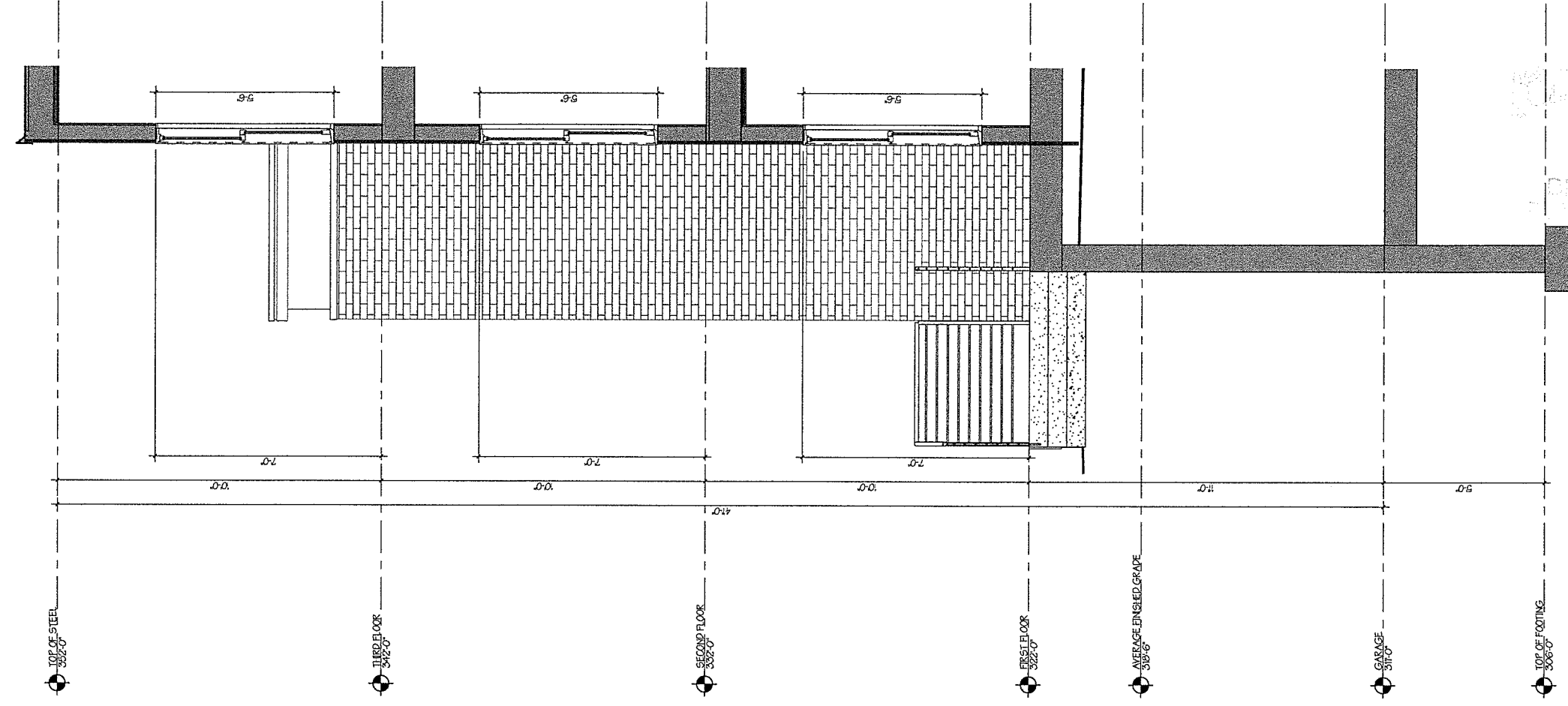
PROJECT #:

SHEET

A2



1 SECTION AT BRICK BAYS
1/2" = 1'-0"



2 Section 2
1/2" = 1'-0"

RECEIVED
JAN 27 2017
DEPARTMENT OF
TRANSPORTATION

PRELIMINARY
NO. 1
CONSTRUCTION

REVISIONS		No.	Description	Date
1		DAB SUBMISSION		11/30/2016

WALL SECTION
SCALE: 1/2" = 1'-0"

50 W. Harsco Rd.
Suite 101
South Brunswick, NJ 08503

PROJECT #:

SHEET

A3



1 VIEW FROM ENTRANCE AT COLCHESTER AVE



2 VIEW FROM PARKING LOT BEHIND DOCTORS OFFICE

PRELIMINARY
NO
CONSULTATION

No.	Description	Date
1	DAB SUBMISSION	11/30/2016

3D VIEWS
SCALE:

550 Highland Road
Suite 100
South Burlington, VT 05403



PROJECT #:

SHEET

AS

Department of Planning and Zoning

149 Church Street
Burlington, VT 05401
Telephone: (802) 865-7188
(802) 865-7195 (FAX)
(802) 865-7142 (TTY)

David White, AICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, CFM, Associate Planner
Anita Wade, Zoning Clerk
vacant, Department Secretary



TO: Development Review Board
FROM: Scott Gustin & Mary O'Neil, Principal Planners
DATE: January 30, 2017
RE: 17-0623CA/MA; 329-375 North Avenue

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: NAC-CR Ward: 4N

Owner/Applicant: BCCH, LLC & 375 North Ave, LLC / Eric Farrell

Request: Proposed development consisting of 11 buildings containing 735 residential units, approximately 45,000 sq. ft. of non-residential support/amenity space, approximately 40,000 sq. ft. of neighborhood commercial spaces and 1,093 parking spaces.

Applicable Regulations:

Article 3 (Applications and Reviews), Article 4 (Maps & Districts), Article 5 (Citywide General Regulations), Article 6 (Development Criteria & Guidelines), Article 8 (Parking), Article 9 (Inclusionary and Replacement Housing), Article 10 (Subdivision), and Article 11 (Planned Unit Development)

Background Information:

Known as Cambrian Rise, the application proposes development with mixed commercial and residential uses, related buildings and infrastructure across approximately 21.65 acres (per plan BA1) at 329-375 North Avenue. The total unit count has fluctuated somewhat and is presently at 735 residential units, inclusive of the 65 units already permitted in the former orphanage building.

During the summer and fall of 2016, this project underwent several sketch plan reviews with the Conservation Board, Design Advisory Board, and Development Review Board. Conservation Board comments centered on stormwater management and commended the proposed management of stormwater management onsite, rather than utilization of the city system. The Design Advisory Board reviewed the sketch plans twice. Doing so allowed the DAB an opportunity to get an overview of the proposal; comments were limited to questions about the overall development, and a desire to cut back the hard edges of the buildings along North Avenue as they abutted smaller structures (to the south). The Board acknowledged the large scope of the project, and their limited time or opportunity to discuss any particular building or part of the plan in any depth. They requested additional work sessions during the formal review process. The Development Review Board also reviewed the sketch plans twice. DRB comments discouraged shared pedestrian/bike use of sidewalks, noted concerns about the consistently large massing of the proposed structures, particularly near the orphanage, suggested reduction in surface parking, and encouraged strengthening of the streetscape.

Following the final sketch plan reviews, the project was revised to address comments from the boards and the public. Formal application for this project was made December 1, 2016.

The Conservation Board reviewed this application December 19, 2016. The Board unanimously recommended approval of the project as presented. In their recommendation, the Board noted their appreciation of the stormwater management design and that the applicants joined CATMA as part of their transportation management initiatives.

The Design Advisory Board reviewed this project several times and ultimately recommended approval with a 5-0-0 vote. The DAB recommended the following conditions:

1. Any ground-mounted or roof-mounted mechanical equipment shall be screened from view from the public way,
2. The handicapped accessible path leading to the waterfront bike path shall be constructed earlier than phase 10,
3. At Building C, the visible amount of retaining wall along the south side of the building shall be decreased through the use of earth berming and/or landscaping,
4. At Building C, the screening detail that is utilized at parking structures shall not be also utilized at commercial spaces,
5. At Building H, the entrance to the commercial space at the southwest corner of the building shall be made more prominent and welcoming by the addition of more glazing,
6. At building I, the main residential entrance facing west shall be made more prominent, and the exterior stair at the northwest corner of the building that leads to a secondary entrance shall be made less prominent,
7. At building I, no rooftop mechanical equipment shall be located on the roof of the gymnasium due to the visibility of this roof from neighboring buildings,
8. At building M, the trash enclosure at the southeast corner of the building shall be made less dominant, such as by changing the material or color, and
9. At building Q, the stair tower at the northwest corner of the building shall be treated with similar cladding and screening materials as the main building, to improve the terminus view from North Road.

Revised project plans have been submitted to address, in part, the recommendations of the DAB. Some items remain outstanding as noted in these findings.

The City Council approved the new zoning district (NAC-CR) affecting this project area. Those standards and dimensional requirements apply to this review.

The project plans depict property lines presently under separate subdivision review. Preliminary plat approval was granted October 19, 2016. Final plat approval is required in order to finalize the proposed boundary lines.

The Development Review Board held an initial public hearing to review this application on January 17, 2017. The hearing focused on building design and site layout. The hearing was continued to address other items such as traffic, parking, inclusionary housing, etc.. These findings have been updated to reflect changes and additional information submitted since the January 17 hearing. Changes are redlined.

Previous zoning actions for this property are noted below.

- Zoning Permit 16-022CA; Remove slate roof and install copper. Approved January 2016.
- Zoning Permit 16-1077MP; Tree maintenance plan. Approved November 2015.
- Zoning Permit 16-007CA/MA; Convert orphanage to 63 residential units. Approved September 2015. Amended February 2016 to increase to 65 residential units and minor exterior alterations.
- Zoning Permit 15-0702LL; Lot line adjustment with 329 North Avenue. Approved December 2014. [Plat recorded 1/16/2015; Plat file 509C.]
- Zoning Permit 14-1286CA; Installation of CCTA bus shelter on Burlington College property. Approved June 2014.
- Zoning Permit 12-0706SN; replace existing non-conforming freestanding sign with new freestanding sign for Burlington College – Main Campus. Approved March, 2012.
- Zoning Permit 12-0121CA; Install rooftop air handler, five ac units, bike racks, and remove walls from garage. Approved August 11, 2011.
- Zoning Permit 11-0282CU; convert existing institutional office use and group home use to post-secondary school. No site or exterior building changes proposed. Approved November 2010.
- Zoning Permit 09-526CA; Demolish single car garage. Approved February 2009.
- Non-applicability of zoning permit requirements; continued use of existing group home. June 1998.
- Zoning Permit 92-096 / COA 092-016; Removal of existing wooden cross with installation of fiberglass statuary of St. Mary on top of Diocese building. Overall height to be 104' with exterior illumination to surround statue. Approved September 1991.
- Notice of selective landscape removal on west. No change in grade of site or drainage of runoff water. December 1991.
- Zoning Permit 79-352; install septic tank and seepage bed. July 1979.
- Zoning Permit 77-03; renovation of existing structure “St. Josephs Child Center” into office space and three apartments for Bishop and two priests. Approved January 1977.
- Zoning Permit 77-628; Convert St. Joseph’s Child Center into office building, three apartments and three guests’ rooms. Remove some windows and brick up openings. Install new windows. Erect 28’6” x 30’ addition and 32’ x 66’ addition. December 1976.

Recommendation: Continued review and continuation of public hearing to address the outstanding items noted in the findings below:

I. Findings

Article 3: Applications and Reviews

Part 5, Conditional Use & Major Impact Review:

Section 3.5.6 (a) Conditional Use Review Standards

Approval shall be granted only if the DRB, after public notice and public hearing, determines that the proposed conditional use and associated development shall not result in an undue adverse effect on each of the following general standards:

1. *Existing or planned public utilities, facilities or services are capable of supporting the proposed use in addition to the existing uses in the area;*

New public streets and related infrastructure are included in this development. Even so, it is expected to have impacts on existing public utilities, facilities, and services. Burlington Electric Department and the Department of Public Works have both been extensively involved in the municipal review of this proposal since Technical Review Committee on June 9, 2016. BED has commented specifically for this zoning permit application that the Department is confident about the overall energy performance of the development. DPW has been even more extensively involved due to the array of new public infrastructure. DPW submitted written comment relative to traffic impacts and needed transportation improvements on January 17, 2017. Additionally, DPW provided a water/sewer capacity letter affirming available municipal capacity on October 10, 2016. Municipal services are further addressed under item (b) 7 below. **(Affirmative finding as conditioned)**

2. *The character of the area affected as defined by the purpose or purposes of the zoning district(s) within which the project is located, and specifically stated policies and standards of the municipal development plan;*

The subject properties, formerly comprising Burlington College, are located within the newly established Neighborhood Activity Center – Cambrian Rise (NAC-CR) zone. They are bordered on three sides by RCO and/or conserved lands. Across North Avenue, there is a strip of Residential Low Density zone comprised mostly of detached dwellings and a handful of nonresidential uses.

This project is transformative and will establish an entirely new character within the subject properties. As proposed, the intensity and diversity of uses is consistent with the intent of the NAC-CR zone. The zone is intended to create a new center for mixed use development that allows for a range of housing types and tenures and to accommodate a diverse range of complimentary commercial, institutional, and neighborhood-oriented retail and service uses. **(Affirmative finding)**

3. *The proposed use will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than typically generated by other permitted uses in the same zoning district;*

A variety of uses is included in the proposed development. They include:

- Residential (attached multi-family dwellings)
- Commercial bakery
- Restaurant
- General office
- College (post-secondary school)
- General retail (small < 4,000 sf)
- Large daycare
- Hotel

The proposed residential uses will not have nuisance impacts from noise, odor, dust, heat, and vibrations greater than that generated by other residential neighborhoods in the area. None of the non-residential uses are expected to generate exceptional nuisance impacts either. The impacts considered under this criterion are most typically associated with industrial uses – none are included in this project. **(Affirmative finding)**

4. *The transportation system is capable of supporting the proposed use in addition to the existing uses in the area. Evaluation factors include street designations and capacity; level of service and other performance measures; access to arterial roadways; connectivity; transit availability; parking and access; impacts on pedestrian, bicycle and transit circulation; safety for all modes; and adequate transportation demand management strategies;*

A comprehensive traffic analysis has been provided and addresses all of the typical key considerations such as traffic generation, intersection LOS, queues, sight lines, and safety. The Department of Public Works has reviewed the traffic analysis and has provided comment.

The traffic study is predicated on 667 new residential units (this unit count reflects the net increase from the previously evaluated and permitted 65-unit conversion of the orphanage building, but is still 3 units shy of the actual net increase of 670 units [$670+65 = 735$]). Similarly, the sizes of the non-residential uses included in the traffic study do not mirror the sizes noted in the parking calculation table. A memorandum from the applicant's traffic engineer dated December 28, 2016 addresses these discrepancies with corrected numbers.

Not surprisingly, this project is expected to generate significant traffic. A daily total of 4,620 vehicle trip ends is projected. AM peak hour is expected to generate 381 vehicle trip ends, and PM peak hour is expected to generate 425 vehicle trip ends. These traffic generation estimates assume 10% vehicular trip reduction due to transportation demand management measures. While a reduction may reasonably be expected, there is no apparent explanation of exactly why the reduction is expected to be 10%. Specific basis for this assumption is needed.

Extensive intersection analysis is included in the traffic study. Most intersection LOS remains unchanged by the project, although some worsen or even improve. The LOS figures assume recommended transportation improvements are in place (noted in Sec. 5.2, Congestion Analysis Assumptions). This assumption is significant and is contingent on Department of Public Works approval of public street alterations. Queue length analysis is also included and presumably carries the same assumptions. In most cases, queue lengths increased modestly by 2-3 vehicles.

The safety analysis within the study identified no high crash locations within immediate vicinity of the development.

Sight distance analysis found that sight distances along North Avenue relative to the project's new roads are more than double the standard (600 feet available vs. 280 feet standard). The signal warrant analysis found that a signal at the newly created intersection of North Avenue and the project's "South Road" is warranted. Signal warrants are not triggered at the intersection with "North Road," but pedestrian crossing improvements are recommended.

In their January 17, 2017 review of the traffic analysis, DPW concurred with the recommendations and, in addition, articulated a number of requirements, suggestions, and general comments.

Significant emphasis has been placed on pedestrian and bicycle safety and circulation. Rather than repeat the entirety of DPW's review, their January 17, 2017 letter will be incorporated by reference into these findings and incorporated into conditions of approval.

Traffic impact fees will be due to help fund capital improvements to the city's transportation infrastructure. **(Affirmative finding as conditioned)**

and,

5. *The utilization of renewable energy resources;*

Utilization of renewable energy resources is included in this project. As proposed, the development will incorporate solar panels and geothermal heating. Building design and orientation is intended to maximize solar access. **(Affirmative finding)**

and,

6. *Any standards or factors set forth in existing City bylaws and city and state ordinances;*

This project was reviewed by the Technical Review Committee on June 9, 2016. Insofar as comments from that review pertained to zoning standards, they are noted in these findings. Discussions with affected city departments are ongoing. Separate Act 250 review will likely be required.

(b) Major Impact Review Standards

1. *Not result in undue water, air, or noise pollution;*

A comprehensive stormwater management plan has been developed for this project. Minimal water quality impacts on Lake Champlain are anticipated as a result. Details are addressed under Sec. 5.5.3.

Air and noise pollution are expected to be minimal. As noted above, no industrial uses typically associated with air or noise pollution are included in the project plans. **(Affirmative finding)**

2. *Have sufficient water available for its needs;*

See Sec. 3.5.6 (a) 1.

3. *Not unreasonably burden the city's present or future water supply or distribution system;*

See Sec. 3.5.6 (a) 1.

4. *Not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result;*

See Sec. 5.5.3.

5. *Not cause unreasonable congestion or unsafe conditions on highways, streets, waterways, railways, bikeways, pedestrian pathways or other means of transportation, existing or proposed;*

See Sec. 3.5.6 (a) 4.

6. *Not cause an unreasonable burden on the city's ability to provide educational services;*

Single detached residential units are commonly the most significant per-unit dwelling type for families with school age children in Vermont. This project contains no such units; it contains

exclusively attached multi-family dwellings of various sizes. With 735 residential units; however, this project can be reasonably expected to contain at least some families with school-age children. The application postulates an estimate of ~52 school-age children. This figure is based on estimates for the studio, 1-, 2-, and 3-bedroom units. Additional information has been provided that addresses impacts per unit type and what the anticipated unit-to-school children ratio is based on. No final comments from the School Department have yet been received. Discussions with that department have been ongoing. If this project receives final approval, impact fees would be paid to help offset impacts on the school system. **(Affirmative finding as conditioned)**

7. Not place an unreasonable burden on the city's ability to provide municipal services;

The Fire Department provided technical comments relative to fire safety at Technical Review. These technical requirements will be administered through the offices of the Fire Marshal and the Building Inspector. The Fire Marshal has issued an ability to serve letter regarding the project.

