Burlington Design Advisory Board
149 Church Street, City Hall
Burlington, VT 05401
www.burlingtonvt.gov/PZ/DAB
Phone: (802) 865-7188
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Matthew Bushey
Ron Wanamaker
Leo Sprinzen
Steven Offenhartz
Tom Cullins
Philip Hammerslough, Alt.
Phil Wagner, Alt.

DESIGN ADVISORY BOARD
Tuesday May 22nd, 2018 at 3:00 PM
Conference Room 12, City Hall, Burlington, VT
Agenda

Session I – 3:00 PM – 3:30 PM

18-0929CA; 97 Spear St (**I, Ward 8E) University of Vermont & State Agricultural College.**
Addition of new 96,681 gsf multipurpose events center at the east side of the existing UVM PFG complex; also a 17,331 gsf addition to the north side for Health and Wellness, for a total of 119,099 gsf new space. The proposed - 3000 seat events center will replace the existing Patrick Gym which will be reconfigured into practice space. No net addition of spectator seats. Existing circulation to remain.
(Project Manager: Scott Gustin)

Session II – 3:30 PM – 4:00 PM

18-0899CA/MA; 56, 58, & 66 North Ave (**RM, Ward 3C) Sara Holbrook Community Center.**
Combine three parcels and expand Sara Holbrook Community Center at 66 North Avenue, demolish a duplex and garage at 58 North Avenue, and demolish a duplex and a shed at 56 North Avenue.
(Project Manager: Ryan Morrison)

The programs and services of the City of Burlington are accessible to people with disabilities.
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).

Department of Planning and Zoning
149 Church Street
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David White, FAICP, Director
Meagan Tuttle, AICP, Comprehensive Planner
Jay Appleton, GIS Manager
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Ryan Morrison, Associate Planner
Layne Darfler, Planning Technician
vacant, Zoning Clerk

TO: Design Advisory Board
FROM: Scott Gustin
DATE: May 22, 2018
RE: 18-0929CA; 97 Spear Street

==========

Zone: I Ward: 8E

Owner/Applicant: University of Vermont & State Agricultural College

Request: Construct new multipurpose events center within the UVM PFG complex and construct health & wellness addition on north side of the existing complex. Related landscaping and parking changes.

Background Information:
The applicant is seeking approval to construct a new 96,681 sf, ~ 3,000 seat multipurpose events center to be situated between the existing Gutterson Field House and Patrick Gym facilities. The proposed events center will replace Patrick Gym for basketball games and other events. Patrick Gym will be converted to a practice facility. There will be no net increase in the number of spectator seats. A 17,331 sf addition is also proposed along the north side of the existing athletics complex to house additional health and wellness facilities. A new concourse is proposed along the south side of Gutterson. A 150-space parking lot will be removed to accommodate the new multipurpose events center. Some new parking is included in the project design (16 spaces), but more importantly, the project is addressed in the current Joint Institutional Parking Management Plan.

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.

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
Much of the new building space will be constructed on what is presently asphalt. Relatively minimal existing green space will be lost. None of the areas affected are important natural features as identified in the Open Space Protection Plan.

(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
As required, plans for erosion prevention and sediment control and for post construction stormwater management have been provided to the city's stormwater program staff. The stormwater runoff associated with this project will be directed into the University's existing stormwater infrastructure for attenuation and treatment. Final review and approval by the city's stormwater program staff will be required.

(h) Building location and orientation
Not applicable per 24 VSA, Sec. 4413.

(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.

(l) Parking and circulation
A 150-space parking lot will be replaced by the new multipurpose events center. A total of 16 new parking spaces will be provided for service vehicles and individuals in need of handicap accessible spaces. Within the Gutterson Garage, 134 parking spaces will be reassigned from the hospital to university affiliates. The project is addressed in the current Joint Institutional Parking Management Plan. Sufficient parking remains as reflected in the management plan. Minimal revisions to circulation are proposed. Overall site circulation will not change. Traffic exiting events will be directed towards Main Street as is currently the case.

(m) Landscaping, fences, and retaining walls
New landscaping and pedestrian pathways are included in the project design. New plantings will enhance surrounding green spaces, particularly at the northeast end of the site. A comprehensive landscaping plan is included in the application and incorporates a variety of trees, shrubs, and perennials. As proposed, the new landscaping effectively compliments the project design.

(n) Public plazas and open space
No public plaza or open space is included or required in this proposal.

(o) Outdoor lighting
New outdoor lighting is included in the project design. Building entries, walkways, and circulation areas will be illuminated. Acceptable LED lantern fixtures will be used. While a photometric plan has been submitted to demonstrate footcandle levels, there is no summary table to indicate minimum, maximum, and average illumination levels or uniformity ratios. Such information is necessary to confirm compliance with the applicable illumination standards.

(p) Integrate infrastructure into the design
Any new utility lines serving the proposed facility must be buried. A proposed "service yard" will contain a trash compactor and loading bay. No screening of the trash compactor is evident and should be included.

Part 3, Architectural Design Standards
Sec. 6.3.2, Review Standards
(a) Relate development to its environment

1. Massing, Height, and Scale
The proposed multipurpose events center is large at 96,861 sf. Perception of the structure's large scale will be significantly mitigated by its placement within the existing athletic complex. While sizeable, the new building will be set among larger existing components of the university's athletic complex. Building height and massing are comparable to those of the existing Gutterson Field House. Both incorporate curving rooflines and similar proportions. The two will be viewed side-by-side from the east and will read as two components of the overall athletic complex. The much smaller health and wellness addition to the north represents a simpler rectilinear design, albeit with more generous glazing than existing conditions and a sloping roofline.

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
Some outdoor signage is depicted in the project plans. Generally, it looks acceptable except, perhaps, the large "V" between the new multipurpose center and Gutterson. Height limit may be exceeded for this feature. In any event, outdoor signage is subject to review and approval under separate zoning permit.

(h) Integrate infrastructure into the building design
The application materials include a roof plan; however, it refers to sheets A0300 – A0302 for details. These sheets are not included in the application. Details as to roof-mounted equipment location and screening are needed.

(i) Make spaces safe and secure
The proposed building must comply with the city's current egress requirements. Building entries will be illuminated.

II. Recommendation
Forward to the Development Review Board with the following conditions:

1. Revise the photometric plan to include a summary table indicating minimum, maximum, and average illumination levels and uniformity ratios.
2. Include screening detail for the trash compactor.
3. Provide rooftop mechanical unit dimensional information, location, and screening.

The University of Vermont

To: Scott Gustin, Principal Planner
Burlington Planning & Zoning Department
149 Church Street
Burlington, VT 05401

April 16, 2018

Dear Scott,

Re: Zoning Permit Application for the University of Vermont Multipurpose Center at 97 Spear Street, Burlington

This is a COA Level II application for the University of Vermont (UVM) to construct additions to the Patrick Forbush Gutterson (PFG) athletics complex at 97 Spear Street, at the UVM athletic campus, in Burlington.

The additions will consist of a new 96,681 gross square feet (GSF) multipurpose events center at the east side of the existing UVM PFG complex as well as a 17,331 GSF addition to the north side of the complex, as part of a Health and Wellness renovation/expansion, for a total of 119,099 GSF new space. The proposed ~3,000 seat events center will replace the existing Patrick Gym, which will be reconfigured into practice space. There will be no net addition of spectator seats. The existing traffic circulation pattern, as per the 2003 South Campus Master Transportation Plan and updated in 2009, will remain.

The landscaping plan includes an overall increase in number of trees as well as paving of informal existing paths to better facilitate pedestrian circulation.

See Project Description for more details.

Lot coverage for the existing UVM South of Main campus is 40.36%. This number reflects a correction in lot coverage calculations that we recently discovered. This project will increase lot coverage to 40.90%.

The City's Planning & Zoning Department has previously advised the University that the University of Vermont is subject to limited zoning review per 24 VSA, §4413, *Limitations on Municipal Bylaws*. This specifies that 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.

Location: The proposed multipurpose center will fit in with the existing Gutterson Field House, and share core accessory spaces. The proposed center will replace Patrick Gym, located in the same complex.

Size, height, building bulk: The new events center will replace the existing Patrick Gym with the same number of spectator seats, within the same complex. That means that traffic volume and circulation patterns can remain essentially the same. The overall undulating shape of the new events center echoes the Gutterson Field House, and was designed at a similar scale. The addition on the north is modest in scope, and fills out the existing façade and keeps the same scale and building materials.

CAMPUS PLANNING SERVICES
109 South Prospect Street, Burlington, VT 05405-0016
Telephone (802) 656-7878, Fax (802) 656-8895

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Yards, courts, setbacks: The entire addition is within the UVM athletics campus, set back from all surrounding streets. The roadway to the east of the events center will have a sidewalk, curb and tree plantings. There are athletic fields to the south of the PFG complex, subject to previous permits.

Building density: There are no residential units in this project.

Off street parking: The seating capacity will not change, so the need for parking spaces will not change. The events center will be built on an existing surface parking lot, displacing 150 spaces. Sixteen spaces will be built on the southwest corner of the PFG complex, for service and accessible parking. 134 existing spaces will be transferred back to UVM affiliates use from the bottom level of the Gutterson Garage, which is currently used by UVM Medical Center (UVM MC).

Loading facilities: The existing loading dock on the east side of the facility will be rebuilt in essentially the same spot.

Traffic: Overall circulation will not change, and will conform with the 2003 South Campus Master Transportation Plan, updated in 2009. The roadway to the east of the complex, where spectators will enter on game day, will have a special events protocol with personnel directing traffic. This will be a primarily pedestrian corridor on game day, with most vehicles parking in Gutterson Garage or farther away. The Gutterson Garage entrances are on the north, south and northwest corner of the garage. The only vehicles accessing the roadway near the event center entries will be either shuttles or vehicles with handicap tags, for either drop off or parking in the accessible parking spots near the entries. See L600 for more details.

Noise: The new events center replaces the existing Patrick Gym for spectator events. Both are indoor venues and there should be no new sources of noise.

Lighting: All outdoor lighting will conform with IESNA standards. No new sporting event lighting is planned. See L500 for more details.

Landscaping and screening: New landscaping and path paving will improve the existing landscape. See L100, L300 and L400 for more details.

Stormwater and Erosion Control: See attached Erosion Prevention & Sediment Control Narrative and permit application, as well as the Stormwater Discharge Narrative. The University will continue to work closely with the Burlington DPW Stormwater Program Manager and copy her on information given to and received from the state stormwater permitting authorities.

The University is working with the Burlington Fire Department, the Burlington Electric Department and the Burlington Department of Public Works on completion of technical details.

As consistent with past practices, the University has met with key community stakeholders including the NPAs as well as our South Burlington neighbors to inform them about this project.

The project construction cost is $65,000,000. Construction is scheduled to start in the spring of 2019 and be completed in February 2021. The University requests that this zoning permit be extended until the summer of 2021, for a period of 3.5 years, in order to complete all construction and landscaping.

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The University of Vermont

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

Sincerely,

Lani Ravin

Lani Ravin, AICP, UVM Associate Planner

Campus Planning Services

cc: Linda Seavey, Director, Campus Planning Services
Robert Vaughan, Director, Capital Planning & Management
Paula Carlaccini, Director, Facilities Design & Construction

ATTACHMENTS:

Zoning Permit Application
Check # 1438100 for $130,110.00
Project Description
Site Location Plan
EPSC Application
2009 Traffic Circulation Plan, from the South Campus Transportation Master Plan (existing, to remain)
Lighting Specifications
Blue Lights Specifications
Bollard Specifications
"Twig Bench" Specifications
Bike Rack Inverted U's Specifications
Bike Lockers Specifications
Master Plan Concept
Existing Conditions: Campus Health & Wellness perspective
Exterior Perspective: Campus Health & Wellness
Exterior Perspectives: Events Center (1) & (2)
Exterior Elevation
Plans, dated 4/12/2018: L100, L300, L400, L500, L600, C0100, C0101, C0102, C0103, C0104, C0105, C0106, C0107, C0108, C0200, C0201, C0202, C0300, C0301, C0400, C0401, C0600, C0601, C0602, C0603, C0604, A0105, A0305, A0311, A0312, A0313, A0314, A0315, A0350, A0351 A0352

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University of Vermont Multipurpose Center

The University of Vermont has identified the Multipurpose Center as its highest priority facilities need at this time. The existing facilities of the Patrick Forbush Gutterson Complex (PFG Complex) includes 335,321 gross square feet (GSF). These facilities, located at 97 Spear Street, were constructed in multiple phases in 1961, 1980, 1990 and 1999. Today upgrades and/or new construction are required to meet current programming needs.

The additions will consist of a new 96,681 GSF multipurpose events center at the east side of the existing UVM PFG complex as well as a 17,331 GSF addition to the north side of the complex, as part of a Health and Wellness renovation/expansion, for a total of 119,099 GSF new space. The proposed ~3,000 seat multipurpose center will replace the existing Patrick Gym, which will be reconfigured into practice space. There will be no net addition of spectator seats. The existing traffic circulation pattern, as per the 2003 South Campus Master Transportation Plan and updated in 2009, will remain.

The landscaping plan includes an overall increase in number of trees as well as paving of informal existing paths to better facilitate pedestrian circulation.

The design team is Cannon Design, Boston, MA in association with TruexCullins, Burlington, VT.

PROGRAM NEEDS & SITE

The need to upgrade and expand UVM's facilities to better accommodate health, fitness, wellness, academics, athletics, events, and related programs has been well documented. A Board of Trustees sponsored Task Force Report was issued in 2009, and articulated principles to guide the proposed project, including:

1) Reflect and support the mission and values of the University;
2) Integrate academic components into the program;
3) In a highly student-centered way, meet the breadth and depth of wellness, recreation, fitness, athletic, and event/activities needs of UVM's active, diverse community;
4) Maximize cost savings through utilization of existing facilities and co- location of new ones;
5) Build community in an imaginative, integrated way;
6) Embody the outdoor, natural spirit of Vermont;
7) Be a model of environmental stewardship;
8) Compare well with UVM's peer institutions;
9) Assist in the recruitment, retention, and success of students, faculty, and staff;
10) Allow the intercollegiate athletic program to compete and thrive, with particular attention to the success of the "student-athlete".

The proposed project utilizes a combination of new construction and renovation to accommodate the needs of the athletic department programs.

This project will also address challenges in the existing complex:

- Opened in 1963; facilities no longer meet current athletic or recreational planning standards;
- Existing space is at or beyond full capacity;
- Majority of spaces are undersized;
- Universal accessibility is limited;
- Maintenance program has extended the lifespan of the facilities;
- Building systems have reached the end of their typical useful life;
- Wayfinding throughout complex is difficult through multiple corridors.

PROJECT GOALS

The Athletic Department encompasses the full spectrum of health, wellness, recreation and varsity sports programming. The proposed project will:

- Create an enhanced and enlarged new health/wellness zone which will increase from 15,000 GSF to 99,607 GSF;
- Create a true multipurpose center that includes health, wellness, academic, social, cultural and athletic programming elements;
- Create tangible academic support space; classrooms and study space
- Maintain two separate on-campus facilities for hockey and basketball;
- Upgrade competitive venues for hockey and basketball, including practice facility availability and improved athlete support facilities; locker rooms, training, meeting space and administrative/coaches offices
- Provide dual use of air-conditioned venues for other events; speakers, concerts, cultural events and community programs
- Renovate and upgrade existing spaces in need of systems/ safety/ circulation/ ADA/cosmetic improvements and reconfiguration
- Preserve and improve Gutterson to remain the home of UVM Hockey;
- Construct a new, properly sized multipurpose center to house academic, social, cultural and entertainment events as well as basketball practice and competition;
- Address long-standing deferred maintenance issues;
- Improve internal circulation;
- Include an efficient and significant re-use of existing space, with limited new construction.

DESIGN CONCEPT:

With a limited footprint, the design includes the following elements, while re-using and renovating existing space:

- Repurposing existing space in the north of the complex for recreation, health and wellness activities;
- Small addition to the north helps make this space more defined and usable;
- Redesign and re-use of Patrick Gym for recreation and practice games. No spectator games;
- North entry dedicated to recreation, health and wellness;

- East entries dedicated to athletic and other events, adjacent to parking;
- New multipurpose center on the east side of the complex, on the existing “horseshoe” parking lot;
- New multipurpose center will have ~ 3,000 seats, which will replace the existing ~3,000 seats at Patrick Gym;
- New multipurpose center will share entry, stairs, elevator, VIP Victory Club and other core spaces with a renovated Gutterson Field House. The two event spaces will not be used concurrently for spectator events;
- Renovation of existing interior space; improvements to interior circulation.

ARCHITECTURAL DESIGN:
The overall design of the project takes its cues from familiar UVM and Vermont forms and materials. The renovated area to the north and the new student entry is defined by a long, gabled roof and a pallet of standing seam metal, brick, a durable synthetic wood-like siding system, and metal panel rainscreen. The new Events Center is defined by an arching metal roof that unifies the new construction with the historic Gutterson Field House. Two grand stairs are clad with brick, mimicking Gutterson and providing a solid base for the curtainwall and the repeated synthetic siding above. Both areas include expanses of glass that connect the interior to scenic vistas and allow views in.

SUSTAINABLE DESIGN ELEMENTS
In support of the University’s "Environmental Design in New and Renovated Buildings" policy, it is UVM's intent to register this project with the USGBC, and to pursue, at a minimum, a LEED™ silver level certification, while striving to achieve gold level certification.

The project will be built on an existing parking lot, thereby utilizing existing impervious surface. There is a station for the new Greenride Bikeshare.

The University intends to follow the University Construction and Demolition Waste Management Program, which includes following University specifications and utilizing an online construction and demolition waste-tracking tool.

There are electric car charging spaces, located nearby at the Gutterson Garage.

LANDSCAPE
- Overall, there will be 50 additional trees over what exists today in this area.
- A new 8’ pedestrian path will lead from the north entrance to the south/east entries.
- Informal “cow paths” will be paved as necessary, to facilitate pedestrian access and circulation.

CAMPUS CONNECTIONS
This project will create a new multipurpose center, but will not add to the existing inventory of spectator seats: it will replace Patrick Gym, which will become a recreational facility. No

additional students will be added as a result of this project. No new vehicular traffic is expected to be created as a result of this project.

This project will conform with all previously permitted conditions:

- Existing traffic, circulation and parking configurations will remain, as per the 2003 South Campus Master Plan (see attached 2009 overall circulation plan);
- Special Events Protocols will continue as usual;
- Event attendance at all athletic facilities will be limited to 7,300 spectators at one time;
- This project will be in conformance with the 2014-2019 Joint Institutional Parking Management Plan, as follows:
    - 134 parking spaces will be displaced in order to build the Events Center.
    - 134 parking spaces will be transferred back to UVM affiliates from the bottom level of the Gutterson Garage, which is currently used by UVM Medical Center (UVM MC) affiliates. These UVM MC affiliates will then park remotely, off campus, or participate in any one of CATMA's TDM initiatives. They may utilize the existing UVM MC shuttle service.

- Parking, Traffic and Circulation:
    - As per the 2003 South Campus Master Transportation Plan, updated in May 2009, all traffic may enter the area from Spear Street, University Heights Road or South Prospect Street.
    - Except for the bottom tier of the Gutterson Garage and parking lot, on regular days, all traffic must exit onto Main Street, from University Heights Road.
    - Before and after games and special events, Special Events Protocols will continue as usual.
    - On game days, the roadway east of the multipurpose center would be primarily pedestrian oriented. It would be open for shuttles and ADA drop off/parking only. This would be similar to other places on campus where pedestrians and shuttle buses utilize the same roadway. All other vehicles park in the garage or elsewhere on campus and walk or shuttle in.
    - Only handicap parking spaces on the road itself, near the entrance.
    - Staff will direct traffic on game day, to enforce the limited access.
    - See excerpt from May 2009 update of the South Campus Master Transportation Plan for overall circulation, and plan illustration for internal circulation on game days.

OVERALL SIZE & SCOPE:

- 119,099 new GSF: 96,681 GSF for the Multipurpose Center and 17,331 GSF for Health & Wellness.
- Overall cost: $65,000,000.
- 58 additional bike parking spaces and 4 secure bike lockers.
- Proposed construction schedule: Spring 2019 – February 2021.
- Lot coverage for the UVM South of Main Street campus is 40.36%; this project will increase lot coverage to 40.90%.

University of Vermont

On-Campus Multipurpose Center

97 Spear St, Burlington, VT 05405

005353.00
Burlington Design Review Board Submission
April 12, 2018
VOLUME 1

CANNONDESIGN

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Landscape Architecture
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(802) 864-0010

DRAWING INDEX

SHEET NUMBER	SHEET NAME
VOLUME 1	
00 - GENERAL	
G0000.1	COVER SHEET - VOLUME 1
20 - CIVIL	
C0100	OVERALL CIVIL SITE PLAN
C0101	CIVIL SITE & UTILITY PLAN
C0102	CIVIL SITE & UTILITY PLAN
C0103	CIVIL SITE & UTILITY PLAN
C0104	CIVIL SITE & UTILITY PLAN
C0105	CIVIL SITE & UTILITY PLAN
C0106	CIVIL SITE & UTILITY PLAN
C0107	CIVIL SITE & UTILITY PLAN
C0108	POST CONSTRUCTION SOIL RESTORATION PLAN
C0200	OVERALL EXISTING CONDITIONS PLAN
C0201	EXISTING CONDITIONS PLAN
C0202	EXISTING CONDITIONS PLAN
C0300	CIVIL SITE DEMOLITION PLAN
C0301	CIVIL SITE DEMOLITION PLAN
C0400	EROSION PREVENTION & SEDIMENT CONTROL PLAN PRECONSTRUCTION
C0401	EROSION PREVENTION & SEDIMENT CONTROL PLAN STABILIZATION
C0600	CIVIL DETAILS
C0601	CIVIL DETAILS
C0602	CIVIL DETAILS
C0603	CIVIL DETAILS
C0604	CIVIL DETAILS
25 - LANDSCAPE	
L100	LAYOUT & MATERIALS PLAN
L300	PLANTING PLAN
L400	LANDSCAPE DETAILS
L500	SITE LIGHTING PLAN & PHOTOMETRIC STUDY
L600	EVENT CIRCULATION DIAGRAM
40 - ARCHITECTURAL	
A0105	ROOF OVERALL PLAN
A0305	OVERALL ELEVATIONS
A0311	EXTERIOR ELEVATIONS
A0312	EXTERIOR ELEVATIONS
A0313	EXTERIOR ELEVATIONS
A0314	EXTERIOR ELEVATIONS
A0315	EXTERIOR ELEVATIONS
A0350	BUILDING SECTIONS
A0351	BUILDING SECTIONS
A0352	BUILDING SECTIONS

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LUMINAIRE SCHEDULE

Qty	Label	Arrangement	Lum. Lumens	Lum. Watts	LLF	BUG Rating	Description
7	A1	SINGLE	3999	72	0.748	B3-U3-G2	LUMEC L70-65W4YLED4K-ES-LE3, RELOCATED DECORATIVE PEDESTRIAN FIXTURE, ON 10' POLE
6	A2	SINGLE	3691	72	0.850	B1-U3-G2	LUMEC L70-65W4YLED4K-ES-PCFC-LE3, RELOCATED,EX. DECORATIVE VEH. FIXTURE, MOUNTED ON EX. 12' POLE
7	A2b	SINGLE	3691	72	0.850	B1-U3-G2	LUMEC L70-65W4YLED4K-ES-PCFC-LE3, RELOCATED, EX. DECORATIVE PED. FIXTURE, MOUNTED ON NEW 12' POLE
9	B1	SINGLE	3999	72	0.748	B3-U3-G2	LUMEC L70-65W4YLED4K-ES-LE5, NEW DECORATIVE PEDESTRIAN FIXTURE, ON 10' POLE
1	B2	SINGLE	3691	72	0.850	B1-U3-G2	LUMEC L70-65W4YLED4K-ES-PCFC-LE3, NEW DECORATIVE VEHICULAR FIXTURE, MOUNTED ON 12' POLE
8	D	SINGLE	3999	72	0.748	B3-U3-G2	LUMEC L70-65W4YLED4K-ES-LE5, EX. PARKING LOT FIXTURE
23	E1	SINGLE	3999	72	0.748	B3-U3-G2	LUMEC L70-65W4YLED4K-ES-LE5, EX. DECORATIVE FIXTURE, ON 10' POLE
53	E2	SINGLE	3999	72	0.748	B3-U3-G2	LUMEC L70-65W4YLED4K-ES-LE5, EX. VEHICULAR FIXTURE, ON 12' POLE
4	F	SINGLE	131	10	0.850	N.A.	LUMEC RDS80-VOLT-GRE-DX W/ 10W LED LAMP
14	WP1	SINGLE	2751	25.5	0.850	B1-U0-G1	LUMARK XTOR3B-15K WALL MTD W/ MTD @ VARYING HEIGHTS
33	WP2	SINGLE	2503	20.8	0.850	B1-U0-G1	RAB WPLED25N WALL MTD @ VARYING HEIGHTS
57	WP3	SINGLE	2138	21.3	0.850	B0-U0-G1	BURNELL LWC2-14L-4K-D35-3 WALL MTD @ VARYING HEIGHTS
8	WP4	SINGLE	2005	23.3	0.850	B1-U0-G1	CREE SEC-EDG-3M-MW-G2-E-UL-SV-350-40K WALL MTD @ VARYING HEIGHTS

EXISTING BOLLARD LIGHT FIXTURE, TYPE F, TYP.

RELOCATED PEDESTRIAN POST-TOP LIGHT FIXTURE, TYPE A1, TYP.

PROPOSED PEDESTRIAN POST-TOP LIGHT FIXTURE, TYPE B1, TYP.

EXISTING PEDESTRIAN POST-TOP LIGHT FIXTURE TO REMAIN, TYPE E, TYP.

EXISTING VEHICULAR POST-TOP LIGHT FIXTURE TO REMAIN, TYP.

RELOCATED VEHICULAR POST-TOP LIGHT FIXTURE, TYPE A2, TYP.

RELOCATED PEDESTRIAN POST-TOP LIGHT FIXTURE ON NEW VEHICULAR POLE (12'), TYPE A2b, TYP.

EXISTING VEHICULAR PARKING LOT LIGHT FIXTURE, TYPE D, TYP.

PROPOSED VEHICULAR POST-TOP LIGHT FIXTURE, TYPE B2, TYP.

LEGEND

- 0.1 FC
- 0.2 FC
- 0.5 FC
- 1.0 FC
- 2.0 FC

32 0 32 64
SCALE OF FEET

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No.	Description	Da
-	BURLINGTON DESIGN REVIEW BOARD SUBMISSION	12 A
-	DD PRICING SET	23 M
-	DD PROGRESS SET	2 MA
-	SUPPLEMENTAL SD SET	3 NO
-	SD PRICING SET	25 A

Drawing Title:

SITE LIGHTING PLAN PHOTOMETRIC STUD

Project No.: 005353.00 Checked by:

L500

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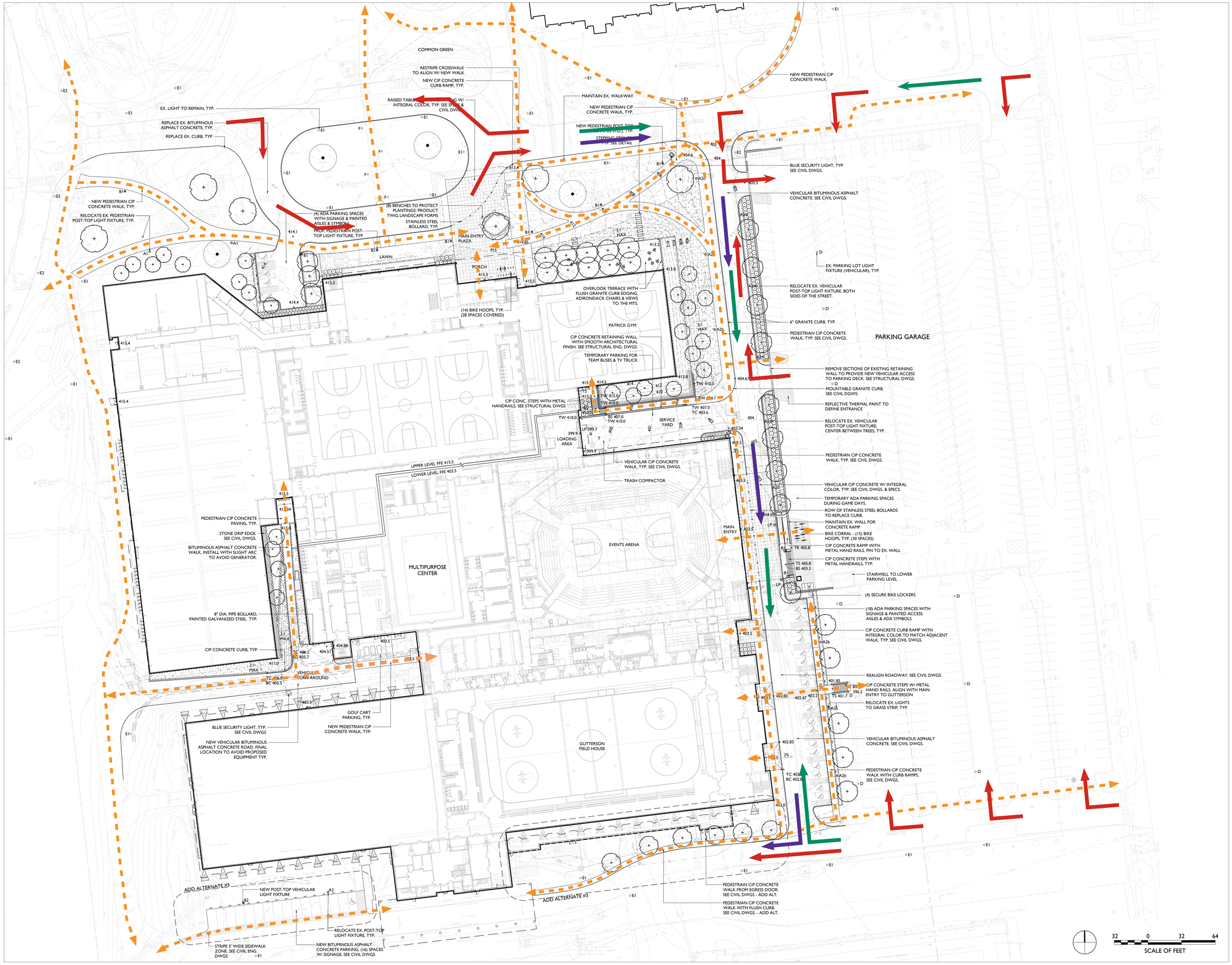

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CIRCULATION LEGEND

- SHUTTLE BUS
- ADA VEHICLES
- PRIVATE VEHICLES
- PEDESTRIAN

No.	Description	Date
-	BURLINGTON DESIGN REVIEW BOARD SUBMISSION	12 APR 2018
-	DD PRICING SET	23 MAR 2018
-	DD PROGRESS SET	2 MAR 2018
-	SUPPLEMENTAL SD SET	3 NOV 2017
-	SD PRICING SET	25 AUG 2017

Drawing Title:

EVENT CIRCULATION DIAGRAM

Project No.: 005353.00 Checked by: JH

L600

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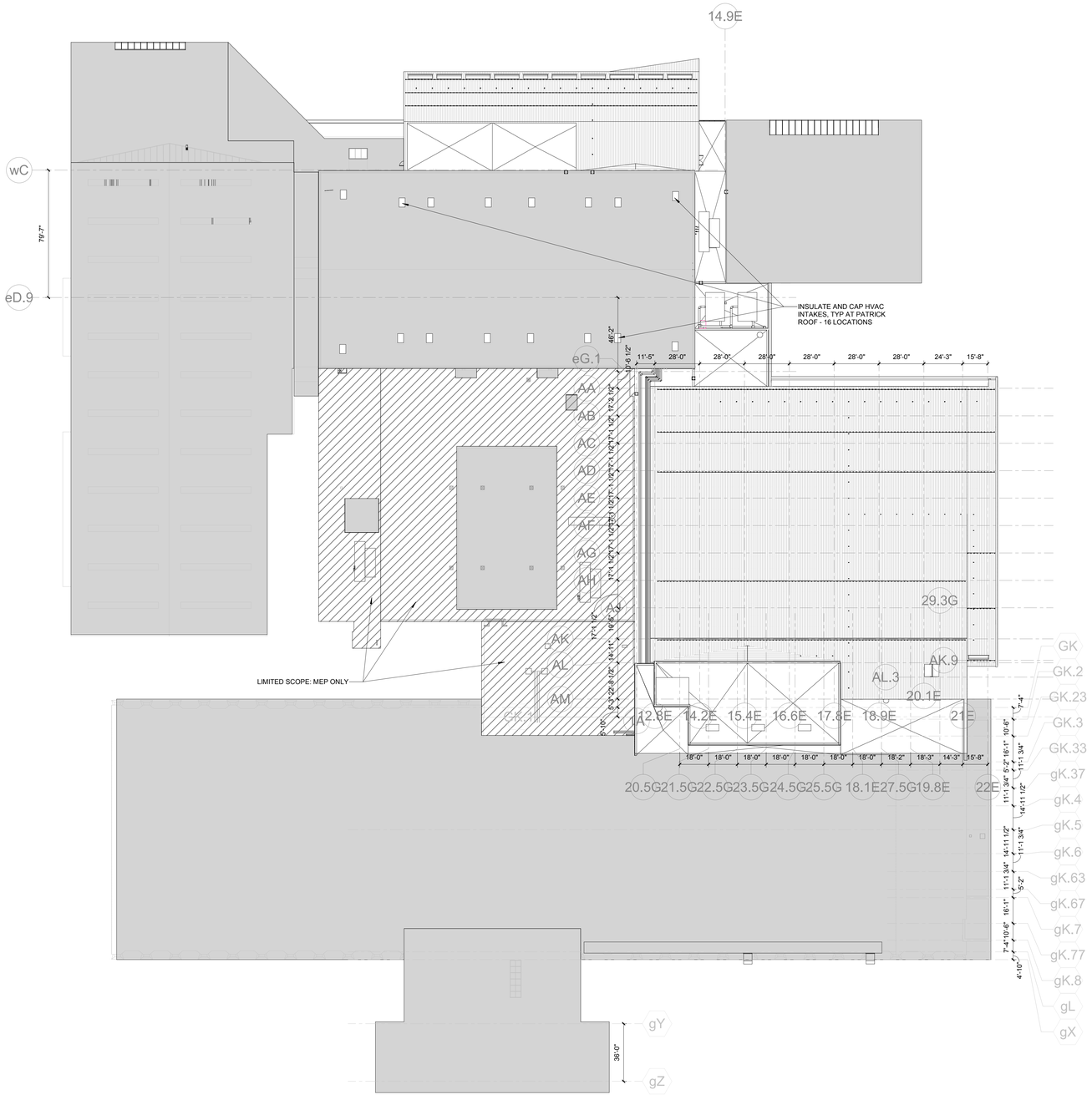
PLAN NOTES

1. SEE SHEETS A0300 - A0302 FOR EXTERIOR WALL AND ROOF ASSEMBLIES AND DETAILS
2. SEE SHEETS A1001 - A1002 FOR INTERIOR PARTITION TYPES.