The Burlington Police Department has issued an ability to serve letter dated January 13, 2017. The letter anticipates increased demand on police services, but expects that the development will not adversely impact the department in the context of providing police services to the site.

See Sec. 3.5.6 (a) 1 for Electric and Public Works Departments.

See Sec. 3.5.6 (b) 12 for Parks and Recreation Department.

See Sec. 3.5.6 (b) 6 for School Department.

Impact fees will be paid to help fund necessary capital improvements necessitated by this development. **(Affirmative finding as conditioned)**

8. Not have an undue adverse effect on rare, irreplaceable or significant natural areas, historic or archaeological sites, nor on the scenic or natural beauty of the area or any part of the city;

See Article 6 for effects on significant natural areas, historic buildings, and archaeological significance.

9. Not have an undue adverse effect on the city's present or future growth patterns nor on the city's fiscal ability to accommodate such growth, nor on the city's investment in public services and facilities;

The project is proposed in an area long targeted in the city's Municipal Development Plan for intensified development. The newly established NAC-CR articulates purpose and standards for this growth center. Insofar as the proposed development is consistent with the intent of the NAC-CR zone, it is consistent with the city's anticipated growth patterns. As noted in these findings, improvements to public infrastructure, at the cost of the applicants, are required to adequately support the development. **(Affirmative finding)**

10. Be in substantial conformance with the city's municipal development plan;

The application demonstrates substantial conformance with the Municipal Development Plan.

The property is located within an area identified as a center for growth and development (Future Land Use Map – Centers for Growth and Development & Land Use Policies, pg. I-2).

The introduction of a variety of attached multi-family housing unit types and bedroom counts is consistent with the city policy to support the development of additional housing opportunities within identified activity centers (Land Use Plan, pg. I-2 & Housing Plan, pg. IX-1).

The project will handle essentially all of its stormwater onsite utilizing the available green spaces and sandy soils for infiltration (Natural Environment Action Plan, pg. II-12).

The development will provide inclusionary housing units (City Policies, pg. IX-1) as required by the Comprehensive Development Ordinance.

The project incorporates alternative energies (solar and geothermal), thereby reducing utilization of fossil fuels (City Policies, pg. VIII-1).

The project will provide ready access to GMT bus service. Carshare Vermont service is anticipated. The project includes far more than the minimum requirement for bike storage and maintenance facilities and provides easy access to the waterfront bike path (Stressing Other Modes of Travel, pg. V-12). **(Affirmative finding)**

11. Not have an undue adverse impact on the present or projected housing needs of the city in terms of amount, type, affordability and location;

As noted above, the proposed development is located in an area targeted for higher intensity development. The proposed housing units are all multi-family in nature. There is; however, a variety of bedroom counts and price points (including inclusionary, “work force,” and market rate units). There is also a mix of owner-occupied and rental units. Senior housing units will also be provided. The development addresses city policy to provide a variety of housing types.

(Affirmative finding)

12. Not have an undue adverse impact on the present or projected park and recreation needs of the city.

Residents of the new dwelling units will likely utilize the city’s park and recreation facilities. As part of the overall development scheme for these properties, the 12-acre parcel that hugs the development site to the south and west was conveyed to the city for conservation and designation as an “urban wild.” Within the development, a variety of recreational features are included, such as a community pool, fitness center, garden spaces, and paths. Parks impact fees will be paid to help offset any related impact on public park needs. Per the development agreement, a \$300K credit will apply to parks impact fees due. **(Affirmative finding as conditioned)**

(c) Conditions of Approval:

In addition to imposing conditions of approval necessary to satisfy the General Standards specified in (a) or (b) above, the DRB may also impose additional conditions of approval relative to any of the following:

1. Mitigation measures, including but not limited to screening, landscaping, where necessary to reduce noise and glare and to maintain the property in a character in keeping with the surrounding area.

The proposed development is not expected to generate offsite noise or glare substantial enough to require mitigation. **(Affirmative finding)**

2. Time limits for construction.

A “sequencing plan” is included in the application. An initial 10-year timeframe that is automatically renewable thereafter is requested. For a project of this size, a 10-year timeframe is reasonable. Any extension thereto; however, will require approval by the Development Review Board per Sec. 3.2.9, *Zoning Permits*, (d) *Time Limits on Zoning Permits*. There is no provision within the zoning code for automatic extensions.

Project phasing has been clarified. The L-EX4 plan is the guiding phasing plan for the development. It clearly defines distinct phases and the anticipated order of development. Note also the DAB’s recommendation that the handicap accessible path leading to the waterfront bike path be constructed before phase 10.

The phasing plans indicate that all of the rental inclusionary housing units will be constructed within the first two years of construction (phases 2 & 3 sheet L-EX4). Doing so is acceptable and consistent with the intent of Sec. 9.1.17, *Review of Proposal for Phasing*. At the January 17, 2017 public hearing, the applicant testified that for-sale inclusionary units will be provided in Building M. This building is to be constructed immediately after the rental inclusionary units.

The sequencing plan also makes note of temporary project features, such as interim parking areas needed to support completed buildings while others are under construction. Given the scope and duration of this project, such temporary facilities are reasonably anticipated. **(Affirmative finding as conditioned)**

3. Hours of operation and/or construction to reduce the impacts on surrounding properties.

With the exception of post-secondary school, all of the specific uses articulated in the application are permitted within the NAC-CR zone and are not subject to limitations on days or hours of operation. A typical post-secondary school is operative 24/7 year round with intermittent breaks. At least general parameters around the operation of the anticipated post-secondary school are needed.

The applicants propose days and hours of construction Monday – Sunday, 7:00 AM-9:00 PM. These extensive hours are acceptable given the isolation of this development site relative to other residential neighborhoods. **(Affirmative finding)**

4. That any future enlargement or alteration of the use return for review to the DRB to permit the specifying of new conditions; and,

Any future enlargement or alteration will be reviewed under the zoning regulations in effect at that time.

5. Such additional reasonable performance standards, conditions and safeguards, as it may deem necessary to implement the purposes of this chapter and the zoning regulations.

To be addressed in conditions of approval.

Article 4: Maps & Districts

Sec. 4.4.2, Neighborhood Mixed Use Districts:

(a) Purpose

(4) Neighborhood Activity Center – Cambrian Rise (NAC-CR)

The Neighborhood Activity Center – Cambrian Rise District is intended to create a new center for mixed use development that allows for a range of housing types and tenures, and to accommodate a diverse range of complimentary general office, institutional and neighborhood oriented small-scale retail and service uses. Development should be compact, pedestrian-oriented and enhance the community with creative design, durable materials, and quality construction. Buildings should be oriented towards the streets. Human scale elements should help to define new streets as civic spaces. Parking should be located as to be screened from view from public streets and community spaces.

The diversity of uses included in this proposal reflects the intent of this new zoning district. The compact site design and street layout provide the framework for a new mixed use neighborhood. Sidewalks, shared use paths, hardscaping, and street-level treatments of the proposed buildings establish a pedestrian-friendly environment. With revisions as recommended by the Design Advisory Board, the project design can be found consistent with this criterion. **(Affirmative finding)**

(b) Dimensional Standards & Density

FAR in the NAC-CR zone is limited to 2.0. The subject properties amount to 21.65 acres (943,074 sf). Total above-ground building area could be up to 1,886,148 sf (FAR 2.0 in this case). As proposed, FAR will be 0.98 (921,000 sf above-ground building area).

Maximum permissible lot coverage is 60% in the NAC-CR zone. As proposed, lot coverage will total 64%. This additional coverage is allowable under the provisions of Article 9 for provision of inclusionary housing. Note that this percentage is based on November 28, 2016 calculations. There have been plan revisions since then. Confirmation of current lot coverage is needed.

Within the NAC-CR zone, front yard setbacks of 0' – 20' are permissible, except that along North Avenue front yard setbacks of 20' – 30' are permissible. Within the development, all of the buildings comply with the 0' – 20' front yard setback. Along North Avenue, the southern portion of Building G appears to encroach into the 20' minimum setback – it appears to come as close as 17' to the front property line. Minimum side and rear yard setbacks of 10' and 20', respectively, only apply to the periphery of the NAC-CR zone. The project plans comply with these peripheral side and rear yard setbacks.

Within the NAC-CR zone, buildings must be at least 2 stories and 22' tall up to a maximum of 65'. An additional 10' in height may be afforded for provision of inclusionary housing as noted in Article 9 of these findings. As all of the buildings are set back further than 10' from the public sidewalks, height is measured from the average finished grade around each building. Building heights are noted in elevation drawings and also summarized in sheet L-EX3, Building Heights. All of the buildings are under the 75' (with inclusionary) maximum height. All but two of them are below the standard 65' height limit. Building C reaches 70' and Building I reaches 73.'

(Affirmative finding as conditioned)

(c) Permitted & Conditional Uses

Multifamily residential development is a permitted use in the NAC-CR zone. As noted previously, all of the non-residential uses, except for post-secondary school, included in this application are permitted in the NAC-CR zone. The post-secondary school is a conditional use. A summary table of all proposed uses, their locations and sizes, has been provided. Note that the “fitness

center” will be an amenity for exclusive use of project residents and adjacent neighbors. It will not be a commercial health club. This distinction has significance relative to parking as noted under Article 8. **(Affirmative finding)**

(d) District Specific Regulations

(1) Ground Floor Residential Uses Restricted

Not applicable in the NAC-CR zone.

(2) Exception to Maximum Lot Coverage in NAC District

Not applicable.

(3) Development Bonuses/Additional Allowances

See Article 9 for height increase relative to inclusionary zoning requirements.

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Article 4 above.

Sec. 5.2.4, Buildable Area Calculation

Not applicable in the NAC-CR zone.

Sec. 5.2.5, Setbacks

See Article 4 above.

Sec. 5.2.6, Building Height Limits

See Article 4 above.

Sec. 5.2.7, Density and Intensity of Development Calculations

See Article 4 above.

Sec. 5.5.1, Nuisance Regulations

Nothing in the proposal appears to constitute a nuisance under this criterion. **(Affirmative finding)**

Sec. 5.5.2, Outdoor Lighting

See Sec. 6.2.2 (o).

Sec. 5.5.3, Stormwater and Erosion Control

A comprehensive stormwater management plan is proposed. While details are many, the system is basically geared towards using the sandy soils onsite to infiltrate stormwater into the ground. Infiltration facilities will be located in a number of places within the development. Green streets, underground infiltration chambers, and swales are some of the design components. 100% of the 1-year storm event will be infiltrated onsite. Post-development runoff rates will match pre-development rates for the 10-year storm event. What overflow there is will discharge into Lake Champlain. No additional runoff will enter the city system. In addition, the stormwater management plan includes provision for capturing and storing stormwater for gardening and possibly some toilet flushing. Given the size of this project and the anticipated duration of its

construction, the stormwater management plan also incorporates interim measures for utilization while construction is ongoing.

An erosion prevention and sediment control plan has been provided. It addresses site management per phase for the duration of construction.

The Conservation Board reviewed these proposed measures at their December 19, 2016 meeting and recommended approval. Final review and approval by the city's stormwater program is required. **(Affirmative finding as conditioned)**

Article 6: Development Review Standards:

Part 1: Land Division Design Standards

Subdivision approval is being sought separately.

Part 2: Site Plan Design Standards

Sec. 6.2.2 Review Standards

(a) Protection of Important Natural Features:

At present, the majority of the project area west of the former orphanage is lawn. Extensive examination has been made of the existing site conditions during preparation of a tree management plan for this and the parkland area (2016) and stormwater planning for this development. The precipitous grade change from North Avenue west to the parkland is the most significant natural feature; one which is incorporated within the development plans submitted. A tree survey is included. A fully developed landscaping plan has been provided as part of the submission packet. **(Affirmative finding)**

(b) Topographical Alterations:

One of the most distinctive features of this site is the grade change; nearly a 70' difference between North Avenue and the westerly edge of the project area. The buildings and parking decks are arranged to take advantage of the steep grade change specific to the site. Documents provided outline, where necessary, topographic adjustment to facilitate the development, including construction of sub-grade parking garages, building foundations, pathways, green areas, and roads. Plans C2.1-C2.5 specifically address grading. Reference is made to specific landscaping plans within the submission documents to identify grade elevations at identified areas of the site. Modeled renderings reveal a complicated fabric where openings provide access to differing floor and parking plates; stairs emerge and a variety of retaining walls resolve grade changes. The DAB has recommended modification of site and landscaping to ameliorate the visual impact of some retaining walls. These changes are reflected in revised plans. **(Affirmative finding)**

(c) Protection of Important Public Views:

Views from and through private property are typically not protected. The new public park, west of this development, will provide an opportunity for the public to enjoy westerly views of the lake and mountains. Residents within these new housing units will be afforded a similar vista.

An east-west greenway will extend behind the orphanage, with buildings C and E, P, Q and R as a structural frame. The visual greenway continues west, across west road (trees allowing) to the walkway and orchard. Buildings with favorable orientation have included rooftop terraces and decks, patios, balconies and *galerias* to exploit opportunities for extraordinary views.

Public views can be created by orchestrated terminus vistas via public roadway; east/west on both South and North roads. South Road offers a greater potential as the westerly end is not interrupted by structure. The Design Advisory Board expressed concern that the westward vista on North Road would be of an external stair tower. They have recommended that the stair tower be revised to be expressed in the same material and similar design as on the building to provide an enhanced terminus view.

Revised design has created a more focused terminus view southward on West Road, where the building has been treated with additional attention to attract and define a focal point of interest. Plans include a notation for an additional “focal element” (Plan L204), which has not been defined. Revised plans for a cemetery access point (L-EXa, L208 and *Cemetery Access Plan*) at the northerly terminus of West Road have been submitted; something that was only suggested at Design Advisory Board. Intended to provide that street-end focal point, it intends to allow access across a boundary line onto an adjoining property. Some assurance of acceptability is needed from that abutting owner before circulation through that property is encouraged by design.

(Affirmative finding as conditioned)

(d) Protection of Important Cultural Resources:

Burlington’s architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Archeological sites likely to yield information important to the city’s or the region’s pre-history or history shall be evaluated, documented, and avoided whenever feasible. Where the proposed development involves sites listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8(b).

Alterations to the former orphanage have been permitted under earlier review. The former elementary school / priests’ quarters attached to the south of the orphanage has been incorporated into this development, now as building “B”. Building G has been pulled to the southerly corner providing greater space between the new construction and the former orphanage. Building F has been modified from original plans at the request of the DAB to reduce the height along North Avenue to three stories (articulated in brick) immediately adjacent to the orphanage to increase the opportunity to view the historic orphanage earlier while traveling on North Avenue.

The newly created zoning district (NAC-CR) offers a range of setbacks from North Avenue from 20’ (minimum) to 30’ (maximum.) From scaled plans, Building G appears to be set back approximately 17’ from the front property line. This does not meet the required setback. To better afford view of the orphanage, the maximum setback is recommended.

The UVM Consulting Archaeology Program (CAP) conducted an extensive Phase I site identification survey within previously determined sensitive portions of the development parcel. No pre-contact era Native American archaeological sites were identified. Test pits confirm some re-grading (suggested related to farming activities) and plow zone strata disturbance. The historic period artifacts that were recovered reflected the mixed uses of the parcel over time, such as children’s toys likely associated with the orphanage (jacks, marbles), and building materials from structures no longer extant (bricks, cinders, mortar). That study recommended no further archaeological analysis.

The Historic Preservation consultant’s report is dated June, 2016, and addresses only the addition of buildings K and L. It does not incorporate the entire neighborhood buildout. Such analysis is

needed and must be provided for review by the Development Review Board prior to construction of anything beyond buildings K and L and their associated project phases.

(Affirmative finding as conditioned for building setback; ~~No Finding Possible based on limited assessment by preservation consultant~~)

(e) Supporting the Use of Renewable Energy Resources:

The project proposes limited solar installation; identified in images on Building I and H. No part of the application will preclude the use of other renewable energy resources. **(Affirmative finding)**



(f) Brownfield Sites:

The Vermont DEC website does not include these addresses. **(Affirmative finding)**

(g) Provide for nature's events:

Special attention shall be accorded to stormwater runoff so that neighboring properties and/or the public stormwater drainage system are not adversely affected. All development and site disturbance shall follow applicable city and state erosion and stormwater management guidelines in accordance with the requirements of Art 5, Sec 5.5.3.

A fully developed Stormwater Management Plan has been prepared and included within the application materials. The material has been forwarded for review to the Stormwater Engineering program.

Design features which address the effects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage from circulation areas shall also be incorporated. Snow storage locations are provided on the same plan as “Bike Amenities” and “Commercial Spaces”. The snow storage area between Building K and L is on the smoking patio; the applicant must assure that the loss of that feature for snow storage will still meet the programmatic requirements of Champlain Housing Trust. That location also presents the likelihood of heavy snow melt to impact the abutting Redstone Cottage, which sits below grade.

Building features that address the effects of inclement weather and the adequacy of resident shelter at entrances can be reviewed on a building-by-building nature. **(Affirmative finding as conditioned)**

(h) Building Location and Orientation:

The overall plan continues to be one of very large buildings encircled with new streets or parking areas. The importance of building orientation toward the street (which will be eventually turned over to the city) becomes essential in reinforcing the streetline. Building G has been relocated south; fronting on both North Avenue and South Road; creating a distinct street anchor on both South Road and the Avenue, replacing a void that had previously been proposed.

Buildings remain substantially set back from the public sidewalk and inner streets. Streets are spatially designed by a wall of buildings that front the sidewalk in an ordered manner. The plan leans toward the maximum front yard setback (0-20' for inner streets, as prescribed by the standards for the new zoning district). (Building P 15' front yard setback; Building I 20'.)

Building Q appears detached from a new building R. Q is setback approximately 66' from West Road, in conflict with the required setbacks on interior streets. If substantially attached to Building B, that concern is moot. R scales at 7' setback. Arrangement that holds the street wall is essential in strengthening the arrangement.

Setbacks from North Avenue are 20' minimum, 30' maximum. Plan L 001 and C2.3 suggest Building G at the southeasterly edge does not meet the minimum setback from North Avenue of 20'. This will need confirmation or correction.

The proposed buildings on either side of the orphanage are in the neighborhood of 25'; Building K south of South Road ranges from 20'-45' as angled.

Front yard setbacks *within* the development may be between 0-20', with structures setback a minimum of 12' from the curb on a public street. Although the streets have not yet been turned over to the city, the arrangement is required be designed to meet that standard.

Side and rear yard setbacks only apply to the periphery of the district and not individual parcels. Building N has been modified to pull a corner out of a required 20' rear yard setback along the westerly boundary of the district, although that new building footprint is different across revised plans. (Identifiable on plan C2.0. Older plans do not show revision.) Required 15' setbacks from the residential zoning district to the south are required; revised plans now show a patio and walkway from the parking lot across property lines. The patio may encroach up to 5' from the property line.

Parking has also been pulled out of the setback on the westerly boundary line. See T.J. Boyle plan dated 1/2/2017.

Principal buildings shall have their main entrance facing and clearly identifiable from the public street. The development of corner lots shall be subject to review by the city engineer regarding the adequacy of sight distances along the approaches to the intersection. To the extent practicable, development of corner lots in non-residential areas should try to place the building mass near the intersection and parallel to the street to help anchor the corner and take advantage of the high visibility location.

Revisions and relocation of Building G have in turn strengthened the corner and eliminated the "void" in the streetscape. There remains the large gap between Building G and C populated largely

by surface parking, directly fronting South Road. The illustrated lawn area in the Lincoln Brownell illustrations ameliorates the breadth of pavement.

Analysis of building entrances is complex, given the number of buildings and their orientation toward streets, sidewalks, parking areas, inner walkways, and recreation paths.

Building “C” has a principle (southerly) entrance fronting South Road. The concrete retaining wall and the isolation of the entrance make this a particularly unfriendly portal. As a residential entrance, greater emphasis toward creating an inviting entry should be exercised here (and with other residential buildings). The Design Advisory Board has recommended that the visible amount of the exposed concrete retaining wall be reduced with berming or landscaping. Plan L502 defines increased landscaping and illustrates the inclusion of 2 park benches in this location.

The DAB also recommended that the screening illustrated at the commercial entry to Building C be eliminated, as the entry should be warmer and welcoming.

Building “G” has easily identifiable entrances along North Avenue; one is labeled “Residential” the other “Commercial” on elevations BG-2. The east elevation provides a partial canopy/porch roof over window glazing, adjacent to the southerly entrance. The southeast corner has a wraparound overhang inviting visitor entrance. Confirmation is needed that Building G meets the required 20’ minimum setback from the Avenue.

There is a clearly articulated entry portal between Buildings E and F. Building E along North Road is primarily dedicated to vehicular entry/parking deck openings. Some correction has been made to imagery where vehicular entry points had seemed unusually steep in grade.

Building F has an entry focus within the brick three story portion on North Avenue, under a porch roof with heavy piers. Other entries are more difficult to identify as they are recessed within the arcade area. There are a series of identifiable entrances along North Road, their location identified by stairs of increasing height.

Building I has a vehicular entry portal on the north and pedestrian doors on the raised porch area. Pedestrian entries exist on the west and south as well. Adjustments have been made to the elevated entries over the sidewalk, making them more identifiable and accessible (via at grade or stair access.) The west entry is more successful for identification under an abbreviated canopy and welcome presentation to West Road. The gym/event space has no identified specific entrance; it is assumed via the general West Road portal which leads also to the apartment building and garage. The DAB recommended the main entrance to residential units on Building I facing west be made more prominent; and the stairs at the northwest corner made less prominent. Those changes are reflected in revised plans.

Building Q has now evolved into 2 connected buildings; Q and R. (Plans are inconsistent; some show the buildings as connected; The TJ Boyle plan dated 1/2/2017 has them detached.) The applicant has suggested that R is intended to be a 48 room boutique hotel. R has a visible pedestrian entry on the east (fronting West Road), within a narrow 2 bay pavilion with recessed porch entry, resembling a walk-up. Building Q has no easily identifiable entrance from West Road, although a patio and covered porch is present. The plan relies on principal entry from the

inner courtyard/parking drop-off. There needs to remain a strong visible entrance from West Road.

~~If Building R and Building Q are not substantially connected, Q does not meet the required setback from an interior road of 1-20'. The building is located approximately 66' from West Road, in conflict with setback standards.~~

Buildings O and P have a centrally identifiable pedestrian entrance (Plan OP-2 & OP-3), two wing entrances and apparent first floor entries from West Road.

Building H has clearly identifiable entrances from raised stoops along West Road, and one along South Road under an extended canopy.

The north elevation of Building M fronts South Road, which has several double entries. Building N does not front any street, but has been described as connected to Building M. If not a detached structure, entrance may be considered with its host, M.

Building K fronts North Avenue and South Road; entrances are visible under extended canopies and highlighted by a change in building material. The applicant has assured the DAB that the central, identified entry along the Avenue connects to a public entry space, not a meeting room. Building L (L-2) has visible entries along South Road under a canopy; and on secondary east and west elevations.

Opportunities to create terminus views have evolved through Design Review. The plan has lacked an identified structural focus at the west end of North Road. The DAB pointed out that the exterior stairs had become the terminus, and recommended they be treated in the same manner as the rest of Building Q. A condition of their approval was to use similar design and materials as the host building.

The north end of West Road now articulates an entrance to the abutting lot (Lakeview Cemetery). Access to that separate parcel will require agreement between City representatives and the Parks and Recreation Department, which is responsible for the grounds. A plan that encourages access and circulation across boundary lines to another parcel will require agreement from that property owner.

The DAB previously acknowledged revisions that created a positive viewscape at the south end of West Road.

The garage entrances and service access on North Road have been set back from the principal structure, becoming secondary and subordinate in scale and design. See Plan I-3 and EF-3.

~~(Affirmative finding as conditioned Adverse finding for setbacks if Building Q is detached from R; No finding possible for cemetery access plan)~~

(i) Vehicular Access:

Curb cuts shall be arranged and limited in number to reduce congestion and improve traffic safety. A secondary access point from side roads is encouraged where possible to improve traffic flow and safety along major streets. The width and radius of curb cuts should be kept to the

minimum width necessary, and sight triangles and sufficient turnarounds for vehicles shall be provided to reduce the potential for accidents at point of egress.

The number of curb cuts has been diminished along interior roads, although entrances to parking lots punctuate South Road. West and North Road have minimized curb cuts dramatically from earlier plans. The width of these openings will need to meet the approval of the city engineer as these streets are expected to be adopted as public thoroughfares.

Driveways that have a slope of 5% or greater (towards the right of way) shall be made of a solid surface including conventional pavement, pavers or pervious pavement.

Pavement is proposed for vehicular circulation areas. Modeling images of the driveway access at Building E were markedly steep. The applicant shall confirm or correct the accuracy of that image.

DPW typically expects continuous sidewalks at vehicular entrances. The applicant shall consult with the Traffic Engineering staff to assure the plan meets their criteria, as the dedication of streets and street adoption by the city is anticipated.

Driveways for commercial properties may require a traffic study to identify the impacts of the movement of traffic to and from the property, and design for safe access. Access for service and loading areas should be located behind buildings or otherwise screened from streets or public ways with landscaping or other barriers. Whether commercial or residential shared driveways are encouraged where possible and appropriate.

A traffic study has been submitted to DPW; its effectiveness and acceptability to be determined by their transportation engineers.

The service/loading access is from North Road, between buildings E and I. The garage openings now have doors screening the large openings from the public street.

(Affirmative finding as conditioned)

(j) Pedestrian Access:

Pedestrians shall be provided one or more direct and unobstructed paths between a public sidewalk and the primary building entrance. Well defined pedestrian routes shall be provided through parking areas to primary building access points and be designed to provide a physical separation between vehicles and pedestrians in a manner that minimizes conflicts and improves safety. Where sidewalks and driveways meet, the sidewalk shall be clearly marked by differentiated ground materials and/or pavement markings.

Sidewalks line each street, connecting to walkways to each building. The network continues on the interior of the site, with connected access between buildings, parking areas, and green spaces. Sidewalks line parking areas as well, providing a separation between vehicles and pedestrians. See previous note about continuous sidewalks at vehicular entries. **(Affirmative finding as conditioned)**

(k) Accessibility for the Handicapped:

Special attention shall be given to the location and integration of accessible routes, parking spaces, and ramps for the disabled. Special attention shall also be given to identifying accessible access points between buildings and parking areas, public streets and sidewalks. The federal Americans with Disabilities Act Accessibility Guidelines (ADAAG) shall be used as a guide in determining the adequacy of the proposed development in addressing the needs of the disabled.

From pre-development meetings to the present, the applicant has remained committed to providing an all-accessible community. Buildings have been projected to be served by (sometimes multiple) elevators; grades are intended to meet accessibility requirements, and h/c parking spaces are illustrated on plans. Full compliance with ADA requirements will be under the jurisdiction of the building inspector.

Some of the handicapped parking spaces identified on surface lots (L503) do not include a loading area but are adjacent to walkways. Conformance with standards for ADAAG parking/loading will be confirmed and implemented by the building inspector. **(Affirmative finding as conditioned)**

(l) Parking and Circulation:

*To the extent possible, parking should be placed at the side or rear of the lot and screened from view from surrounding properties and adjacent public rights of ways. **Any off-street parking occupying street level frontage in a Downtown Mixed Use District shall be setback from the edge of the front property line in order to provide space for active pedestrian-oriented uses.** Where street-level parking is provided within an existing structure, the cars shall be screened from the sidewalk and the area shall be activated with landscaping, public art, or other design amenities. Parking areas of more than 20 spaces should be broken into smaller areas separated by landscaping.*

South Road continues to have great visibility of pavement and parking. Generally, parking areas are located interior to the site and between buildings, less visible from streets. The parking areas east of Building C and on D are greater than 20 spaces (which require breaking into smaller areas with landscaping), although protection of the viewshed to the west is a goal of the plan and multi-level parking precludes the planting of trees. Landscaping plans confirm the intent to plant around the lot as feasible. (See Plans L-501 and 502.)

Attempts to link adjacent parking lots or provide shared parking areas which can serve neighboring properties simultaneously shall be strongly encouraged.

Access to parking and lots is shared across the plan. Ordinance amendment ZA17-01 will facilitate parking across parcel boundaries within the same zoning district.

Parking shall be laid out to provide ease in maneuvering of vehicles and so that vehicles do not have to back out onto city streets. Dimensions of spaces shall at a minimum meet the requirements as provided in Article 8. The perimeter of all parking areas shall be designed with anchored curb stops, landscaping, or other such physical barriers to prevent vehicles from encroaching into adjacent green spaces.

Parking spaces in Building D are 20' x 9', as are parking spaces east of Building H and east and west of Building L. Parking dimensions are not expressly given, meet the requirements of Table 8.1.11-1 as scaled on the project plans. If applicable, the applicant should identify any areas where leniency in parking standards is requested. Backup space is deficient in many of the parking garage plans.

*Surface parking and maneuvering areas should be shaded in an effort to reduce their effect on the local microclimate, air quality, and stormwater runoff with an objective of shading at least 30% of the parking lot. Shading should be distributed throughout the parking area to the greatest extent practical, including within the interior depending on the configuration. New or substantially improved parking areas with 15 or more parking spaces shall include a minimum of **1 shade tree per 5 parking spaces** with a minimum caliper size of 2.5"-3" at planting. Up to a 30% waiver of*

the tree planting requirement may be granted by the development review board if it is found that the standard requirement would prove impractical given physical site constraints and required compliance with minimum parking requirements. All new shade trees shall be: of a species appropriate for such planting environments, expected to provide a mature canopy of no less than 25-feet in diameter, and selected from an approved list maintained by the city arborist. Existing trees retained within 25-feet of the perimeter of the parking area (including public street trees), and with a minimum caliper size greater than 3-inches, may be counted towards the new tree planting requirement.

The requirement for 1 shade tree for every 5 parking spaces is met across the development. The parking lot west of P has 18 spaces, requiring 4 new trees (L505.) Revised plans depict an additional 2 trees and provide shading for 31.9% of this parking area.

The submission materials include a shading calculation (L-EX1) which now provides a shading calculation on a parking lot by parking lot analysis. The most challenging is “D”, which is a multi story parking facility. Revised plans depict shade trees within the parking deck planter. This effort will generate tree shading in an area wherein none was previously thought possible. When calculating the entire parking deck that is shaded by the northerly section of Building C and these new shade trees, the total parking lot shading is greater than the 30% prescriptive standard. The standard specifically states: *Surface parking and maneuvering areas should be shaded in an effort to reduce their effect on the local microclimate, air quality, and stormwater runoff with an objective of shading at least **30% of the parking lot**.* With this consideration, and anticipating some natural shading from adjacent buildings the required objective will be met.

All parking areas shall provide a physical separation between moving and parked vehicles and pedestrians in a manner that minimizes conflicts and gives pedestrians a safe and unobstructed route to building entrance(s) or a public sidewalk.

See Section 6.2.2. (j), above.

Where bicycle parking is provided, access shall be provided along vehicular driveways or separate paths, with clearly marked signs indicating the location of parking areas. Where bicycle parking is located proximate to a building entrance, all shared walkways shall be of sufficient width to separate bicycles and pedestrians, and be clearly marked to avoid conflicts. All bicycle parking areas shall link directly to a pedestrian route to a building entrance. All bicycle parking shall be in conformance with applicable design & construction details as provided by the dept. of public works.

Bicycle parking is a strong feature of this application. Reference is made to all Hardscape plans (L201-206) for specific locations and L605 for bike racks specs. The applicant must demonstrate by calculation compliance with Table 8.2.5-1 for each building. All bicycle parking shall meet the requirements and guidance of *Section 8.2.7. Location and Design Standards*.

(Affirmative finding as conditioned for backup space in parking garages. See Article 8.)

(m) Landscaping and Fences:

A fully articulated landscaping plan has been submitted. See plans LL501-508 for planting schedule, and associated plans for hardscape, play equipment, street furniture and site amenities. The city arborist has confirmed a meeting date with the applicant team to select species and caliper of street trees. **(Affirmative finding as conditioned)**

(n) Public Plazas and Open Space:

Where public open space is provided as an amenity to the site plan, it should be sited on the parcel to maximize solar exposure, with landscaping and hardscape (including fountains, sitting walls, public art, and street furniture) to encourage its use by the public in all seasons. Public plazas should be visually and physically accessible from public rights-of-ways and building entrances where appropriate and shall be designed to maximize accessibility for all individuals, including the disabled and encourage social interaction.

A plaza type area has been more finely defined between Buildings K and L, intended for use by Cathedral Square and Champlain Housing Trust residents. Planters, seating, garden areas and a play area are illustrated; all welcome amenities for resident use and enjoyment.

A large uninterrupted viewscape to the west is provided behind the former orphanage. Accessible at differing levels as the grade falls to the west, several public gathering or green areas are included. Plans include a swimming pool, bath house facilities, public gardens, an orchard, and pathways between Liberty House (the orphanage) and the bike path.

Public space should be coordinated with the surrounding buildings without compromising safety and visibility. Public spaces should be surrounded by active uses that generate pedestrian traffic, and connect the space to major activity centers, streets, or corridors.

Public spaces are directly linked via the sidewalk network to other areas within the site and beyond. Appropriate lighting will assure safe circulation throughout and between buildings. Commercial uses are broadly scattered, providing a mix that will promise active uses generating pedestrian traffic.

New structures and additions to existing structures shall be shaped to reduce shadows on public plazas and other publicly accessible spaces. In determining the impact of shadows, the following factors shall be taken into account: the mass of area shaded, the duration of shading, and the importance of sunlight to the utility of the type of open space being shadowed. Proposed development shall be considered for solar impact based the sun angle during the Vernal and Autumnal equinox.

Although the development is the creation of an entire new neighborhood, a shading study will be valuable to the DRB to understand impacts of large buildings across the project area. The shading plan submitted is relative to a calculation of shading provided to meet requirements for parking lot shading. An overall study of site shading (Vernal and Autumnal equinox) is recommended. It is anticipated that the distances between buildings will preclude significant shading impact on adjacent structures. **(Affirmative finding)**

(o) Outdoor Lighting:

Where exterior lighting is proposed the applicant shall meet the lighting performance standards as per Sec 5.5.2.

A lighting plan, with fixtures, illumination levels and a photometric has been submitted. In general, street lighting (which is typically not reviewed by this office, however the project will be “private” until the streets are accepted by the city) is a hybrid of what has been installed at Waterfront North. BED engineers have indicated that districts need to be adopted for decorative fixtures (as are proposed here) before they will agree to adopt the streets and lights. That designation has not as yet occurred.

Streetlight poles are proposed to be 28.5' mounting height' (they are 30' on the waterfront); poles and fixtures will be black rather than Burlington's preferred grey. Parking lot poles are proposed to be 20', and "pedestrian lights" at 12.5 mounting height. See details, L-607.

Lighting itself is LED. Assurance has been provided that BED will have the capability to repair and replace these fixtures within the right-of-way when and if they are damaged. As LED, they are anticipated to have a life expectancy of 20 years. If they fail (or are knocked over), BED officials say they will be replaced with grey as that is the city standard.

Lighting levels will be driven by street classification (collector roads versus residential roads.) That discussion must find an agreement with the public utility prior to DRB approval.

The photometric shows some 'hot spots' in illumination. Areas under building canopies tend to be a little higher, but footcandle measurement up to 5 is acceptable at a building entrance. If not an entrance, light levels should diminish in those areas. Walkways have a specific maximum illumination of 2 fc. Average illumination on walkways must not exceed 0.5 footcandles. Many of the sidewalk readings exceed .5, so an average reading is essential to assurance compliance.

A few patio areas have had elevated lighting on earlier plan; the one west of Building A is now compliant, but one south of Building F no longer includes footcandle measurement. A patio south of E has readings > 2fc; this is acceptable only if this is at a building entrance. See Plan L401.

A walkway west of Building L has light readings >2 fc; a fixture must be modified.

The walkway east of Building C has several light readings > 2 fc as does the west walkway behind Building K. The area between buildings M and N have higher light levels as well. Per the ordinance, walkways shall not exceed 2 fc; parking lots 4 fc, and building entrances 5 fc.

Photometrics do not include average illumination levels (other than for the intended roadway), or min/max uniformity ratios, which are required by Section 5.5.2. Reference to Plan L600 for further information is misdirected, as that provides information on pavers. Staff may exercise the option for secondary review by a lighting consultant to assure overall conformance. **(Affirmative finding as conditioned)**

(p) Integrate infrastructure into the design:

Exterior storage areas, machinery and equipment installations, service and loading areas, utility meters and structures, mailboxes, and similar accessory structures shall utilize setbacks, plantings, enclosures and other mitigation or screening methods to minimize their auditory and visual impact on the public street and neighboring properties to the extent practicable.