INDICATES AREAS NOT IN CONTRACT

INDICATED AREAS WITH LIMITED SCOPE



1 ROOF OVERALL PLAN
1/32" = 1'-0"

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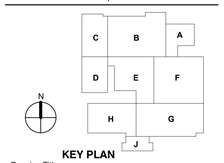
-	DD Pricing Set	23 MAR 2018
-	DD Progress Set	02 MAR 2018
-	Supplemental SD Set	03 NOV 2017
-	SD Pricing Set	25 AUG 2017

No.	Description	Date



KEY PLAN

Drawing Title:

ROOF OVERALL PLAN

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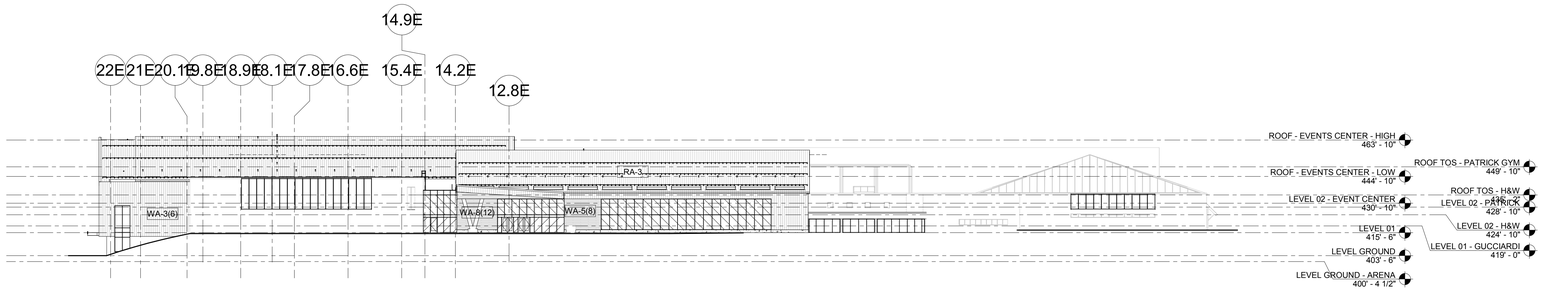
EXTERIOR MATERIALS LEGEND

	WA-1(6)	BRICK ON CFMF
	WA-2(8)	BRICK ON CMU
	WA-3(6) WA-6(6)	PROFILED METAL PANEL ON CFMF
	WA-4(8) WA-4(12)	PROFILED METAL PANEL ON CMU
	WA-5(0) WA-5(2.5) WA-5(8)	PROFILED METAL PANEL ON EXISTING BACKUP
	WA-7(6)	PHENOLIC WALL PANEL ON CFMF
	WA-8(12)	PHENOLIC WALL PANEL ON CMU
	WA-9(0)	PHENOLIC WALL PANEL ON EXISTING BACKUP
	WA-10(6)	EPDM ON CFMF

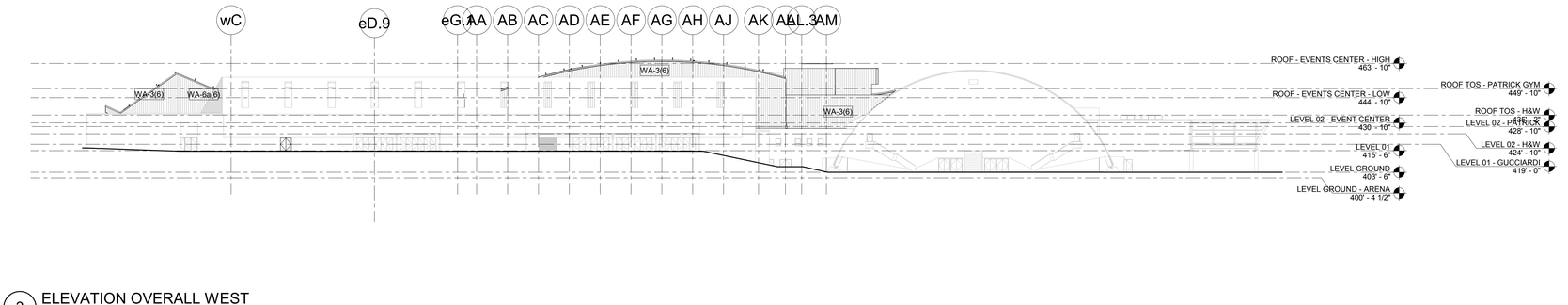
FOR OPAQUE WALLS, (#) INDICATES CFMF SIZE:
WA-XX(6) = 6" CFMF
WA-XX(8) = 8" CFMF

FOR CMU WALLS, (#) INDICATES NOMINAL CMU SIZE:
WA-XX(8) = 8" NOM CMU
WA-XX(12) = 12" NOM CMU

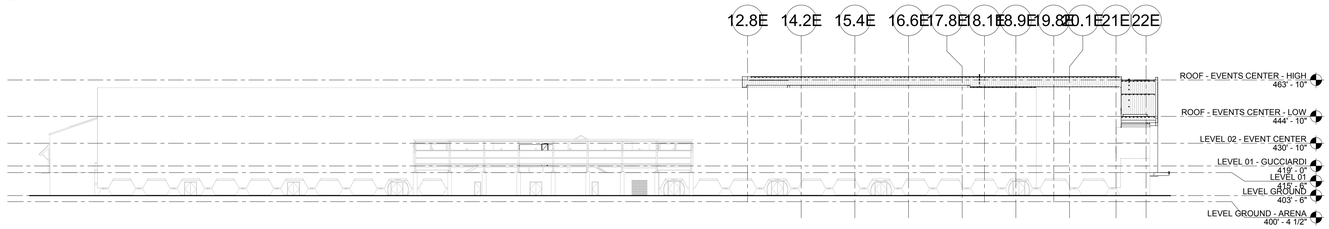
1. SEE SHEETS FOR A0300 - A0302 FOR EXTERIOR WALL AND ROOF ASSEMBLIES AND DETAILS



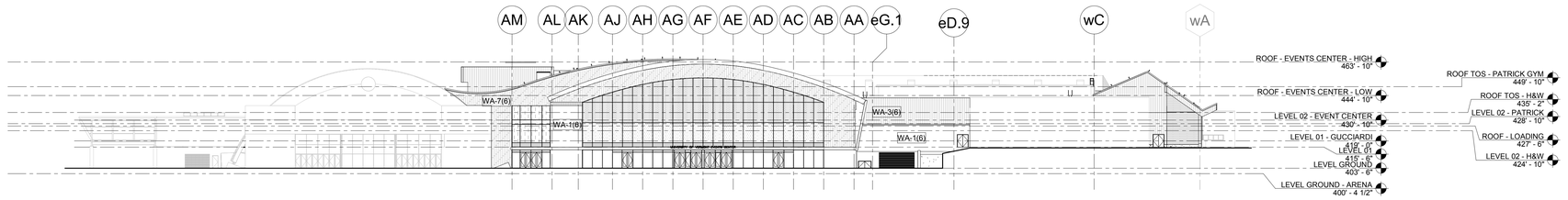
4 ELEVATION OVERALL NORTH
1/32" = 1'-0"



3 ELEVATION OVERALL WEST
1/32" = 1'-0"



2 ELEVATION OVERALL SOUTH
1/32" = 1'-0"



1 ELEVATION OVERALL EAST
1/32" = 1'-0"

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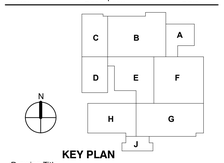
-	Burlington Design Review Board Submission	12 APR 2018
-	DD Pricing Set	23 MAR 2018
-	DD Progress Set	02 MAR 2018
-	Supplemental SD Set	03 NOV 2017
-	SD Pricing Set	25 AUG 2017

No.	Description	Date



KEY PLAN

Drawing Title:

OVERALL ELEVATIONS

Project No.: 005353.00 Checked by: Checker

A0305

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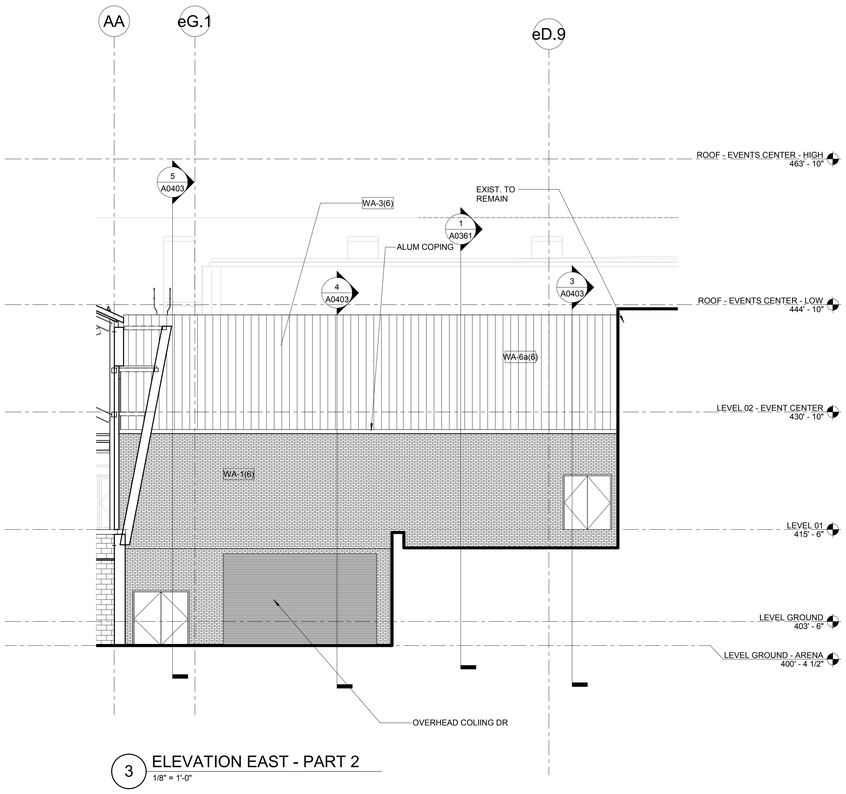
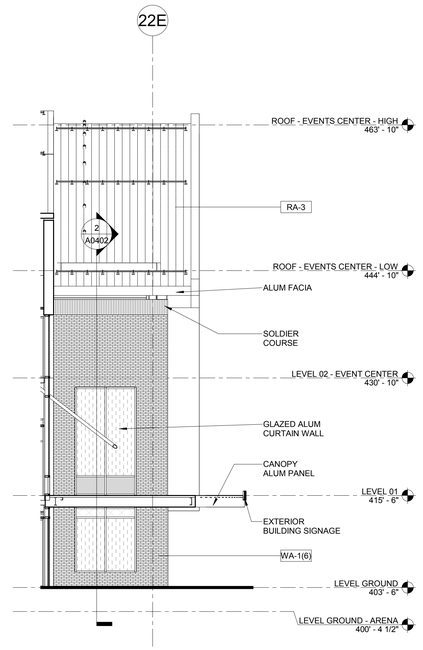
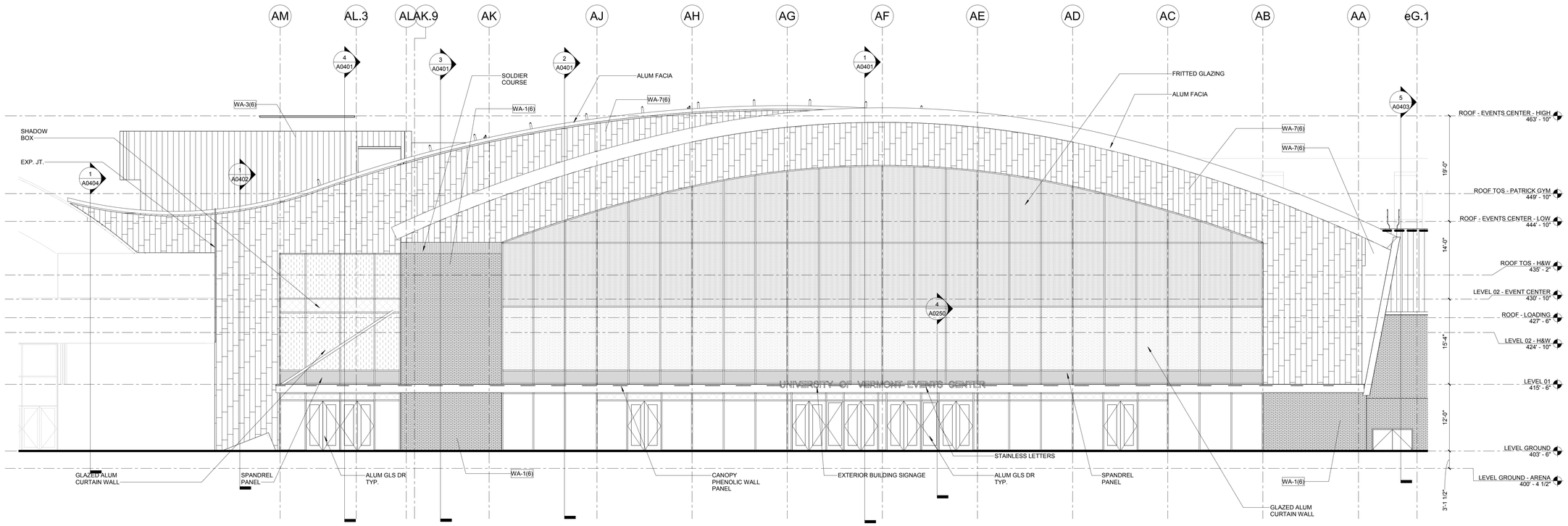


3 ELEVATION EAST - PART 2
1/8" = 1'-0"



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

EXTERIOR GLAZING TYPES		
	GL-1	1" INSULATING GLASS UNIT, TINTED
	GL-2	1" INSULATING GLASS UNIT, CLEAR
	GL-3	1" INSULATING GLASS UNIT, TEMPERED, TINTED
	GL-4	1" INSULATING GLASS UNIT, TEMPERED, CLEAR
	GL-5	1" INSULATING GLASS UNIT, 20% CERAMIC FRIT, TINTED
	GL-6	1" INSULATING GLASS UNIT, 40% CERAMIC FRIT, TINTED
	GL-7	1" INSULATING GLASS UNIT, SHADOWBOX, TINTED
	GL-8	1" SPANDREL PANEL
	GL-9	TRANSLUCENT INSULATED WALL SYSTEM



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

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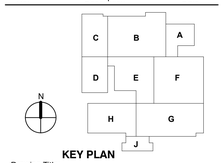
No.	Description	Date
-	Burlington Design Review Board Submission	12 APR 2018
-	DD Pricing Set	23 MAR 2018
-	DD Progress Set	02 MAR 2018
-	Supplemental SD Set	03 NOV 2017
-	SD Pricing Set	25 AUG 2017



KEY PLAN

Drawing Title:

EXTERIOR ELEVATIONS

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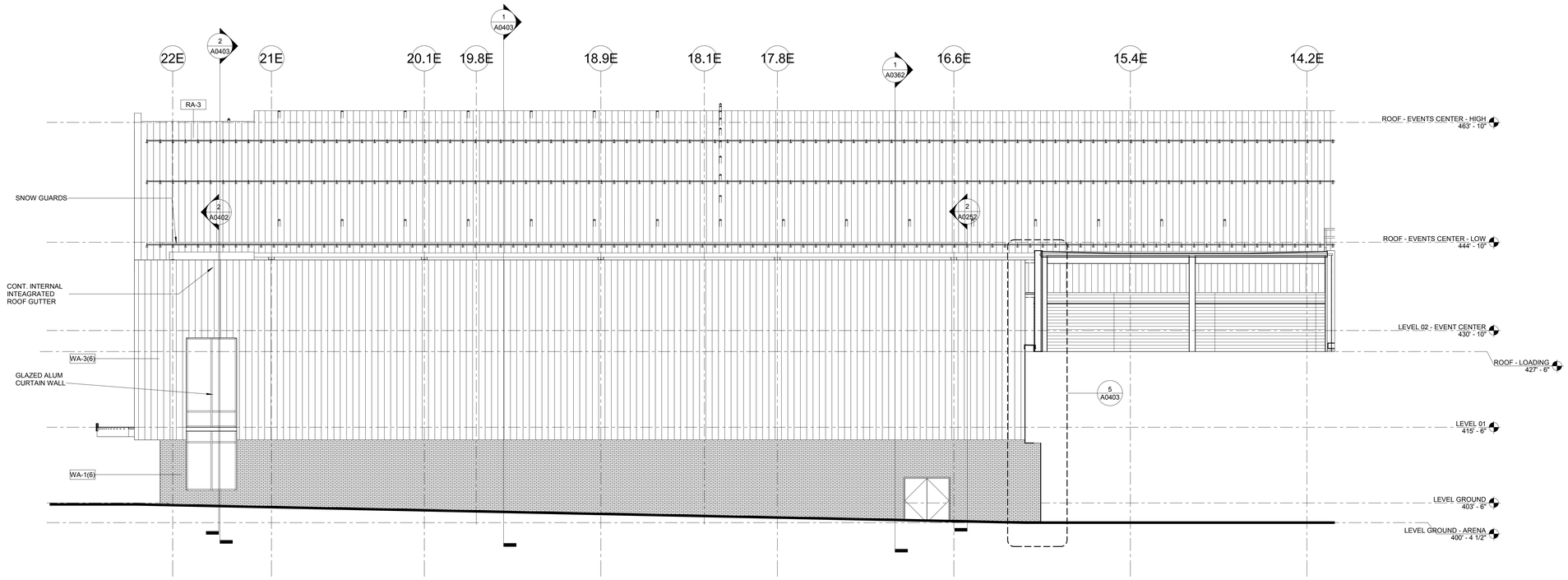
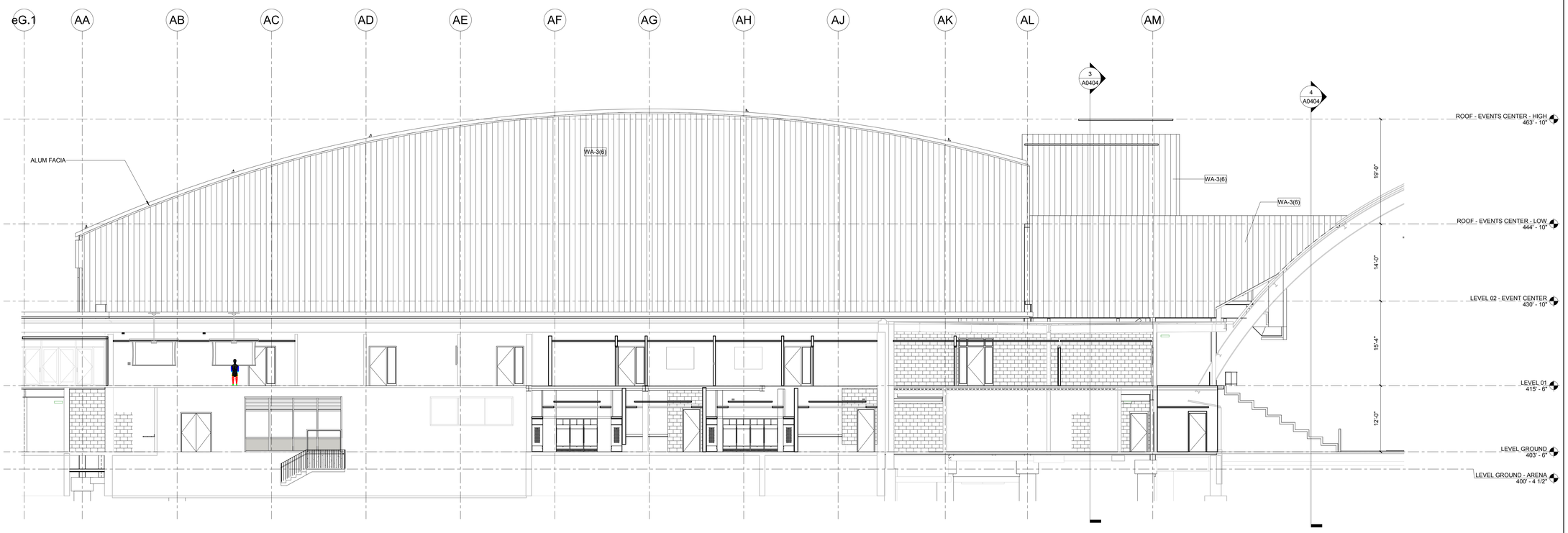


2 ELEVATION EVENT CENTER NORTH PARTIAL
1/8" = 1'-0"



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

EXTERIOR GLAZING TYPES

	GL-1	1" INSULATING GLASS UNIT, TINTED
	GL-2	1" INSULATING GLASS UNIT, CLEAR
	GL-3	1" INSULATING GLASS UNIT, TEMPERED, TINTED
	GL-4	1" INSULATING GLASS UNIT, TEMPERED, CLEAR
	GL-5	1" INSULATING GLASS UNIT, 20% CERAMIC FRIT, TINTED
	GL-6	1" INSULATING GLASS UNIT, 40% CERAMIC FRIT, TINTED
	GL-7	1" INSULATING GLASS UNIT, SHADOWBOX, TINTED
	GL-8	1" SPANDREL PANEL
	GL-9	TRANSLUCENT INSULATED WALL SYSTEM

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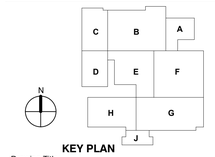
-	SD Pricing Set	25 AUG 2017



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Drawing Title:

EXTERIOR ELEVATIONS

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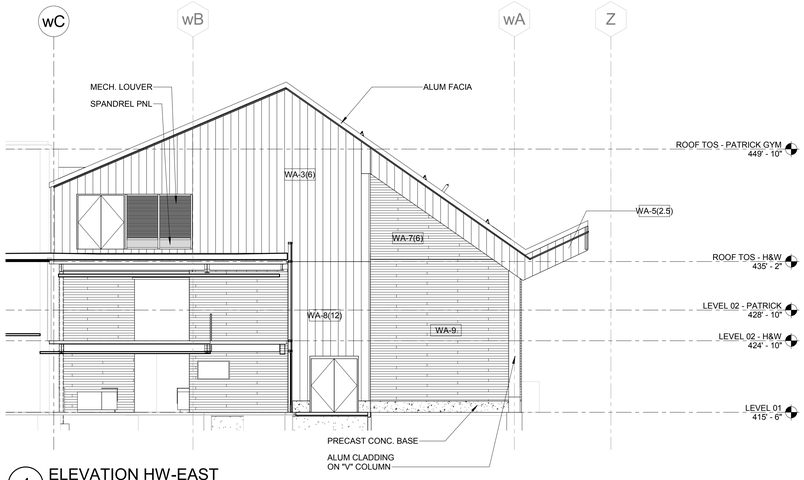
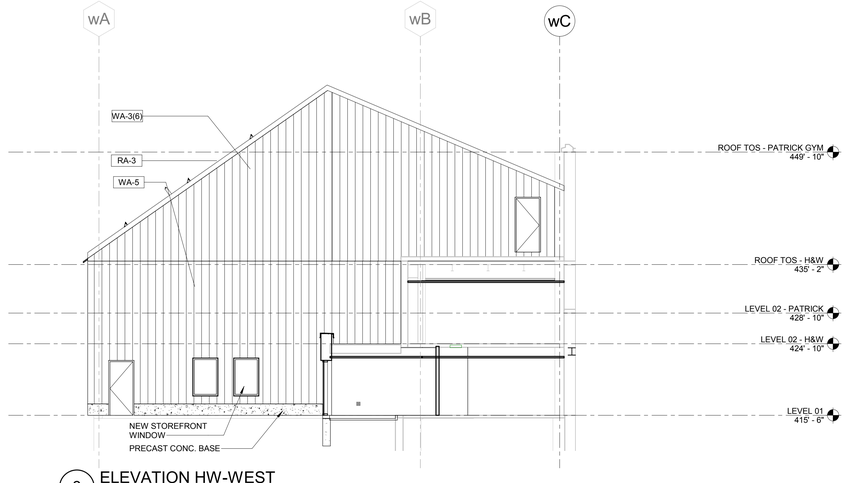


4 ELEVATION HW-EAST
1/8" = 1'-0"



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

EXTERIOR GLAZING TYPES		
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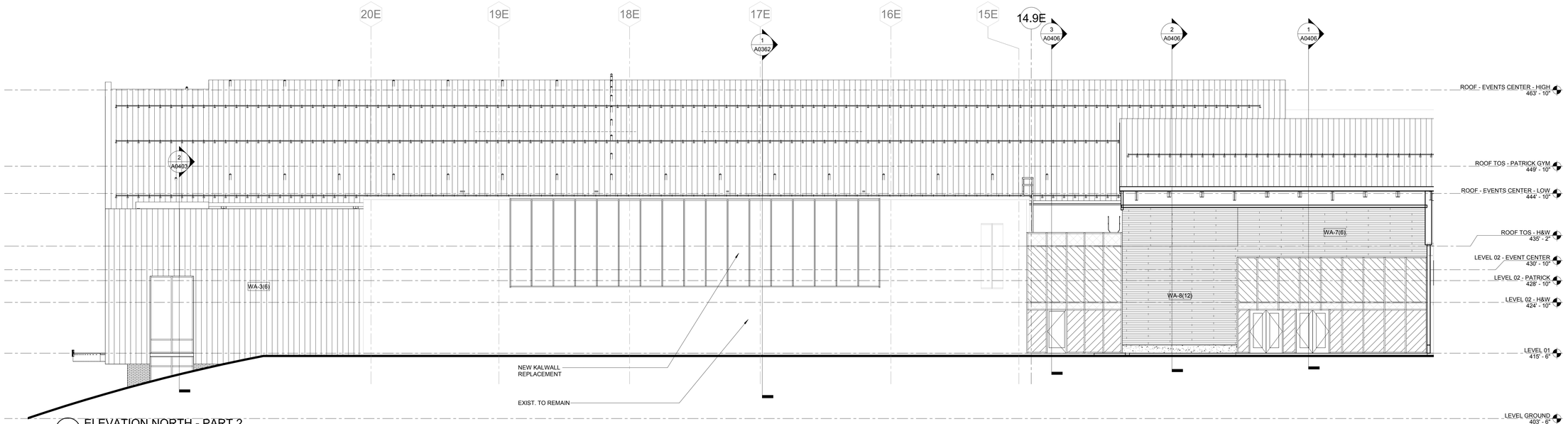
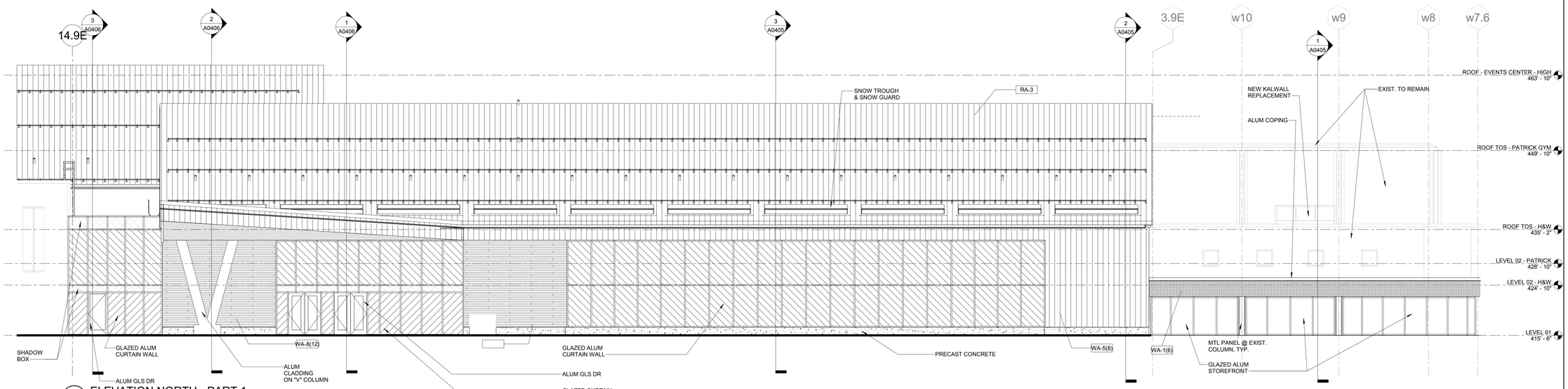
	GL-8	1" SPANDREL PANEL
	GL-9	TRANSLUCENT INSULATED WALL SYSTEM