Utility and service enclosures and screening shall be coordinated with the design of the principal building, and should be grouped in a service court away from public view. On-site utilities shall be place underground whenever practicable. Trash and recycling bins and dumpsters shall be located, within preferably, or behind buildings, enclosed on all four (4) sides to prevent blowing trash, and screened from public view.

Any development involving the installation of machinery or equipment which emits heat, vapor, fumes, vibration, or noise shall minimize, insofar as practicable, any adverse impact on neighboring properties and the environment pursuant to the requirements of Article 5, Part 4 Performance Standards.

It is challenging to find appropriate locations for service areas, dumpsters, recycling and similar facilities within a project area that has so many public and visible frontages. Collective trash and recycling areas for connected buildings are recommended for efficiency and to minimize visibility.

A trash access is identified for building K (Plan AO-0.0) A trash enclosure for Building M was recommended for revision by the DAB to become less prominent with a change in color or materials. Revised plans M3 reflect those suggested changes.

Transformers are recommended to be buried.

The North Road loading area has been somewhat diminished with suggested internalization of activities. Service loading bays are now illustrated with doors.

Mailbox locations will need to be identified for each building. Any HVAC or external machinery must be identified on site plans and/or elevations as appropriate. If roof mounted, roof plans will be required with an assessment of total area utilized to assure compliance with height limitations. The DAB recommended that no rooftop equipment be installed on the gymnasium building "I", rear, due to its visibility from many of the structures. **(Affirmative finding as conditioned)**

Part 3: Architectural Design Standards

Sec. 6.3.2 Review Standards

(a) Relate development to its environment:

1. Massing, Height and Scale:

This is a neighborhood without an easy comparison. From revised summary, there are seven five-story buildings (including the orphanage, and the new Building R), 7 four-story, 2 three story, a three story parking garage, and two one story/ ground level structures for a fitness center and greenhouse. Rather than a typical neighborhood that may have evolved over a period of time, this proposal will create an entire new one out of whole cloth. There is no analogous prototype, short of college dormitories or congregated mill buildings. The structures themselves are all large scale; most with flat roofs. The size of the orphanage, itself one of the largest buildings in Burlington, will be insignificant among this collection of sizable buildings. This is a newly created neighborhood based on a building model of supersized structures; which in itself invents its own context.

Common design elements include breaking up building mass by color block and window arrangement; top floors are on occasion "pedestaled" and set back from the lower block. Some buildings enjoy balconies or *galleries*, particularly those facing the west. There is homogeneity in the treatment of building mass by articulation, despite the rearrangement of windows and manipulation of building plane. This is not a typical neighborhood that conveys evolutionary development over an extended period of time; it is a new model composed entirely of large buildings based on the context of the existing orphanage. In that manner, the milieu is that of large scale. **(Affirmative finding)**

2. Roofs and Rooflines.

Building I, the pavilion tops and the south portion of H have pitched roofs. All others are flat. A few roofs appear to be parapetted, but there is rarely any rooftop elaboration or detailing, further emphasizing the cubist vocabulary (Building F, B, G.) Building M has the suggestion of a corbelled cornice which artfully softens the building's upper edge. Building H has a sawtooth reference in the jagged rooftop pavilions, but abruptly transitions to flat roofs at the south end. Porch roofs are typically flat projections with hefty piers.

The orphanage building retains its gabled roof, although now oversheathed in copper. Within the context of the neighborhood there is consistency. **(Affirmative finding)**

3. *Building Openings*

Openings vary by building, elevation, frontage to a public way or by topography. Overall, buildings have similar treatments of organizing windows in columns or reflective of floor plate. Rhythms are established within wall plane; the geometries of the building mass are echoed in the manipulation of window shapes and sizes. Greater complexity is evident in the buildings fronting the lake (M, N, O, P and Q.) At the DAB's urging (in part because of visibility from the Avenue), more detail and articulation has been afforded buildings K and L. See plans K3 and revised drawings for Building L (L2, L2-1.)

Some window arrangements appear to be without schedule (like south elevation or green pavilions of L); other times a pattern emerges bringing familiarity to the overall design. See building M. As the window refrain is repeated across the façade and around the corner, a rhythmic pattern emerges. Other times the buildings themselves change so dramatically within their own footprint that irregularity emerges, which may be an intentional design distinction between building components. See building H, as it presents on South Road.

The Design Advisory Board recommended that there be no screening at the commercial corner of Building C. (See CD-2 and CD -3, view from southwest.) Similarly, they advised that the commercial space at Building H be improved with more glazing, which would make the space prominent and welcoming. Those revisions are evident on plan H-3. **(Affirmative finding)**

(b) *Protection of Important Architectural Resources:*

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed or eligible for listing on a state or national register of historic places, the applicant shall meet the applicable development and design standards pursuant to Sec. 5.4.8. The introduction of new buildings to a historic district listed on a state or national register of historic places shall make every effort to be compatible with nearby historic buildings.

Building G has been distanced from Building B and the former orphanage (A). Pulling that building to the south has created greater visibility of the historic structure when traveling along North Avenue.

Overall, the scale of proposed buildings and their collection reduces the stateliness of the iconic orphanage, which loses its spatial context and becomes less grand among the assemblage.

Similarly, the large buildings placed close to North Avenue minimize the view of both the



orphanage and the former home of Dr. Waldo Upton / Lakeview Sanitarium / John Bosco school, at 311 North Avenue just south of the development area which is also listed on the Vermont State Register of Historic Resources. That building is of a substantially smaller scale than the abutting development. Efforts to transition from the 4 story building K to this more modest structure have been suggested by the DAB to help ease the difference. Revised plans illustrate a line of mature plantings between parcels.

The submitted consultant's report considers the construction of only Buildings K and L. From that document:

These will be prominent buildings at a new corner location set between two distinctive masonry buildings. The site plan, landscaping and design elements all help tie the new buildings to the historic streetscape. The buildings will stand very close to the historic Redstone Cottage but effort will be made to visually tie the cottage into the overall design plan so that it becomes a focal point that contributes to the appreciation of its historic character and architectural elements.

It is not defined what design elements visually tie the cottage into the overall design plan. But the report finds the potential for no adverse effect when conditioned. ~~Staff recommends a~~ As noted previously, a revised consultant's report that considers the impact of the entire build-out is needed. **(No finding possible Affirmative finding as conditioned)**

(c) Protection of Important Public Views:

See Section 6.2.2. (c).

(d) Provide an active and inviting street edge:

As noted in Section 6.2.2, there remains a void in the streetscape (South Road, behind Building G), elongated buildings that can strain comfortable pedestrian distances (Buildings F, E, I and G, B, A), and an abundance of visible surface parking that collectively diminish the comfort and attractiveness of the development. Building facades demonstrate variation by building materials, window openings and plane changes. The 340' continuous building wall of Buildings E and F is broken by plane and material changes, the interruption of exterior staircases and building entries. The Design Advisory Board has recommended that the main residential entrance to Building I (facing west) shall be made more prominent. Stairs at the northwest corner should be made less prominent. Plan I-2 reflects those recommendations.

Building design with two, three or four story block finishes over a five story building front are a strategy to differentiate blocks and to create human scale surroundings. Roof overhangs, identifiable and inviting building portals and colonnaded entrance porches help in that manner along ground levels. The newly designed public area between buildings K and L have humanized and warmed that area for collective use. **(Affirmative finding)**

(e) Quality of materials:

All development shall maximize the use of highly durable building materials that extend the life cycle of the building, and reduce maintenance, waste, and environmental impacts. Such materials are particularly important in certain highly trafficked locations such as along major streets, sidewalks, loading areas, and driveways. Efforts to incorporate the use of recycled content materials and building materials and products that are extracted and/or manufactured within the region are highly encouraged.

Owners of historic structures are encouraged to consult with an architectural historian in order to determine the most appropriate repair, restoration or replacement of historic building materials as outlined by the requirements of Art 5, Sec. 5.4.8.

The permit set includes identified sheathing and roofing materials for each building. In general, exterior sheathing draws from a palette of fiber cement panel or lap siding, corrugated metal, board and batten and wood siding. Walls are concrete, brick, stone veneer or gabion. Roofs are typically metal. Trim is composite or aluminum; windows fiberglass or storefront framing. The ribbon-style screening along first floors has not been identified. With that exception, all are considered of reasonable durability. It is not believed that any are extracted or manufactured locally. The screening material at some building openings has not been defined and needs to be.

(Affirmative finding as conditioned)

(f) Reduce energy utilization:

All new structures must meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances. **(Affirmative finding as conditioned)**

(g) Make advertising features complementary to the site:

No advertising features are included within this review. A sign plan for informational, traffic and directional purposes is included, and is subject to DPW review and approval as appropriate within anticipated public rights-of-way.

Any commercial or advertising signage will require separate permitting. **(Affirmative finding as conditioned)**

(h) Integrate infrastructure into the building design:

See Section 6.2.2 (p) above.

(i) Make spaces secure and safe:

All appropriate means of ingress and egress, and code requirements for building and life safety as defined by the building inspector and fire marshal must be observed.

Building entrances must be visible and adequately lit. Intercom systems for multi-family housing is recommended to maximize personal safety. **(Affirmative finding as conditioned)**

Article 8: Parking

Sec. 8.1.8, Minimum Off-Street Parking Requirements

The proposed development is located in the Shared Use Parking District. Within this district, the following minimum parking standards apply:

- Multi-family attached dwellings – 1 space per unit
- Commercial bakery – 2.5 spaces per 1,000 sf

- Restaurant – 3 spaces per 1,000 sf
- General office – 2 spaces per 1,000 sf
- College (post-secondary school) – 2 spaces per 1,000 sf
- General retail (small < 4,000 sf) – 2 spaces per 1,000 sf
- Large daycare - 1 space per every 2 employees + 1 per every 5 children
- Hotel – 0.75 space per room

Proposed parking is adequate; a minimum of 881 parking spaces is required. A total of 1,093 off-street parking spaces is proposed (888 garage + 205 surface parking spaces). The proposed parking exceeds the minimum requirements for the 735 residential units (735 spaces) and non-residential uses:

- Multi-family attached dwellings – 735 provided (735 required)
- Commercial bakery is 600 sf – 2 spaces provided (1.5 required)
- Restaurant is 2,050 sf – 6 spaces provided (6.15 required)
- General office is 23,264 sf – 69 provided (46.5 required)
- College (post-secondary school) – 50 provided (33.1 required)
- General retail (small < 4,000 sf units) – 5 provided (5.35 required)
- Large daycare – 16 provided (22 required)
- Hotel – 32 provided (31.5 required)

The revised parking table notes generally how all of the parking is allotted to the mix of buildings and uses onsite. The large daycare use needs to be allotted an additional 6 parking spaces in order to meet its minimum requirement. **(Affirmative finding as conditioned)**

Sec. 8.1.9, Maximum Parking Spaces

This section limits surface parking to 125% of the Neighborhood Parking District minimum parking requirement. Under the residential parking requirements alone (2 spaces per dwelling = 1,470 X 125% = 1,838 spaces), the proposed 1,093 parking spaces proposed comply with this limitation. Of the 1,093 off street parking spaces, 205 are within surface parking lots.

(Affirmative finding)

Sec. 8.1.10, Off-Street Loading Requirements

While the project plans depict some service areas, such as that at between Building I and Building E, no loading areas are expressly noted for the commercial spaces. Per this criterion, loading areas for all of the commercial uses are needed. ~~The project plans must specifically note as much~~ The applicants testified that loading areas will be provided for the commercial spaces, likely by setting aside some parking spaces nearby. A revised project plan that clearly depicts loading areas is needed. **(No finding yet possible Affirmative finding as conditioned)**

Sec. 8.1.11, Parking Dimensional Requirements

Parking spaces depicted in the project plans, both within garages and in surface parking lots, comply with the dimensional standards of Table 8.1.11-1, *Minimum Parking Dimensions*. In parking lots that contain 90-degree spaces on both sides, back-up length is frequently only 18.’ The standard is 24.’ There is precedent, particularly within garages, for back-up length of only 20’; however, 18’ is even less. Back-up length must be lengthened to 20’ to 24.’ **(Affirmative finding as conditioned)**

Sec. 8.1.12, Limitations, Location, Use of Facilities

(a) Offsite parking facilities

(Not applicable)

(b) Downtown street level setback

(Not applicable)

(c) Front yard parking restricted

(Not applicable)

(d) Shared parking in the Neighborhood Parking Districts

(Not applicable)

(e) Single story structures in Shared Use Districts

(Not applicable)

(f) Joint use of facilities

There is nothing in the application expressly stating that parking facilities will be shared among the various uses. Given the layout of the site and variety of uses, it seems that shared use is likely, albeit not required. **(Affirmative finding)**

(g) Availability of facilities

Nothing in the application indicates that the proposed parking will be used for the storage or display of vehicles or materials by offsite users. Parking will be for residents, customers, employees, students, and visitors only. **(Affirmative finding)**

(h) Compact car parking

There is no indication of “compact” parking spaces within the development. Spot measurements of surface and garage parking spaces yielded acceptable dimensions for standard parking spaces (9’ X 20’). **(Affirmative finding)**

Sec. 8.1.13, Parking for Disabled Persons

The site plans depict a number of handicap parking spaces in close proximity to pathways and building entries. ADA compliance is administered via the city’s building permit process. **(Affirmative finding)**

Sec. 8.1.14, Stacked and Tandem Parking Restrictions

(Not applicable)

Sec. 8.1.15, Waivers from Parking Requirements / Parking Management Plans

(Not applicable)

Sec. 8.2.5, Bicycle Parking Requirements

As with vehicular parking, bicycle parking requirements are tied to use and, in some cases, the size thereof. A total of 898 bike parking spaces are proposed (594 indoor/covered & 304 outdoor/rack spaces). The applicants’ bike parking table shows building, use, requirements (long and short term), and total spaces provided. A total of 92 long term bike parking spaces is required. A total

of 45 short term bike parking spaces is required. As proposed, 594 long term and 304 short term bike parking spaces will be provided. Long term spaces will be enclosed within the buildings onsite. Short term spaces will be provided at racks throughout the development. **(Affirmative finding)**

Article 9: Inclusionary and Replacement Housing

Sec. 9.1.5, Applicability

As the proposed development includes more than 5 new dwelling units, it is subject to the inclusionary housing provisions of Article 9. Per Table 9.1.8-1, *Inclusionary Zoning Percentages*, 25% of the total unit count must be inclusionary (25% of 735 is 184 dwelling units) in the NAC-CR zone. In partnership with local housing nonprofit organizations, all of the inclusionary housing units are incorporated into this development proposal and will be provided onsite.

The applicants' initial inclusionary housing proposal amounteds to 166 inclusionary housing units. It wais 25% of 665 housing units (735 total – 70 senior housing units). The application citeds the exemption under Sec. 9.1.6 (c). This exemption; however, is not available to projects in the NAC-CR or NMU zones. The 166 proposed inclusionary units are only 22.6% of 735. The inclusionary housing requirement for this project is 25% of the 735 total, inclusive of the senior housing. The applicants have been made aware of this shortcoming and will make adjustments have since testified that the inclusionary numbers will be revised to include 25% of the 735 unit total. Additional inclusionary units will be added to Building H in order to comply. Written approval of the inclusionary units by the manager of the city's Housing Trust Fund is required

The applicants have submitted a letter in response to DRB concerns about the location and perceived separation of the proposed inclusionary housing units. The letter asserts that the location is the best in the entire site and will enable early construction, immediate access to adjacent park lands, and connection to the rest of the development and its associated amenities. **(No finding yet possibleAffirmative finding as conditioned)**

Sec. 9.1.12, Additional Density and Other Development Allowances

Provision of the required inclusionary housing affords the development an additional 0.5 FAR and 10' building height (set back 10' from the street façade). Additional lot coverage of up to 72% is also enabled. In this case, no additional FAR is sought. Lot coverage of 64% is sought and is compliant with this section. Similarly, two of the buildings (C and I) exceed the 65' standard height limit and reach 70' and 73,' respectively. These two heights are below the 75' maximum afforded by this section. In both cases, upper stories are set back. Compliance with the 25% inclusionary requirement as noted above is, of course, required. **(Affirmative finding)**

Sec. 9.1.17, Review of Proposal for Phasing

See Sec. 3.5.6 (c) 2.

Article 10: Subdivision

Subdivision of the properties is under separate application (17-0267SD). Preliminary plat approval was granted October 19, 2016. Final plat application has not yet been filed. The proposed lot and street layout is contingent on the would-be subdivision. At the very latest, final plat approval must be sought and granted prior to commencement of construction. **(Affirmative finding as conditioned)**

Article 11: Planned Unit Development

The NAC-CR zoning district essentially functions as a PUD zone. Dimensional requirements are handled across the entire zone, rather than on a lot-by-lot basis. Therefore, pursuit of PUD approval is not required for this project. In instances where multiple lot, tracts, or parcels of land are to be developed as a single entity, PUD approval may be sought. Such is the case with this application.

Sec. 11.1.6, Approval Requirements

(a) The minimum project size requirements of Sec. 11.1.3 shall be met

There is no minimum lot size for PUD in the NAC-CR zone. **(Not applicable)**

(b) The minimum setbacks required for the district have been met at the periphery of the project

Peripheral setbacks have largely been met. A small portion of Building G needs to be pulled out of the North Avenue front yard setback. **(Affirmative finding as conditioned)**

(c) The project shall be subject to design review and site plan review of Article 3, Part 4

See Articles 3 and 6 above.

(d) The project shall meet the requirements of Article 10 for subdivision review where applicable

See Article 10 above.

(e) Density, frontage, and lot coverage requirements of the underlying zoning district have been met as calculated across the entire project

See Article 4 above.

(f) All other requirements of the underlying zoning district have been met as calculated across the entire project

Compliance with this criterion is addressed article-by-article in the findings above.

(g) Open space or common land shall be assured and maintained in accordance with the conditions as prescribed by the DRB

Within the development, there are a number of green space areas and other recreational amenities accessible to residents. ~~Presumably, some sort of HOA. The applicants' represented that an association will be formed and will be charged with maintenance of these green spaces and recreational amenities. Written details are needed.; however, no details are included in the application.~~ Perhaps more significantly, 12 acres of the original ~33 acres of former Burlington College lands have been sold to the city for open space preservation. Management of those lands will be handled by the city's Parks & Recreation Department. **(No finding possible Affirmative finding as conditioned)**

(h) The development plan shall specify reasonable periods within which development of each phase of the planned unit development may be started and shall be completed. Deviation from the required amount of usable open space per dwelling unit may be allowed provided such deviation shall be provided for in other sections of the planned unit development.