2 ELEVATION NORTH - PART 2
1/8" = 1'-0"



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

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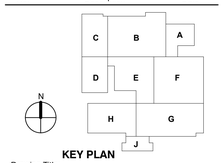
-	Burlington Design Review Board Submission	12 APR 2018
-	DD Pricing Set	23 MAR 2018



KEY PLAN

Drawing Title:

EXTERIOR ELEVATIONS

Project No.: 005353.00 Checked by: Checker

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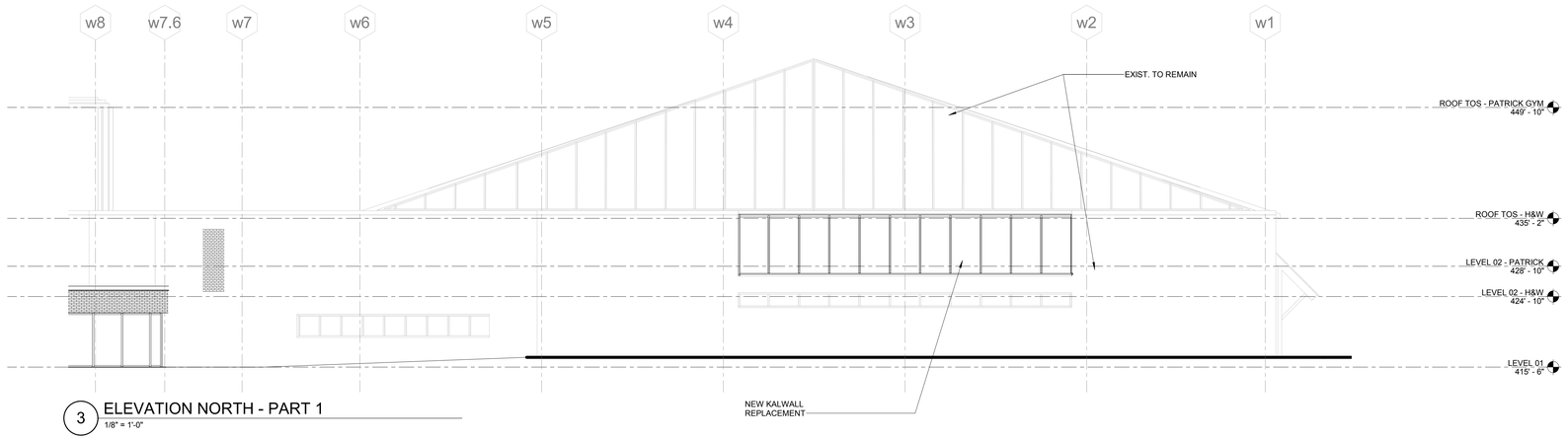
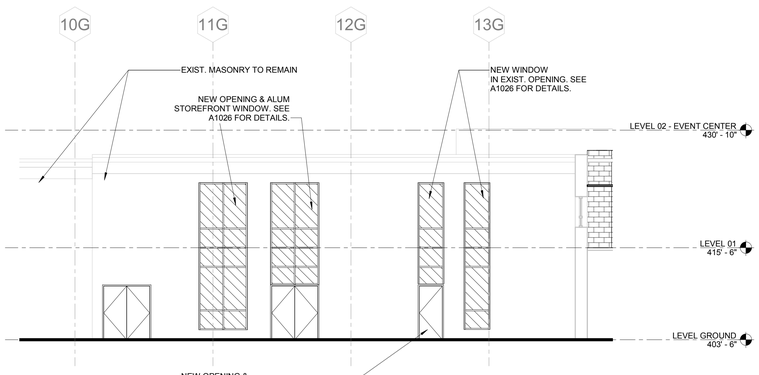
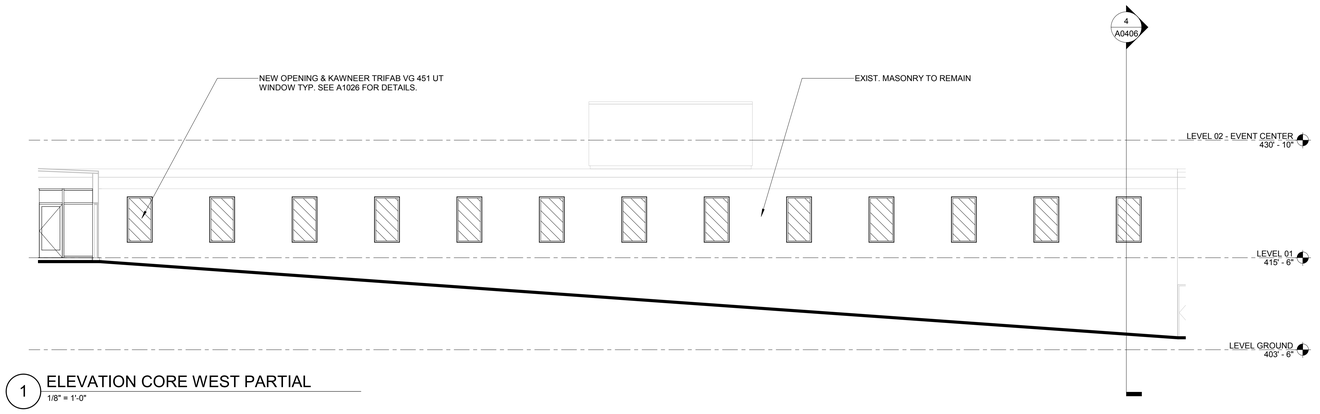
EXTERIOR GLAZING TYPES		
	GL-1	1" INSULATING GLASS UNIT, TINTED
	GL-2	1" INSULATING GLASS UNIT, CLEAR
	GL-3	1" INSULATING GLASS UNIT, TEMPERED, TINTED
	GL-4	1" INSULATING GLASS UNIT, TEMPERED, CLEAR
	GL-5	1" INSULATING GLASS UNIT, 20% CERAMIC FRIT, TINTED
	GL-6	1" INSULATING GLASS UNIT, 40% CERAMIC FRIT, TINTED
	GL-7	1" INSULATING GLASS UNIT, SHADOWBOX, TINTED
	GL-8	1" SPANDREL PANEL
	GL-9	TRANSLUCENT INSULATED WALL SYSTEM



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



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



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

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No.	Description	Date
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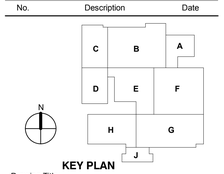

KEY PLAN

Drawing Title:

EXTERIOR ELEVATIONS

Project No.: 005353.00 Checked by: Checker

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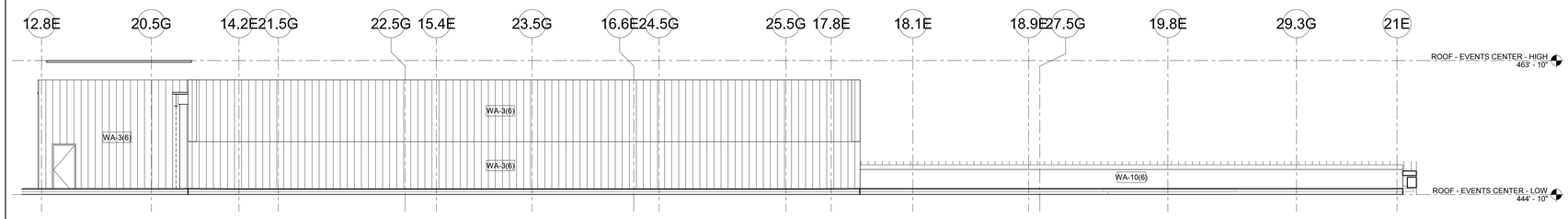
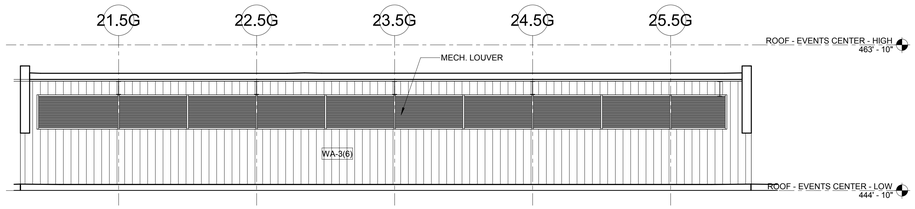
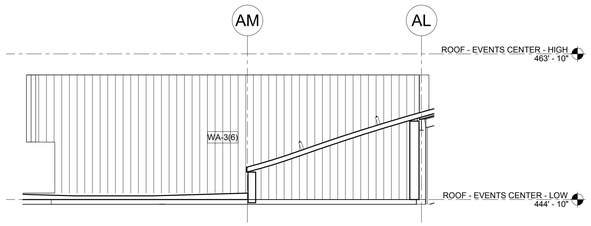


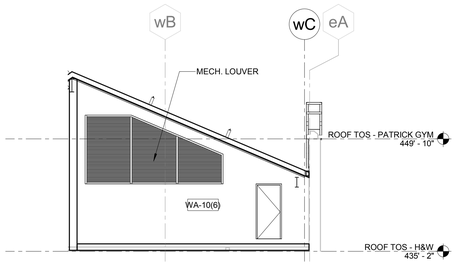
7 EVENT CTR PENTHOUSE NORTH ELEVATION
1/8" = 1'-0"



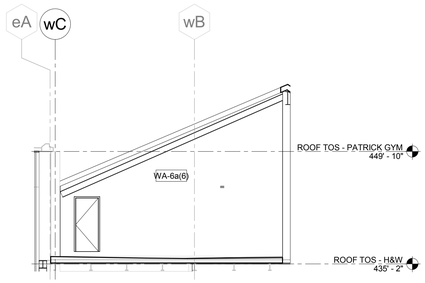
6 EVENT CTR PENTHOUSE LOUVER ELEVATION
1/8" = 1'-0"



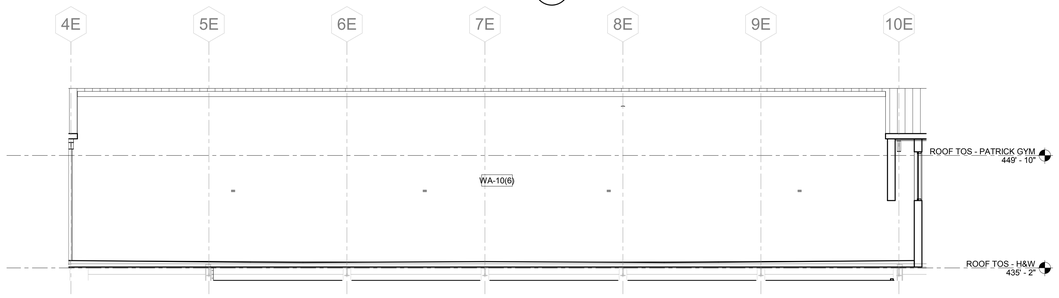
4 EVENT CTR PENTHOUSE EAST ELEVATION
1/8" = 1'-0"



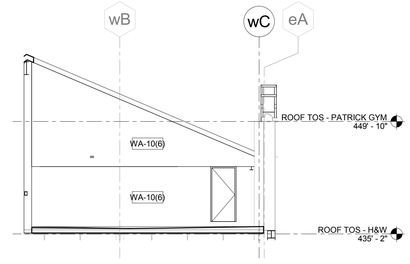
2 HW ROOF LOUVER ELEVATION
1/8" = 1'-0"



5 HW ROOF WEST ELEVATION
1/8" = 1'-0"



3 HW ROOF NORTH ELEVATION
1/8" = 1'-0"



1 HW ROOF EAST ELEVATION
1/8" = 1'-0"

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NOT FOR CONSTRUCTION

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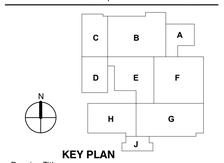
-	DD Pricing Set	23 MAR 2018

No.	Description	Date



KEY PLAN

Drawing Title:

EXTERIOR ELEVATIONS

Project No.: 005353.00 Checked by: Checker

A0315

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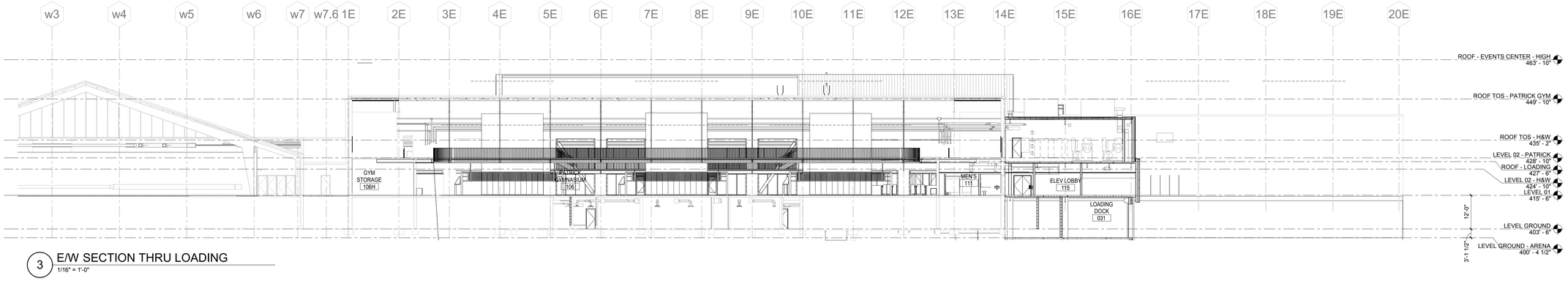
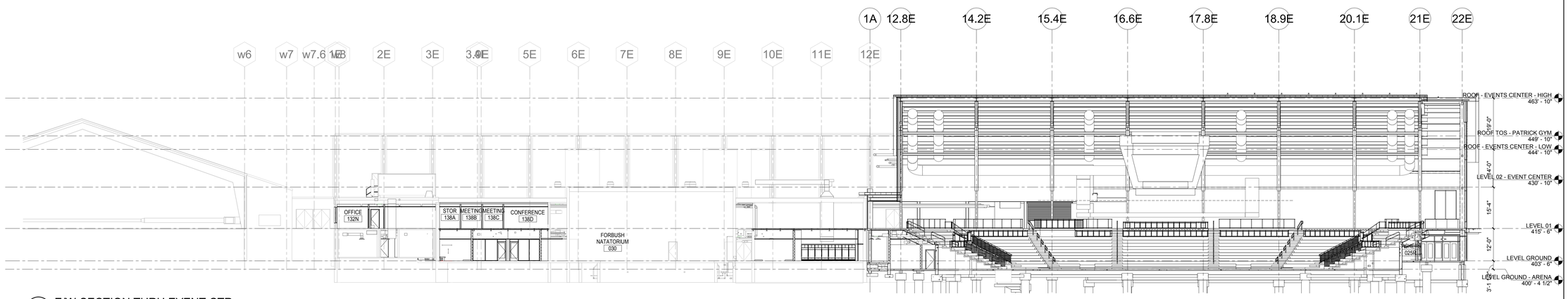
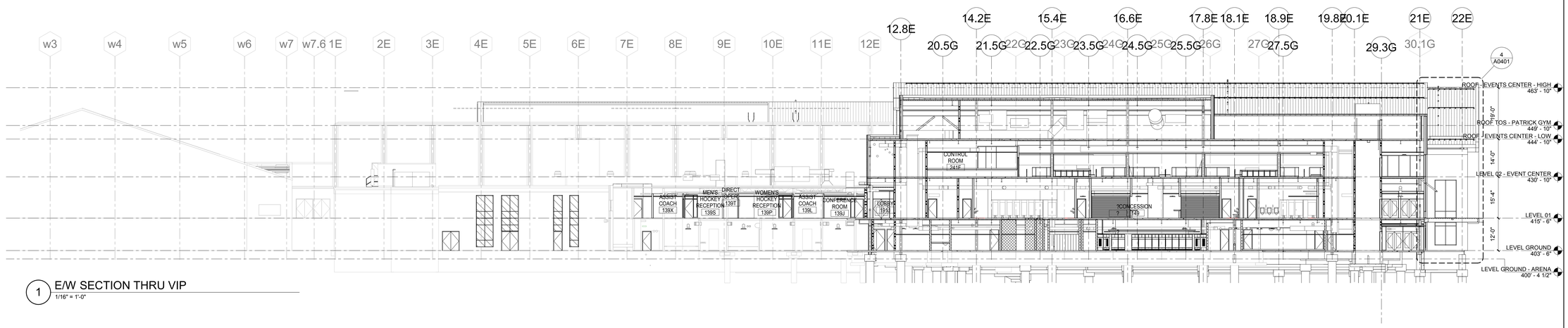


3 E/W SECTION THRU LOADING
1/16" = 1'-0"



2 E/W SECTION THRU EVENT CTR
1/16" = 1'-0"



1 E/W SECTION THRU VIP
1/16" = 1'-0"

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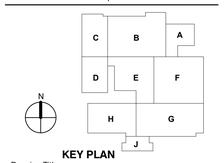
-	DD Progress Set	02 MAR 2018
-	Supplemental SD Set	03 NOV 2017
-	SD Pricing Set	25 AUG 2017

No.	Description	Date



KEY PLAN

Drawing Title:

BUILDING SECTIONS

Project No.: 005353.00 Checked by: Checker

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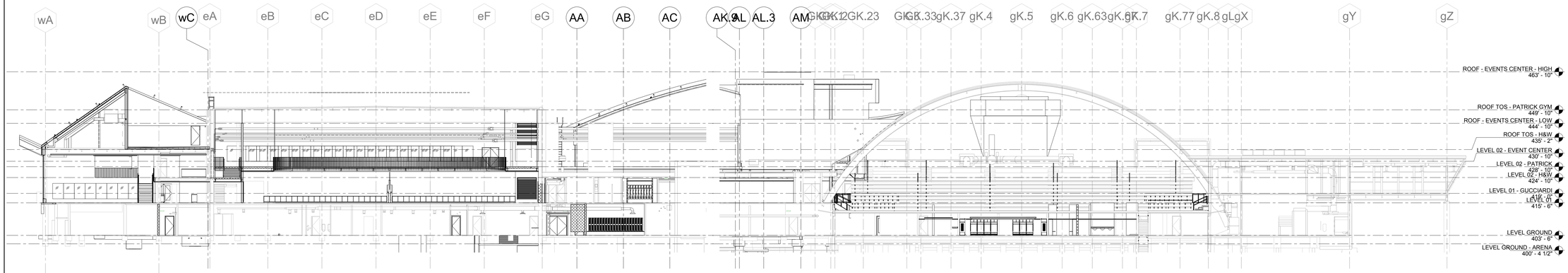
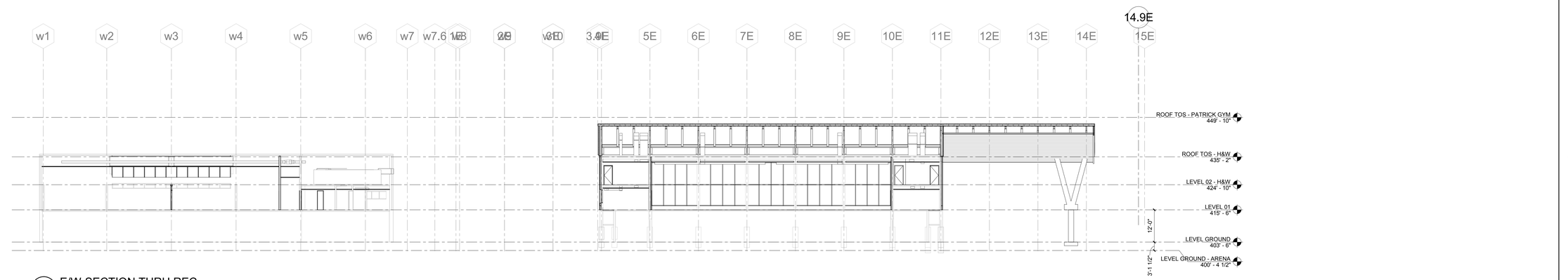


3 N/S SECTION THRU PATRICK GYM
1/16" = 1'-0"



2 E/W SECTION THRU REC
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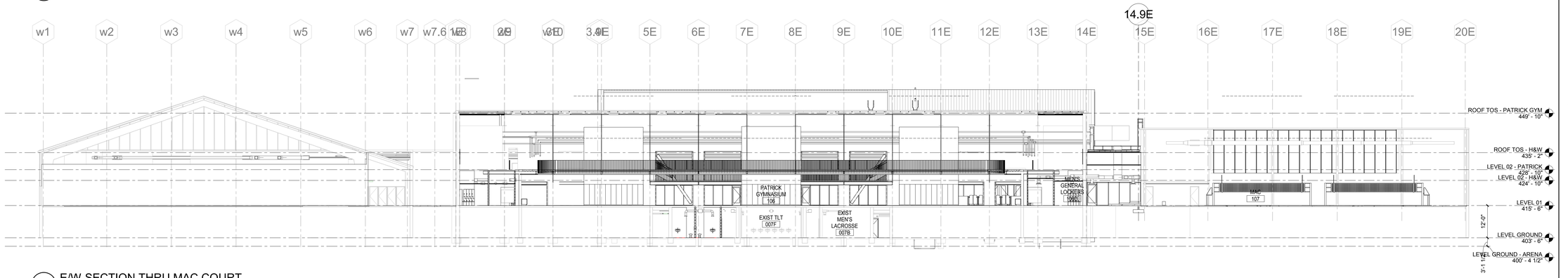

1 E/W SECTION THRU MAC COURT
1/16" = 1'-0"

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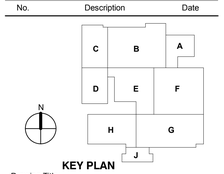

KEY PLAN

Drawing Title:

BUILDING SECTIONS

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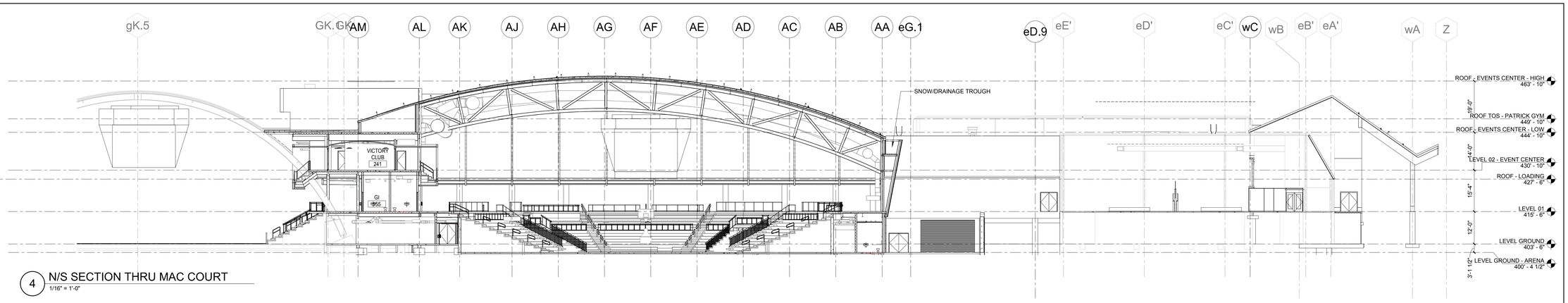

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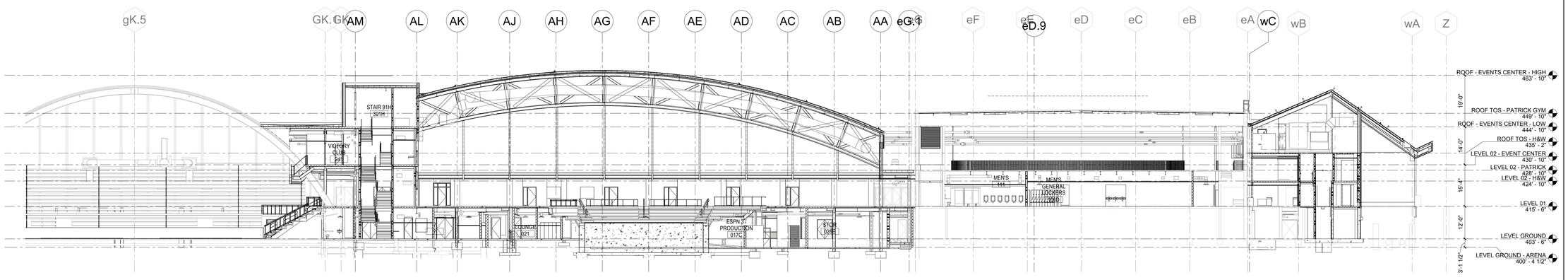

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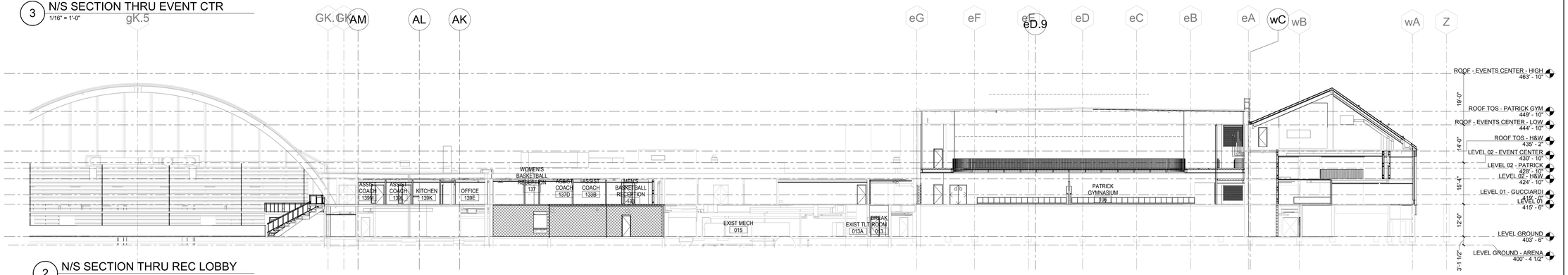

2 N/S SECTION THRU REC LOBBY
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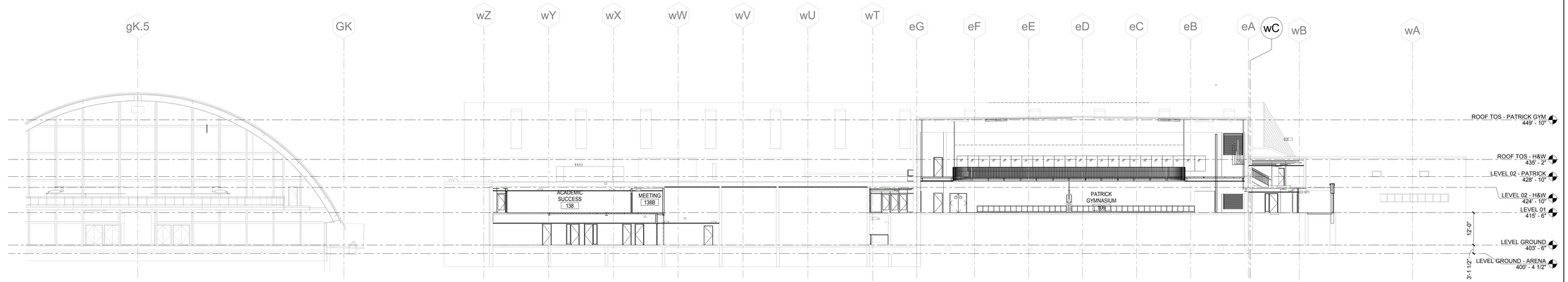

1 N/S SECTION THRU REC
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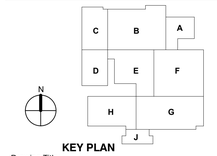

KEY PLAN

Drawing Title:

BUILDING SECTIONS

Project No.: 005353.00 Checked by: Checker

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NOTES

1. 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.
2. 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 fill 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 as fill under roads and applicable concrete sidewalks shall pass a subgrade proof roll with a loaded tandem. Fill soils that do not pass a subgrade proof roll shall be removed and replaced at the Contractor's expense.
3. 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.
4. The Contractor shall contact the Burlington Electric Department prior to any work in the vicinity of the existing electric conduits.
5. This project requires coverage under an Individual Construction Stormwater Discharge Permit and the City of Burlington Standard Erosion Prevention & Sediment Control Permit. The Contractor shall be the On-site Coordinator for the project and shall be responsible for all required inspections (minimum weekly and after any storm event that produces a discharge), turbidity readings, maintenance, and reporting. The On-Site Plan Coordinator shall be required to provide a turbidity meter for the project. 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, to minimize potential contamination of stormwater runoff from the construction activities.
6. 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.
7. See Erosion Control and Logistics Plans for locations of staging / storage areas.
8. The Contractor shall be responsible for all construction barrier/safety fencing required for the project.
9. 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.
10. 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.
11. Contractor shall include 10 preconstruction excavations in addition to the ones shown on the drawings.
12. Contractor shall be responsible for importing topsoil as required to complete the project. Contractor shall test topsoil for approval by the Owner and Engineer.
13. 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.
14. All sewer and storm pipes shall be PVC SDR 35 unless otherwise noted. PVC pipe shall contain no recycled content.
15. Core and boot all existing structures unless otherwise noted.
16. All new catch basins and sanitary sewer manhole must have one 6" precast concrete grade ring.
17. All waterline pipe shall be Class 52 ductile iron. All bends and fittings shall have redi-mix cast in place thrust blocks
18. Contractor shall contact UVM Risk Management Training and Compliance office for any work involving contact with asbestos cement pipe.
19. 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.
20. All sidewalks shall have 2% maximum cross slope.
21. Contractor to pin concrete sidewalk/slabs to all contact points with stairs, building, bike slab, retaining walls, etc.
22. Contractor shall maintain full occupancy and fire department access to all surrounding buildings. Coordinate all temporary access with the University representative.
23. This project is subject to all erosion prevention and sediment control measures including the monitoring, inspection, and reporting requirements of an Individual Construction Stormwater Discharge Permit. The General Contractor shall be the On-Site Plan Coordinator for the project and shall be responsible for providing a turbidity meter for water quality measurements.
24. Buried natural gas is shown for alignment purposes only. Contact Vermont Gas Systems for design and details of new gas line. Contractor shall be responsible for the excavation, backfill, and restoration for the construction of the natural gas lines. Vermont Gas Systems will provide the piping, labor to install, and testing for the new gas main. Coordinate work and all gas shut down procedures with the Owner.
25. Removal of all erosion control matting and inlet protection is the responsibility of the Contractor.
26. At the end of the project, clean the sumps of all new and existing catch basins and storm manholes within the project limits.
27. Electrical, lighting and PBX lines are shown for illustrative/coordination purposes only. Refer to Electrical plans and specifications for design.
28. Refer to Plumbing plans for sewer and storm design within five feet of the building.
29. Refer to Plumbing and/or Fire Protection plans for waterline design within five feet of building.
30. 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.

Legend (See Sheet EX1.0 for existing conditions Legend)

- Proposed blue phone
- New light pole and base
- Inlet protection around catch basin
- Preconstruction Excavation
- x363.9 — Finish Grade Spot Grade Elevation
- Finish Grade Direction of Flow
- 150 — New Finish Grade Contour
- G — GV — New Gas Line/Valve
- S — S — New Sewer Line/Manhole
- FM — New Sewer Forcemain
- ST — ST — New Storm Line/Manhole/Basin
- UD — New Underdrain
- FD — New Footing Drain – See Structural
- RD — New Roof Drain
- W — WV — New Water Line/Hydrant/Valve/Shutoff
- PBX — PBX — New PBX Line/manhole
- New Concrete/Granite Curb
- New Loading Dock Chain-link fence
- New Building
- New pavement
- New Heavy Duty Concrete
- New Concrete Walk
- New Multi-Use Concrete walk
- New Concrete Pad at Exterior Door
- Pavement Repair – Remove existing and repave (3" min.)

0' 40' 80' 160' 240'

Bar Scale 1" = 40'

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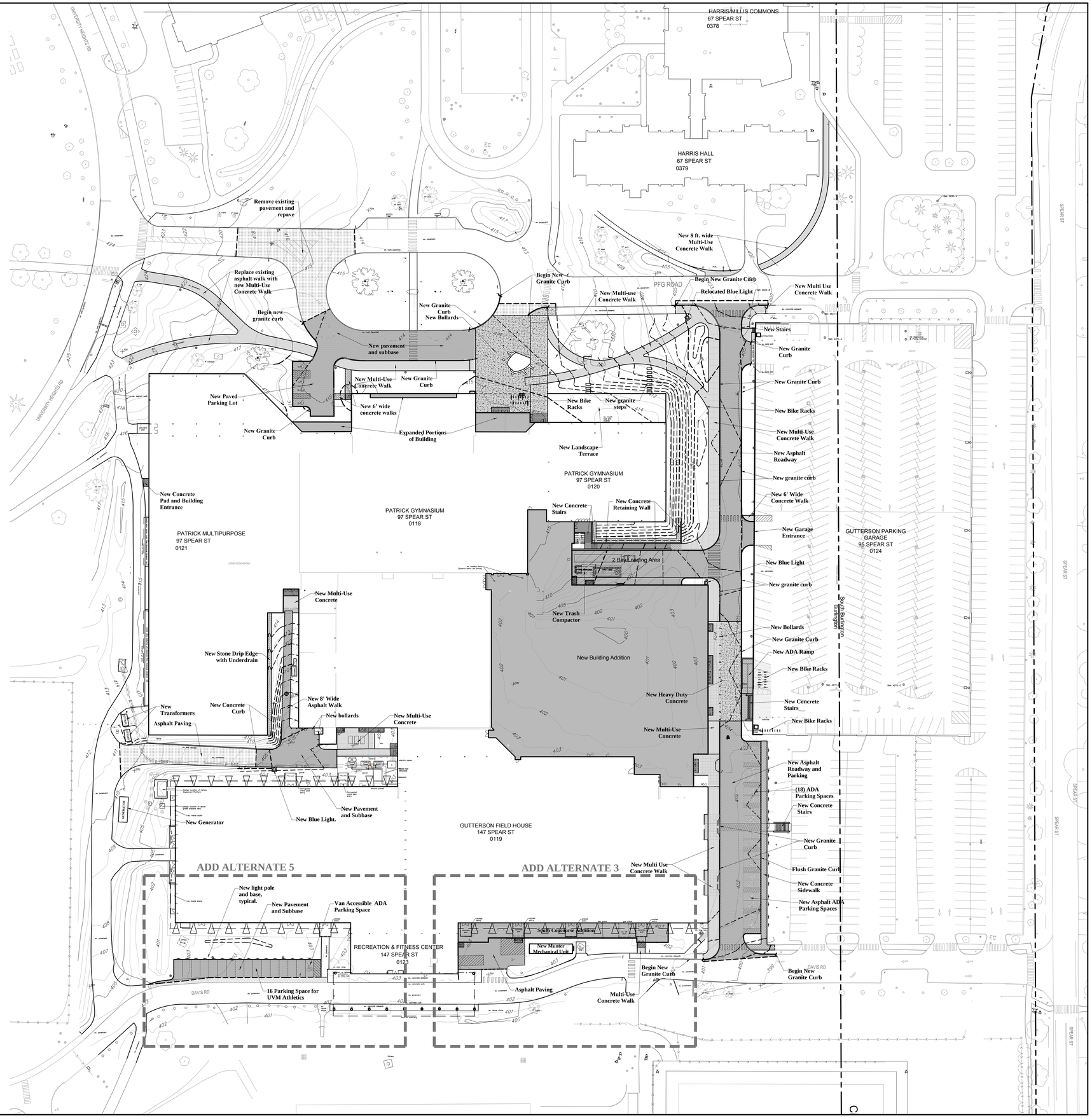

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NOT FOR CONSTRUCTION

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

N

KEY PLAN

Drawing Title:

OVERALL CIVIL SITE PLAN

Project No.: 005353.00 Checked by:

C0100

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PATRICK MULTIPURPOSE
97 SPEAR ST
0121

PATRICK GYMNASIUM
97 SPEAR ST
0118

GUTTERSON FIELD HOUSE
147 SPEAR ST
0119

RECREATION & FITNESS CENTER
147 SPEAR ST
0123

LOCKER ROOM ADDITION

South Concourse Addition

New Munter Unit

2 Bay Loading Area

DAVIS RD

GENERATOR

Concrete Pad at exterior doors, typical. See Structural

New Multi-Use Concrete

New Stone Drip Edge with Underdrain

New Yard Drain Rim = 411.5 Inv. = 409.5

New Asphalt Walk

New Electric Manhole

New Yard Drain Rim = 411.0 Inv. = 409.0

New CB Rim 406.2 Inv. in 400.6 Inv. out 400.5

New Bollards, typical

New transformers. See Electrical

New steel bollards, typ.

New electrical duct banks. See Electric Site Plan

New Yard Drain Rim = 410.5 Inv. = 408.5

New concrete curb

New Multi-Use Concrete Sidewalk

New structural concrete at exterior doors, typical

New golf cart parking

New 12" PVC Storm

Core and boot new penetration. Inv. 398.5

New structural concrete at exterior doors, typical

Wood roof structure

cleanouts

electric meter

electric panels

Remove asphalt, and repave

New Blue Light. See Electrical

New CB Rim 403.75 Inv 399.1

Corrugated metal pipe entry

New Pavement and Subbase

Design location of Verizon Equipment Platform

Design location of above grade propane tank.

New Generator. See Electrical Plans

ex. metal stairs

Regrade area

Regrade area

1 Van Accessible ADA parking space with signs and pavement markings

New CB Rim 401.50 Inv. out 398.6

15 parking spaces with signs for service and athletic department vehicles

Sawcut pavement, typical

Repair pavement. See Detail

New light pole and base, typical. See Landscape and Electrical Plans

Core & boot new penetration. Inv. 397.8

Cb 4950–1
Rim 401.34
Inv. in
Inv. out

Cb0119–2
Rim 402.88
Inv. in 399.8 (12"NE)
Inv. in 399.2 (12"N)
Inv. out 399.0 (12")

New CB Rim 403.00 Inv. in 398.7 (6" RD) Inv. out 398.6

New CB Rim 402.40 Inv. in 398.4 (12") Inv. in 398.4 (6"RD) Inv. out 398.3

Cb 4950–2
Rim 402.88
Inv. in
Inv. out

Stmh 4950–3
Rim 399.48
Inv. in
Inv. out

Remove pavement, add subbase as reqired to achieve design finished grades, and repave (3")

New 12" Underslab Storm, See Plumbing Plans

New Concrete Retaining Wall. See Structural

New Concrete Stairs. See Structural

Cut in new 8"x8" hydrant tee and valves.

After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.

New Stone Drip Edge with Underdrain

Concrete Pad at exterior doors, typical. See Structural

New CB Rim 399.50 Inv in 394.50 (S) Inv. Out 394.40 (E)

New CB Rim 399.70 Inv in 395.7 (6" UD) Inv. Out 394.7 (N)

New Fuel Oil Tank, See Mechanical Plans

New Gas Meter

New 10" Underslab Sewer. See Plumbing Plans

New 12" Underslab Storm, See Plumbing Plans

Install temporary gas meter during building construction. Coordinate with Vermont Gas for temporary meter and service line. Protect temporary meter with concrete construction waste blocks

New FDC

New 8" waterline

New CB Rim 402.15 Inv in 397.10 (N) Inv. in 393.50 (W) Inv. Out 393.40 (E)

New Blue Light

New 8" D.I. Water

Begin Granite Curb

New Gas Service

New bollards, typical.

Cap existing storm pipe

Concrete Pad at exterior doors, typical. See Structural

New Heavy Duty Concrete

New 12" Underslab Storm, See Plumbing Plans

New gas service. See Vermont Gas Specifications.

New 4" Underslab Storm, See Plumbing Plans

New CB Rim 402.71 Inv. In 389.17 (SW) Inv. Out 389.07 (12" N)

New CB 4264-5 Rim 402.8 Inv. In 389.44 (SE) Inv. In 390.6 (W) Inv. Out 389.34 (NE)

New Heavy Duty Concrete Sidewalk

New hydrant (100' from FDC)

New CB Rim 402.70 Inv in 398.80 (4"UD) Inv. Out 398.70 (S)

8"x8"tee and valves.

New SMH 4264-D Rim 404.0 Inv. in 390.5 (W) Inv. in 390.5 (S) Inv. out 390.4

New CB Rim 402.30 Inv. Out 397.30 (12")

Strnh 4264–2
Rim 404.42
Inv. in 390.73 (15",12"NW)
Inv. in 387.53 (18")
Inv. in 385.73 (12"W)
Inv. out 385.73

New STMH 4264-2B Rim 402.54 Inv. in 397.00 (12"E) Inv in 393.10 (12"NW) Inv. in 393.5 (12"SW) Inv. in 387.33 (18"SE) Inv. Out 385.73 (N)

Cb 4264–1
Rim 405.23
Inv. in 393.67 (10")
Inv. in 388.22 (12")
Inv. out 388.2

New ADA Ramp. See Structural

New Bike Racks

New CB Rim 402.71 Inv. In 388.57 (S) Inv. Out 388.47 (N)

New Stairs. See Structural

New Bike Racks

Cb 4271–3

New CB Rim 401.68 Inv. In 389.9 (S) Inv. Out 389.8 (NW)

New SMH Rim 403.0 Inv. In 392.20 (8") Inv. In 392.5 (6") Inv. Out 389.8 (NW)

After testing: 392.10 connect new waterline to existing

(18) ADA Parking Spaces With Signs and Pavement Marking

New CB Rim 401.72 Inv. In 390.62 (S) Inv. Out 390.52 (N)

New SMH Rim 402.7 Inv. In 392.8 Inv. Out 392.7

New concrete stairs

Flush Granite Curb

New CB Rim 401.75 Inv. In 391.2 (S) Inv. Out 391.1 (N)

New Concrete Sidewalk

New Asphalt ADA Parking Spaces

New CB Rim 401.17 Inv. In 392.09 (W) Inv. Out 391.99 (N)

New Bike Racks

New SMH Rim 400.2 Inv. 394.4

Begin New Granite Curb

New gas service. Vermont Gas

New CB Rim 402.00 Inv. In 392.98 Inv. out 392.88

New CB Rim 402.50 Inv. in 397.9 (12") Inv. in 397.9 (6" RD) Inv. out 397.48

New 6" D.I. Waterline

Begin New Granite Curb

New Yard Drain Rim = 410.5 Inv. = 408.5

New CB Rim 406.2 Inv. in 400.6 Inv. out 400.5

New Yard Drain Rim = 411.0 Inv. = 409.0

New Stone Drip Edge with Underdrain

New Yard Drain Rim = 411.5 Inv. = 409.5

New Asphalt Walk

New Electric Manhole

New Bollards, typical

New transformers. See Electrical

New steel bollards, typ.

New electrical duct banks. See Electric Site Plan

New concrete curb

New Multi-Use Concrete Sidewalk

New structural concrete at exterior doors, typical

New golf cart parking

New 12" PVC Storm

Core and boot new penetration. Inv. 398.5

New structural concrete at exterior doors, typical

Wood roof structure

cleanouts

electric meter

electric panels

Remove asphalt, and repave

New Blue Light. See Electrical

New CB Rim 403.75 Inv 399.1

Corrugated metal pipe entry

New Pavement and Subbase

Design location of Verizon Equipment Platform

Design location of above grade propane tank.

New Generator. See Electrical Plans

ex. metal stairs

Regrade area

Regrade area

1 Van Accessible ADA parking space with signs and pavement markings

New CB Rim 401.50 Inv. out 398.6

15 parking spaces with signs for service and athletic department vehicles

Sawcut pavement, typical

Repair pavement. See Detail

New light pole and base, typical. See Landscape and Electrical Plans

Core & boot new penetration. Inv. 397.8

Cb 4950–1
Rim 401.34
Inv. in
Inv. out

Cb0119–2
Rim 402.88
Inv. in 399.8 (12"NE)
Inv. in 399.2 (12"N)
Inv. out 399.0 (12")

New CB Rim 403.00 Inv. in 398.7 (6" RD) Inv. out 398.6

New CB Rim 402.40 Inv. in 398.4 (12") Inv. in 398.4 (6"RD) Inv. out 398.3

Cb 4950–2
Rim 402.88
Inv. in
Inv. out

Stmh 4950–3
Rim 399.48
Inv. in
Inv. out

Remove pavement, add subbase as reqired to achieve design finished grades, and repave (3")

New 12" Underslab Storm, See Plumbing Plans

New Concrete Retaining Wall. See Structural

New Concrete Stairs. See Structural

Cut in new 8"x8" hydrant tee and valves.

After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.

New Stone Drip Edge with Underdrain

Concrete Pad at exterior doors, typical. See Structural

New CB Rim 399.50 Inv in 394.50 (S) Inv. Out 394.40 (E)

New CB Rim 399.70 Inv in 395.7 (6" UD) Inv. Out 394.7 (N)

New Fuel Oil Tank, See Mechanical Plans

New Gas Meter

New 10" Underslab Sewer. See Plumbing Plans

New 12" Underslab Storm, See Plumbing Plans

Install temporary gas meter during building construction. Coordinate with Vermont Gas for temporary meter and service line. Protect temporary meter with concrete construction waste blocks

New FDC

New 8" waterline

New CB Rim 402.15 Inv in 397.10 (N) Inv. in 393.50 (W) Inv. Out 393.40 (E)

New Blue Light

New 8" D.I. Water

Begin Granite Curb

New Gas Service

New bollards, typical.

Cap existing storm pipe

Concrete Pad at exterior doors, typical. See Structural

New Heavy Duty Concrete

New 12" Underslab Storm, See Plumbing Plans

New gas service. See Vermont Gas Specifications.

New 4" Underslab Storm, See Plumbing Plans

New CB Rim 402.71 Inv. In 389.17 (SW) Inv. Out 389.07 (12" N)

New CB 4264-5 Rim 402.8 Inv. In 389.44 (SE) Inv. In 390.6 (W) Inv. Out 389.34 (NE)

New Heavy Duty Concrete Sidewalk

New hydrant (100' from FDC)

New CB Rim 402.70 Inv in 398.80 (4"UD) Inv. Out 398.70 (S)

8"x8"tee and valves.

New SMH 4264-D Rim 404.0 Inv. in 390.5 (W) Inv. in 390.5 (S) Inv. out 390.4

New CB Rim 402.30 Inv. Out 397.30 (12")

Strnh 4264–2
Rim 404.42
Inv. in 390.73 (15",12"NW)
Inv. in 387.53 (18")
Inv. in 385.73 (12"W)
Inv. out 385.73

New STMH 4264-2B Rim 402.54 Inv. in 397.00 (12"E) Inv in 393.10 (12"NW) Inv. in 393.5 (12"SW) Inv. in 387.33 (18"SE) Inv. Out 385.73 (N)

Cb 4264–1
Rim 405.23
Inv. in 393.67 (10")
Inv. in 388.22 (12")
Inv. out 388.2

New ADA Ramp. See Structural

New Bike Racks

New CB Rim 402.71 Inv. In 388.57 (S) Inv. Out 388.47 (N)

New Stairs. See Structural

New Bike Racks

Cb 4271–3

New CB Rim 401.68 Inv. In 389.9 (S) Inv. Out 389.8 (NW)

New SMH Rim 403.0 Inv. In 392.20 (8") Inv. In 392.5 (6") Inv. Out 389.8 (NW)

After testing: 392.10 connect new waterline to existing

(18) ADA Parking Spaces With Signs and Pavement Marking

New CB Rim 401.72 Inv. In 390.62 (S) Inv. Out 390.52 (N)

New SMH Rim 402.7 Inv. In 392.8 Inv. Out 392.7

New concrete stairs

Flush Granite Curb

New CB Rim 401.75 Inv. In 391.2 (S) Inv. Out 391.1 (N)

New Concrete Sidewalk

New Asphalt ADA Parking Spaces

New CB Rim 401.17 Inv. In 392.09 (W) Inv. Out 391.99 (N)

New Bike Racks

New SMH Rim 400.2 Inv. 394.4

Begin New Granite Curb

New gas service. Vermont Gas

New CB Rim 402.00 Inv. In 392.98 Inv. out 392.88

New CB Rim 402.50 Inv. in 397.9 (12") Inv. in 397.9 (6" RD) Inv. out 397.48

New 6" D.I. Waterline

Begin New Granite Curb

See C-0100 for Notes and Legend

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(802) 253-9607

NOT FOR CONSTRUCTION

0' 20' 40'
Bar Scale 1" = 20'

No.	Description	Date
-	Burlington DRB	12 APR
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN

Drawing Title:

CIVIL SITE & UTILITY PLAN

Project No.: 005353.00 Checked by: DF

C0101

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HARRIS HALL
67 SPEAR ST
0379

PATRICK MULTIPURPOSE
97 SPEAR ST
0121

PATRICK GYMNASIUM
97 SPEAR ST
0118

PATRICK GYMNASIUM
97 SPEAR ST
0120

PFG ROAD

LOCKER ROOM ADDITION

2 Bay Loading Area

Remove asphalt and repave

Limit of Pavement Disturbance

Begin New Granite Curb

New Granite Curb

Remove existing hydrant and cap waterline

Restore existing impervious to vegetation.

Restore pavement to vegetation

New Multi-Use Concrete Sidewalk

New Pavement and subbase

New Bollard, typ. See Landscape Details

New Heavy Duty Concrete Sidewalk

Restore existing impervious to vegetation.

New 8" waterline

New Light Pole

New Granite Steps

New Multi-Use Concrete Walk

New 6' wide concrete walks

Expanded Portions of Building

New Bike Racks. See Landscape Plans

New Landscape Terrace, See Landscape Plans

Abandon 10" AC sewer in place. Fill with flowable fill concrete

Salvage and relocate blue light and base

Remove and relocate light

New 8 ft. wide Multi-Use Concrete Walk

New Multi-Use Concrete Walk

New light pole and base. See Electrical Plans, typical.

6" step, pave to match

Concrete Pad at exterior doors, typical. See Structural

New Stone Drip Edge with Underdrain

New Yard Drain Rim = 411.5 Inv. = 409.5

New Asphalt Walk

New Electric Manhole

New Yard Drain Rim = 411.0 Inv. = 409.0

New Concrete Retaining Wall, See Structural

New Concrete Stairs, See Structural

Cut in new 8"x8" hydrant tee and valves.

After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.

New hydrant (100' from FDC)

New Stone Drip Edge with Underdrain

New Fuel Oil Tank, See Mechanical Plans

New Gas Meter

New FDC

New 10" Underslab Sewer. See Plumbing Plans

New 12" Underslab Storm, See Plumbing Plans

Install temporary gas meter during building construction. Coordinate with Vermont Gas for temporary meter and service line. Protect temporary meter with concrete construction waste blocks

New Blue Light

New 8" D.I. Water

Begin Granite Curb

New Gas Service

New bollards, typical.

Cap existing storm pipe

Concrete Pad at exterior doors, typical. See Structural

New Heavy Duty Concrete

New ADA Ramp. See Structural

New Bike Racks

New CB Rim 402.71 Inv. In 388.57 (S) Inv. Out 388.47 (N)

New CB Rim 403.00 Inv. In 395.00 (4" U.D.) Inv. Out 394.8 (12")

New CB Rim 405.00 Inv. Out 400.00 (12")

New CB Rim 403.50 Inv in 399.5 (NW) Inv. Out 399.4 (SE)

New CB Rim 404.50 Inv in 399.0 (NW) Inv. In 394.57 (SW) Inv. Out 394.46 (NE)

New Multi-Use Concrete Sidewalk

Core new penetration through structure to existing trough. Inv. 387.0 (10")

New Granite Curb

New CB Rim 403.32 Inv. Out 398.3 (12")

New 10" PVC Sewer

New CB Rim 403.50 Inv in 397.9 (E) Inv. Out 397.38 (N)

New CB Rim 402.70 Inv in 398.80 (4"UD) Inv. Out 398.70 (S)

8"x8"tee and valves.

New SMH 4264-D Rim 404.0 Inv. in 390.5 (W) Inv. in 390.5 (S) Inv. out 390.4

New CB Rim 402.30 Inv. Out 397.30 (12")

New STMH 4264-2B Rim 402.54 Inv. in 397.00 (12"E) Inv in 393.10 (12"NW) Inv. in 393.5 (12"SW) Inv. in 387.33 (18"SE) Inv. Out 385.73 (N)

New CB Rim 402.15 Inv in 397.10 (N) Inv. in 393.50 (W) Inv. Out 393.40 (E)

New CB Rim 399.70 Inv in 395.7 (6" UD) Inv. Out 394.7 (N)

New CB Rim 399.50 Inv in 394.50 (S) Inv. Out 394.40 (E)

New Granite Curb

New CB Rim 403.32 Inv. Out 398.3 (12")

New CB Rim 403.50 Inv in 397.9 (E) Inv. Out 397.38 (N)

New 10" PVC Sewer

New hydrant (100' from FDC)

New CB Rim 402.70 Inv in 398.80 (4"UD) Inv. Out 398.70 (S)

8"x8"tee and valves.

New SMH 4264-D Rim 404.0 Inv. in 390.5 (W) Inv. in 390.5 (S) Inv. out 390.4

New CB Rim 402.30 Inv. Out 397.30 (12")

New STMH 4264-2B Rim 402.54 Inv. in 397.00 (12"E) Inv in 393.10 (12"NW) Inv. in 393.5 (12"SW) Inv. in 387.33 (18"SE) Inv. Out 385.73 (N)

See C-0100 for Notes and Legend

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NOT FOR CONSTRUCTION

0' 20' 40'
Bar Scale 1" = 20'

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN

Drawing Title:

CIVIL SITE & UTILIY PLAN

Project No.: 005353.00 Checked by: DI

C0102

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New Concrete Retaining Wall. See Structural

New Stone Drip Edge with Underdrain

Concrete Pad at exterior doors, typical. See Structural

New CB
Rim 399.50
Inv in 394.50 (S)
Inv. Out 394.40 (E)

New CB
Rim 399.70
Inv in 395.7 (6" UD)
Inv. Out 394.7 (N)

ex. loading dock items are below)

ff 415.49

ff 415.45 (upper)

ff 415.51 (above)

ff 403.47 (lower)

New Gas Meter

New Fuel Oil Tank, See Mechanical Plans

New Gas Meter

Install temporary gas meter and service to feed existing building during construction. Coordinate temporary service with Vermont Gas. Protect temporary meter with concrete waste blocks

New FDC

Install 2 new steel bollards to protect gas meter

New 10" Underslab Sewer. See Plumbing Plans

New 12" Underslab Storm, See Plumbing Plans

New 15" Underslab Storm, See Plumbing Plans

New 6" Underslab Sewer, See Plumbing Plans

New mountable granite curb

New 8" waterline

Install sleeve around new storm pipe, centered on water line, see detail

12" PVC

New CB
Rim 402.15
Inv in 397.10 (N)
Inv. in 393.50 (W)
Inv. Out 393.40 (E)

New 10" Sewer. Inv. 391.0 See Plumbing Plans

Drop storm to Inv. 394.00 See Drop Outlet Connection Detail

Collect 12" building Storm Service. Inv. 396.0 See Plumbing Plans

New 8" D.I. Water

Concrete Pad at exterior doors, typical. See Structural

New Gas Service

Cap existing storm pipe

Concrete Pad at exterior doors, typical. See Structural

New Heavy Duty Concrete

New CB
Rim 402.71
Inv. In 389.17 (SW)
Inv. Out 389.07 (12"N)

New CB 4264-5
Rim 402.8
Inv. In 389.44 (SE)
Inv. In 390.6 (W)
Inv. Out 389.34 (NE)

New 15" Storm Inv. 391.0 See Plumbing Plans

Cut and cap ex. gas service. See Vermont Gas Specifications.

New gas service. See Vermont Gas Specifications.

Drop sewer to Inv. 393.00 See Drop Outlet Connection Detail

New 6" Sewer. Inv. 395.0 See Plumbing Plans

Construct and test new waterline to new valve. Connect to existing line after completion of all testing.

New 8" CL52 d.i. waterline

New 8" PVC sewer

New 18" Storm

New 2" PE Gas

New 12" storm

8" PVC sewer

6" PVC sewer

10" sewer

15"

New hydrant

New 8"x6" hydrant tee

New CB
Rim 402.70
Inv in 398.80 (4"UD)
Inv. Out 398.70 (S)

8"x8"tee and valves.

New SMH 4264-D
Rim 404.0
Inv. in 390.5 (W)
Inv. in 390.5 (S)
Inv. out 390.4

New CB
Rim 402.30
Inv. Out 397.30 (12")
New 4" Underdrain Cleanout 398.0'
New CB

Stmh 4264-2
Rim 404.42
Inv. in 390.73 (15",12"NW)
Inv. in 387.33 (18")
Inv. in 385.73 (12"W)
Inv. out 385.73

New STMH 4264-2B
Rim 402.54
Inv. in 397.00 (12"E)
Inv in 393.10 (12"NW)
Inv. in 393.5 (12"SW)
Inv. in 387.33 (18"SE)
Inv. Out 385.73 (N)

Remove barrel section of storm structure and reset rim elevation

Core and boot new penetration. Inv. 388.32

Cb 4264-1
Rim 405.22
Inv. in 393.67 (10")
Inv. in 389.72 (12")
Inv. out 388.22

New ADA Ramp. See Structural & Landscape

New Bike Racks

New CB
Rim 402.71
Inv. In 388.57 (S)
Inv. Out 388.47 (N)

New Stairs. See Structural & Landscape Plans

Remove overhead parking garage sign structure

New Bike Racks

New 4" Underdrain Cleanout 398.0'

New CB
Rim 401.68
Inv. In 389.9 (S)
Inv. Out 389.8 (NW)

Cb 4271-3

New SMH
Rim 403.0
Inv. in 392.20 (8")
Inv. In 392.5 (6")
Inv. 392.10

New ADA Parking signs, typical.

New Pavement Markings

New Overhead Parking Garage Sign posts and beam, see structural

ex. concrete

ex. metal post

bollards

parking kiosk

ex. mulch bed

ex. concrete sidewalk

ex. pavement

ex. concrete stairs/retaining wall

ex. concrete pad

ex. 2" PE

ex. 8" CI water

ex. 6" PVC

ex. 12" PVC

ex. 8" PVC

ex. 4" PVC

ex. 4" AC

ex. 8" AC

ex. 6" AC

ex. 12" AC

ex. 8" DI

ex. 6" DI

ex. 4" DI

ex. 12" DI

ex. 8" CMP

ex. 12" CMP

ex. 18" CMP

ex. 24" CMP

ex. 30" CMP

ex. 36" CMP

ex. 48" CMP

ex. 60" CMP

ex. 72" CMP

ex. 84" CMP

ex. 96" CMP

ex. 108" CMP

ex. 120" CMP

ex. 132" CMP

ex. 144" CMP

ex. 156" CMP

ex. 168" CMP

ex. 180" CMP

ex.

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PFG ROAD

PATRICK GYMNASIUM
97 SPEAR ST
0120

Begin New Granite Curb
Replace stop bar pavement marking
Sawcut Pavement
Begin New Granite Curb
New Granite Curb
New Kiosk
6' transition to full reveal
New Bollard, typ. See Landscape Details
Cut in new 8"x8" hydrant tee and valves. Restrain assembly.
New 8" waterline
After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.
New Light Pole
Connect new waterline to existing line
New Granite Steps. See Landscape
Concrete Pad at exterior doors, typical. See Structural
New Building Addition
New structural concrete at exterior doors, typ.
Construct and test new waterline to new valve. Connect to existing line after completion of all testing.
New Heavy Duty Concrete Sidewalk
Raise existing frame and grate to match new finish grade. Replace grade rings with precast concrete
New Multi-Use Concrete Walk
New CB
Rim 408.50
Inv. Out 403.5 (NE)
New CB
Rim 405.00
Inv. Out 400.00 (12")
New CB
Rim 403.50
Inv in 399.5 (NW)
Inv. Out 399.4 (SE)
New Granite Steps. See Landscape
New Concrete Retaining Wall. See Structural
New Stone Drip Edge with Underdrain
New Concrete Stairs. See Structural
Concrete Pad at exterior doors, typical. See Structural
New Landscape Terrace, See Landscape Plans
New Bike Racks. See Landscape Plans
New CB
Rim 403.50
Inv in 397.9 (E)
Inv. Out 397.38 (N)
Abandon 10" AC sewer in place. Fill with flowable fill concrete
Cut in new 8"x8" hydrant tee and valves.
After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.
New Concrete Retaining Wall. See Structural
New Stone Drip Edge with Underdrain
New hydrant
New 8"x6" hydrant tee
New 10" PVC Sewer
New Multi-Use Concrete
New Pavement Markings
New Overhead Parking Garage Sign posts and beam, see structural
Salvage and relocate Blue Light. See Electrical Plans
Sawcut pavement, typical
Replace Pavement Markings
Core & Boot New Penetration Inv. 394.0
New CB
Rim 403.00
Inv. In 395.00 (4" U.D.)
Inv. Out 394.8 (12")
6 ft. curb transition to flush
Begin new granite curb at end of existing curb stone.
Remove and relocate light
Remove and adjust frame and cover to match new finished grade
New concrete steps. See Landscape and Structural Plans
Relocate stop sign
New Granite Curb
New CB
Rim 404.50
Inv in 399.0 (NW)
Inv. In 394.57 (SW)
Inv. Out 394.46 (NE)
New Multi-Use Concrete Sidewalk
Core new penetration through structure to existing trough.
Inv. 387.0 (10")
New Granite Curb
New CB
Rim 403.32
Inv. Out 398.3 (12")
New 10" PVC Sewer
New Multi-Use Concrete
New Pavement Markings
New Overhead Parking Garage Sign posts and beam, see structural
New hydrant
New 8"x6" hydrant tee

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NOT FOR CONSTRUCTION

0' 10' 20'
Bar Scale 1" = 10'

No.	Description	Da
-	Burlington DRB	12 APR
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN
Drawing Title:

CIVIL SITE & UTILIY PLAN

Project No.: 005353.00 Checked by: DI

C0104

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Cb 0118-8
Rim 414.95
Inv. out 410.50

Cb 4251-1
Rim 413.35
Inv. in 407.60
Inv. out 407.40

Saweut Pavement, typical

Remove and dispose of pavement. Install new pavement (3") per Typical Road Cross Section Detail.

ex. pavement

ex. curb (granite)

12" CPOO

Cb 0118-6
Rim 413.82
Inv. in 409.17 (N)
Inv. in 409.07 (W)
Inv. in 408.92 (E)
Inv. in 411.02 (4")
Inv. out 409.07 (S)

Begin New Granite Curb

18" maple

14" maple

New Granite Curb

New Kiosk

6' transition to full reveal

Begin New Granite Curb

Replace stop bar pavement marking

Saweut Pavement

Begin New Granite Curb

New Multi-Use Concrete Sidewalk

Cb 0118-5
Rim 418.73
Inv. in 414.9 (12"W)
Inv. in 413.3 (12"SW)
Inv. out 413.3

Cb 0118-7
Rim 413.14
Inv. out 411.00

15" PVC

4" PVC

12" PVC

6" ADS

Adjust existing hand hole to match concrete slope

12"HPS, 6"PCR & 1-1/2"HPR

(2000)

New Bollard, typ. See Landscape Details

CB 0118-3
Rim 414.38
Inv. in 408.3 (4")
Inv. in 408.3 (S)
Inv. in 408.2 (N)
Inv. out 408.1 (E)

Cb 0118-10
Rim 413.81
Inv. in 409.0
Inv. out 409.0

12" ADS

Cb 0118-11
Rim 413.86
Inv. out 410.1

Core and boot new penetration. Inv. 409.05

New Pavement and subbase

Replace crosswalk pavement markings

Cut in new 8"x8" hydrant tee and valves. Restrain assembly.