See Sec. 3.5.6 (a) 11.

(i) The intent as defined in Sec. 11.1.1 is met in a way not detrimental to the city's interests

Sec. 11.1.1, Intent

- (a) *Promote the most appropriate use of land through flexibility of design and development of land;*

This proposal includes a variety of uses, amenities, and new public infrastructure that is based on the public outreach process centered development and conservation of the original ~33 acre property. The PUD process enables plasticity in design to create something other than a traditional residential subdivision with detached dwelling units on individual lots. Peripheral setbacks and project-wide lot coverage calculations enable significant flexibility within the project. **(Affirmative finding)**

- (b) *Facilitate the adequate and economical provision of streets and utilities;*

Multiple residences and businesses will be served by shared streets and utilities within the development. **(Affirmative finding)**

- (c) *Preserve the natural and scenic qualities of open space;*

The most significant open space of the original acreage is the 12-acres of conservation land recently sold to the city. Much of this land remains wooded and preserves views to and from the lake. Within the development, a large center green space will also afford easy access to open space and outdoor activities. **(Affirmative finding)**

- (d) *Provide for a variety of housing types;*

All of the housing will be in the form of multi-family attached units. Within that format, a variety of bedroom counts and price points (including inclusionary, “work force,” and market rate units) are included. There is also a mix of owner-occupied and rental units. Senior housing units will also be provided. **(Affirmative finding)**

- (e) *Provide a method of development for existing parcels which because of physical, topographical, or geological conditions could not otherwise be developed; and,*

The subject property does not need to be developed as a PUD; however, it may be. The scale, intensity, and type of development proposed is most appropriately reviewed as a collective PUD. **(Affirmative finding)**

- (f) *Achieve a high level of design qualities and amenities.*

With revisions as recommended by the Design Advisory Board, the project will comply with this criterion. **(Affirmative finding as conditioned)**

- (j) *The proposed development shall be consistent with the Municipal Development Plan*
See Sec. 3.5.6 (b) 10.

- (k) *Any proposed accessory uses and facilities shall meet the requirements of Sec. 11.1.6 below.*
Not applicable to the development as proposed.

II. Conditions of Approval

1. **Prior to release of the zoning permit**, revised project plans addressing the following recommendations of the Design Advisory Board shall be submitted, subject to staff review and approval:
 - a. Any ground-mounted or roof-mounted mechanical equipment shall be screened from view from the public way;

- b. The handicapped accessible path leading to the waterfront bike path shall be constructed earlier than phase 10;
 - c. At Building C, the visible amount of retaining wall along the south side of the building shall be decreased through the use of earth berming and/or landscaping;
 - d. At Building C, the screening detail that is utilized at parking structures shall not be also utilized at commercial spaces;
 - e. At Building H, the entrance to the commercial space at the southwest corner of the building shall be made more prominent and welcoming by the addition of more glazing;
 - f. At building I, the main residential entrance facing west shall be made more prominent, and the exterior stair at the northwest corner of the building that leads to a secondary entrance shall be made less prominent;
 - g. At building I, no rooftop mechanical equipment shall be located on the roof of the gymnasium due to the visibility of this roof from neighboring buildings
 - h. At building M, the trash enclosure at the southeast corner of the building shall be made less dominant, such as by changing the material or color; and,
 - i. At building Q, the stair tower at the northwest corner of the building shall be treated with similar cladding and screening materials as the main building, to improve the terminus view from North Road.
2. **Prior to release of the zoning permit**, final approval of the post-construction stormwater management system and the erosion prevention and sediment control plan by the city's stormwater program staff is required.
 3. **Prior to release of the zoning permit**, revised plans or related documentation addressing the following shall be submitted, subject to staff review and approval.
 - a. Updated lot coverage within the ~15 acre development site;
 - b. Compliant front yard setbacks along North Avenue;
 - c. Definition of the as-yet undefined "focal element" on Plan L204;
 - d. Definition of the cemetery access plan and the written acceptance by the Department of Parks & Recreation;
 - e. Confirmation of driveway access grading into Building E;
 - f. Continuous concrete sidewalks across all driveways;
 - g. Compliant parking space and circulation aisle dimensions for all parking areas (surface and structured);
 - h. Final selection of street trees with the written approval of the City Arborist;
 - i. Revised outdoor lighting plan compliant with Sec. 5.5.2 and IESNA standards, as applicable. Confirmation of compliance by an independent lighting consultant at the cost of the applicant will be sought;
 - j. Buried electrical transformers where feasible;
 - k. Identified mailbox locations;
 - l. Identification of all screening materials;
 - m. Intercom systems for multi-family housing is recommended;
 - n. Provision of 22 parking spaces for the large daycare;
 - o. Identification of loading areas for all commercial uses;
 - p. Compliant inclusionary housing proposal, including 25% of the entire 735 unit count. Written approval of the inclusionary housing proposal by the manager of the city's Housing Trust Fund is required; and,
 - q. Written details addressing maintenance of common open space and project amenities.

4. **Prior to construction**, the historic preservation analysis of only buildings K and L shall be expanded to incorporate the entire project build out. **The expanded analysis shall be subject to review and approval by the Development Review Board prior to construction.**
5. **Prior to construction**, final plat approval of the subdivision of the property shall be sought and obtained.
6. The following comments and requirements of the Department of Public Works are incorporated into these conditions of approval. All improvements are at the expense of the applicant:
 - a. The existing crosswalk (and bus stop) near Champlain Farms should be removed, as the ultimate spacing of crosswalks and stops will be more uniform with the planned crossings and stops at the Project's southern drive.
 - b. New crosswalk should be placed proximate to the new Parks & Recreation redeveloped path near Covent Square with that project
 - c. At the northern project drive, a crosswalk should be considered if/when future activity warrants such a facility. Pedestrian counts shall be taken prior to issuance of a certificate of occupancy. If warrants for a crosswalk are met at this location, it shall be installed.
 - d. Per the project plan set, crosswalks shown at the project intersection of South Road/North Ave.
 - e. The Applicant will be required to replace the sidewalk more than 5 years old on the West side of North Ave between the southern property line (Building K) and the northern property line (north of North drive)
 - f. The signal at North Ave and South Road should be installed during phase one of the project and left in flash, until either trip/pedestrian warrants are met, at which time the signal should become active.
 - g. A No Parking flashing beacon should be installed at/near the intersection of North Ave and South Road, the cost of the beacon is the responsibility of the Applicant. Due to the unique nature of these beacons DPW will install the beacon and seek reimbursement for the materials and cost of installation.
 - h. DPW and Applicant to discuss narrowing of the painted median on the north side of the intersection of North Ave and South Road, DPW to review final plan before line work is implemented.
 - i. Bike lane shall have stop bars marked within the bike lanes, these could be offset from the travel lane stop bars if appropriate.
 - j. Bike lane markings across intersection at South Road shall be consistent with City typical markings in both size and configuration. This should include skip lines at the intersection and bike size chevron in the lane. Also diagonal line striping in the separated portion of the bike lane should be removed
 - k. DPW and Applicant to review bicycle left turns at North Ave and South Road. DPW would like to see a pull off ahead of the crosswalk to allow bicycles to utilize the pedestrian push button, an alternative we would consider is a bicycle box in the lane striping. DPW to review and approve final plan before work is implemented.
 - l. At the Northwest corner of North Ave and South Road the proposed bus stop area shows a significant amount of concrete/hardscape area. This area will need to be revisited/revised with DPW.
 - m. Applicant will seek to adjust property boundary lines in the future on North Ave to place the sidewalk along North Ave back in the ROW.

- n. A crosswalk needs be placed at the west side of the intersection of South Road and West Road. This will facilitate pedestrian movements given the planned commercial activity in the area, adjacent recreational facilities, and ability for DPW to maintain and clear snow at the intersection.
- o. Applicant to review location of stop bars relative to the crosswalks at the intersection of North Road and West Road. Crosswalks should be placed in front of stop bars.
- p. Signage and Striping:
 - i. Crosswalk warning signs MUST reflect YIELD to pedestrians, per VT State Law
 - ii. Share the lane signage should be independent of the pedestrian crossing signs
 - iii. The only on street striping should be for crosswalks, stop bars, and in the immediate vicinity of the proposed signal for center line delineation. No line striping should be placed for individual parking spaces, center line, or fog lines.
 - iv. No speed limit signs within the development
- q. Sidewalk configuration/alignment and connection to Lakeview Cemetery will need to be reviewed by DPW/Parks prior to construction if Applicant pursues acceptance of project streets by the City.
- r. Applicant to review bicycle/pedestrian connection from Building O and P to the bike path to the west to determine whether additional connection will be at back of building or at end of sidewalk.
- s. Applicant will be required to submit design drawings for retaining wall along North Road, stamped by a Professional Engineer registered in the State of Vermont.
- t. Applicant will be required to place monuments at all parcel boundaries.
- u. All public infrastructure intended to be part of the dedication must be within the proposed limits of the ROW.
- v. Any materials used in the ROW that exceed City Standards will be the responsibility of the Applicant, and the Applicant will be required to enter into a License Agreement with DPW, unless otherwise waived, for the care, maintenance, replacement, removal for the life that material unless otherwise replaced with a Standard material, at which time the Agreement can be dissolved.
- w. For the dedication process the Applicant must, at minimum, provide the following:
 - i. As-built drawings of all infrastructure in the ROW
 - ii. Certification from the engineer of record that infrastructure constructed was completed per plans and specification
 - iii. All documentation by the project resident engineer for all infrastructure in the ROW. This shall include but is not limited to: Notes, photographs, reports, quality control testing, change orders, submittals.
 - iv. The City shall be invited to participate at all construction meetings
 - v. The City shall have the right to have oversight during construction, review of resident engineer documentation, submittals.
- x. Review the sequence of work to connect South Road sidewalk/path to the proposed Parks Path, a connection to those facilities in advance of 2022.

- y. There is a discrepancy between the phasing of the project shown on P1.0 by CEA and sheet 2 of 2 by VHB with regard to when Building H, Q, and R will be constructed. Of concern is the varying stormwater treatments that occur during construction, treatment types shown varies.
- 7. All proposed sidewalk construction within the public street right-of-way is subject to review and approval of the Dept. of Public Works. *All other construction within the public street right-of-way is subject to an encumbrance permit issued by the City Council in conjunction with the Dept. of Public Works.*
- 8. At least **7 days prior to the issuance of a certificate of occupancy**, the applicant shall pay to the Planning & Zoning Department the impact fee as calculated by staff based on the gross square footage of the proposed development. Impact fees may be paid on a per-phase basis. Per the development agreement, a \$300K credit will apply to parks impact fees due.
- 9. A 10-year construction period is included in this zoning permit. Any extension thereof shall require review and approval by the Development Review Board of a request submitted prior to expiration of the 10-year period. Project phasing shall be as depicted in Plan L-EX4.
- 10. Days and hours of construction are limited to Monday – Sunday 7:00 AM – 9:00 PM.
- 11. A State of Vermont wastewater permit is required.
- 12. All new utility lines shall be buried.
- 13. It is the applicant's responsibility to comply with all applicable ADA requirements.
- 14. All new construction is required to meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.
- 15. Any outdoor signage will require a separate sign permit.
- 16. Standard Conditions 1-15.

Inclusionary Housing Statement

(revised 1.27.17)

There is a 25% requirement for Inclusionary Housing in the NAC-CR district.

Out of 739 units (for the entire PUD, including Liberty House/former Orphanage), 185 affordable units will be developed, consisting of 128 rental units (out of a total of 513 rental units) to be developed to satisfy the City of Burlington's rental Inclusionary Zoning (IZ) requirement and 57 condominium units (out of a total of 226 condominium units) to be developed to satisfy the City's for-sale IZ requirement, as per the City of Burlington's Inclusionary Zoning (IZ) requirement and as described in the Development Agreement between BC Community Housing, LLC (the Developer), Champlain Housing Trust (CHT) and the City of Burlington on January 7, 2016.

Out of 513 rental units, 128 units of affordable housing will be apportioned between family housing by Champlain Housing Trust and senior housing by Cathedral Square Corporation. The 128 units represent 25% of the 513 rental units proposed, to be rented at a price which is affordable for a household with an annual income that is sixty-five percent (65%) of median income adjusted for household size, as per Article 9 of the City of Burlington's Zoning Ordinance.

Out of 226 total condominium (for-sale) units, 57 (25% of the 226 condo units) will be developed to meet the IZ for-sale requirement, proposed for Buildings H and M, as per Article 9 of the City of Burlington's Zoning Ordinance and addressed in the Development Agreement .

Given that there is a proposed 8-10 year buildout of the Cambrian Rise site, if the number of units to be developed changes, BC Community Housing will determine and verify the requisite IZ units with the Manager of the City's Housing Trust Fund.

Note: As per the Development Agreement, II.2., in addition to the affordable rental housing to be developed by CHT and others, BC Community Housing, LLC will endeavor, but not be obligated, to create some "work force housing," both for sale and for rent; work force housing being that which targets households with incomes between 80% and 120% of the median income for the Burlington/South Burlington MSA, adjusted for family size.

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Sequencing Plan

Cambrian Rise (CR) requests that it be permitted under a single PUD application (i.e. a single zoning permit), entitled to be constructed in a single phase. As a practical matter, CR will likely be built out over 5 – 8 years, subject to market conditions, and therefore, we request the zoning permit have an initial duration of 10 years and be automatically renewable thereafter.

The attached Phasing Plan is CR's good faith estimate of the sequence in which the various buildings and site infrastructure improvements will be constructed, some of which may be concurrent. CR needs to reserve the right to change the sequence, in response to market conditions and to facilitate infrastructure installation changes to accommodate changes in the sequencing.

It is critically important that upon completion, each building is entitled to secure a Unified Certificate of Occupancy from the City.

Upon the completion of Liberty House (Phase I, former Orphanage), a temporary (gravel only) parking lot on the north side of the building will be constructed and used by the residents, until the completion of Phase 2, at which time the temporary parking lot will be removed or retained for use as a staging area for Phase 5. This arrangement allows Phase I to be fenced off from ongoing construction activities on the site for the protection and benefit of the residents of Liberty House.

Similar temporary parking arrangements may be necessary as each phase of the project is constructed. Specific requests in this regard will be submitted to the Planning Office when and as the need arises. This process reflects the complex nature of constructing a multi-building project over several years.

The new proposed public street, currently scheduled for completion at the end of Phase 6, will be offered for dedication to the City at that time.

The numbering on the plan is only for the purpose of delineating each phase and represents our best guess as to the sequence. However, we need to reserve the right to change the sequencing, in response to market conditions. If a change in sequencing requires the construction of common area amenities or public infrastructure, in connection with a particular phase, different than as depicted on the phasing plan, then we will review such modification with Staff for its approval.

Also, in light of the multi-year sequencing of the buildout of CR, we respectfully request that the Planning Department support our request to the City Council, if required, to time the payment of zoning permit release fees to coincide with the construction of each phase.

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PURCHASE AND SALE AGREEMENT DEPARTMENT OF
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THIS PURCHASE AND SALE AGREEMENT ("Agreement") is entered into as of February 18, 2016 by and between BC COMMUNITY HOUSING, LLC, a Vermont limited liability company having its place of business in Colchester, Chittenden County, Vermont ("Seller") and the VERMONT LAND TRUST, INC., a Vermont nonprofit corporation having its principal place of business in Montpelier, Washington County, Vermont and the CITY OF BURLINGTON, a Vermont municipality located in Chittenden County, Vermont (together, "Buyers").

1. **Description of Property.** The property which is the subject of this Agreement consists of twelve (12) acres, more or less, of land and the buildings located thereon on the westerly side of North Avenue, and designated as 311 North Avenue, in Burlington, Vermont ("the Property"). The Property is a portion of the land and premises conveyed to Seller by Warranty Deed of Burlington College, dated February 2, 2015 and recorded in Book 1268 at page 198 of the City of Burlington Land Records. The Property is depicted as Lot B on the survey entitled "Lot Line Adjustment Between 311 & 329 North Avenue, BC Community housing, LLC, Burlington, Vermont" prepared by Civil Engineering Associates, dated January 18, 2016, a copy of which is attached to this Agreement as Exhibit A.

2. **Sale.** The Seller hereby agrees to sell the Property to the Buyers, and the Buyers hereby agree to buy the Property from the Seller upon the terms and conditions set forth in this Agreement.

3. **Purchase Price.** The purchase price shall be Two Million Dollars (\$2,000,000.00), to be paid in bank or attorney's trust account check or wire transfer at closing, subject to a rent credit as set forth in Section 9 below, prorations and other closing adjustments set forth herein.

4. **Deposit.** Upon the execution of this Agreement, the Buyers shall pay to Judith L. Zullo, Esq., as escrow agent, the sum of Five Hundred Dollars (\$500.00) as earnest money (the "Deposit"). The Deposit shall be held in the escrow agent's IOLTA account with the interest earned on the Deposit, if any, being paid as directed by the IOLTA guidelines. The Deposit shall be applied to the purchase price at the time of closing, or shall be returned to the Buyers in the event Seller is unable to give marketable title, or as otherwise provided herein. In the event the Buyers fail to complete the purchase, the escrow agent shall pay the Deposit to the Seller as liquidated damages providing Seller was willing and able to complete the sale as agreed. The escrow agent's responsibility shall be limited to discharging the obligations described in this Agreement.