New Heavy Duty Concre

12" RCP

New CB
Rim = 413.7
Inv. in = 408.5 (SE)
Inv. in = XXX (SW)
Inv. out = 408.4 (N)

14" oak

ex. bush with bushes

Regrade to Drain

New Granite Curb

New Pavement and Subbase

12" Storm

New Multi-Use Concrete Sidewalk

New Granite Curb

12" Storm

8" RD

New Light Pole

New 8" waterline

New Light Pole

After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.

Connect new waterline to existing line

New Building Addition

Concrete Pad at exterior doors, typical. See Structural

New 6 ft. wide Concrete Sidewalk

New CB
Rim = 414.0
Inv. out = 409.1

New DI
Rim = 414.5
Inv. in = 409.45 (E)
Inv. out = 409.35 (N)

New DI
Rim = 414.5
Inv. in = 409.88 (E)
Inv. out = 409.78 (W)

New 8" Roof Drain
Inv. 410.0
See Plumbing Plans

Concrete Pad at exterior doors, typical. See Structural

New Building Addition

New structural concrete at exterior doors, typ.

Construct and test new waterline to new valve. Connect to existing line after completion of all testing.

ff 415.50
ff 415.43
ff 415.41
ff 415.50
ff 415.50
ff 415.48
ff 415.45

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NOT FOR CONSTRUCTION

0' 10' 20'

Bar Scale 1" = 10'

No.	Description	Da
-	Burlington DRB	12 APR
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AUG

N

KEY PLAN

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Concrete Pad at exterior doors, typical. See Structural

New Multi-Use Concrete

New Cleanout Inv. 413.0

New Stone Drip Edge with Underdrain

New Yard Drain
Rim = 411.5
Inv. = 409.5

New Yard Drain
Rim = 411.0
Inv. = 409.0

12" PVC vertical bend
Inv. = 401.0

2 - 45° bend and wye connection

New Yard Drain
Rim = 410.5
Inv. = 408.5

New transformers. See Electrical

New steel bollards, typ.

New electrical duct banks. See Electric Site Plan

Sawcut pavement

Sawcut, Typical

Remove existing asphalt and repave. See Typical Road Cross Section Detail for paving requirements

New Blue Light. See Electrical

New Asphalt Walk

New Electric Manhole

New Electric Manhole. See Electrical Plans

New electric over storm

New CB
Rim 406.2
Inv. in 400.6
Inv. out 400.5

New Bollards. See Landscape for Details

New Multi-Use Concrete Sidewalk

New CB
Rim 403.75
Inv 399.1

New Pavement and Subbase

Corrugated metal pipe entry

Corrugated metal pipe entry

Concrete Pad at exterior door, see structural

Core and boot new penetration. Inv. 398.5

Concrete Pad at exterior d
see structural

Design location of Verizon Equipment Platform

Design location of above grade propane tank.

New Generator. See Electrical Plans

GENERATOR

ex. metal stairs

ex. pavement

ex. covered entrance way concrete w/ multiple man doors

limit of overhang

ex. wall wooden

ex. conc. walk

riprap

hand hole mapped out not found

UH #250

UH #255

T.Pad 413.50

T.Pad 412.50

XFRMR

XFRMR

New 12" PVC

New 12" PVC Storm

CB 317-3
RIM=402.26
inv in=398.8' (6"se)
inv in=398.8' (10"se)
inv in=399.4' (4"s)
inv in=400.4' (6"nw)
inv out=398.3' (12"e)

ff 415.48

ff 404.88

ff 403.51

ff 417.97

ff 404.18

ff 404.22

ff 403.52

electric meter

Wood roof structure

cleanouts

electric panels

vent

gravel

concrete

dirt

bollards

Cooling Tower

Cooling Tower

Cooling Tower

12" DI

4"PVC

6"PVC

10"PVC

12" HDPE pen.

bush

trash

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NOT FOR CONSTRUCTION

0' 10' 20'
Bar Scale 1" = 10'

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

N

KEY PLAN

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GUTTERSON FIELD HOUSE
147 SPEAR ST
0119

New 4" Underslab Storm, See Plumbing Plans

Construct and test new waterline to new valve. Connect to existing line after completion of all testing.

New ADA Parking signs, typical.

New CB
Rim 401.73
Inv. In 390.62 (S)
Inv. Out 390.52 (N)

New SMH
Rim 402.7
Inv. In 392.8
Inv. Out 392.7

(18) ADA Parking Spaces With Signs and Pavement Marking

New flush granite curb

New CB
Rim 401.75
Inv. In 391.2 (S)
Inv. Out 391.1 (N)

New Heavy Duty Concrete

New Multi-Use Concrete Sidewalk

New Concrete Sidewalk

(18) New ADA Parking spaces with signs and pavement markings

New Asphalt ADA Parking Spaces

New 6 ft. wide concrete walk

6 ft. transition to flush granite curb

New CB
Rim 401.17
Inv. In 392.09 (W)
Inv. Out 391.99 (N)

Begin New Granite Curb

Begin new granite curb

Restore pavement to vegetation

New SMH
Rim 400.2
Inv. 394.4

New 8" PVC Sewer

New 12" storm

New 12" storm

Concrete frost wall and slab. See Structural

See Plumbing Plans for waterline design within 5 ft of the building

New 6" Roof Drain Inv. 399.00. See Plumbing Plans

Concrete frost wall and slab. See Structural

New South Concourse

Re-route electrical service. See Electrical Plans

Remove hydrant

New 6" Roof Drain Inv. 398.8 See Plumbing Plans

See Electrical Plans for electrical design

See Plumbing Plans for waterline design within 5 ft of the building

See Mechanical Plans for demolition requirements

Concrete frost wall and slab. See Structural

New 6" Roof Drain Inv. 398.2 See Plumbing Plans

Excavate to expose existing storm pipe. Contact UVM to camera pipe

After new line is installed and successfully tested, cut and cap existing pipe at valve. Remove valve box.

Cut in new 6"x6" hydrant tee and valves. Restrain assembly.

New Gas Meter

New Munter Unit
See Mechanical Plans for Design

Remove and dispose of catch basin. Cap existing storm pipe

New concrete curb

Restore pavement to vegetation

New buried natural gas service

Preconstruction excavation to locate existing electric conduit

New 6"x6" hydrant tee and valve. Restrain assembly.

New CB
Rim 403.00
Inv. in 398.7 (6" RD)
Inv. out 398.6

New CB
Rim 402.40
Inv. in 398.4 (12")
Inv. in 398.4 (6"RD)
Inv. out 398.3

New CB
Rim 402.50
Inv. in 397.9 (12")
Inv. in 397.9 (6"RD)
Inv. out 393.48

New CB
Rim 402.00
Inv. in 392.98
Inv. out 392.88

New Pavement and Subbase

New 6" waterline

New 12" storm

New 12" storm

Begin New Granite Curb

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NOT FOR CONSTRUCTION

0' 10' 20'

Bar Scale 1" = 10'

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN

Drawing Title:

CIVIL SITE & UTILIY PLAN

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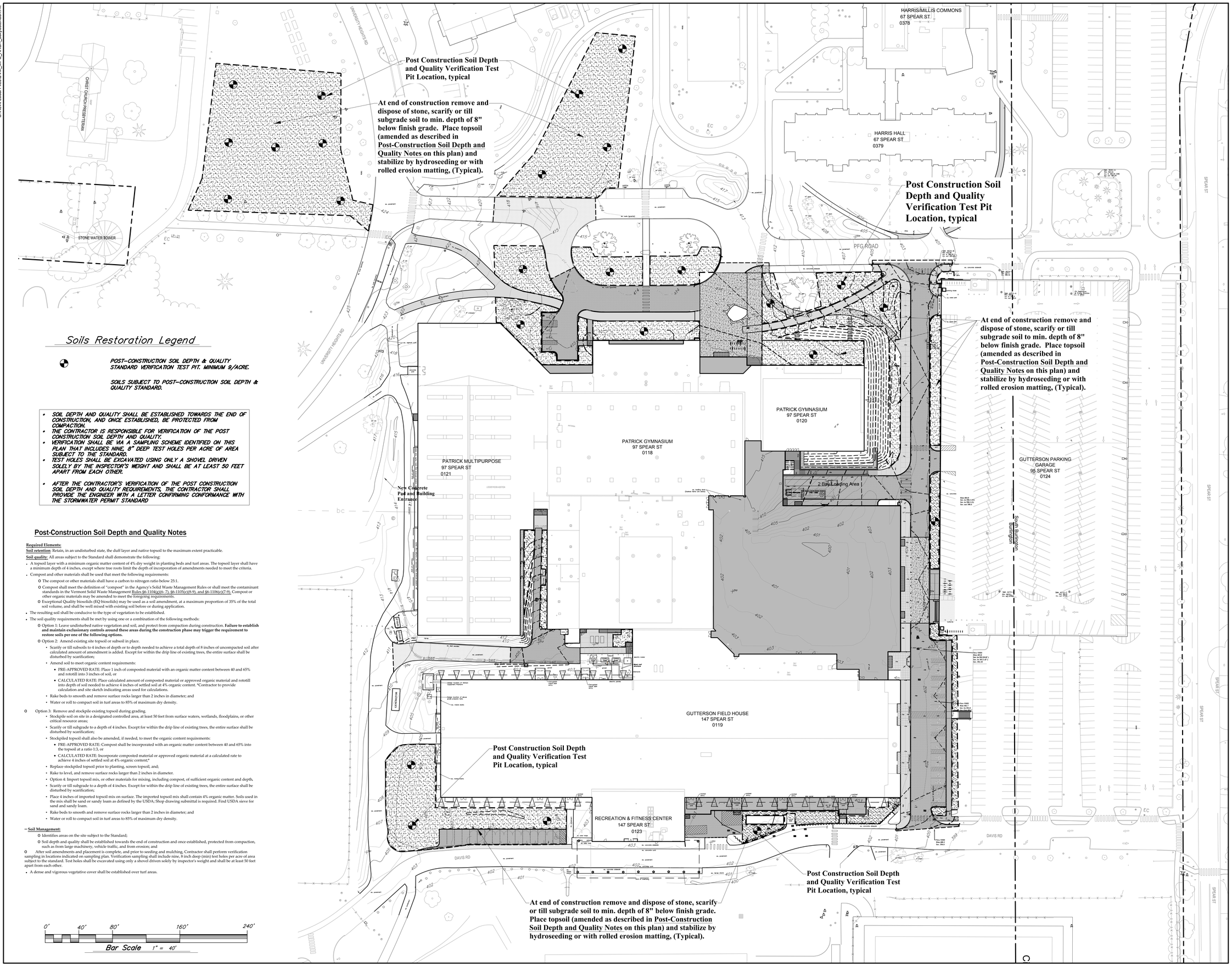

Soils Restoration Legend

POST-CONSTRUCTION SOIL DEPTH & QUALITY STANDARD VERIFICATION TEST PIT. MINIMUM 9/ACRE.

SOILS SUBJECT TO POST-CONSTRUCTION SOIL DEPTH & QUALITY STANDARD.

- SOIL DEPTH AND QUALITY SHALL BE ESTABLISHED TOWARDS THE END OF CONSTRUCTION, AND ONCE ESTABLISHED, BE PROTECTED FROM COMPACTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF THE POST CONSTRUCTION SOIL DEPTH AND QUALITY.
- VERIFICATION SHALL BE VIA A SAMPLING SCHEME IDENTIFIED ON THIS PLAN THAT INCLUDES NINE, 8" DEEP TEST HOLES PER ACRE OF AREA SUBJECT TO THE STANDARD.
- TEST HOLES SHALL BE EXCAVATED USING ONLY A SHOVEL DRIVEN SOLELY BY THE INSPECTOR'S WEIGHT AND SHALL BE AT LEAST 50 FEET APART FROM EACH OTHER.
- AFTER THE CONTRACTOR'S VERIFICATION OF THE POST CONSTRUCTION SOIL DEPTH AND QUALITY REQUIREMENTS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LETTER CONFIRMING CONFORMANCE WITH THE STORMWATER PERMIT STANDARD

Post-Construction Soil Depth and Quality Notes

Required Elements:

Soil retention: Retain, in an undisturbed state, the duff layer and native topsoil to the maximum extent practicable.

Soil quality: All areas subject to the Standard shall demonstrate the following:

- A topsoil layer with a minimum organic matter content of 4% dry weight in planting beds and turf areas. The topsoil layer shall have a minimum depth of 4 inches, except where tree roots limit the depth of incorporation of amendments needed to meet the criteria.
- Compost and other materials shall be used that meet the following requirements:
  - The compost or other materials shall have a carbon to nitrogen ratio below 25:1.
  - Compost shall meet the definition of "compost" in the Agency's Solid Waste Management Rules or shall meet the contaminant standards in the Vermont Solid Waste Management Rules §6-1104(g)(6- 7), §6-1105(e)(8-9), and §6-1106(e)(7-9). Compost or other organic materials may be amended to meet the foregoing requirements.
  - Exceptional Quality biosolids (EQ biosolids) may be used as a soil amendment, at a maximum proportion of 35% of the total soil volume, and shall be well mixed with existing soil before or during application.
- The resulting soil shall be conducive to the type of vegetation to be established.
- The soil quality requirements shall be met by using one or a combination of the following methods:
  - Option 1: Leave undisturbed native vegetation and soil, and protect from compaction during construction. **Failure to establish and maintain exclusionary controls around these areas during the construction phase may trigger the requirement to restore soils per one of the following options.**
  - Option 2: Amend existing site topsoil or subsoil in place.
    - Scarify or till subsoils to 4 inches of depth or to depth needed to achieve a total depth of 8 inches of uncompacted soil after calculated amount of amendment is added. Except for within the drip line of existing trees, the entire surface shall be disturbed by scarification;
    - Amend soil to meet organic content requirements:
      - PRE-APPROVED RATE: Place 1 inch of composted material with an organic matter content between 40 and 65% and rototill into 3 inches of soil, or
      - CALCULATED RATE: Place calculated amount of composted material or approved organic material and rototill into depth of soil needed to achieve 4 inches of settled soil at 4% organic content. *Contractor to provide calculation and site sketch indicating areas used for calculations.
    - Rake beds to smooth and remove surface rocks larger than 2 inches in diameter; and
    - Water or roll to compact soil in turf areas to 85% of maximum dry density.
  - Option 3: Remove and stockpile existing topsoil during grading.
    - Stockpile soil on site in a designated controlled area, at least 50 feet from surface waters, wetlands, floodplains, or other critical resource areas;
    - Scarify or till subgrade to a depth of 4 inches. Except for within the drip line of existing trees, the entire surface shall be disturbed by scarification;
    - Stockpiled topsoil shall also be amended, if needed, to meet the organic content requirements:
      - PRE-APPROVED RATE: Compost shall be incorporated with an organic matter content between 40 and 65% into the topsoil at a ratio 1:3, or
      - CALCULATED RATE: Incorporate composted material or approved organic material at a calculated rate to achieve 4 inches of settled soil at 4% organic content;*
    - Replace stockpiled topsoil prior to planting, screen topsoil, and;
    - Rake to level, and remove surface rocks larger than 2 inches in diameter.
    - Option 4: Import topsoil mix, or other materials for mixing, including compost, of sufficient organic content and depth,
    - Scarify or till subgrade to a depth of 4 inches. Except for within the drip line of existing trees, the entire surface shall be disturbed by scarification;
    - Place 4 inches of imported topsoil mix on surface. The imported topsoil mix shall contain 4% organic matter. Soils used in the mix shall be sand or sandy loam as defined by the USDA; Shop drawing submittal is required. Find USDA sieve for sand and sandy loam.
    - Rake beds to smooth and remove surface rocks larger than 2 inches in diameter; and
    - Water or roll to compact soil in turf areas to 85% of maximum dry density.

Soil Management:

- Identifies areas on the site subject to the Standard;
- Soil depth and quality shall be established towards the end of construction and once established, protected from compaction, such as from large machinery, vehicle traffic, and from erosion; and

After soil amendments and placement is complete, and prior to seeding and mulching, Contractor shall perform verification sampling in locations indicated on sampling plan. Verification sampling shall include nine, 8 inch deep (min) test holes per acre of area subject to the standard. Test holes shall be excavated using only a shovel driven solely by inspector's weight and shall be at least 50 feet apart from each other.

- A dense and vigorous vegetative cover shall be established over turf areas.

0' 40' 80' 160' 240'

Bar Scale 1" = 40'

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NOT FOR CONSTRUCTION

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN

Drawing Title:

POST CONSTRUCTIO
SOIL RESTORATION PL

Project No.: 005353.00 Checked by:

C0108

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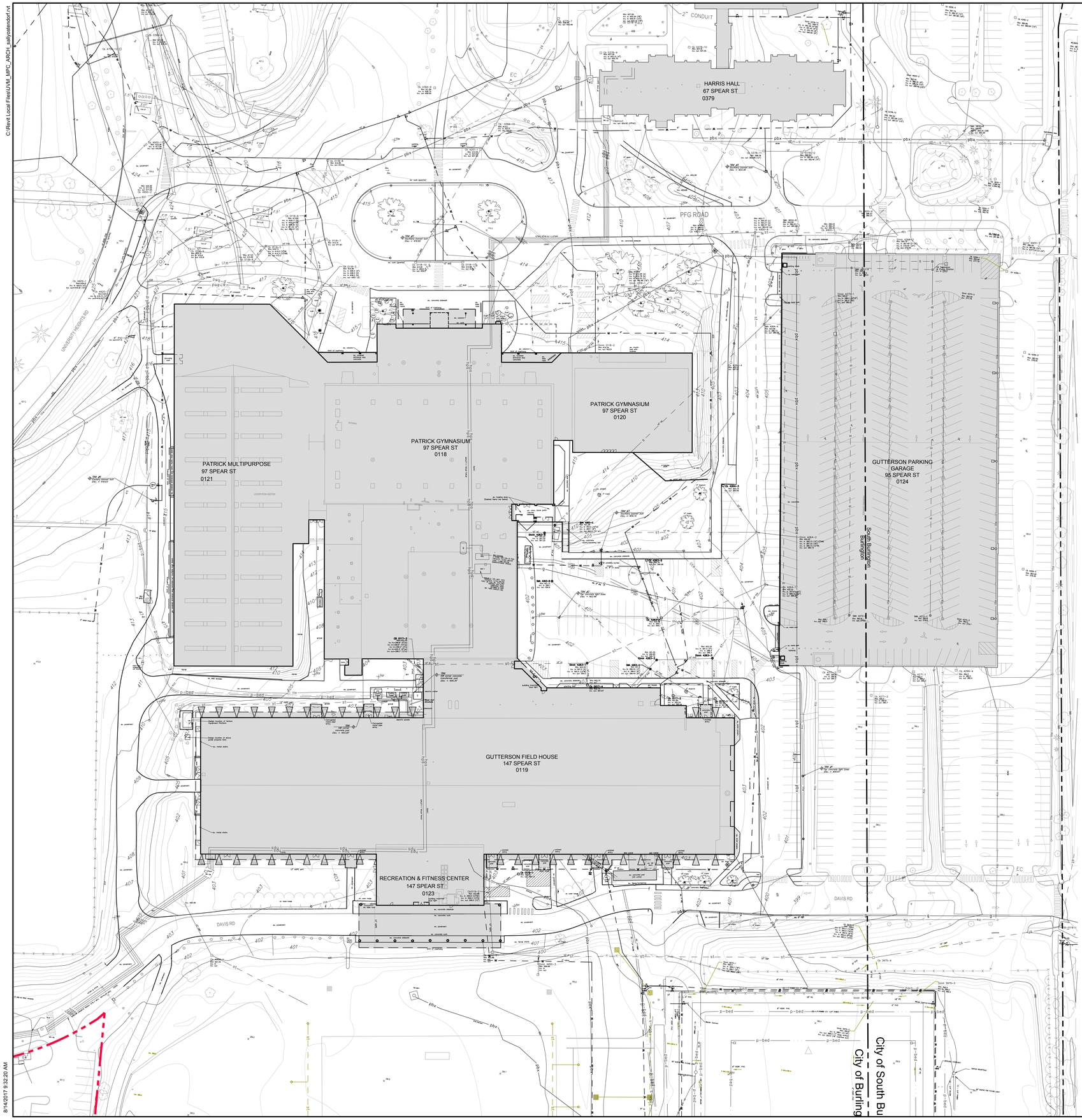

Notes

1. This plan is not a boundary survey. Property line shown are based on digital information provided by UVM are considered approximate.

2. The underground utilities shown on this plan are based on visible utilities located during a topographic survey performed by Krebs & Lansing in April 2014 and the following:
   - Electric: Electrical lines are based on plans prepared by Burlington Electric Department titled, "FAHC - UVM, North Campus System Upgrade Site Plan," dated 07/05/07, digital utility mapping provided by Fletcher Allen, and limited dig safe markings located during the survey. Limited 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 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 are shown based on digital utility mapping provided by the University of Vermont. 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.

3. 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.

4. Elevations are based on the NAVD 88 vertical datum.

5. Project Horizontal Coordinates derived from GPS observation using reference frame NAD83 (2011) 2010.00 epoch.

6. Building roof lines are taken from orthophoto topography by the Sells Mapping Company.

Legend

- Survey Control Point
- Existing Sign
- Existing Light Pole
- Existing Deciduous Tree
- Existing Evergreen Tree
- 314.7 x — Existing Spot Grade Elevation
- s — Existing Sewer Line/Manhole
- st — Existing Storm Line/Manhole/Basin
- usp — Existing Underground Power
- pbx — Existing PBX Line
- Existing Select-A-Code Line
- Existing Site Light Line
- hps — Existing Steam Line
- Existing Condensate Line
- chws — Existing Chilled Water Supply
- chwr — Existing Chilled Water Return
- duct — Existing HVAC duct
- wv — Existing Water Line/Hydrant/Valve/Shutoff
- Existing Grade Contour
- Limit of Topographic Survey

0' 40' 80' 160' 240'

Bar Scale 1" = 40'

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(802) 777-3198

Pearson and Associates
Associate Electrical Engineer
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(802) 253-9607

NOT FOR CONSTRUCTION

No.	Description	Da
-	Burlington DRB	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

KEY PLAN

Drawing Title:

OVERALL EXISTING CONDITIONS PLAN

Project No.: 005353.00 Checked by: D

C0200

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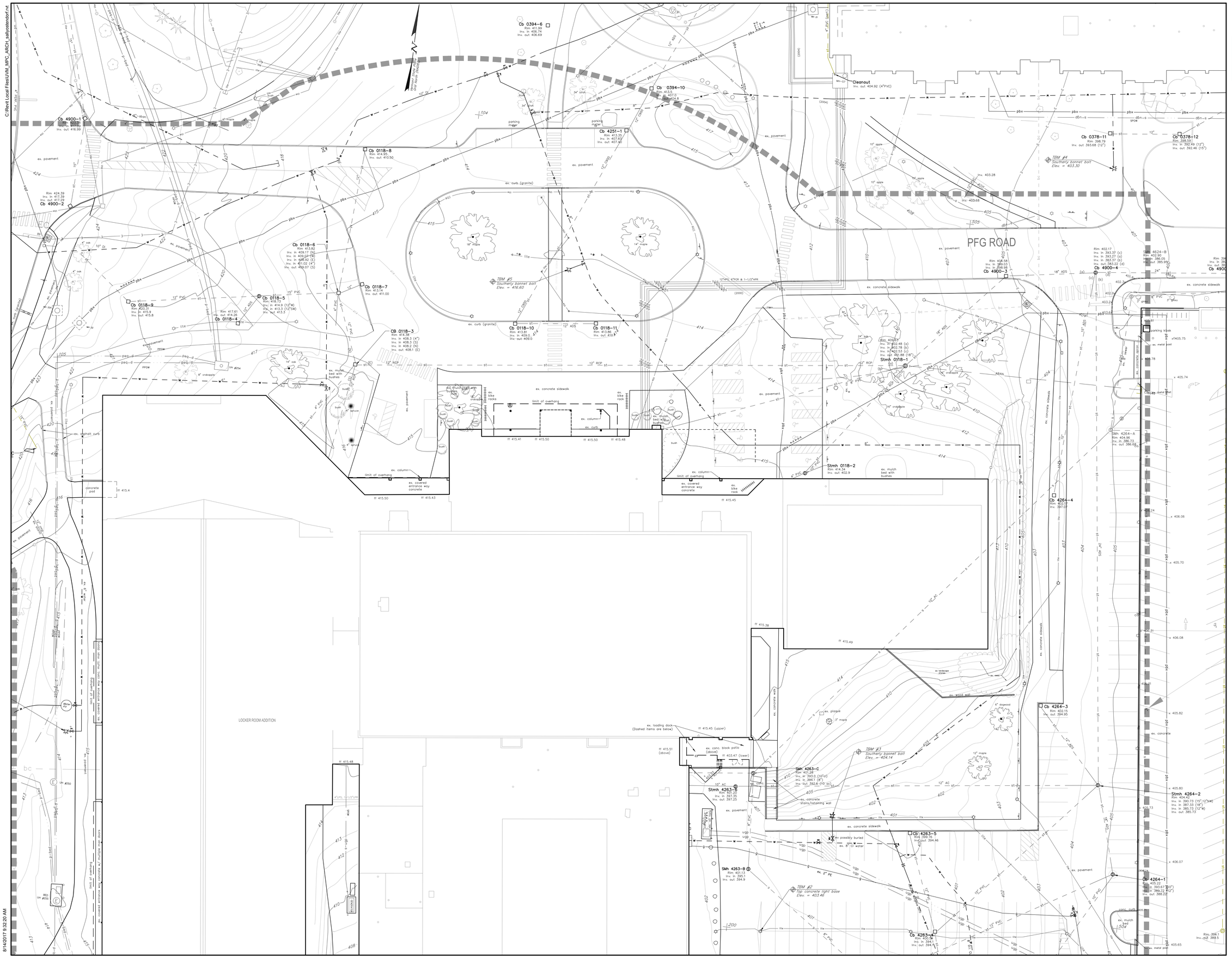

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No.	Description	Da
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-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

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KEY PLAN

Drawing Title:

EXISTING CONDTIONS PLAN

Project No.: 005353.00 Checked by: C

C0201

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PATRICK MULTIPURPOSE
97 SPEAR ST
0121

PATRICK GYMNASIUM
97 SPEAR ST
0118

GUTTERSON FIELD HOUSE
147 SPEAR ST
0119

RECREATION & FITNESS CENTER
147 SPEAR ST
0123

LOCKER ROOM ADDITION

DAVIS RD

Design location of Verizon Equipment Platform

Design location of above grade propane tank.

ex. metal stairs

ex. metal stairs

ex. concrete sidewalk

ex. concrete wall

ex. concrete stairs/retaining wall

ex. concrete sidewalk

ex. pavement

ex. concrete curb

ex. concrete sidewalk

ex. riprap stone

limit of overhang

ex. cedar hedge

ex. bike rack

ex. fence/screening

ex. concrete pad (AC units)

ex. mulch bed

ex. metal post

ex. plaque

ex. landscape stone

ex. wood edge

ex. concrete

ex. 2" PE

ex. possibly buried 6" D.I. water

ex. 8" D.I. water

ex. 2" PE

ex. 6" PVC

ex. 12" PVC

ex. 8" PVC

ex. 4" PVC

ex. 10" AC

ex. 12" AC

ex. 6" PVC

ex. 8" PVC

ex. 12" PVC

ex. 6" PVC

ex. 12" PVC

ex. 12" PVC

ex. 12

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PATRICK MULTIPURPOSE
97 SPEAR ST
0121

PATRICK GYMNASIUM
97 SPEAR ST
0118

PATRICK GYMNASIUM
97 SPEAR ST
0120

GUTTERSON FIELD HOUSE
147 SPEAR ST
0119

RECREATION & FITNESS CENTER
147 SPEAR ST
0123

LOCKER ROOM ADDITION

DAVIS RD

Fill sewer pipe with flowable fill.

Cut and cap existing waterline after new waterline has successfully passed all testing requirements

Salvage all lightpoles, typical

Cap sewer pipe

Transplant existing memorial tree and relocate plaque. See Landscape Plans

Remove and dispose of storm pipe

Remove and dispose of storm structure

Remove and dispose of sanitary sewer structure

Remove and Dispose of Underground Fuel Oil Tank. See Mechanical Plans and Specifications.

Remove Gas Meter (Coordinate with Vermont Gas)

Coordinate Temporary Loading and Trash Removal Operations with Owner

Remove and dispose of sanitary sewer pipes

Remove and dispose of abandoned water lines

New building outline. See Demolition Notes for demolition requirements within the new building footprint.

Salvage Existing Boulders, Typical

Protect Existing Generator During Construction

Remove Existing Concrete Pad

Sawcut Pavement

See Architectural and Structural Plans for Building Demolition Requirements, Typical

Remove and dispose of sanitary sewer pipe

Cut and Cap Waterline

Salvage Existing Brick Pavers, Typical

Remove steel post and beam assembly

Remove Curb and Walk

Salvage all lightpoles, typical

Remove catch basin and cap existing storm pipe

See Electrical Plans for Demolition requirements for existing power under the new building.

Remove and dispose of existing hydrant

See Plumbing Plans for waterline demolition requirements

Coordinate gas meter shutdown and meter removal with Vermont Gas Systems

Maintain existing storm connections. See Plumbing Plans for design within 5 ft of the building.

Salvage and remove existing light pole. Dispose of concrete base, typical.