5. **Buyers' Contingencies.** In addition to the other conditions precedent to Buyers' obligation to close as provided for herein, Buyers' obligation to close shall be conditioned upon the following:

- a) Examination of Title/Permits – Seller shall deliver to Buyers an Act 250 Disclosure Statement and copies of all existing permits and approvals concerning the Property

Breakdown of Parking Supplied for Cambrian Rise Residents				
	Spaces for Rental Units	Spaces for Condos + Non-Profits	Street Spaces	TOTALS
Total Garage:	418	435		853
Total Surface Lots:	<u>117</u>	<u>122</u>		<u>239</u>
SUBTOTALS:	535	557		1092
Total On-Street:				
North Rd			20	20
South Rd			27	27
West Rd			43	43
	TOTAL with On-StreetSpaces:			1182

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BIKE PARKING

BIKE PARKING		RESIDENTIAL BIKE STORAGE/RACK CALCULATIONS								NON-RESIDENTIAL BIKE STORAGE/RACK CALCULATIONS				
		Residential Unit Count	Outdoor Racks PROVIDED (space for)	Long Term Bike Parking Req'd 1 per 4 units	Short Term Bike Parking Req'd 1 per 10 units					Non-Residential Square Footages + Uses				NON-RES. LONG TERM
						Building	Use	Non-residential Square Footage	Non-residential Primary	Non-res Secondary	Non-res. Tertiary	Req'd Parking Standard (LT)	Req'd Parking Long Term	Req'd Parking Standard (ST)
Burlington College Parcel														
A	Residential	65	20	16.25	6.50									Req'd Bike Parking 135.84 sub-total spaces
B & G	Former College	71	62	17.75	7.10	19,077	Prof./Trade Sch	Restaurant	Bakery	1 per 20,000sf	0.95	3 per 5,000sf	11.45	
C	Multi-Use	81	18	20.25	8.10	10,476	Office	Retail		1 per 5,000sf	2.10	1 per 5,000sf	2.10	
D	Parking Garage	-				23,000	Garage	For Resident Use						
E & F	Residential	122	30	30.50	12.20	2,000	Office			1 per 5,000	0.40	1 per 10,000	0.20	
Sub-total - College Parcel		339	130	84.75	33.90						3.45		13.74	
BC Community Housing, LLC parcel														
H	Residential	57	16	14.25	5.70	5,639	Office			1 per 5,000	1.13	1 per 10,000	0.56	91.00
I	Residential	28	30	7.00	2.80	4,025	Daycare	Office		1 per 20,000	0.20	1 per 10,000	0.40	41.00
I	Fitness					19,000	Fitness	For Resident Use						
J	Greenhouse					3,000	Greenhouse	For Resident Use						
K & L	CSC/CSC Res*	146	48	26.00	14.60									179.00
M & N	Residential	79	48	19.75	7.90	2,916	Retail	Office		1 per 5,000	0.58	1 per 5,000	0.58	106.00
O & P	Residential	52	14	13.00	5.20	1,000	Retail			1 per 20,000	0.05	1 per 5,000	0.20	82.00
Q	Residential	38	18	9.50	3.80	11,000					2.00	2 per 20 rooms	4.00	117.00
R	Commercial						42 Room Hotel			1 per 20 rooms				
Sub-total - BCCH Parcel		400	174	89.50	40.00		BCCH + Non-Profit Parcel Bike Parking Totals:				3.96		5.75	139.21
Grand Totals			Provided: 304	Req'd Long+Short Term TOTAL: 248.15							7.41		19.49	REQUIRED TOTAL: 275.05

*parking adjusted to reflect 70 senior/elderly units

Provided:	Interior/ covered Bike Parking	Exterior Bike Parking
	598	304
TOTAL PROVIDED:		902

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Building	Use	Type	Residential Unit Count	Non-residential Square Footage	Non-residential Primary	Non-residential Secondary	Non-res. Tertiary	No. Levels	Parking Spaces Provided Structured + Surface
Burlington College Parcel									
A	Residential	For Rent	65					5 Story	
B & G	Former College	For Rent/Sale	71	23,000	Prof./Trade School	Restaurant	Bakery	3 Story	
C	Multi-Use	For Rent	81	10,500	Office	Retail		5 Story	
D	Parking Garage	For Rent	-	23,000	Garage			3 Story	
E & F	Residential	For Rent	122	3,300	Office			5 Story	
Sub-total - College Parcel			339	59,800					
Relative Percentage (based upon building SF)						College Parcel Parking Total:			497 spaces
BC Community Housing, LLC parcel									
H	Residential	For Rent	57	5,700	Office			4 Story	91
I	Residential	For Rent	28	3,000	Daycare	Office		5 Story	41
I	Fitness	N/A		15,000	Fitness			Ground Fl	
J	Greenhouse	N/A		3,000	Greenhouse			1 Story	
K & L	CSC/CSC Residential	Sell Off	146					4 Story	155
M	Residential	For Sale	79	3,000	Retail	Office		4 Story	105
P	Residential	For Sale	52	1,300	Retail			4 Story	78
Q	Residential	For Sale	38					5 Story	83
R	Commercial		42	33,000	42 room Hotel				42
Sub-total - BCCH Parcel			400	64,000		BCCH + Non-Profit Parcel Parking Total:			595
Grand Totals			739	123,800					1092

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PARKING REQUIREMENTS FOR ALL CAMBRIAN RISE SITES												
930 Required Spaces			Allocated as Shown									
	Residential Uses		Non-Residential Commercial	Commercial Uses			Hotel	Office	Daycare	Retail	Professional/Trade College	
	Apartments			Bakery	Restaurant	spaces/per 1000sf						
	1			2.5	3.0	spaces/per 1000sf	spaces/hotel room	spaces/per 1000sf	per 5 children+1	spaces/per 1000sf	spaces/per 1000sf	
	space/unit		in Square Ft	spaces/per 1000sf								TOTALS
Building A	65											65

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VIEW FROM SOUTH EAST

DESIGN SUBMITTED ON 01.12.17



VIEW FROM SOUTH EAST

DESIGN SUBMITTED ON 01.23.17

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CAMBRIAN RISE • BUILDING Q & R

BURLINGTON, VERMONT

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DUNCAN • WISNIEWSKI ARCHITECTURE
A Professional Corporation

PERMIT SET

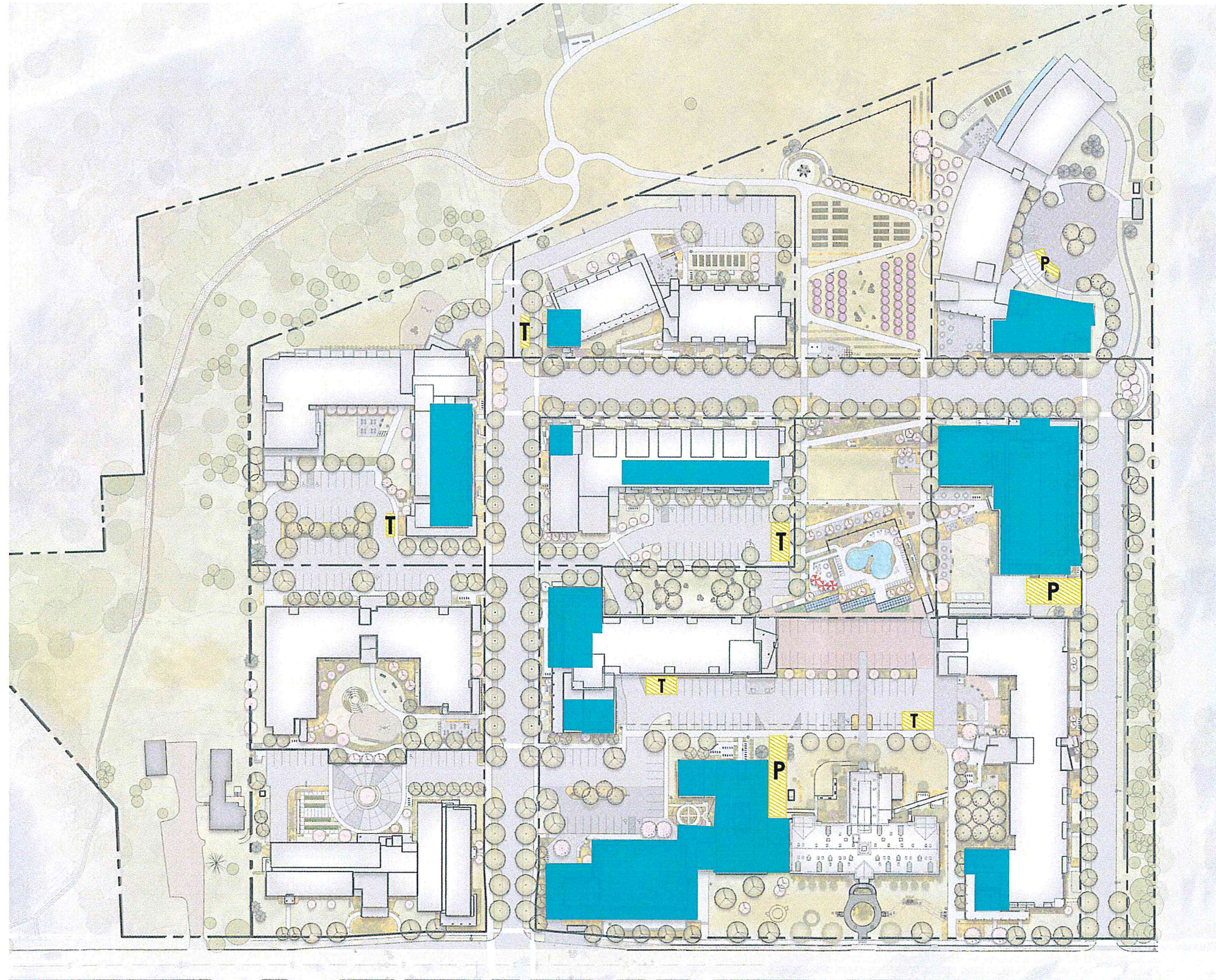
Duncan
Wisniewski 
ARCHITECTURE

255 SOUTH CHAMPLAIN STREET
BURLINGTON, VERMONT 05401
T. 802.864.6693

REVISED: 01.26.17
DATE: 12.30.16
DRAWN: ABC

QR-3

COMMERCIAL SPACE & LOADING ZONES



LEGEND

 COMMERCIAL SPACE

 PERMANENT LOADING ZONES

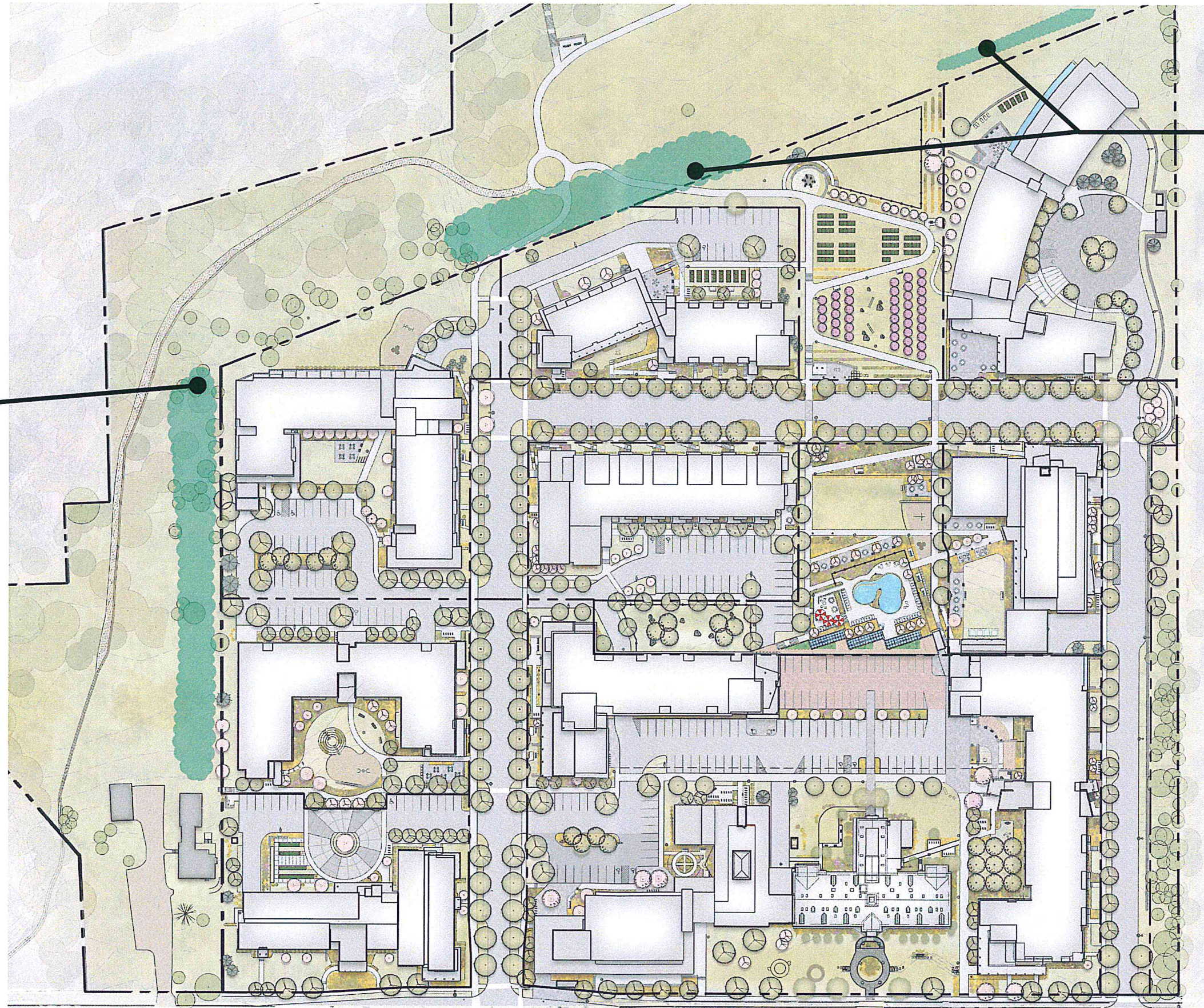
 TEMPORARY LOADING ZONES

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BOUNDARY PLANTING

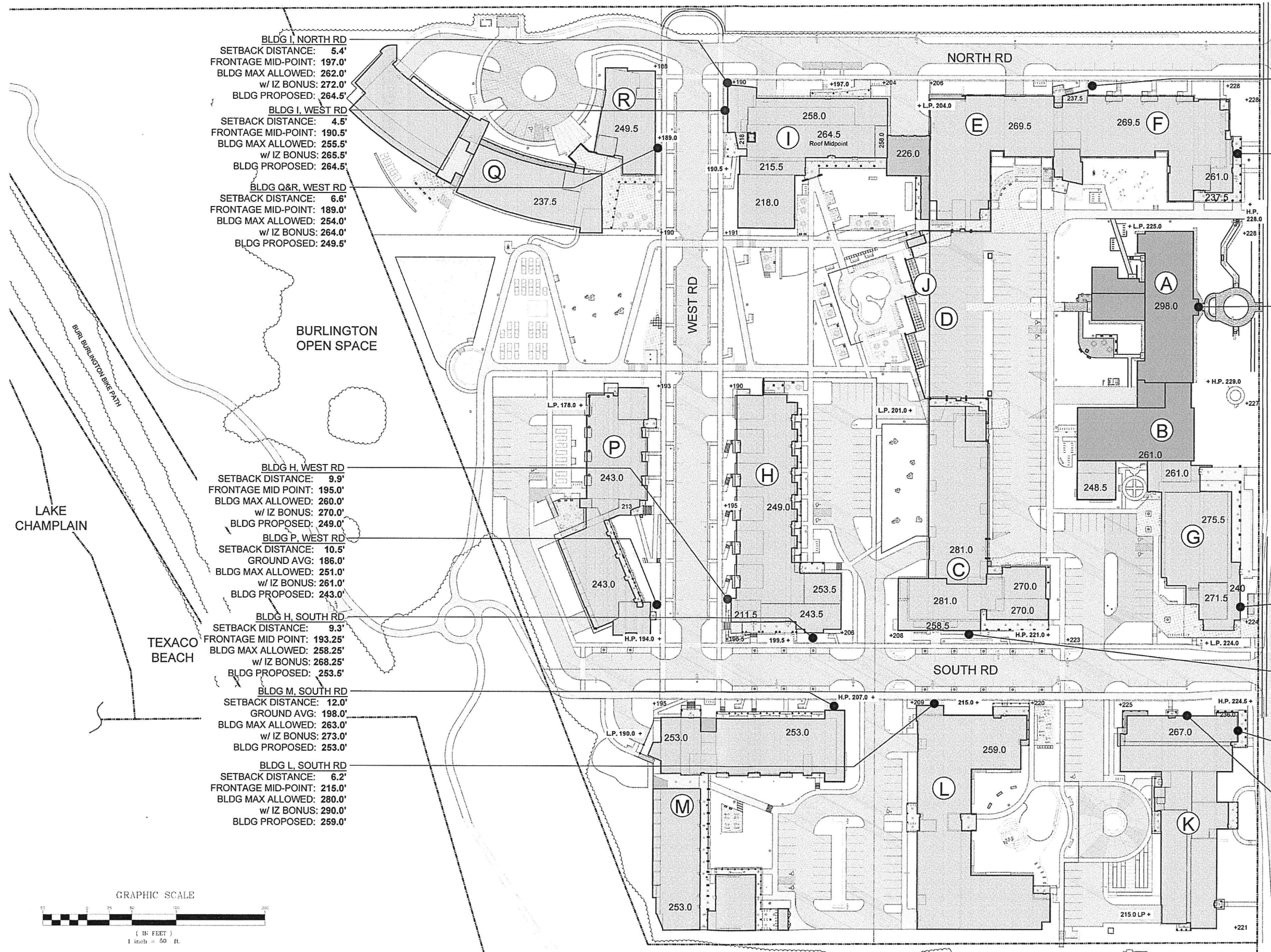
INFILL TREE
PLANTING TO BE
WORKED OUT WITH
PARKS & REC

SCREENING TO BE
WORKED OUT WITH
PARKS & REC



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BLDG I, NORTH RD
SETBACK DISTANCE: 5.4'
FRONTAGE MID-POINT: 197.0'
BLDG MAX ALLOWED: 262.0'
w/ IZ BONUS: 272.0'
BLDG PROPOSED: 264.5'

BLDG I, WEST RD
SETBACK DISTANCE: 4.5'
FRONTAGE MID-POINT: 190.5'
BLDG MAX ALLOWED: 255.5'
w/ IZ BONUS: 265.5'
BLDG PROPOSED: 264.5'

BLDG Q&R, WEST RD
SETBACK DISTANCE: 6.6'
FRONTAGE MID-POINT: 189.0'
BLDG MAX ALLOWED: 254.0'
w/ IZ BONUS: 264.0'
BLDG PROPOSED: 249.5'

BLDG H, WEST RD
SETBACK DISTANCE: 9.9'
FRONTAGE MID POINT: 195.0'
BLDG MAX ALLOWED: 260.0'
w/ IZ BONUS: 270.0'
BLDG PROPOSED: 249.0'

BLDG P, WEST RD
SETBACK DISTANCE: 10.5'
GROUND AVG: 186.0'
BLDG MAX ALLOWED: 251.0'
w/ IZ BONUS: 261.0'
BLDG PROPOSED: 243.0'