(REMOVE)

(SALVAGE)

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-	SD Pricing Set	25 AU

No.	Description	Da

KEY PLAN

Drawing Title:

CIVIL SITE DEMOLITION PLAN

Project No.: 005353.00 Checked by: C

C0300

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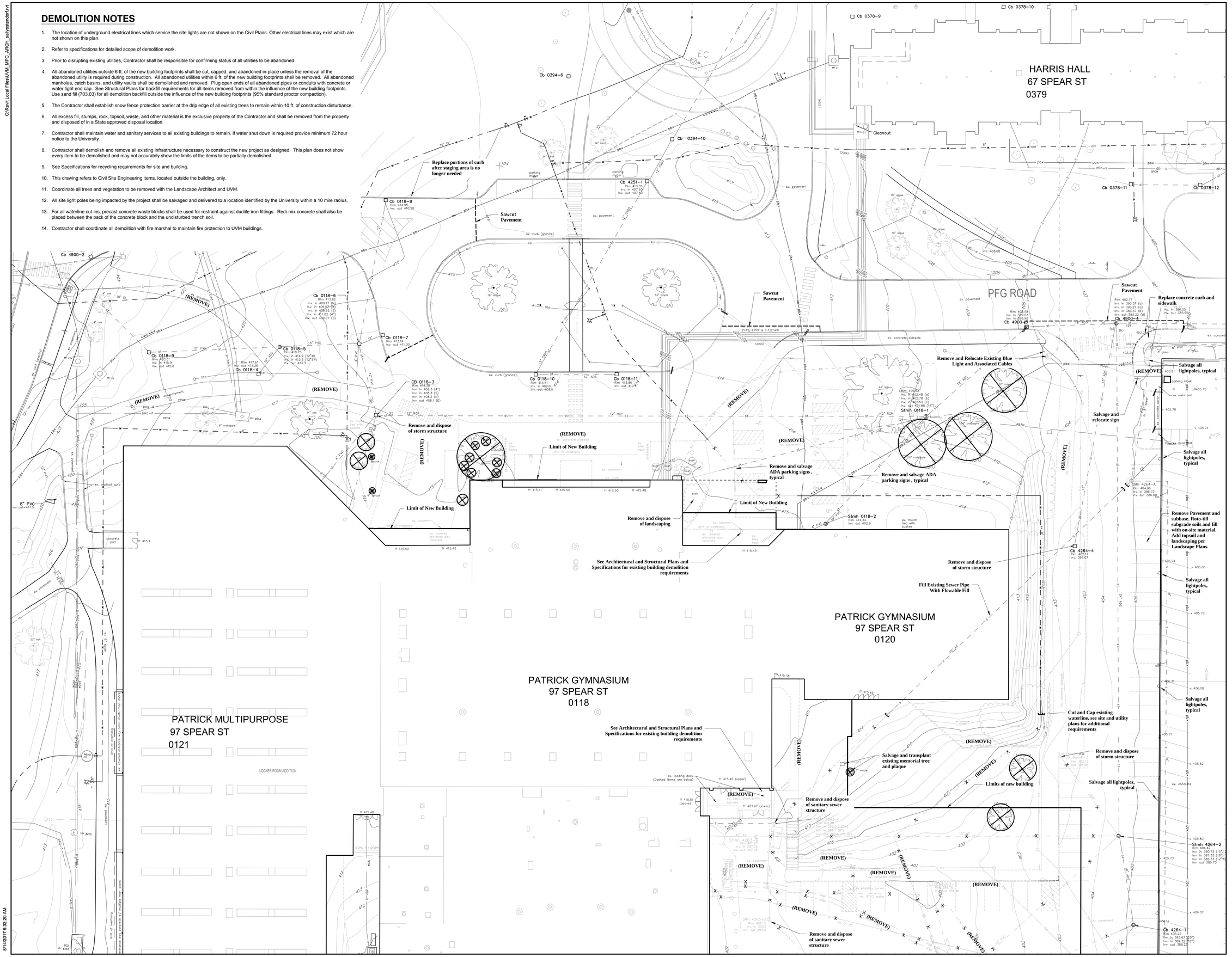
DEMOLITION NOTES

1. The location of underground electrical lines which service the site lights are not shown on the Civil Plans. Other electrical lines may exist which are not shown on this plan.
2. Refer to specifications for detailed scope of demolition work.
3. Prior to disrupting existing utilities, Contractor shall be responsible for confirming status of all utilities to be abandoned.
4. All abandoned utilities outside 6 ft. of the new building footprints shall be cut, capped, and abandoned in-place unless the removal of the abandoned utility is required during construction. All abandoned utilities within 6 ft. of the new building footprints shall be removed. All abandoned manholes, catch basins, and utility vaults shall be demolished and removed. Plug open ends of all abandoned pipes or conduits with concrete or water tight end cap. See Structural Plans for backfill requirements for all items removed from within the influence of the new building footprints. Use sand fill (703.03) for all demolition backfill outside the influence of the new building footprints (95% standard proctor compaction).
5. The Contractor shall establish snow fence protection barrier at the drip edge of all existing trees to remain within 10 ft. of construction disturbance.
6. All excess fill, stumps, rock, topsoil, waste, and other material is the exclusive property of the Contractor and shall be removed from the property and disposed of in a State approved disposal location.
7. Contractor shall maintain water and sanitary services to all existing buildings to remain. If water shut down is required provide minimum 72 hour notice to the University.
8. Contractor shall demolish and remove all existing infrastructure necessary to construct the new project as designed. This plan does not show every item to be demolished and may not accurately show the limits of the items to be partially demolished.
9. See Specifications for recycling requirements for site and building.
10. This drawing refers to Civil Site Engineering items, located outside the building, only.
11. Coordinate all trees and vegetation to be removed with the Landscape Architect and UVM.
12. All site light poles being impacted by the project shall be salvaged and delivered to a location identified by the University within a 10 mile radius.
13. For all waterline cut-ins, precast concrete waste blocks shall be used for restraint against ductile iron fittings. Redi-mix concrete shall also be placed between the back of the concrete block and the undisturbed trench soil.
14. Contractor shall coordinate all demolition with fire marshal to maintain fire protection to UVM buildings.


HARRIS HALL
67 SPEAR ST
0379
PATRICK GYMNASIUM
97 SPEAR ST
0120
PATRICK GYMNASIUM
97 SPEAR ST
0118
PATRICK MULTIPURPOSE
97 SPEAR ST
0121
LOCKER ROOM ADDITION
PFG ROAD
Replace portions of curb after staging area is no longer needed
Sawcut Pavement
Remove and dispose of storm structure
Remove and dispose of landscaping
Limit of New Building
Remove and salvage ADA parking signs , typical
Remove and Relocate Existing Blue Light and Associated Cables
Salvage and relocate sign
Salvage all lightpoles, typical
Remove Pavement and subbase. Roto-till subgrade soils and fill with on-site material. Add topsoil and landscaping per Landscape Plans.
Replace concrete curb and sidewalk
See Architectural and Structural Plans and Specifications for existing building demolition requirements
Fill Existing Sewer Pipe With Flowable Fill
Cut and Cap existing waterline, see site and utility plans for additional requirements
Salvage and transplant existing memorial tree and plaque
Remove and dispose of sanitary sewer structure
Limits of new building
(REMOVE)
Cb 0394–6
Cb 0394–10
Cb 0378–9
Cb 0378–10
Cb 0378–11
Cb 0378–12
Cb 4251–1
Cb 0118–8
Cb 0118–6
Cb 0118–7
Cb 0118–5
Cb 0118–9
Cb 0118–4
CB 0118–3
Cb 0118–10
Cb 0118–11
Cb 4900–2
Cb 4900–1
Cb 4900–4
Cb 4900–5
Stmh 0118–1
Stmh 0118–2
SMh 4264–A
Cb 4264–4
Cb 4264–3
Stmh 4264–2
Cb 4264–1
SMh 4263–B
Cleanout
8" PVC
concrete pad
ex. pavement
ex. curb (granite)
ex. concrete sidewalk
ex. asphalt curb
ex. metal post
ex. concrete
ex. bollard
ex. column
ex. covered entrance way
ex. building
ex. loading dock (Dashed items are below)
limit of overhang
limit of overlang
limit of overlang
ex. concrete entrance way
ex. mulch bed with bushes
ex. concrete entrance way with multi step doors
ex. concrete entrance way with multi step doors
ex. concrete entrance way concrete w/ multiple step doors
ex. concrete entrance way concrete w/ multiple step doors
ex. concrete entrance way concrete w/ multiple

Erosion Prevention and Sediment Control Notes

1. Contractor shall be responsible for complying with all State and Local erosion prevention and sediment control standards and permit requirements during construction.

2. **This project is subject to the permit conditions for an Individual Construction Stormwater Permit. The Contractor shall be the On-site Coordinator for the project and shall be responsible for all required inspections (minimum weekly and after any storm event that produces a discharge), turbidity readings, maintenance, and reporting. The On-Site Plan Coordinator shall be required to provide a turbidity meter for the project.**

3. 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.

4. Clearing and grubbing shall not begin until 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.

5. 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 permit maintenance and inspection requirements.

6. 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 daily during winter construction 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.

6. Unless specifically indicated on the plans acceptable methods of stabilization shall include:
   – STRAW Mulching – 2 tons per acre. Only STRAW mulch is allowed. Approximately 2" uniform thickness. Only allowed on relatively flat areas with minimum upslope watershed. Mulch must be properly secured 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 must be accompanied by erosion control matting in areas of concentrated flow.
   – Erosion control matting – S75BN 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.

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 coir inlet filters shall be installed over all catch basin grates. Additional inlet control shall be installed as identified on the plans or as warranted during construction. Inlet protection must be maintained until final stabilization has been reached.

9. A stabilized construction entrance (See Detail) shall be installed and maintained at all construction access locations if construction vehicles travel off the existing hardscape. Contractor shall be responsible for installing crushed stone to provide stable areas for construction vehicle traffic, staging, and storage. The Contractor is responsible for providing and maintaining sufficient stone to prevent rutting and sediment tracking.

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. 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.

12. All sediment removed from sediment control practices shall be placed in an approved soil disposal area.

13. 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. See Details.

14. After permanent seeding the Contractor shall be responsible for watering to ensure adequate vegetative growth.

15. The location of temporary construction fencing and the temporary access shown on the plan 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.

16. Water from dewatering activities that flows off site must be clear. Turbid, or visibly discolored water must not be pumped into storm sewers.

17. Contractor shall sign on as the Co-Permittee for the State of Vermont Erosion Prevention and Sediment Control permit for the project.

18. 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.

19. Contractor shall call Jenna Olson at 540-1748 or email (jolson@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.

Legend

- 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

0' 40' 80' 160' 240'

Bar Scale 1" = 40'

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During Construction, Grade Staging Area to Drain and Prevent Ponding.

Provide temporary power to Job Trailers during construction. See Electrical for requirements.

Maintain Temporary Silt Fence

Install 8" Thick Stone Stabilized Staging Areas Where Construction Vehicle Traffic is Anticipated. Limits of Stone is Shown for Schematic Purposes Only. Contractor is Responsible for all Stone Necessary for Proper Stabilization.

Install and Maintain Stabilized Construction Entrances, Typical.

Remove Tree. Replace at the End of Construction.

Install and Maintain Stabilized Construction Entrances, Typical.

Install New Gate

Remove and Replace Existing Curb at the End of Construction

Maintain Stabilized Construction Entrances, Typical.

Construction Fence

Install New Gate

Install and Maintain Temporary Silt Fence

Provide temporary power to Job Trailers during construction. See Electrical for requirements.

During construction, Grade Staging Area to Drain and Prevent Ponding.

At a minimum install coir inlet filters over all catch basins that collect construction related runoff

Install 8" Thick Stone Stabilized Staging Areas Where Construction Vehicle Traffic is Anticipated. Limits of Stone is Shown for Schematic Purposes Only. Contractor is Responsible for all Stone Necessary for Proper Stabilization.

Install New Gate

Construction Fence

Install and Maintain Stabilized Construction Entrances, Typical.

After Backfilling Against Building Foundation, Install 8" Thick Crushed Stone (10'-20' wide) to Stabilize Areas Where Construction Vehicle Traffic is Anticipated

Install 8" Thick Stone Stabilized Staging Areas Where Construction Vehicle Traffic is Anticipated. Limits of Stone is Shown for Schematic Purposes Only. Contractor is Responsible for All Stone Necessary for Proper Stabilization.

For Catch Basins Located Within Construction Disturbance Limits Install Stone Lined Sump Inlet Protection, Typical. See Detail.

Remove sidewalk and create temporary 2 ft. deep stone sediment trap for dewatering

Exposed Soil Shall be Temporarily Stabilized Within 14 Days. See Notes 5 and 6.

Install Stone Lined Sump Inlet Protection, Typical. See Detail.

Install new gate

For Catch Basins Located Within Construction Disturbance Limits Install Stone Lined Sump Inlet Protection, Typical. See Detail.

Install 8" thick stone stabilized staging areas where construction vehicle traffic is anticipated. Limits of stone is minimum anticipated and is shown for schematic purposes only. Contractor is responsible for all stone necessary for proper stabilization.

Install straw wattles prior to earth disturbanc

Install and Maintain stabilized construction entrances, typical.

Install and Maintain Temporary Silt Fence

Install new gate

HARRIS/MILLIS COMMONS
67 SPEAR ST
0378

HARRIS HALL
67 SPEAR ST
0379

PATRICK GYMNASIUM
97 SPEAR ST
0120

PATRICK GYMNASIUM
97 SPEAR ST
0118

PATRICK MULTIPURPOSE
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0121

GUTTERSON FIELD HOUSE
147 SPEAR ST
0119

RECREATION & FITNESS CENTER
147 SPEAR ST
0123

GUTTERSON PA
GARAGE
95 SPEAR
0124

UNIVERSITY HEIGHTS RD

DAVIS RD

PFG ROAD

South Burlington

The University of Vermont

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KEY PLAN

Drawing Title:

Erosion Prevention & Sediment Control Pla Preconstruction

Project No.: 005353.00 Checked by:

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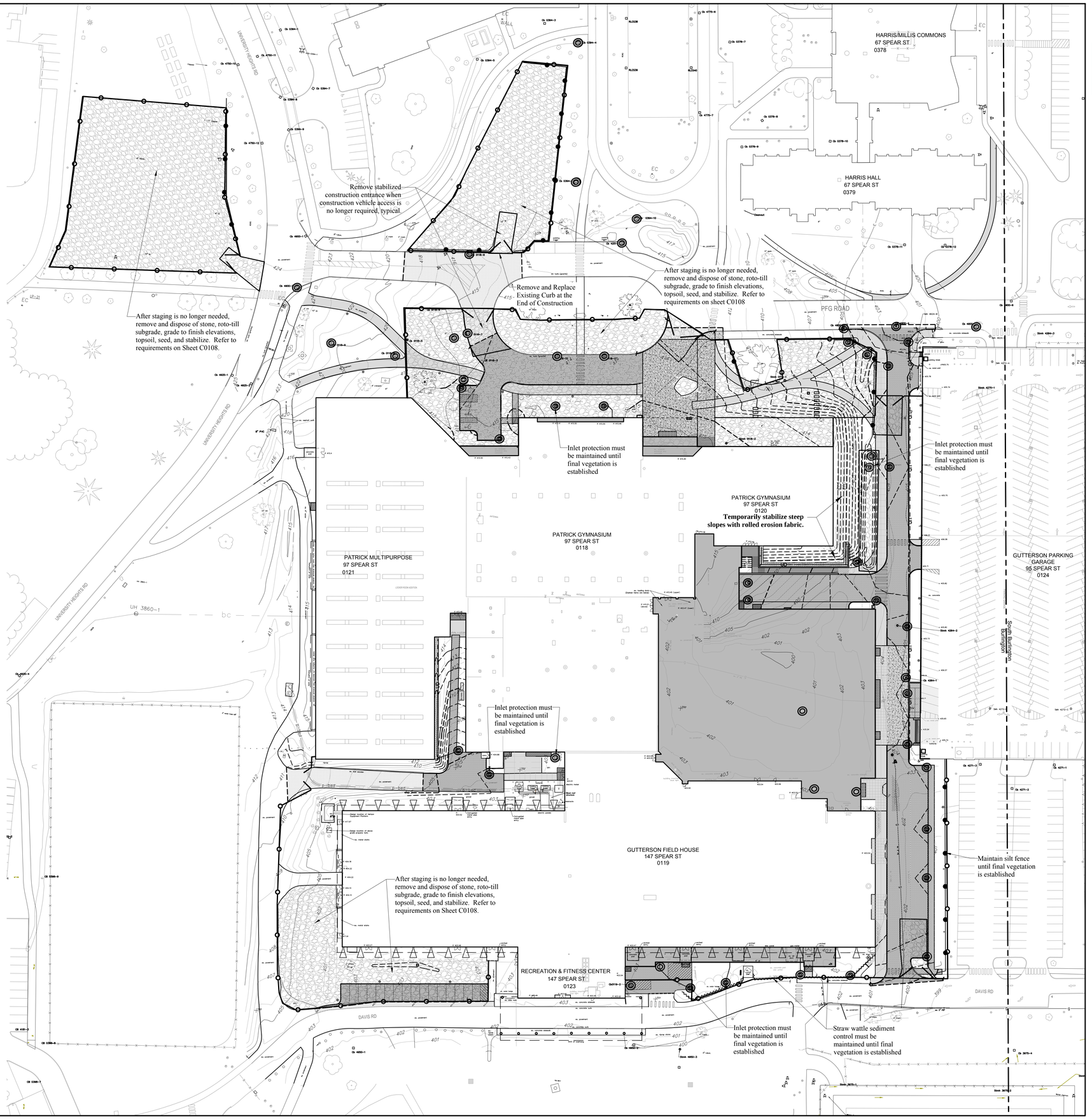

Erosion Prevention & Sediment Control Notes

1. *Refer to plan sheet C0400 for 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, hydroseed (Flexterra HP Growth Media, or approved equal) 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 were previously disturbed, are stabilized daily, or meet the exceptions listed on Sheet C0400.
   b. Final graded areas are to be 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. *Inlet protection at catch basins shall be maintained until upslope drainage area has reached full vegetation establishment.*
12. *Silt fence or other down slope sediment control measures 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. *Orange barrier tape shall be installed along the edges of all new sidewalks until final vegetation stabilization has established.*

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NOT FOR CONSTRUCTION

No.	Description	Da
-	Burlington DRB	12 APR
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AUG

KEY PLAN

Drawing Title:

Erosion Prevention & Sediment Control Pla Stabilization

Project No.: 005353.00 Checked by:

C0401

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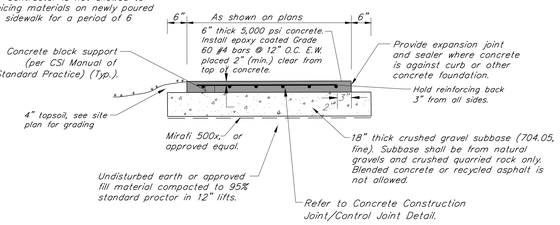
Concrete shall be wet cured for a minimum of 7 days with water and HydraCure 516, or approved equal, wet curing covers. Curing cover needs to be "secured" to prevent tripping hazard by pedestrian use.

All concrete used in the construction of Multi-Use Concrete shall be made with Portland cement. The concrete shall meet section 541 of the State of Vermont Standard Specifications for Construction, have 28 day compressive strength of 5,000 psi, and meet the following mix design.

Max. water-cement ratio (lb./lb.)	0.44
Min. cement factor (lbs/C.Y.)	705
Entrained air content (%)	5 – 7
Slump (inches, before adding HRWR)	2 – 4

Use air entrained agent conforming to ASTM C260 with 5–7% total air. Use high range water reducing agent conforming to ASTM C494 in all concrete.

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 not heavy duty and that is wider than 6'.

N.T.S.

Concrete Slab

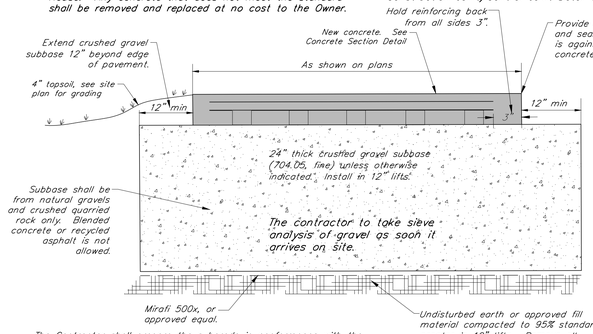
- Broom finish concrete
- Construction joints shall be spaced max. 24' in all directions. See New Concrete Construction Joint Detail.
- See Site Plan for construction joint layout.
- Tool finish control joints 1–1/2" depth at intervals equal to width of sidewalk. Contractor is responsible for providing appropriately sized tooling trowel.
- Apply 2 coats of Chemstop WB siloxane/silane water repellant to all concrete surfaces, per the manufacturer's specifications. Product shall be applied after 7 day curing is complete.
- 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.

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

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

Contractor shall pour and finish one section of concrete pad/walk for approval by Owner and Engineer. Concrete shall match the quality and appearance of the concrete at the east entrance to the Gutterson Field House. Any concrete that does not meet the standard shall be removed and replaced at no cost to the Owner.



The Contractor shall prepare the subgrade in conformance with the design grades then, in the presence of the Engineer, shall proof roll the subgrade with a loaded tandem dump truck. Conditions may require the removal of unsuitable material and placement of additional subbase. The Owner must approve any work involved with the removal of unsuitable material and placement of additional subbase.

Subbase Section

All concrete used in the construction of Heavy Duty Concrete shall be made with Portland cement. The concrete shall meet section 541 of the State of Vermont Standard Specifications for Construction, have 28 day compressive strength of 5,000 psi, and meet the following mix design.

Max. water-cement ratio (lb./lb.)	0.44
Min. cement factor (bags/C.Y.)	7.5
Entrained air content (%)	5 – 7
Slump (inches, before adding HRWR)	2 – 4

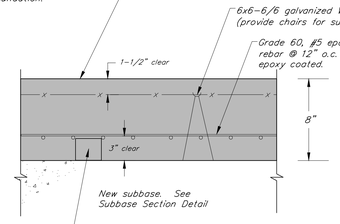
Use air entrained agent conforming to ASTM C260 with 5–7% total air. Use high range water reducing agent conforming to ASTM C494 in all concrete.

Concrete shall be installed in alternating pours at construction joints. Refer to Concrete Construction Joint/Control Joint Detail (CD-1)

Concrete Notes

- Broom finish concrete
- Construction joints shall be spaced as shown on the Site Plans (max. 20' in all directions). See Site Plan for layout.
- Sawcut control joints 1–1/2" depth at intervals equal to width of sidewalk.
- Apply 2 coats of Chemstop WB siloxane/silane water repellant to all concrete surfaces, per the manufacturer's specifications. Product shall be applied after 7 day curing is complete.
- Concrete construction and curing shall conform to section 618.03 of the current VAOT Standard Specifications for Construction

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



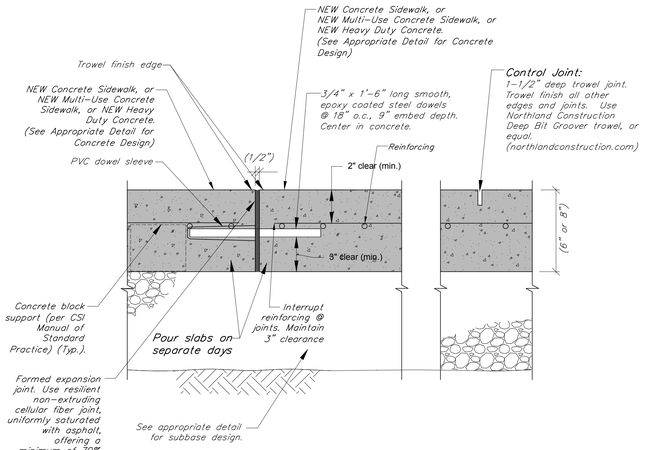
Concrete Section

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

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

New Heavy Duty Concrete Detail

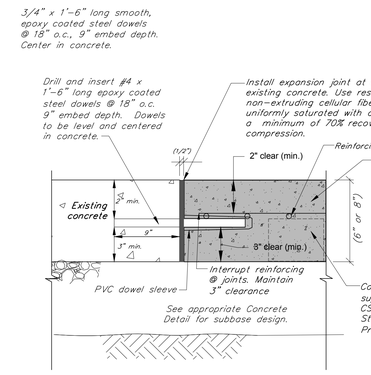
N.T.S.



New Concrete Construction Joint/Control Joint Detail

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

N.T.S.



Construction 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).

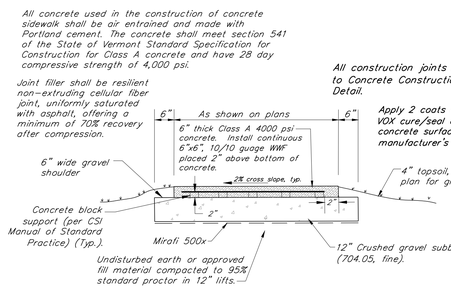
N.T.S.

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.

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

All construction joints shall be doweled. Refer to Concrete Construction Joint/Control Joint Detail.

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



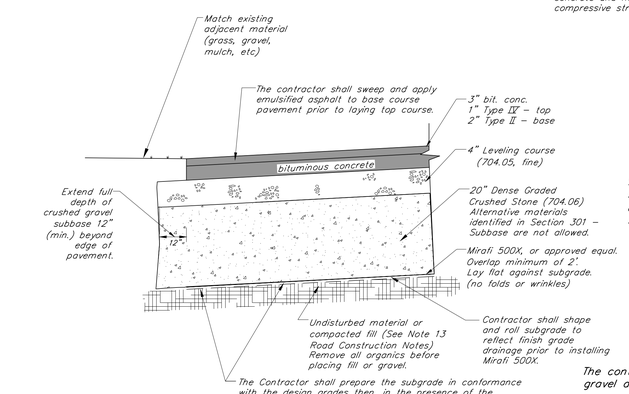
New Concrete Sidewalk Detail

(For Concrete Walks 6ft. Wide or Less)

N.T.S.

Concrete Notes

- Broom finish concrete
- Construction joints shall be spaced max. 24' in all directions. See Concrete Construction Joint Detail.
- Score 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



Subbase material shall be placed and compacted in 12" maximum lifts.

The contractor to take sieve analysis of gravel as soon it arrives on site.

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

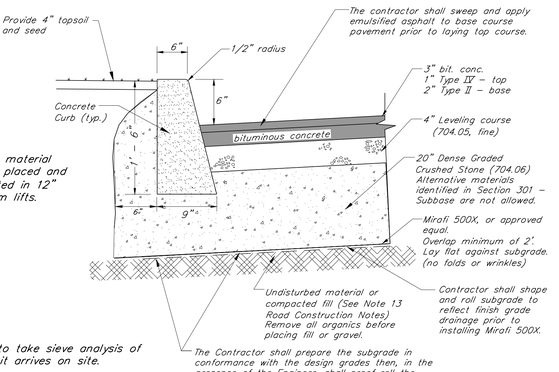
If gravel is contaminated after placement, the Site Contractor shall be responsible removal of all contaminated gravel and paying for all recommended sieve analysis as determined by the Engineer.

Without Concrete Curb

N.T.S.

Concrete Curb

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



Subbase material shall be placed and compacted in 12" maximum lifts.

The contractor to take sieve analysis of gravel as soon it arrives on site.

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

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

With Concrete Curb

When Polyethylene Expansion Joint Filler is installed, fill "strip off" space with Sikaflex–1c, SL joint sealant. Ensure that final depth of sealant after curing will be ¼" below finished concrete surface.

Install Polyethylene Expansion Joint Filler, Deck–O–Foam, or equal, with 1/2" removable strip when concrete sidewalk is adjacent to back of curb.

Adjacent surface material varies – See Site Plans

1/4" per ft. or as designed on Site Plan

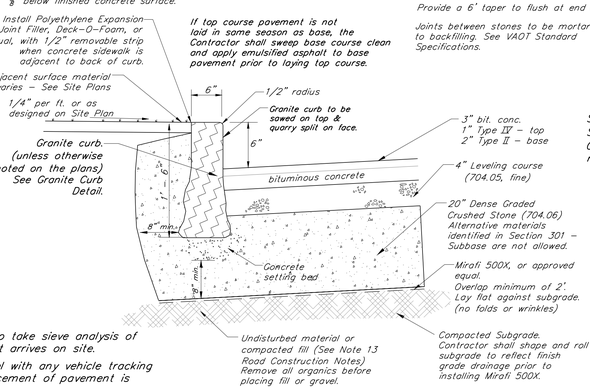
Granite curb. (unless otherwise noted on the plans) See Granite Curb Detail.

If top course pavement is not laid in same season as base, the Contractor shall sweep base course clean and apply emulsified asphalt to base pavement prior to laying top course.

** All granite curb shall be cut to radii shown on plans. Small straight tangent sections of granite curb is not acceptable.*

Provide a 6" taper to flush at end of curb.

Joints between stones to be mortared prior to backfilling. See VAOT Standard Specifications.



See Granite Curb Section Detail (Sheet C0601) for additional requirements

Subbase material shall be placed and compacted in 12" maximum lifts.

The Contractor shall prepare the subgrade in conformance with the design grades then, in the presence of the Engineer, shall proof roll the subgrade with a loaded tandem dump truck. Conditions may require the removal of unsuitable material and placement of additional subbase. The Owner must approve any work involved with the removal of unsuitable material and placement of additional subbase.

With Granite Curb

Typical Road Cross Section Detail

N.T.S.

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NOT FOR CONSTRUCTION

No.	Description	Date
-	Burlington DRB Set	12 APR
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

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KEY PLAN

Drawing Title:

CIVIL DETAILS

Project No.: 005353.00 Checked by:

C0600

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Construction Notes

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

General Water System Notes:

1. **The Contractor shall coordinate all work on the water supply system with the Owner, Burlington Water Department and the Civil Engineer. All water installation work and water distribution materials must comply with the current Burlington Water Department (BWD) specifications.**
2. These plans provide design and details of water main beyond 5 ft. outside the building. The Site Contractor shall be responsible for extending the waterline to the plumbing and/or fire system connection within the building. See Plumbing Engineer and/or Fire Protection plans for scope, design and specifications within 5 ft. of the building.
3. Contractor shall provide all necessary fittings and appurtenances to complete the waterline construction work. This includes temporary fittings and gauges necessary to safely complete the flushing activities required prior to making connections with building plumbing.
4. The project shall be constructed, completed, maintained, and operated in accordance with the approved plans. No changes shall be made in the project with out the written approval of the appropriate BWD supervisor or Engineer. A copy of the final approved plans shall be submitted to the department prior to construction of the water system improvements.
5. The BWD shall be notified in advance to inspect all mechanical joints fittings, main line taps, appurtenances, thrust blocks, water line crossings, and testing prior to occurrence or backfilling.
6. All domestic services and fire sprinkler systems that are connected to the public water system shall be protected with a backflow prevention assembly, and an appropriate thermal expansion system. The Mechanical Contractor shall coordinate approved backflow prevention with the BWD.

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

1. The pipe for water main shall be CL52 ductile iron. Ductile iron fittings shall conform to AWWA C110, 350 pounds working pressure. Valves shall be manufactured to meet all requirements of AWWA specification C509 or C515. Four-inch and six-inch pipe shall have no less than 2 brass wedges installed at each joint. Eight-inch and 10" pipe shall have no less than 3 wedges installed at each joint.
2. All pipe shall be installed in accordance with AWWA C600. The pipe shall be kept free of foreign matter and debris during installation. When the process of pipe laying has stopped, any open ends of pipe shall be plugged. There shall be a minimum of 6'-0" (1.82 m) cover over all pipe and service lines. Any pipe deflection shall not exceed fifty (50%) percent of recommended manufacturer's maximum deflection. Backfill materials and procedures shall be as detailed on the drawings. The Contractor shall be responsible for any and all sheeting and/or shoring necessary to comply with OSHA – VOSHA regulations.
3. The testing of the water main shall consist of the testing of all installed pipe, services and hydrants in accordance with AWWA C600. The testing shall consist of a pressure test and leakage test. All testing shall be done with potable water and in the presence of the Engineer, and representatives from the City of Burlington Water Department. The pressure test consists of maintaining a minimum internal pipe pressure of 200 psi (140,620 kg/m^2) for two (2) hours. The testing allowance shall be defined as the maximum quantity of makeup water that is added into a pipeline undergoing hydrostatic pressure testing, or any valved section thereof, in order to maintain pressure within +/- 5 psi of the specified test pressure (after the pipeline has been filled with water and the air has been expelled). No pipe installation will be accepted if the quantity of makeup water is greater than that determined by the following formula:

$$L = \frac{SD\sqrt{P}}{148{,}000}$$

L = testing allowance (makeup water), in gallons per hour
S = Length of pipe tested, in feet
D = Nominal pipe diameter, in inches
P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

4. Chlorinating of the system shall be accomplished after the water main has been successfully pressure tested and thoroughly flushed. Disinfecting shall be in accordance with AWWA C-651. The disinfecting process shall be deemed acceptable only after two consecutive sets of acceptable samples, taken from the flushed and disinfected main 24 hours apart, shows no evidence of bacteriological contamination. For proper disinfection use minimum 25 mg/l chlorine concentration for 24 hours. The concentration must remain above 10 mg/l. Tablet disinfecting is not acceptable.
5. The water main shall be thoroughly flushed with a minimum flow velocity of 2.5 ft/s to flush foreign materials out of the valves and hydrants. Prior to flushing, the Contractor shall contact the Owner, Fire Department in the municipality, the District Water Supply company, and the Engineer.