BLDG H, SOUTH RD
SETBACK DISTANCE: 9.3'
FRONTAGE MID POINT: 193.25'
BLDG MAX ALLOWED: 258.25'
w/ IZ BONUS: 268.25'
BLDG PROPOSED: 253.5'

BLDG M, SOUTH RD
SETBACK DISTANCE: 12.0'
GROUND AVG: 198.0'
BLDG MAX ALLOWED: 263.0'
w/ IZ BONUS: 273.0'
BLDG PROPOSED: 253.0'

BLDG L, SOUTH RD
SETBACK DISTANCE: 6.2'
FRONTAGE MID-POINT: 215.0'
BLDG MAX ALLOWED: 280.0'
w/ IZ BONUS: 290.0'
BLDG PROPOSED: 259.0'

BLDG E & F, NORTH ROAD
SETBACK DISTANCE: 10.0'
FRONTAGE MIDPOINT: 217.0'
BLDG MAX ALLOWED: 282.0'
w/ IZ BONUS: 292.0'
BLDG PROPOSED: 269.5'

BLDG E & F, NORTH AVE
SETBACK DISTANCE: 30.0'
GROUND AVG: 216.0'
BLDG MAX ALLOWED: 281.0'
w/ IZ BONUS: 291.0'
BLDG PROPOSED: 269.5'

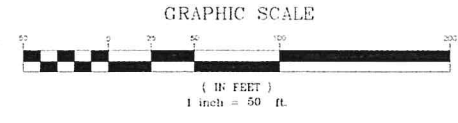
BLDG A, NORTH AVE
EXISTING SETBACK: 74.65'
BLDG EXISTING: 298.0'

BLDG G, NORTH AVE
SETBACK (EX. LOT LINE): 20.0'
GROUND AVG: 226.0'
BLDG MAX ALLOWED: 291.0'
w/ IZ BONUS: 301.0'
BLDG PROPOSED: 275.5'

BLDG C, SOUTH RD
SETBACK DISTANCE: 14.0'
GROUND AVG: 211.0'
BLDG MAX ALLOWED: 276.0'
w/ IZ BONUS: 286.0'
BLDG PROPOSED: 281.0'

BLDG K, NORTH AVE
SETBACK (EX. LOT LINE): 22.5'
GROUND AVG: 219.75'
BLDG MAX ALLOWED: 284.75'
w/ IZ BONUS: 294.75'
BLDG PROPOSED: 267.0'

BLDG K, SOUTH RD
SETBACK DISTANCE: 16.9'
GROUND AVG: 219.75'
BLDG MAX ALLOWED: 284.75'
w/ IZ BONUS: 294.75'
BLDG PROPOSED: 267.0'

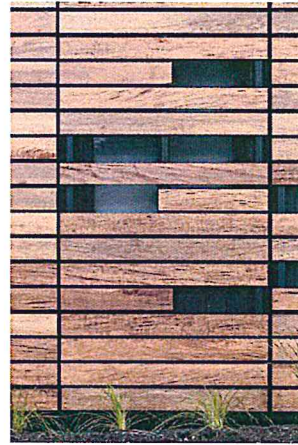


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PARKING SCREENS:

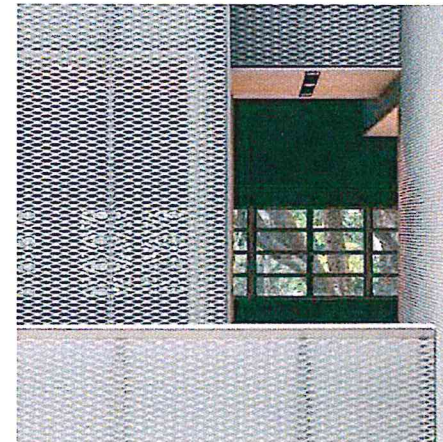
SLATS

- DESCRIPTION: VERTICAL AND/OR HORIZONTAL SLATS w/ GAPS
- MATERIALS: SOLID WOOD MEMBERS AND/OR ENGINEERED WOOD PRODUCTS, STRUCTURAL STEEL SHAPES
- FINISH: UNFINISHED, TREATED, CLEAR FINISH, STAINED, PAINTED
- STRUCTURE: STEEL OR WOOD MEMBERS



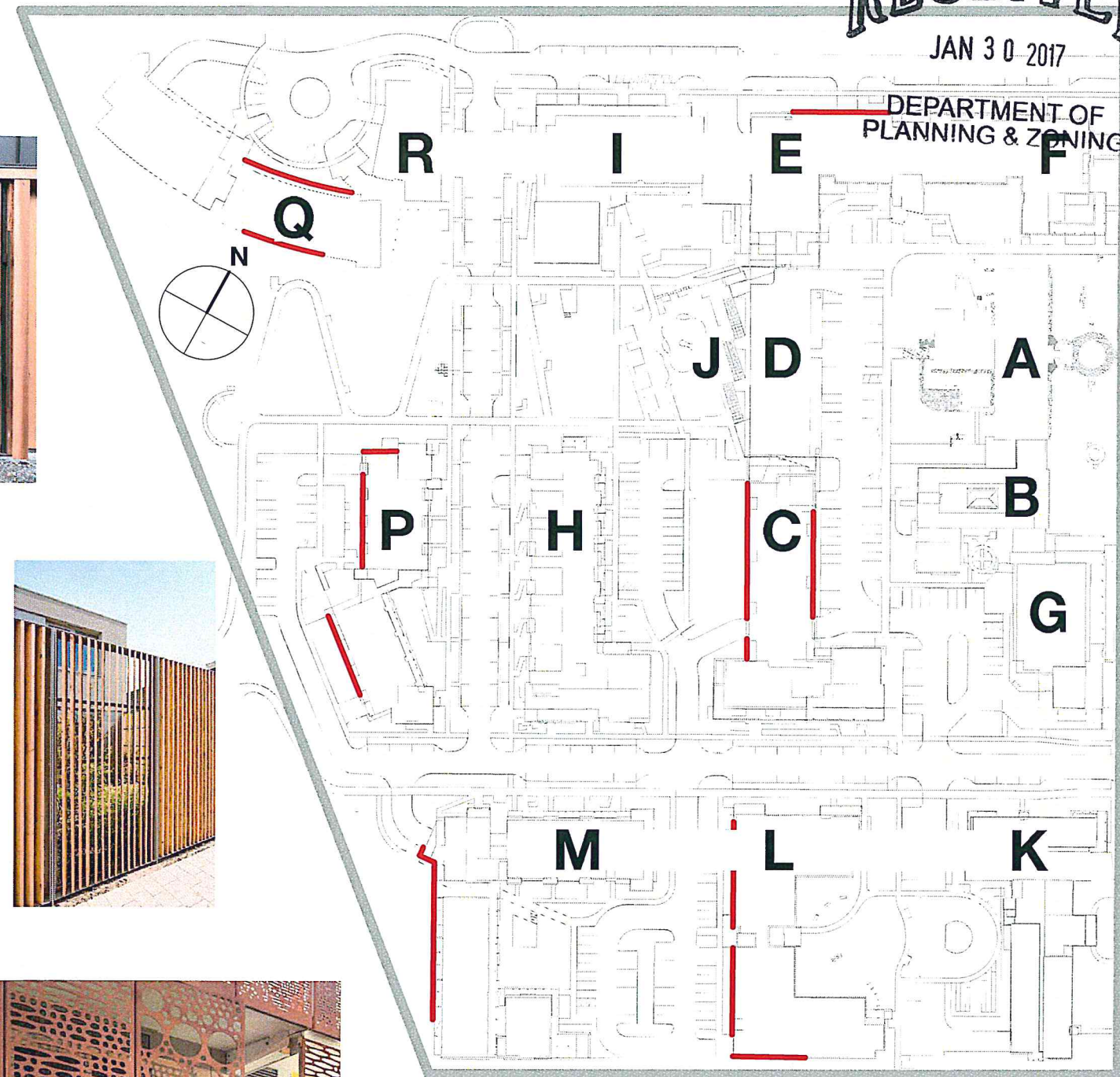
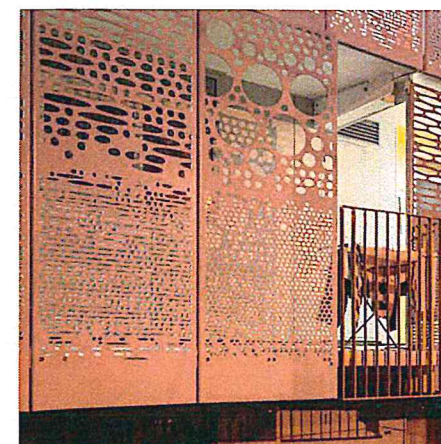
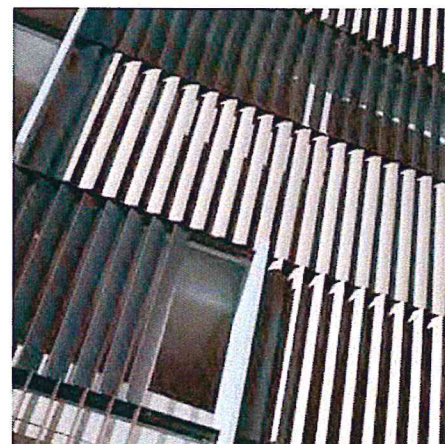
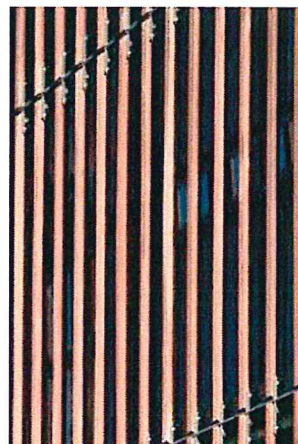
PANELS

- DESCRIPTION: PERFORATED, WOVEN, OR MESH METAL PANELS
- MATERIALS: STEEL, ALUMINUM
- FINISH: UNFINISHED, PATINA, CLEAR COATED/ANODIZED, PAINTED
- STRUCTURE: STEEL OR WOOD MEMBERS



SOLID WALLS

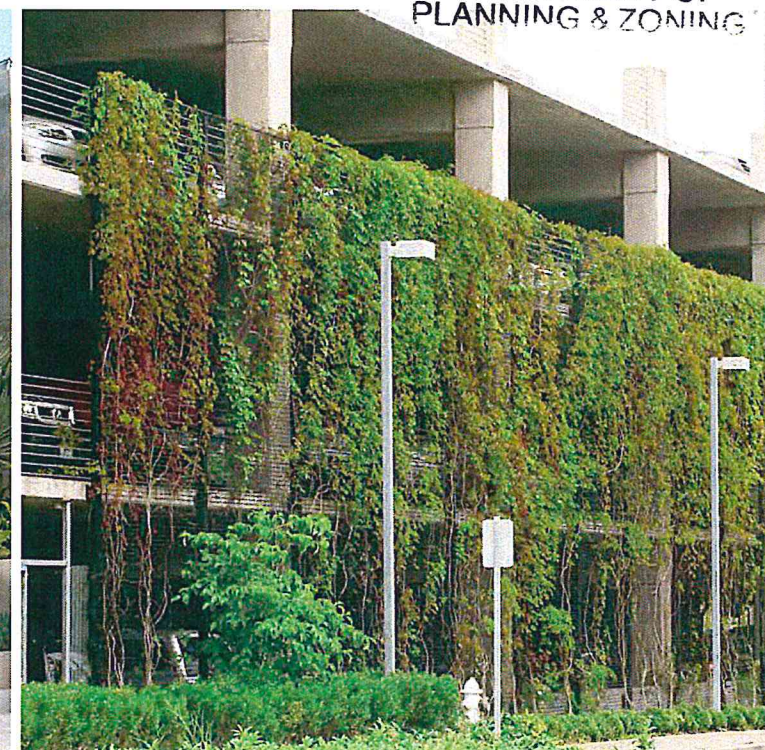
- DESCRIPTION: UNINSULATED WALL CLAD BOTH SIDES OR CONCRETE WITH OPENINGS
- MATERIALS: COMPOSITE PANEL CLADDING OR WOOD SIDING OR FINISHED CONCRETE
- FINISH: UNFINISHED, PRE-FINISHED, CLEAR COATED, STAINED, OR PAINTED
- STRUCTURE: LIGHT GAGE STEEL OR WOOD FRAMING MEMBERS (CONCEALED), OR CONCRETE AND REINFORCING



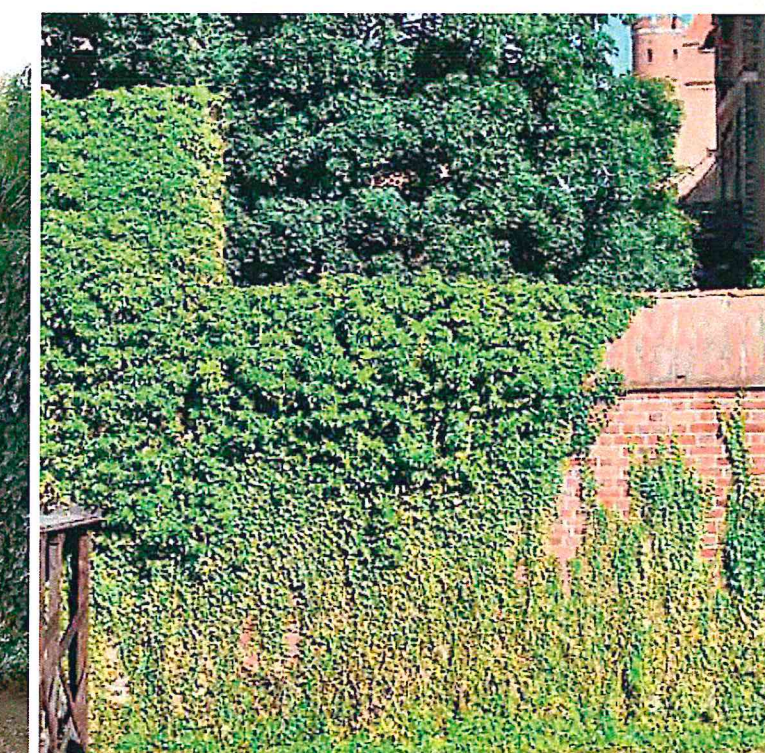
SCREENING CONCEPTS

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TRELLIS SYSTEM

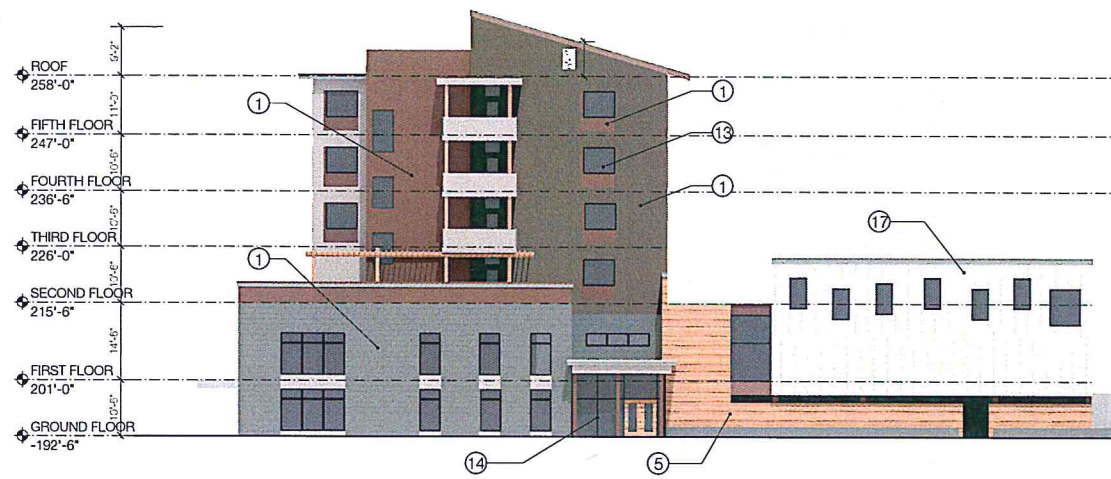


SCREENING TREES

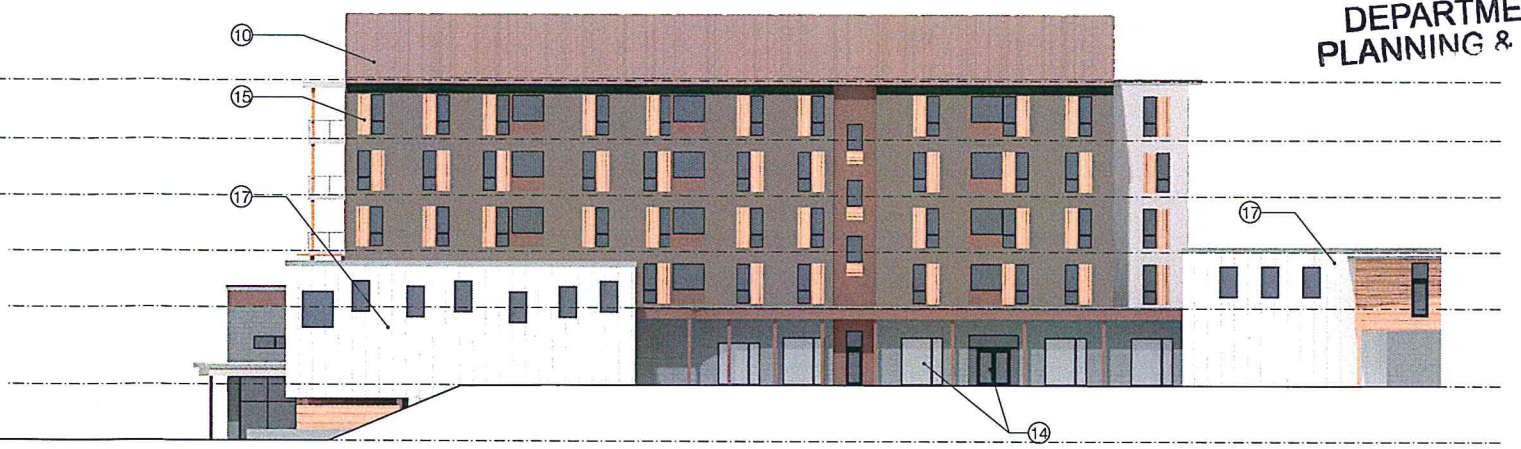
CREeping VINES

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WEST ELEVATION
Scale: 1/16" = 1'-0"



SOUTH ELEVATION
Scale: 1/16" = 1'-0"



NORTH ELEVATION
Scale: 1/16" = 1'-0"

ELEVATION NOTES:

- | | |
|---------------------------|-----------------------------|
| ① FIBER CEMENT PANEL | ⑩ STANDING SEAM METAL ROOF |
| ② FIBER CEMENT LAP SIDING | ⑪ COMPOSITE TRIM |
| ③ CORRUGATED METAL SIDING | ⑫ ALUMINUM TRIM |
| ④ BOARD AND BATTEN SIDING | ⑬ FIBERGLASS WINDOW |
| ⑤ WOOD SIDING | ⑭ STOREFRONT FRAMING SYSTEM |
| ⑥ WOOD SHINGLE SIDING | ⑮ ACCENT PANEL |
| ⑦ EXPOSED CONCRETE WALL | ⑯ SCREENING |
| ⑧ BRICK MASONRY/VENEER | ⑰ METAL PANEL SIDING |
| ⑨ STONE MASONRY VENEER | |

CAMBRIAN RISE • BUILDING I
BURLINGTON, VERMONT

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DATE: 12.30.16
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JAN 30 2017

DEPARTMENT OF
PLANNING & ZONING



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PLANNING & ZONING



Memo to DRB members from Wayne Senville
re: suggestions for surface parking reduction at Cambrian Rise

Jan. 27, 2017

A growing number of cities across the country have allowed for "parking reserves," especially where the future parking needs of large, phased developments are uncertain. This allows the land to be kept as open space until such time as it is shown that additional parking spaces are needed by the development. At that point, the open space can be converted into parking (again, if needed for parking).

In this application, the applicant's comprehensive approach to using a range of TDM strategies (see part 4.3 of applicant's "Transportation Impact Assessment" -- prepared by RSG, and dated 12/21/2016) to reduce traffic may well also lead to a reduced need for parking. Indeed one of the goals of CATMA (which the applicant has now joined) has been to enable the Hill institutions' growing needs to be met with limited parking available. The Cambrian Rise proposal also exceeds the minimum parking required by the CDO (which does not factor in TDM measures).

In my view, it is best -- at this point -- to keep as much open space on the site as is realistic, while meeting residents' and business' parking needs -- with the important caveat that space should be available for conversion into parking spaces if future demand demonstrates the need for additional parking (something that the many TDM strategies being employed may well eliminate the need for).

It may well be that ultimately the 1093 parking spaces being proposed will be needed. That can be accomplished, down the road, by the applicant (or its successor) coming before the DRB and showing that there is a need for the reserve areas to be converted into parking spaces. In the meantime (and perhaps permanently) there will be more open space, with its visual and environmental benefits.

As a result, I propose the following change to the staff recommendations. If you have a chance, please review before the Monday deliberative, and refer to the applicant's "Exhibit - Surface Parking - EX5A" (dated 1/20/2017):

Insert on page 20 of 33, before the paragraph "South Road continues ... " the following:

A weakness of this plan is the amount and visibility of surface parking. One area of particular concern is the surface parking proposed within, or impinging on, the project's east-west "green" corridor that stretches from behind Building A (the former Orphanage) and runs west through the Cambrian Rise project towards Lake Champlain.

Given the extensive array of TDM measures the applicant proposes, which we have found will substantially reduce the amount of vehicular traffic generated by this project (see our findings for Section 3.5.6(a)4 of the conditional review standards), we also believe the amount of surface parking being proposed (205 spaces) can be reduced while allowing sufficient parking to service the proposed residential, commercial, office, and other uses. However, given the applicant's concerns, we also believe that additional parking should be potentially available if future parking demand warrants it.

As a result, the following three areas identified in applicant's plans for surface parking (consisting of a total of 76 surface parking spaces currently proposed) shall remain undeveloped until such time after the project is built out that the applicant (or its successor) demonstrates to the DRB that there is a need for additional parking spaces in any or all of these locations to service the development.

-- Area 1: consisting of the two rows of surface parking proposed for the rooftop of Building D, and comprising 36 parking spaces as identified in the applicant's "Exhibit - Surface Parking - EX5A" (dated 1/20/2017).

-- Area 2: consisting of the two rows of surface parking proposed immediately to the east of Area 1, and comprising 31 parking spaces as identified in applicant's "Exhibit - Surface Parking - EX5A" (dated 1/20/2017) (note: this is the northerly portion of the area identified in EX5A as having 55 spaces). Furthermore, Area 2 shall be maintained as grassed and/or landscaped until such time as the applicant (as outlined above) shall demonstrate the need for it to be converted into parking.

-- Area 3: consisting of the northerly row of spaces proposed in the parking area immediately east of Building E, and comprising 9 parking spaces as identified in applicant's "Exhibit - Surface Parking - EX5A" (dated 1/20/2017) (note: this is the northerly row of spaces in the area identified in EX5A as having 34 spaces). Furthermore, Area 3 shall be maintained as grassed and/or landscaped until such time as the applicant (as outlined above) shall demonstrate the need for it to be converted into parking.

[note, some rewording of the subsequent paragraphs in the staff report will also need to be reworded for consistency with the language I am proposing]

Burlington Development Review Board

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Brad Rabinowitz
Israel Smith
AJ LaRosa
Geoff Hand
Alexandra Zipparo
Wayne Senville
Jim Drummond, (Alternate)
Robert Purvee, (Alternate)



BURLINGTON DEVELOPMENT REVIEW BOARD

Tuesday January 31, 2017, 5:00 PM

**Fletcher Room, Fletcher Public Library, 235 College Street, Burlington, VT
Minutes**

**Board Members Present: Austin Hart, Brad Rabinowitz, Geoff Hand, Israel Smith, AJLaRosa,
Alexandra Zipparo, Wayne Senville, Jim Drummond(Alt), Robert Purvee(Alt)**

Board Members Absent:

Staff Members Present: Scott Gustin, Mary O'Neil, Anita Wade

- I. Agenda**
- II. Communications**
- III. Minutes**

IV. Consent

1. 17-0632CA; 55 Colchester Ave (I, Ward 1E) UVM

Addition of 23,350 sq. ft. to Kalkin Hall; 3 stories plus basement, existing outdoor courtyard for classrooms, study rooms, faculty offices and other spaces to support the Grossman School of Business. (Project Manager, Scott Gustin)

B.Rabinowitz: asks if Board members accept as a consent item. Call for motion.

W.Senville: moves to accept staff recommendations and approve item.

A.Zipparo: seconds the motion.

Board Vote: 6-1-0

V. Public Hearing

1. 17-0388CA/MA; 66-96 Colchester Ave, 27 Fletcher Place, and 49 Fletcher Place (I, Ward 1E) Frank vonTurkovich

Construct 3 story residential building containing 75 apartments units. Combine and reconfigure surface parking areas. (Project Manager, Mary O'Neil)

A.Hart and G.Hand: recused from item.

B.Rabinowitz: swears in applicant and interested parties.

M.ONeil: explains staff report was written prior to receiving revised plans submitted late Friday.

F.vonTurkovich: hands out memo about the project with staff's notes with responses. Colchester Ave LLC holds the title and Frank is the applicant. Architect Greg Rabideau speaks about issues brought up in the staff report.

B.Rabinowitz: asks for an overview of the project.

F.vonTurkovich: project is assemblage of different avenues and streets. Both 66 and 96 Colchester Ave are not owned by LLC and are part of the overall scheme. Land includes a deep ravine connecting into Riverside Ave. Intend to combine parking to meet city requirements to having underground access. Previously went before DAB and Conservation Board. Intends to construct stormwater basin on the site.

B.Rabinowitz: asks about rental office space.

F.vonTurkovich: explained that some office uses will remain and some will change. Requesting permission for medical office lower level and business office on upper level.

B.Rabinowitz: questions the apartment mix and inclusionary units.

F.vonTurkovich: 1 bedroom and studio units meet targeted population for Medical Center and students. The floor plans are not finalized. Inclusionary units will be on site but have not identified where on the site.

W.Senville: asks how many units there will be and which building will be built first.

F.vonTurkovich: hopes to build all buildings at the same time.

G.Rabideau: would like staff to approve all at one time.

W.Senville: questions the configuration of units.

B.Rabinowitz: has question on the elevation plans.

G.Rabideau: spoke of site plan and connections, shared amenities. Presented to the Board the frontage massing and several entrances. The walkway through 72 Colchester Ave allows for more circulation to move back and forth.

B.Rabinowitz: missing from this submittal is the elevation showing the context and surrounding property features. Need an aerial context to the buildings in addition to site section and grade changes.

G.Rabideau: shared documents new plans with Board. Colchester Ave is elevated compared to other buildings and shows the changes in grade.

J.Drummond: questions the west side having possible retaining walls, the pitch of grades, and location. Asks about underground parking.

G.Rabideau: parking is invisible in underground area.

AJ.LaRosa: neighbors and Conservation Board expressed concerns about stormwater.

G.Rabideau: two main issues are with stormwater are the culvert in the ravine and how the project handles stormwater management. New project will be multi step, where the stormwater flows pretreated and outflows will be controlled for no sheet flows off properties.

F.vonTurkovich: UVM has disconnected the flows from the pipe, but we intend to find it, reconnect and use it and redirect to ravine. Have not applied for state stormwater but believe DPW has approved the project to stabilize the bank.

W.Senville: not seeing impacts from the traffic report.

F.vonTurkovich: this has been studied intensively by UVM. We were informed to do traffic counts by the light signal for the overall capacity of walkers. Also looking into careshare.

W.Senville: still substantial number of trips. Questions staff if DPW has studied this.

I.Smith: asks about a bike rack on the site plan.

F.vonTurkovich: haven't planned this yet and willing to put in more.

I.Smith: would like to see short term racks for 4 or 5 bikes.

A.Zipparo: question about indoor bike racks.

G.Rabideau: 27 bikes racks

A.Zipparo: would like to see more bike racks.

B.Rabinowitz: asks DPW staff for comments.

L.Wheelock: looked at traffic study and site plan. A quick overview didn't address the capacity and number of trips. Felt the numbers were conservative. Extensive study for Colchester Ave. Asking applicant about extra turn lanes needed and for this to be submitted for review.

A.Zipparo: questioned how to mitigate jaywalking.

L.Wheelock: identified two locations for enhanced crosswalks.

G.Rabideau: elimination of curb cuts will reduce conflict and jaywalkers.

B.Rabinowitz: opens for public comment.

T.May: lives in Burlington at Riverwatch has concerns about the ravine, traffic congestion and about losing green space. Questions on rainwater collection, clearing out the pond, and what can be done for stormwater runoff. Residents at Riverwatch are footing bill for cleaning up the pond and the concern is that the project may add to an existing problem.

A.Torizzo: as a hydrologist and stormwater specialist, attended the Conservation Board's meeting and reviewed materials. 1) Four standards need to meet for State groundwater recharge and land area to absorb from the site. Applicant may ask State for a waiver based on soil. Returning stormwater into ground is not adequate because of possible contamination and standard will change the design and may be an issue. 2) Wetland impasse has 50 ft. buffer. State concerned about design and may need changes to mitigate impact. 3) Downstream flooding concerns State.

B.Butani: brought a handout for the Board. Map does not adequately represent our properties. Presents three exhibits and soils that may have contamination.

L.Ravin: campus services manager at UVM; said project meets mayor's action plan pertaining to the importance of housing near transportation corridors and this project meets those requirements.

R.Dion: NPA and applicant has met over many years. Ambivalent about impact on the area.

N.Reagan: said housing will enhance area

B.Owre: lives on Fletcher Place said this is way too big a project in scale. There are differences in uses around the site and will have big impact. Disturbed there is no effort to downscale. The Conservation Board requires a retention pond, but very steep into permanent pond. Questions size of building, grade, residential neighborhood access to light and traffic access. Would like to see new design.

B.Rabinowitz: stormwater requirement discussion ensued with Board.

J.Metcalf: with owners at Fletcher Street have concerns about pond and steepness of hill. Speaking to plan and other things that may not have been anticipated, feels project is too ambitious.

B.Hitchkok: knows owner of ravine property has a concern about a permit granted without reviewing the ravine. Said building is too high and too massive.

S.Bushor: city councilor for Ward 1 said this is a PUD. Hopes the Board allows people to speak asking if Public Hearing will be kept open. Traffic backup on East Ave will impact hospital and emergency vehicles. Discussion bus stop in area. Packet references on page 9 and support Municipal development plan; this is not the core campus; wants applicant explain the open space. Discount small historic structures; value of garage, don't value old neighborhoods; each version became less and less compatible.

B.Rabinowitz need parking plan

G.Rabideau familiar with catch basin area; observe best practices and thus will be improved; contaminated soils where city has examined this area;

B.Rabinowitz: asked for more information on the site.

A.Zipparo: as in article 11 do you feel it contributes

G.Rabideau: concentrated development

W.Senville: would like to see the views from Fletcher Place.

B.Rabinowitz: include site sections.

W.Senville: expressed a lack of consistency.

G.Rabideau: spoke of a higher roof line with pitched roof, which is common in Burlington. Not trying to replicate historic features.

B.Rabinowitz: closed public hearing asking for site selections at end of the week.

F.vonTurkovich: requested more time

B.Rabinowitz: asked for the next continuance date.

S.Gustin: continuance scheduled for March 8th

**17-0643CA/MA and 17-0644CA; 400 Pine Street and 30-32 Howard Street
(ELM, Ward 5S) Howard Space Partnership, LLP**

Demolish 2 warehouse buildings, and construct new multi-use building. Demolish duplex and move curb cut. (Project Manager, Mary O'Neil)

J.Unsworth: intends to turn underutilized space into something different. Spoke of the powerpoint presentation to DAB and Conservation Committee.

A.Hart: noted Conservation Board's report has not been made available.

M.O'Neil: information regarding this and the traffic study came after posting requirement.

A.Hart: asks about issues raised by Conservation Board.

G.Hand: questions on traffic counts from events.

J.Unsworth: has not been an issue. Never 100% full with parking. The truck stop does not interfere with parking areas. There is covered bike parking on site

A.Hart: questions if new uses will require more parking demand.

G.Hand: will there be spaces under the building.

J.Unsworth: working out access for some tenants to have a parking spot.

Applicant: standards in the State require a 9x18' space but Burlington is a 9x20 space.

I.Smith: questions the parking area.

A.Hart: asks if members of public want to speak.

D.Lashman: lives behind project and questions the terrace on Howard St side and fence on Hayward St side.

Applicant: existing fence will not be continuous

D.Lashman: existing red warehouse provides a fence to my backyard. Will this go away?
Will there be construction on weekends?

A.Hart: only interior work on Saturdays.

A.Hart: asks about Champlain Pkwy, Pine and Maple Streets and other intersections.

L.Wheelock: the parkway study assumes additional trips for small projects such as this.

I.Smith: at Howard and Pine St the left turn is very difficult at peak times.

L.Wheelock: the pkwy has tied us down on what we can do until we have more information.

A.Hart: asked for the schedule to continued hearing. Questions staff about state requirements for demolition of historic structures.

M.ONeil: potentially eligible for listing.

B.Rabinowitz: ask to submit elevation and street scape plans.

G.Hand: asks for cost benefit analysis and narrative description of public benefit.

A.Hart asks for narrative. Makes a motion to continue review on March 8th

G.Hand: seconds the motion.

Board Vote: 9-0-0

**2. 17-0623CA/MA; 311 North Ave(RM, Ward 4N) and 329-375 North Ave(NAC-CR, Ward 4N)
VLTBTV Parkland LLC, BC Community Housing LLC & Eric Farrell**

Continued review of the proposed development consisting of 11 buildings containing 733 residential units, approximately 45,000 sq. ft. of non-residential support/amenity space, approximately 45,000 sq. ft. of neighborhood commercial spaces and 1093 parking spaces.(Project Managers, Scott Gustin and Mary O'Neil)

G.Hand is recused.

A.Hart: asking applicant to respond to specific issues and materials.

E.Farrell: handouts on parking matrix.

W.Senville: this is a 25% minimum requirement and providing more than ordinance requires.

E.Farrell: can exceed if they are structured spaces. Only want to build what we need.

W.Senville: level of uncertainty for TDM program, but why can't there be an allowance for reserve parking.

E.Farrell: not willing to take away surface parking.

W.Senville: roof top deck parking is for events. Wants to know the allocation of parking.

E.Farrell: farmer's market is best example

A.Zipparo: questions construction hours and 7am to 9pm seven days a week being excessive.

Asks about quiet time during weekend.

E.Farrell: hours are from 7am to 6pm. Typically will not work on Sundays and holidays. As long as not restricted with interior work. Issue about staff comments building K and L subject to another report. We have to go through Act 250.

A.Hart: accepts written materials.

VI. Certificate of Appropriateness

1. 15-0801PD; 140 Grove Street (RL, Ward 1E) Bayberry LLC

Amend final plat approval to relocate community recreation building and to adjust grading around the 8-unit buildings. (Project Manager, Scott Gustin)

A.Hart: asks applicant to focus on staff comments, new angled parking. Swears in applicant and interested party.

P.O'Brien: presents the parking site plan, wants to move community building, will open up green space and move pavilion. Asking for parking to change from parallel to perpendicular. Received a waiver adding 17 spaces with an increase of 3000 sf of pavement. Lot coverage at 42.8% up to 44.4% Mostly an impervious surface, otherwise may need to come back to ask for more parking. May affect streetscape slightly; Want to build six plexes into eight plexes and hands out grading plan; not changing grading and making them walk out units; retaining wall had to be brought up to grade.

A.Hart: questions the height.

S.Gustin: this does affect height calculations.

P.Obrien: taking points outside the building and averaging them out so we wouldn't exceed 35%. This is why we brought retaining walls down, average finished grade was 35 ft now lowering the rear and asking for lower part acceptable

A.Hart: is the height of rear building higher than 35'ft

P.Obrien: yes

G.Hand: does this change parking needs.

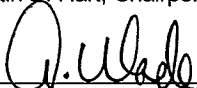
S.Busher: agree that parking and height is up to Board. Asks for additional units to have handicap parking. Questions location of the pool and community building with soil issues.

VII. Other Business

VIII. Adjournment


Austin D. Hart, Chairperson of Development Review Board

March 13, 2017
Date


A. Wade, Planning & Zoning Clerk

March 13, 2017
Date

Plans may be viewed in the Planning and Zoning Office, (City Hall, 149 Church Street, Burlington), between the hours of 8:00 a.m. and 4:30 p.m.

Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Planning and Zoning office is considered public and cannot be kept confidential.

This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/pz/drbb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