Fire Service Main

1. The pipe for water main shall be CL52 ductile iron. Ductile iron fittings shall conform to AWWA C110, 350 pounds working pressure. Valves shall be manufactured to meet all requirements of AWWA specification C509 or C515.
2. All pipe shall be installed in accordance with AWWA C600. The pipe shall be kept free of foreign matter and debris during installation. When the process of pipe laying has stopped, any open ends of pipe shall be plugged. There shall be a minimum of 6'-0" cover over all pipes and service lines. Any pipe deflection shall not exceed fifty (50%) percent of recommended manufacturer's maximum deflection. Backfill materials and procedures shall be as detailed on the drawings. The Contractor shall be responsible for any and all sheeting and/or shoring necessary to comply with OSHA – VOSHA regulations.
3. The testing of the water main shall consist of the testing of all installed pipe, services and hydrants in accordance with NFPA 24. The testing shall consist of a pressure test and leakage test. All testing shall be done with potable water and in the presence of the Engineer. The pressure test consists of maintaining a minimum internal pipe pressure of 200 psi (140,620 kg/m^2) for two (2) hours. The amount of leakage at the joints shall not exceed 2 qt/hr per 100 gaskets or joints, irrespective of pipe diameter. If the pressure drops more than 5 psi (3515 kg/m^2) in the first hour, this constitutes failure of the test for the particular section of pipe. Failure of any test section will necessitate repair and/or replacement of the failed section.
4. Chlorinating of the system shall be accomplished after the water main has been successfully pressure tested and thoroughly flushed. Disinfecting shall be in accordance with AWWA C-651. The disinfecting process shall be deemed acceptable only after two samples of water from the flushed disinfected main, taken 24 hours apart, shows no evidence of bacteriological contamination. Use minimum 25 mg/l chlorine concentration for 24 hours. The concentration must remain above 10 mg/l. Tablet disinfecting is not acceptable.
5. Acceptable water main flushing requirements are provided below. Prior to flushing, the Contractor shall contact the Owner, Fire Department in the municipality, the District Water Supply company, and the Engineer.

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

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

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

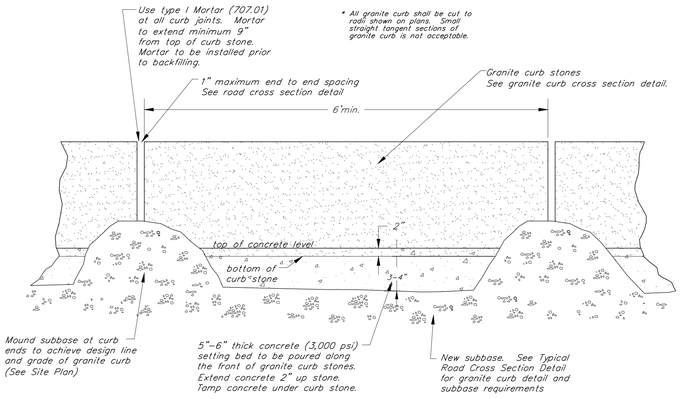
(1) Hydraulically calculated water demand flow rate of the system, including any hose requirements. (provided by the mechanical/sprinkler consultant)

(2) Flow necessary to provide a velocity of 10 ft/sec (3.1 m/sec) in accordance with the table below.

(3) Maximum flow rate available to the system under fire conditions.

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

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

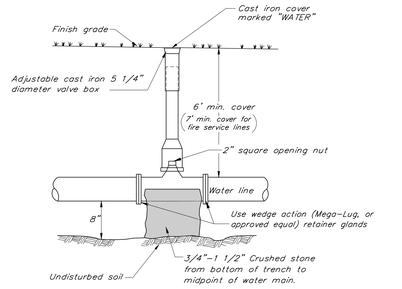


Typical Granite Curb Section Detail

N.T.S.

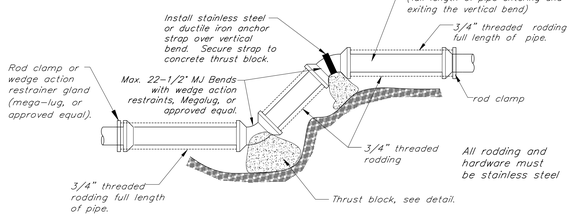
*The Contractor shall confirm all valve * specifications with Municipality before ordering.

1. Gate valves shall be meet all requirements of A.W.W.A. C509 and C515 Standards (latest edition). Valves with mechanical joints of sizes as required on the plans.
2. All valves shall be of cast or ductile iron body and shall be coated with fusion bonded epoxy complying with AWWA C-550 and be NSF 61 approved. Valve shall have manufacturer's name, pressure rating, and manufacture date cast on the body.
3. All valves shall include non-rising stem, high strength bronze stem and nut, 100% coated wedge, "O" Ring Stem Seals above and below the thrust collar, a 2" square operating nut, mechanical joint ends, and corrosion resistant stainless steel body bolts and nuts.
4. City of Burlington gate valves shall open clockwise (right) and be designed for a minimum working pressure of 200 psi.
5. Valves shall be equipped with a two piece, sliding type cast iron valve box for a minimum 6 ft. of cover material.



Typical Resilient Wedge Gate Valve

N.T.S.



Notes:

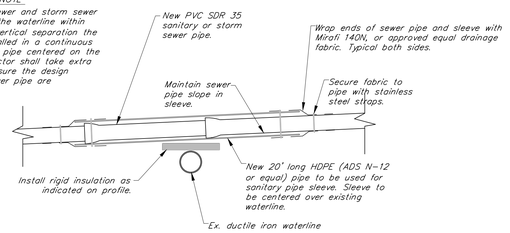
1. See thrust block detail for additional information.
2. Prior to pouring thrust blocks, all fittings are to be wrapped with 4 mil. polyethylene

Vertical Bend Thrust Block Restraint Detail

N.T.S.

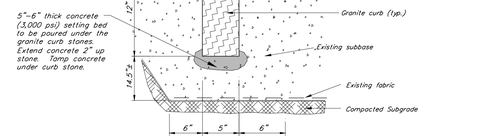
SEWER CROSSING NOTE

For all sanitary sewer and storm sewer pipes that cross the waterline within the required 18" vertical separation the pipe shall be installed in a continuous 20 ft. long sleeve pipe centered on the waterline. Contractor shall take extra precautions to ensure the design grades of the sewer pipe are maintained.



Sewer Pipe Sleeve Detail

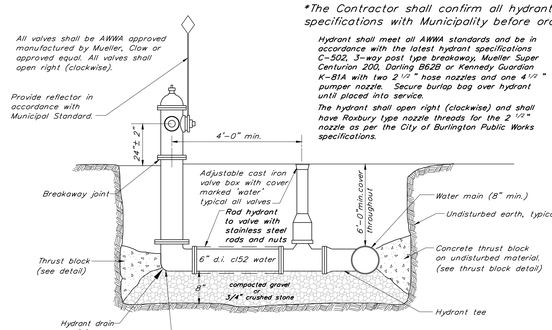
n.t.s.



Flush Granite Curb

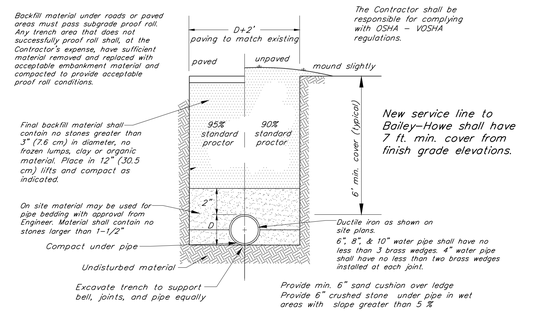
N.T.S.

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



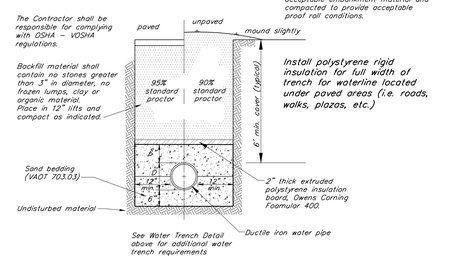
Typical Hydrant

(City of Burlington)
N.T.S.



Typical Water Trench Detail

N.T.S.

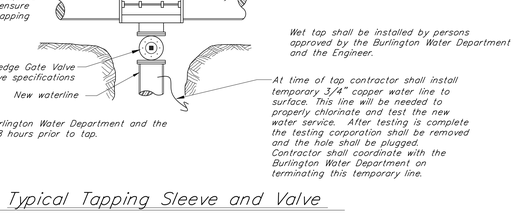


Insulation shall be Owens Corning Rigid Foam Insulation: Foamular 400. Insulation shall be 2" thick, supplied in 2'x 8' or 4'x8' pieces with square edges. Compressive strength shall be a minimum of 40 pounds per square inch.

INSULATION INSTALLATION: The Contractor must prepare the sand bed so that all projections that interfere with placement of insulation boards are to be removed, formed to fit around or as specified by the engineer. The contractor may not move equipment onto foam until the first 12" minimum, of gravel has been placed.

Typical Insulated Water Trench

N.T.S.



Typical Tapping Sleeve and Valve

N.T.S.

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NOT FOR CONSTRUCTION

No.	Description	Date
-	Burlington DRB Set	12 APR
-	DD Pricing Set	23 MAR
-	DD Progress Set	02 MAR
-	Supplemental SD Set	03 NOV
-	SD Pricing Set	25 AUG

N

KEY PLAN

Drawing Title:

CIVIL DETAILS

Project No.: 005353.00 Checked by:

C0601

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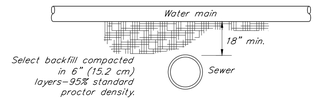
NOTES:

1. The location of sewer mains in relation to water mains shall be in accordance with the "Recommended Standards for Sewage Works" so-called Ten State Standards and Water Supply Rules.
2. Sanitary sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. If this distance cannot be obtained variance shall be approved by the ANR Drinking Water & Groundwater Protection Division.
3. 18" separation shall be maintained whether water is over or under sewer. If this distance cannot be obtained then a solid 20 ft. long pipe sleeve may be installed centered on the crossing. This may only be done with approval from the Engineer.



Sewer / Water Separation Detail

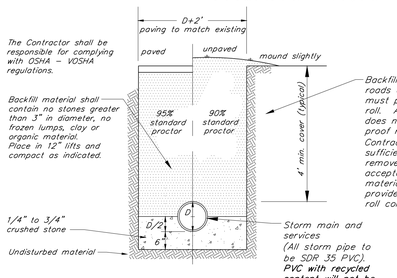
N.T.S.

Sanitary Testing Requirements

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

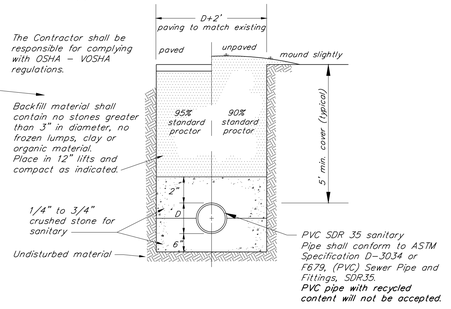
PVC SDR 35 pipe shall not be installed when the temperature drops below 32° F or goes above 100° F unless prior approval is obtained from the Engineer. Extra care is required when handling PVC pipe during cold weather. PVC pipe shall not be stored outside and exposed to prolonged periods of sunlight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

All new storm and sanitary extending from structures shall be laid with a pipe laser to elevation and slope as shown on the plans.



Typical Storm Trench Detail

N.T.S.



Typical Sanitary Trench Detail

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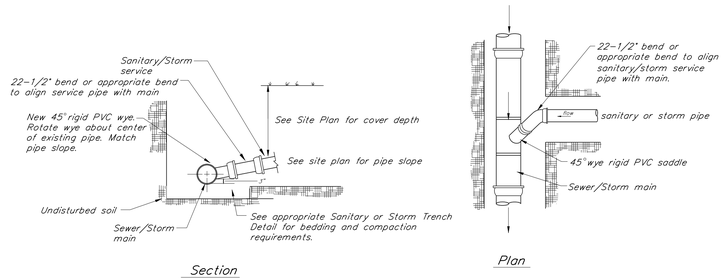
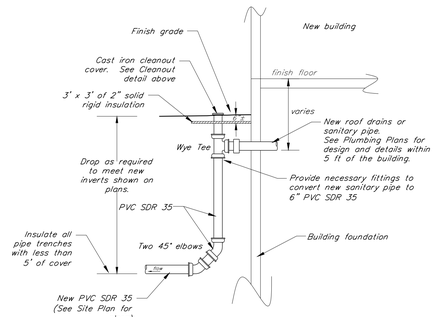


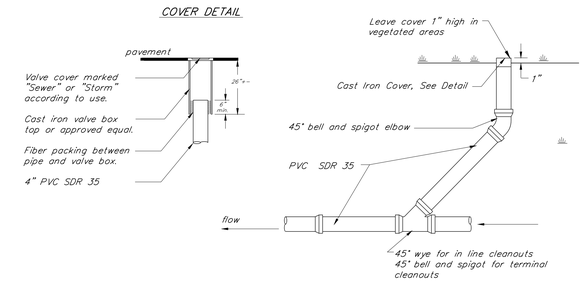
In-line Sewer/Storm Connection Detail

N.T.S.



Drop Outlet Plumbing Connection Detail

N.T.S.



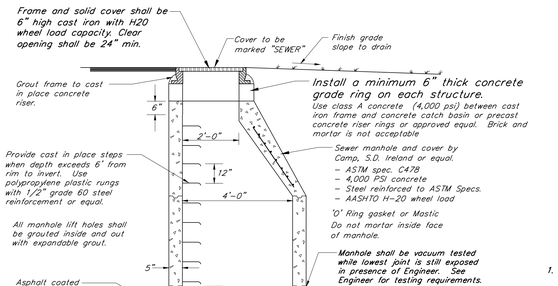
Storm/Sanitary Sewer Cleanout Detail

N.T.S.

Testing and Contractor Coordination Requirements

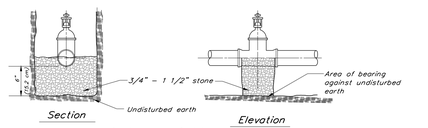
(applies to water and sanitary sewer)

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



Typical Precast Sewer Manhole

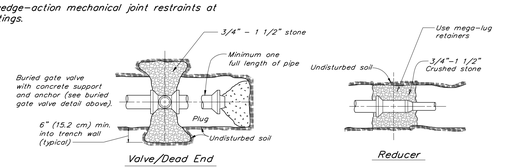
N.T.S.

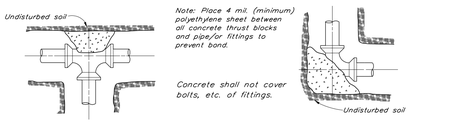


Anchorage of Valves

Note

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



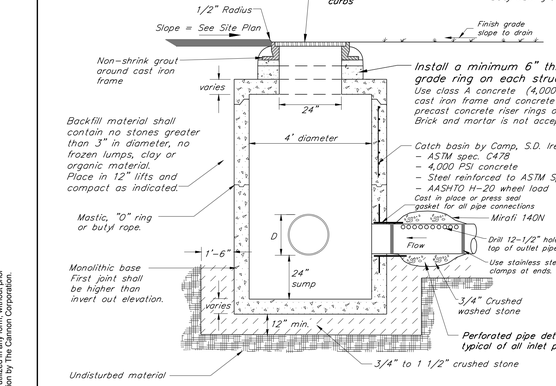


Minimum Area of Bearing Surface of Concrete Thrust Block (in square feet)

3"				4"				6"				8"				12"				SOIL CONDITION	SAFE BEARING LOAD(PSF)
ENDS & TEES	VALVES 90° ELB.	REDUC 45° ELB.	22.5° ELB.	ENDS & TEES	VALVES 90° ELB.	REDUC 45° ELB.	22.5° ELB.	ENDS & TEES	VALVES 90° ELB.	REDUC 45° ELB.	22.5° ELB.	ENDS & TEES	VALVES 90° ELB.	REDUC 45° ELB.	22.5° ELB.	ENDS & TEES	VALVES 90° ELB.	REDUC 45° ELB.	22.5° ELB.		
0.5	0.5	0.5	0.5	0.5	1.0	0.5	0.5	1.0	1.5	1.0	0.5	2.0	2.5	1.5	1.0	4.0	5.5	3.0	1.5	Sound shale	10,000
1.0	1.0	1.0	0.5	1.5	2.0	1.0	0.5	3.0	4.0	2.0	1.0	4.5	6.5	3.5	2.0	10.0	14.0	7.5	4.0	Cemented gravel & sand	4,000
1.0	1.0	1.0	0.5	2.0	2.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	Coarse & fine compact sand	3,000
1.5	2.5	1.5	1.0	2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	Medium clay (can be spaded)	2,000
3.0	4.5	2.5	1.5	5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	Soft clay	1,000
Maximum water pressure = 200 PSI (140,620 kg/m^2)																					

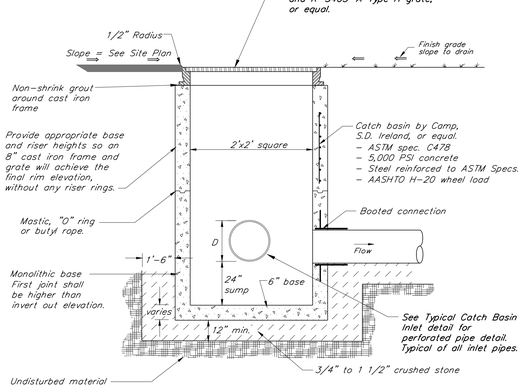
Thrust Block Details

N.T.S.



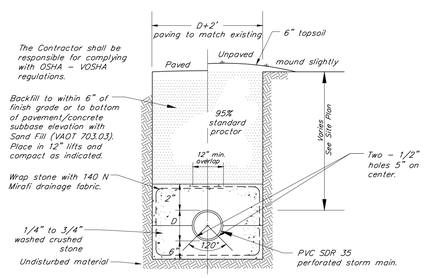
Typical Catch Basin Inlet

N.T.S.



Typical Drop Inlet Detail

N.T.S.



Typical Underdrain Trench Detail

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Stowe, VT 05672
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NOT FOR CONSTRUCTION

No.	Description	Da
-	Burlington DRB Set	12 AP
-	DD Pricing Set	23 MA
-	DD Progress Set	02 MA
-	Supplemental SD Set	03 NO
-	SD Pricing Set	25 AU

N

KEY PLAN

Drawing Title:

CIVIL DETAILS

Project No.: 005353.00 Checked by:

C0602

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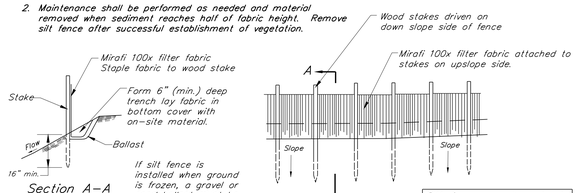
Straw wattles may be used as as substitute for silt fence for areas approved by the Engineer.

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



If silt fence is installed when ground is frozen, a gravel or sand ballast must be used.

Silt fence spacing chart	
Slope	silt fence spacing
5% to 10%	50 ft. or less
10% to 20%	25 ft. or less
> 20%	15 ft. or less

Typical Temporary Silt Fence

N.T.S.

Road Construction Notes

(All references to road shall apply to parking areas 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. The Contractor is fully responsible for coordinating all testing/inspections. Contractor shall provide minimum 24 hour notice to testing agency prior to placement of any item to be tested.*
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.*

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

1. *For areas to be stabilized with vegetative cover, seeding shall be completed no later than September 15th to ensure adequate growth and cover.*
2. *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.*
3. *Where mulch is used for temporary stabilization it must be applied at double the standard rate, or a minimum of 3 inches with an 80%-90% cover.*
4. *Stabilized Construction Entrances shall be enlarged to provide for snow stockpiling.*
5. *Limits of disturbance shall be moved or replaced to reflect any revised boundaries of winter work.*
6. *The site shall be managed to provide adequate snow storage and control of meltwater. Cleared snow shall be stored down slope of all areas of disturbance and out of stormwater treatment structures.*
7. *A minimum 25 foot buffer shall be maintained from perimeter controls such as silt fence.*
8. *Drainage structures must be kept open and free of snow and ice dams.*
9. *Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.*
10. *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.*
11. *Prior to stabilization, snow or ice must be removed to less than 1 inch thickness.*
12. *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.*

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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.

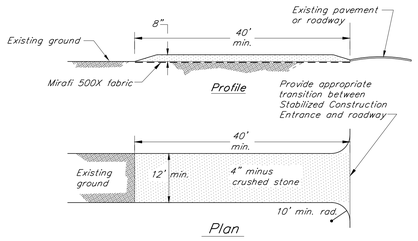
Material Specifications

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



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.*

THIS DETAIL TO BE USED FOR ALL TEMPORARY STONE STABILIZATION AREAS IDENTIFIED ON THE PLANS

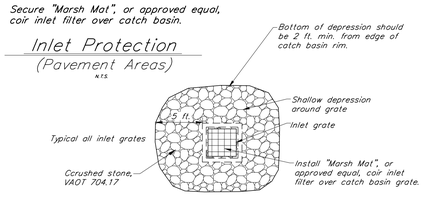
Temporary Stabilized Construction Entrance & Staging Areas

N.T.S.

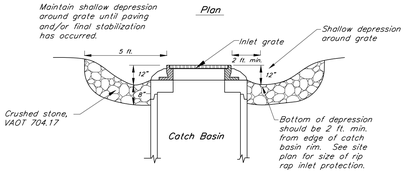
Secure "Marsh Mat", or approved equal, coir inlet filter over catch basin.

Inlet Protection (Pavement Areas)

N.T.S.



Maintain shallow depression around grate until paving and/or final stabilization has occurred.



Stone Lined Sump Inlet Protection

N.T.S.

Soil and Seeding Notes

Refer to Post Construction Soil Restoration Plan for additional requirements

1. *Topsoil 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.*
2. *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:*
    a. *Percentages of organic matter, inorganic matter (silt, clay, and sand), deleterious materials, and pH levels.*
    b. *Sieve analysis and mineral and plant nutrient content of topsoil.*
    c. *Test for herbicide contamination and provide report certifying that no herbicides are present.*
    d. *State quantities of nitrogen, phosphorous, and potash nutrients and any limestone, aluminum sulfate, or other soil amendments to be added to produce satisfactory topsoil.*
    e. *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%

3. *Commercial fertilizer shall be a complete plant food containing nitrogen (50% organic) phosphoric acid and potash. Soil tests will indicate composition required.*
4. ***Hydro seeding and tocifier 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%
3.32% 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.

5. ***Areas having soil compaction as a result of construction shall be roto-tilled prior to seeding.***
6. *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.*
7. *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.*
8. *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.).*
9. *Staking of all topsoiled areas to control foot traffic will be required. Unless otherwise specified, acceptable staking materials will be grade stakes and twine or string with flagging attached for visibility.*
10. *A guarantee through the first mowing is required with any sparse or bare areas larger than 1 sq. ft. to be redone.*
11. *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*
12. *Contractor is responsible for all topsoil to complete the project as shown. If existing volume of topsoil is inadequate, the Contractor, at no cost to the Owner, shall purchase offsite approved topsoil as necessary.*

Grounds Restoration

1.0 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 lamppost bases.

Construction Limit Barriers

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

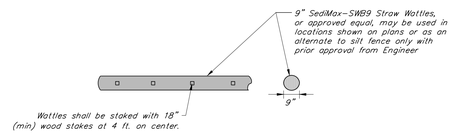
Tree Protection & Landscape Clearing

1. *All 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.*
2. *Prior to any construction activity the General Contractor shall meet with the Grounds Manager to review the staging and protection plan for the adjacent landscaping.*
3. *Damage caused to specimens due to contractor negligence shall be replaced at the cost of the contractor. Damage shall be reported to the Grounds Office immediately after event @ (802) 656-3866. Replacement value and condition of each specimen is to be determined by the Physical Plant's Grounds Manager.*
4. *All trees within the designated construction zone shall be protected by no less than 4' high plastic fencing at the drip line completely encompassing the tree. No storage of building materials shall be allowed within tree protection fencing.*
5. *All trees within 30' of the construction zone shall be protected by no less than 4' high plastic fencing at the drip line.*
6. *If equipment is allowed by the Grounds Manager to pass over a tree's root zone, then a minimum of 8" of wood chips shall be laid and maintained by the contractor.*
7. *If tree pruning is necessary, the Contractor shall contact the Grounds Manager (802-656-3866) to perform the necessary pruning*
8. *During excavation, if root impact is unavoidable and therefore approved by the Grounds Manager, any root system encountered which is 1" in diameter or larger will be pruned by authorized personnel only. ANA standards for root pruning shall be followed.*
9. *Where an existing tree meets new landscaping, grade topsoil at a depth of 6" (six inches) from the drip line to 0" (zero inches) at the base of the tree.*

Construction Notes

1. *The methods and materials of construction shall conform to the latest standards of the City of Burlington and the State of Vermont. All work shall be in conformance with all permits and approvals issued for the project. In case of conflict, the more stringent specification shall apply as directed by Engineer. All work shall be done in a workmanlike manner and completed in the time specified by Owner.*
2. *The Contractor shall be responsible for all work and materials shown and required to make the job complete. These drawings do not show every fitting or appurtenance. Materials shall be as specified on the drawings. Manufacturer's product specifications shall be submitted for all materials to the Engineer for approval prior to installation.*
3. *The location and size of existing underground utilities is not warranted to be exact or complete. The Contractor shall field locate all utilities and shall contact the affected utility company, the Engineer and the City of Burlington prior to making any hook ups. The Contractor shall be solely responsible for all existing utilities and their uninterrupted services. All off-site backfill, sheeting and shoring, dewatering, clearing and grubbing, erosion control, dust control, traffic control, grading, and all incidentals shall be included as part of the required work.*
4. *Repair of all disturbed areas, grading, seeding, mulching, repair of roads and curbs, paving, and other incidentals are included as part of the required work. All disturbed areas shall be loamed and mulched until permanent ground cover is established.*
5. *The Contractor shall verify all horizontal control and temporary bench marks before use.*
6. *The workers and public shall be protected by the Contractor from any and all hazards connected with the construction work. Open trenches, materials, or equipment within the working limits are to be guarded by the use of adequate barricades or flaggers. All barricades left in position overnight are to be properly lighted. Kerosene pots are not acceptable. When work narrows the usable pavement, flaggers shall be employed to aid the flow of traffic so that there will be no undue delays. The Contractor shall be held responsible for the safety of all workers and the general public and all damages to property occurring from or upon the work occasioned by negligence or shall be held responsible for the safety of all workers and the general public and all damages to property occurring from or upon the work occasioned by negligence or day or night within the working area. All work shall be in conformance to OSHA regulations, Title 19, Parts 1926.651 and 1926.652, and applicable to VOSHA regulations.*
7. *Contractor shall contact Dig Safe prior to any excavation.*
8. *All new storm and sanitary extending from structures shall be laid with a pipe laser to elevation and slope as shown on the plans.*
9. *The Contractor shall sawcut all existing pavement to be removed. The Contractor shall minimize the pavement area disturbance. Contractor shall be responsible for all pavement repair and restoration necessary to complete the work.*
10. *The Contractor shall be responsible for all construction layout.*
11. *Temporary silt fence shall be erected prior to any clearing or construction. Fencing may be erected in phases, but in no case shall construction of clearing proceed fencing. Special areas may be designated by the Owner for preservation of existing trees. These areas shall be the Contractor's responsibility to insure no damage is done to designated trees.*
12. *Existing plantings are located in general areas as shown on the plans. Contractor shall protect plantings scheduled to remain so as not to damage these or their root systems.*
13. *Contractor shall comply with all permits and approvals issued for this project.*
14. *Contractor shall sign on as the Co-Permittee for the State of Vermont Erosion Prevention and Sediment Control permit for the project.*
15. *Slope stability upon unsaturated soil conditions. If during construction saturated soils are encountered, contact the Engineer immediately.*

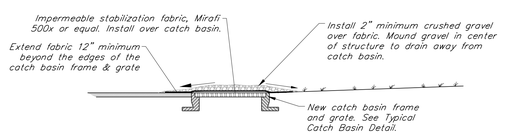
NOTE:
1. *Contractor shall be responsible for the installation, maintenance, and removal of straw wattles in all locations shown on the plans.*
2. *Maintenance shall be performed as needed and material removed when sediment reaches half of product height. Remove wattle after successful establishment of vegetation.*



Typical Straw Wattle Sediment Control

N.T.S.

NOTE: *This detail to be used only when inlet protection is not practical and only with prior approval from the Engineer.*



Temporary Impermeable Catch Basin Cover Detail

N.T.S.

The University of Vermont

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Multipurpose Center

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(802) 777-3198

Pearson and Associates
Associate Electrical Engineer
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Stowe, VT 05672
(802) 253-9607

NOT FOR CONSTRUCTION

No.	Description	Date
-	Burlington DRB Set	12 APR
-	DD Pricing Set	23 MAR
-	DD Progress Set	02 MAR
-	Supplemental SD Set	03 NOV
-	SD Pricing Set	25 AUG

N

KEY PLAN

Drawing Title:

CIVIL DETAILS

Project No.: 005353.00 Checked by:

C0603

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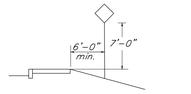
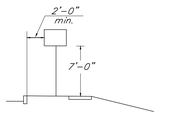
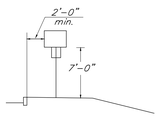




IF SUFFICIENT CLEARANCE IS NOT AVAILABLE BETWEEN CURB AND SIDEWALK MOUNT SIGN BEHIND SIDEWALK AS SHOWN AT TOP. CHECK FOR ADEQUATE R.O.W..

IF A SECONDARY SIGN IS MOUNTED BELOW ANOTHER SIGN, THE MINIMUM CLEARANCE MAY BE REDUCED BY ONE FOOT.



Sign Placement Detail

Signage & Pavement Markings

All signage and pavement marking include all necessary items to make product complete. All labor, materials, equipment and construction for signage and markings shall comply with AOT specifications. The location of each sign is shown on the plan or will be identified by the Owner or Engineer.

ROAD/PARKING SIGNS

Description	Specification	# Signs	Size
Handicap Parking Only	R7-8	24	12" x 18"
UVM Service Vehicle Parking		15	12" x 18"

Provide 2" square galvanized steel sign posts posts. Bottom of all signs to be 7 feet above nearest adjacent curb or pavement elevation.

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

		24" X 12"		
		24" X 24"		
		24" X 30"		
	12" X 18"	24" X 36"	36" X 48"	
	18" X 24"	30" X 24"	48" X 60"	
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"	

ALL PANELS SHALL HAVE RETROREFLECTIVE BACKGROUNDS

ALL SIGN POSTS SHALL BE SQUARE TUBE GALVANIZED STEEL PLACED IN GALVANIZED STEEL ANCHORS

SIGN POST NOTES

1. ALL SQUARE TUBE STEEL POSTS AND ANCHORS SHALL BE FORMED INTO A SIZE AND SHAPE IN SUCH A MANNER THAT NEITHER FLASH NOR WELD SHALL INTERFERE WITH THE TELESCOPING PROPERTIES, NOR DAMAGE THE GALVANIZING.
2. ANCHORS MAY BE DRIVEN OR SET INTO A DUG HOLE AND BACKFILLED. IF DRIVEN, A DRIVING CAP SHALL BE USED. THE DUG HOLE INSTALLATION METHOD SHALL BE UTILIZED IN AREAS WITH POOR SOIL CONDITIONS OR AS DIRECTED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED AS DIRECTED BY THE ENGINEER.
3. THE TOPS OF SIGN POSTS SHALL BE AT OR NEAR THE TOP OF SIGN. THE POST SHALL NOT EXTEND ABOVE THE TOP OF SIGN.
4. SIGN POSTS SHALL BE INSTALLED A MINIMUM OF ONE FOOT BELOW GROUND, INSIDE THE ANCHOR. THE LENGTH OF ANCHOR EXPOSED ABOVE GROUND SHALL NOT EXCEED FOUR INCHES.

CONSTRUCTION STAKEOUT NOTES

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

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

AS-BUILT (RECORD) DRAWINGS

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.

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-XX (date). (for example, an as-built waterline topo shot shall be on a layer titled (AB-SHOT-01-08-08).

3. 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 plans. Stormwater collection pipes for footing drains or underdrains must be survey located and included in the Record Drawing.

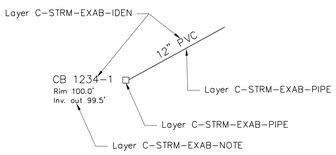
Utility	Horizontal Tolerance	Vertical Tolerance
Storm manhole/cb – rims/inverts/sumps Storm cleanout – invert Storm pipe – change slope/bend Storm pipe – building invert	1'	0.1'
Sanitary manhole – rims/inverts Sanitary cleanout – invert Sanitary pipe – change slope/bend Sanitary pipe – building invert	1'	0.1'
Water pipe – top pipe (every 36' max) Water pipe – building invert Water bends/tees/reducers/fittings/valves – top pipe	1'	0.1'
PBX – top concrete (every 36' max.) PBX – trench x-section (number and type conduit, encasement detail, conduit length, run direction) PBX manhole – rim, inverts, sump	1'	0.1'
Electric-Primary – change slope/bend Electric-Primary – top concrete (every 36' max.) Electric-Primary – trench x-section (number and type conduit, encasement detail)	1'	0.1'
Electric-Secondary – change slope/bend Electric-Secondary – top concrete (every 36' max.) Electric-Secondary – trench x-section (number and type, encasement detail)	1'	0.1'
Gas – top pipe (every 36' max.) Gas – tees/valves – top pipe	1'	0.1'
Steam/Condensate – all piping – top pipe (every 36' max.) Steam/Condensate – top concrete Steam/Chilled Water manholes – rim/inverts/sump Steam – expansion loops – at bends – top pipe	1'	0.1'
Chilled Water – all piping – top pipe (every 36' max.) Chilled Water – change slope/bend Chilled Water – top concrete protection slab	1'	0.1'
Fuel Oil – all piping – top pipe (every 36' max.) Fuel Oil – change slope/bend Fuel Tank – rim, invert, sump	1'	0.1'
Other – Contractor shall be responsible for locating and identifying all existing utilities that are exposed in the process of installing new utilities.	1'	0.1'

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.

ACAD Layer Naming Convention

X–XXXX–XXXX– XXXX
| | | | Identifier
| | | Minor Group
| | Major Group
Discipline Code

Discipline Codes:
B – Background (x-ref) (by WM Group only)
C – Civil
E – Electrical
M – Mechanical
S – Site
T – Telecommunications
U – Controls
X – Other



DRAFTING EXAMPLE

Major Group Codes:
B – Background (x-ref) (by WM Group only)
BASE Roads, parking lots, walks, general
BLDG Building

C – Civil
NGAS Natural Gas
SSWR Sanitary Sewer
STRM Storm Sewer
WATR Domestic Water

E – Electrical
PPOW Primary Power Distribution
SPOW Secondary Power Distribution
EPOW Emergency Power
LITE Lighting

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

C) Minor Group Codes:
IDEN Street names, etc.
PKNG Parking Spaces
WATER Streams, Ponds (Spear St. Only)
UVM1 UVM building
NUVM Non UVM building
EXAP Existing Approximate (Typical for all Utilities)
EXAP Existing "AS-BUILT" (Typical for all Utilities)

UTILITY	IDENTIFIER	COLOR CODE
STORM WATER	STRM	47
SANITARY SEWER	SSWR	94
NATURAL GAS	NGAS	20
WATER	WATR	170
STEAM/CONDENSATE	HPS,LPS PCR,HPR	10
CHILLED WATER	CHW,CW	130
FUEL OIL PIPING/TANKS	FO	210
PRIMARY POWER DISTRIB.	PPOW	10
SECONDARY POWER DISTRIB.	SPOW	10
EMERGENCY POWER	EPOW	210
LIGHTING	LITE	130
EMERGENCY COMMUNICATION	EMCM	170
BUILDING CONTROLS	BC	94
SECURITY/FIRE	SEC	90
PBX	PBX	20
COGEN CONDUITS	COG	48
TELEPHONE	TELE	130

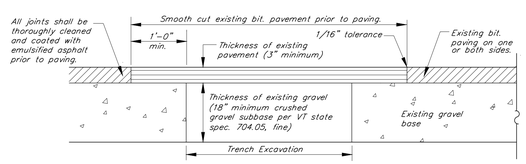
Identifier Codes:
PIPE Pipe (Actual pipe either active or abandoned)
CNDT Conduit (Actual conduit/bank either active or abandoned)
IDEN Identification (Manhole/pipe/conduit labels)
NOTE Notes (Notes as required – 1"=30' scale)
HTCH Hatching (UVM & non-UVM building hatching) (Background ONLY)

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

2.) ACAD Standards

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
(examples) 8"HPS
EXISTING – ABANDONED:
LINETYPE: DASHED2
LINETYPE SCALE: 0.35
(examples) 4"NG-abon
W=0.01"
1/2"=W=.08pt



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

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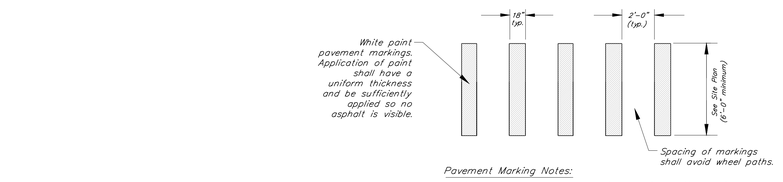

Pavement Marking Notes:
1. All markings shall meet the requirements for the Manual of Uniform Traffic Control Devices (section 3B.17) and Vermont Pavement Marking Placing Guidelines.
2. Painted crosswalk markings shall be reflective white non-chlorinated water based paint (Hydraphast Waterborne Traffic Paint) by Franklin Paint Company, or approved equal.

Crosswalk Pavement Marking Detail

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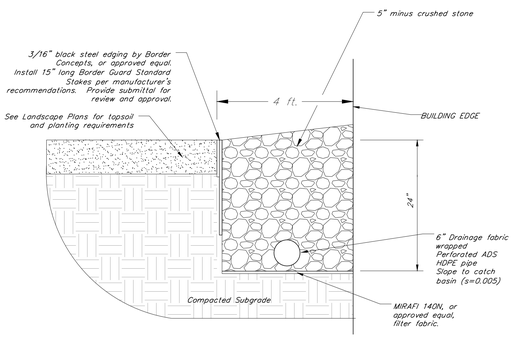
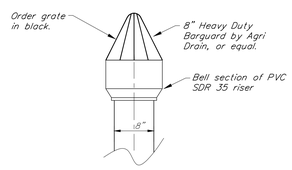


Stone Drip Edge



Yard Drain Cover Detail

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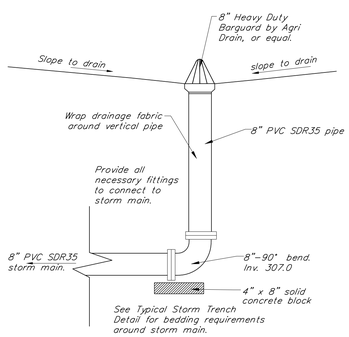

Yard Drain Detail

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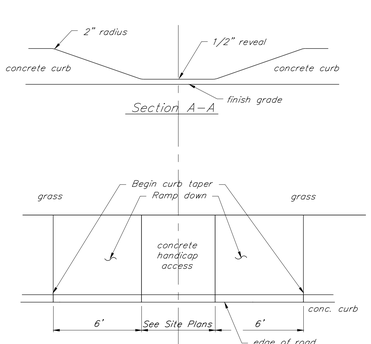
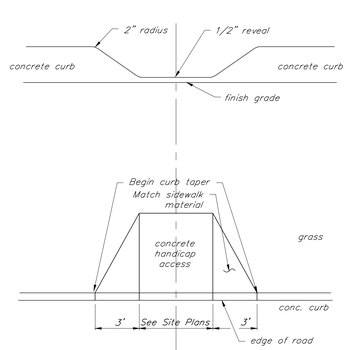


Concrete Curb Taper – 6'

N.T.S.



Concrete Curb Taper – 3'

N.T.S.

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(802) 878-0375

Wagner Hodgson
Landscape Architecture
7 Marble Avenue
Burlington, VT 05401
(802) 864-0010

Howe Engineers
Code Consultant
101 Longwater Circle Suite 203
Norwell, MA 02061
(781) 878-3500

The Sextant Group
Tel-Data Consultant
292 Newbury Street, Suite 327
Boston, MA 02115
(617) 933-9229

Slade Engineering
Associate Mechanical Engineer
18 Clarendon Avenue
Montpelier, VT 05602
(802) 777-3198

Pearson and Associates
Associate Electrical Engineer
174 Thomas Lane
Stowe, VT 05672
(802) 253-9607

NOT FOR CONSTRUCTION

No.	Description	Date
-	Burlington DRB Set	12 APR
-	DD Pricing Set	23 MAR
-	DD Progress Set	02 MAR
-	Supplemental SD Set	03 NOV
-	SD Pricing Set	25 AUG

N

KEY PLAN

Drawing Title:

CIVIL DETAILS

Project No.: 005353.00 Checked by:

C0604

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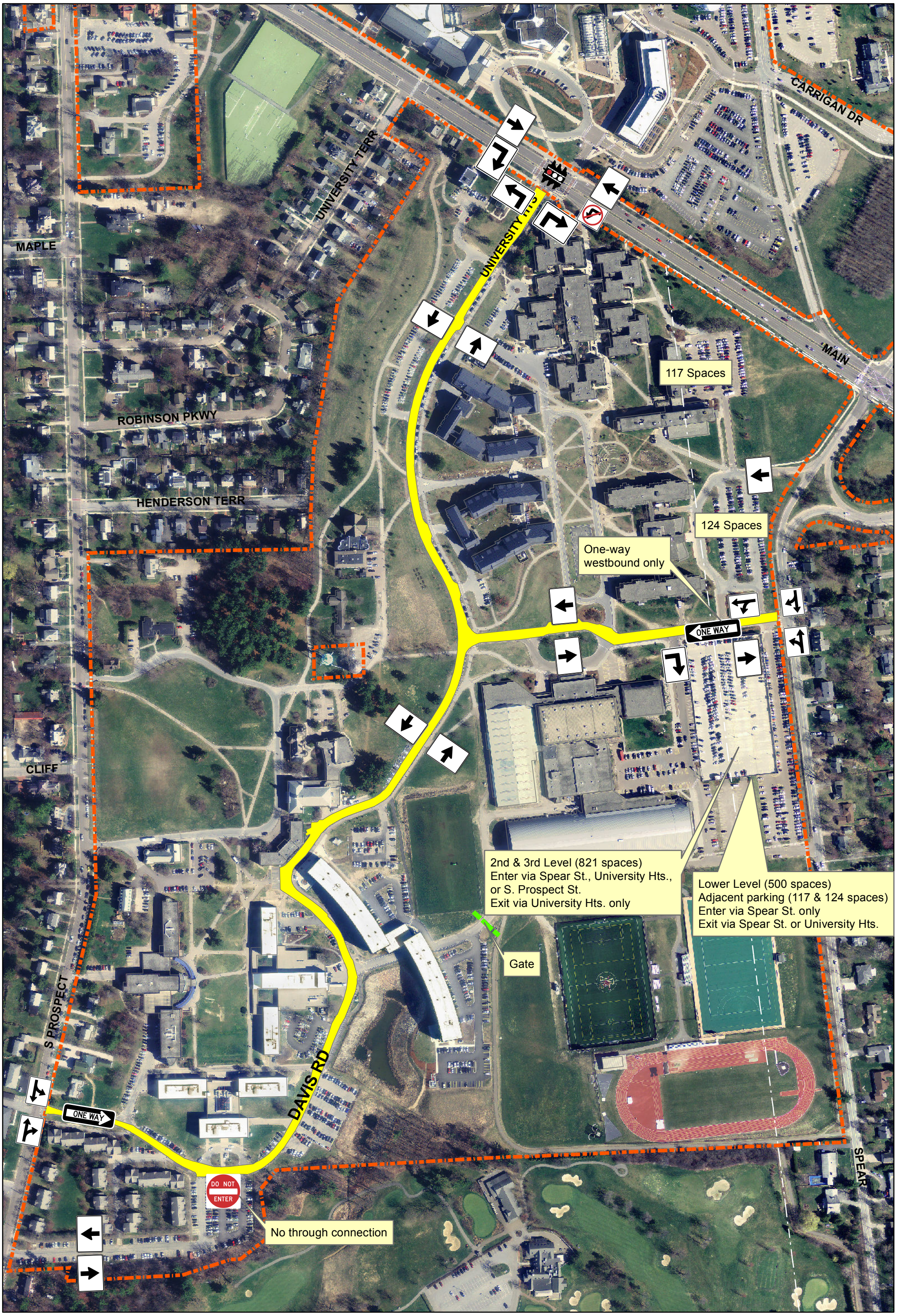


UVM MAIN CAMPUS

UVM_BOUNDARY (APPROXIMATE)

0 100 200 400 600 800 Feet

N

Map Produced by UVM Campus Planning Services
Orthophotography: 2013 CCRPC 15cm; Fugro Earthdata, Inc.

Date Saved: 3/2/2017 1:55:05 PM

Document Path: S:\cps\GIS DATA\MXD PROJECTS\ATHLETIC DISTRICT\20170302_SOUTH OF MAIN CIRCULATION.mxd

landscapeforms®

TWIG

Product Data Sheet

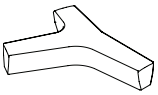
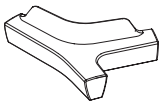
Twig is a modular bench system made of reinforced concrete. The freestanding three-armed pieces create branch-like formations, and the gently curved back offers a comfortable resting point. A series of joined benches become meeting places in public spaces or borders that connect paved and green spaces.

Bench

- TWIG is a modular bench made of reinforced cast stone.
- Bench is available backed or backless.
- TWIG's weight allows for a freestanding installation.
- TWIG is offered in acid-etched/waterproofed finish, and comes in Grey, Black, White, and Beige.

Material

- Reinforced Cast Stone is cast stone that is poured and cast over a stainless steel bar cage built to fit within the walls of the mold.
- Reinforced Cast Stone makes it possible to cast thinner, irregularly shaped forms while retaining appropriate strength.
- The colors of Escofet cast stone products are neutral, muted and earth-toned and are derived from the aggregates used in casting.
- No color is added in manufacture and no color is applied to finished products.
- The color range of every Escofet cast stone product is predetermined by the formulation used in its manufacture.
- Cast stone products do not require any specific maintenance during their estimated lifespan of more than 30 years. Water absorption and freeze-thaw cycles can cause weathering, a reproduction of the process that takes place in natural rock.
- Escofet applies a waterproof finish to its products to protect against this process.
- Escofet cast stone products are large and heavy.
- Shipping, receiving,staging and installing these pieces is more akin to handling large statuary or pre-fabricated architectural elements.
- See installation guide for important information.

	DEPTH	LEGHTH	HEIGHT	PRODUCT WEIGHT
	76"	93"	18"	3,850 lb
	76"	76"	31"	4,188 lb

Landscape Forms, Inc. | 800.521.2546 | F 269.381.3455 | 7800 E. Michigan Ave., Kalamazoo, MI 49048

landscapeforms®

TWIG

Product Data Sheet

Product Warranty

- ESCOFET warrants the durability of its product to Landscape Forms for a period of five (5) years from the date of invoice.
- The warranty covers the repair or replacement of the product or components at no charge.
- Notwithstanding, this warranty does not cover damages to ESCOFET products resulting from unloading; handling; installation; abuse; exposure to paint, liquids or corrosives; or any other damage not attributable to ESCOFET.
- The warranty shall also be void if ESCOFET products are tampered with, handled, removed or modified by persons not authorized by ESCOFET; or if the product has not been properly maintained by the customer.

To Specify

- To order, specify TWIG, backed or backless, and standard color.
- Benches are freestanding.
- See materials/color sheet for Escofet's standard color options.

Designed by Alexander Lotersztain

Visit landscapeforms.com for more information. Specifications are subject to change without notice.
Landscape Forms supports the Landscape Architecture Foundation at the Second Century level.
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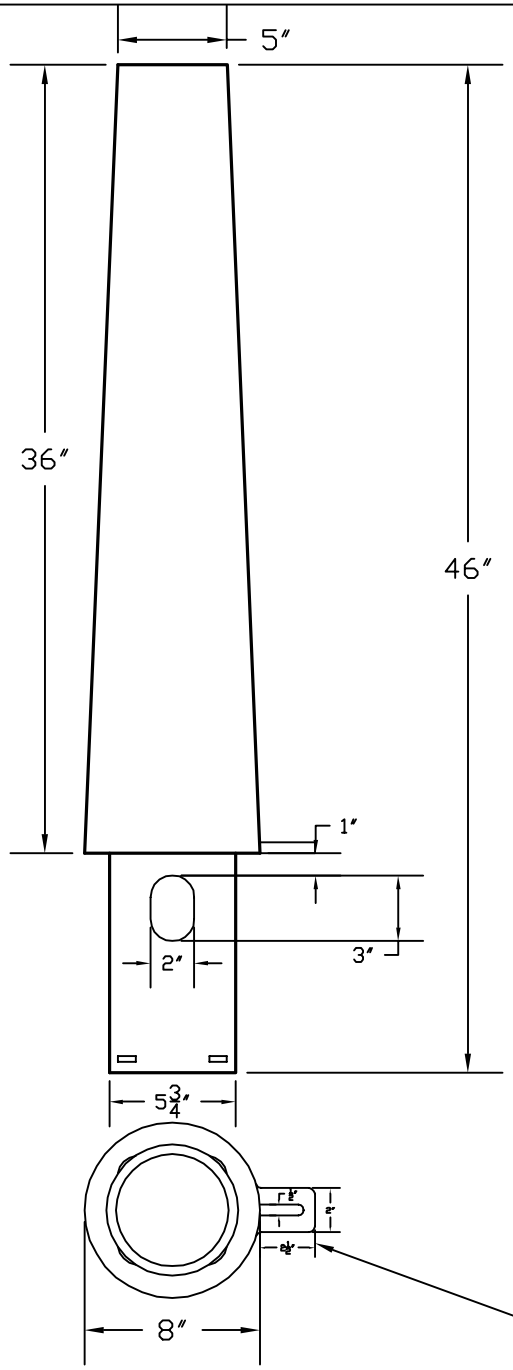

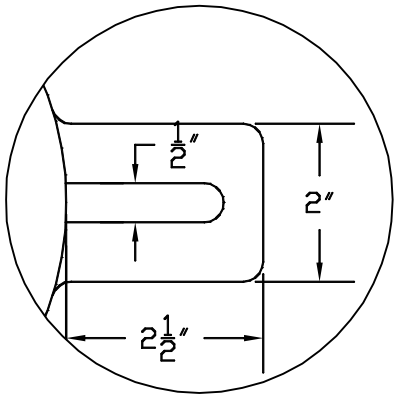

optional lock tab for removable bollards

9020
METRO
Bollard

Hollow cast bollard with 7/16" minimum wall thickness.

Available in cast gray iron or cast aluminum

Bollard has option for lock tab for use with Ironsmith Receiver to allow removal.

Finish: Can be provided finished to designer specifications

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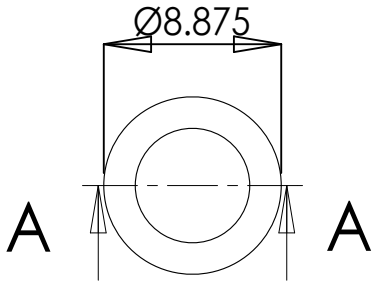
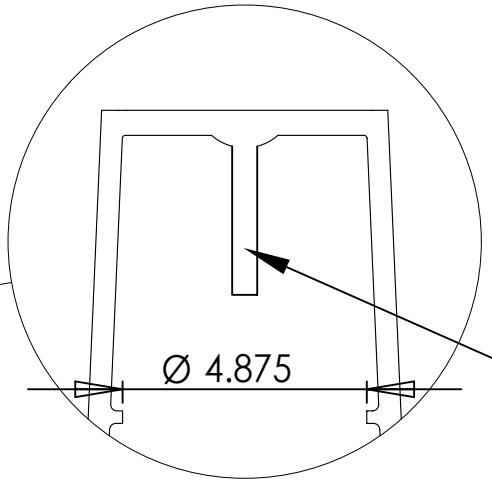
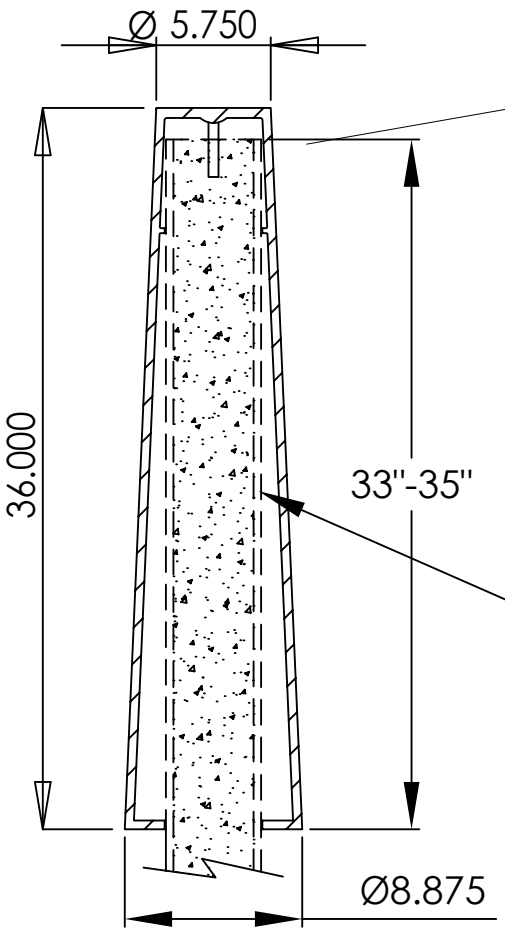
IRONSMITH
41-701 Corporate Way #3
Palm Desert, CA 92260
(800) 338-4766
(760) 776-5080 Fax



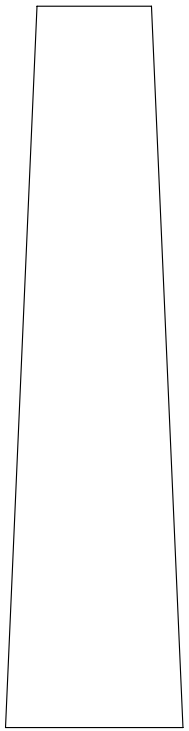
DETAIL B
SCALE 1 : 4



1/2" rebar to be embedded in concrete filled pipe.



4" Concrete Filled Pipe (Not Included)



SECTION A-A

9020-4C

Metro Cap Bollard

For installation over concrete filled 4" Pipe.

Cast from Gray Iron, Aluminum, or Bronze. Made from 100% Recycled Materials.

33" Minimum / 35" Maximum Pipe Height above grade

Finish: Unfinished, or
Black Dip, or
Enamel Paint, or
Polyurethane Paint, or
Powder Coat.
Zinc undercoat available.

Specify finish and color.

Weight:
Iron= 100 Lb/ 45.6 Kg
Aluminum= 38 Lb/ 17.3Kg

DO NOT SCALE DRAWING

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41-701 Corporate Way #3
Palm Desert, CA 92260
(800) 338-4766
(760) 776-5080 Fax

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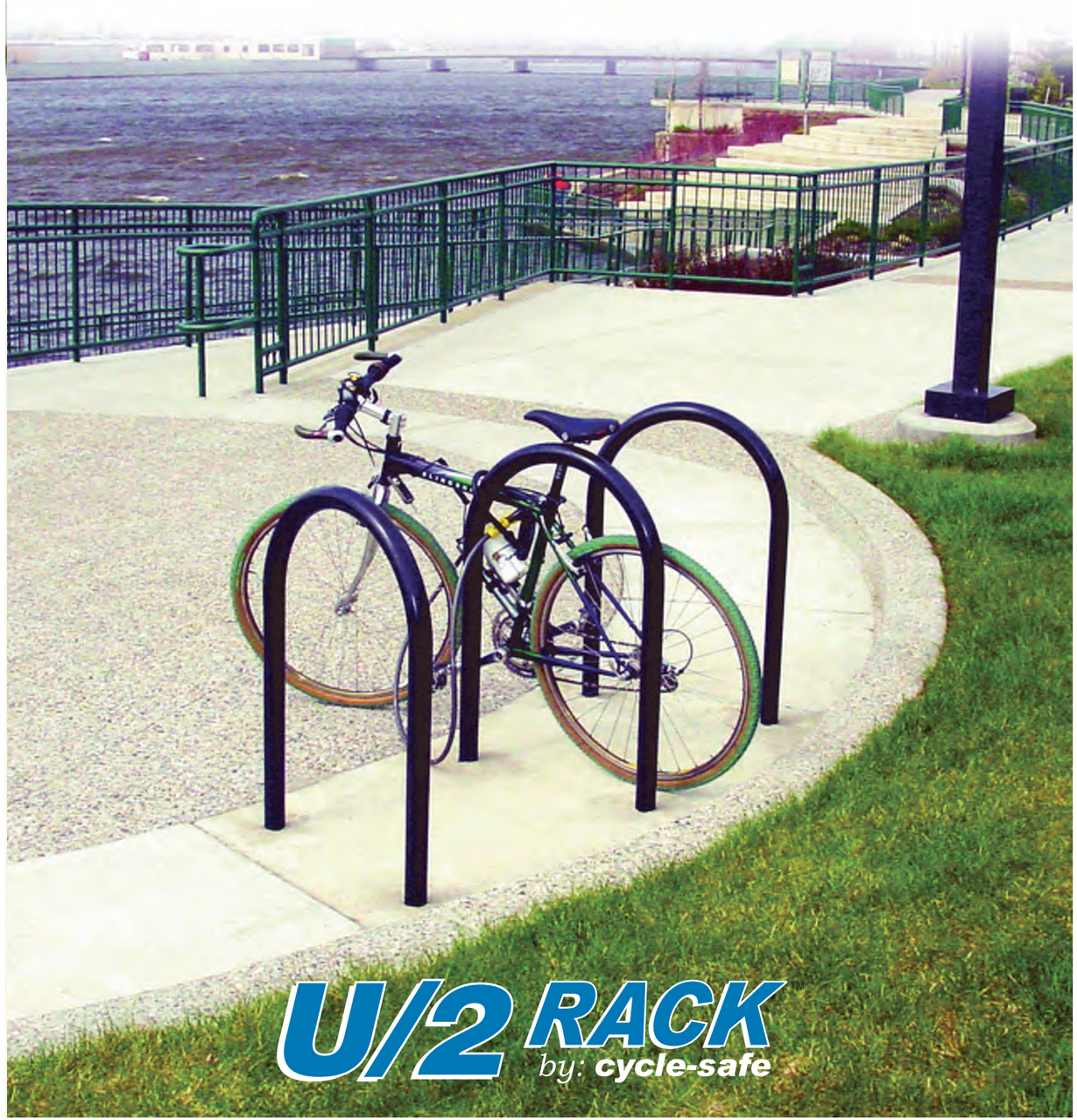
CycleSafe®

SECURE BICYCLE PARKING

Cycle-Safe Maintenance-Free U/2™ Bike Racks



U/2 RACK™ by: cycle-safe

Durable and Maintenance-Free

Cycle-Safe® inverted U/2 bicycle racks provide leading edge coating technology and offer the best solution for short-term bicycle parking. The one-bend bike rack design accommodates two bicycles per rack and is widely regarded as the recommended standard for space efficiency and bicycle protection. Cycle-Safe bike racks are completely coated with a thick, rubberized plastisol coating over schedule 40 steel pipe for maximum corrosion resistance, impact resistance, and protection of bicycle finish. This combination has proven to resist rust, scratches and dents better than any other finish.

Superior Design for Better Safety

Cycle-Safe U/2 racks provide lean to support with more stability for the bicycle frame than front wheel holders or ribbon type racks which do not support the bike frame in two places. The clean lines of the One-Bend inverted-U rack design are safer for pedestrian traffic with bikes parked securely in a uniform fashion. U/2 racks accommodate more bicycles per square foot to increase bike parking capacity. Bicycle racks are typically installed directly into a slab which results in additional strength and permanence to bolster user confidence. Bicycle frame should be secured to the rack with a standard U lock for optimal security.

Aesthetically Pleasing

The Cycle-Safe U/2 rack is symmetrically designed to resemble the commonly used “U” locks and are aesthetically pleasing to blend with any environment. All racks leave the bicycle vulnerable to theft of components and vandalism, bike lockers are the preferred choice for protection and security. Coating performance of all metal racks vary widely, the best long term solution is a thick jacketed plastisol coating as provided by Cycle-Safe. Our standard U/2 rack finish is a black plastisol coating, or TGIC polyester powder coat finishes are available in a variety of custom colors. Cycle Safe offers the best finishes that maintain quality that an owner can depend on for years.

In-ground Installation

Model	M U/2 In Ground	U/2 W/Cross Bar
U/2	12700G	12700GB

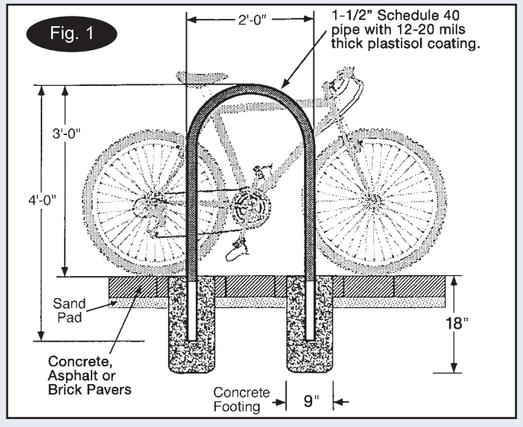
Inverted U/2 Rack, IN-GROUND/ 2 Bicycle Capacity

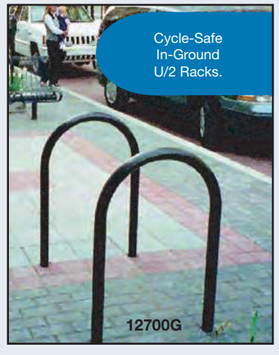
Recommended installation methods for in-ground style rack: If installing on existing concrete, Cycle-Safe® U/2 Bike Racks can be anchored with a non-shrink grout poured into a 4” or 6” diameter by 12” deep core drilled holes. In-ground installations for new improved surfaces 9” Sonotube forms can be put in place to create 18” footings. U/2 inverted-U racks come in optional square pipe or in two-bend configurations.

Download Specifications & Images at
www.cyclesafe.com

In-ground Installation

This is the standard for new construction and the most secure type of inverted-U installation. Existing concrete surface may be core drilled with a 3”-4” hole saw and filled with quikcrete or a construction adhesive.





Surface Mount Installation

Model	U/2 Surface	U/2 W/Cross Bar
U/2	12700S	12700SB

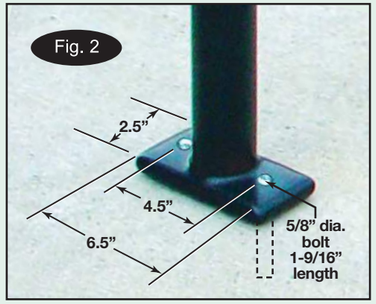


Fig. 3

3/8” SS drop in anchor for 3/8” x 1” SS anchor bolt

Drop in Anchor

Inverted U/2 Rack, SURFACE-MOUNT / 2 Bicycle Capacity

Recommended Installation:

Cycle-Safe Surface mount U/2 Bike Racks can be anchored with tamper resistant concrete anchor screws and a Drop in anchor system (figure 3). All inverted-U racks come with optional square pipe.

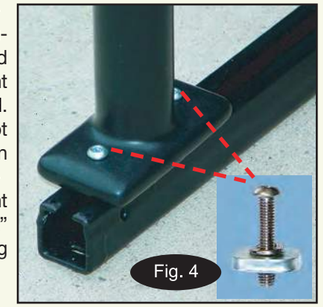
Rail-Mount Installation

Model	Six foot C-Rails
U/2 Rail	12700SR

NOTE: The Rails and Surface-Mount (12700S) inverted-U racks are included.

Inverted U/2 Rack, RAIL-MOUNT / 2 Bicycle Capacity

The Cycle-Safe Rail-Mount inverted-U modular design can be placed in areas where permanent anchoring is not desired. Simply use the 6 foot C-rail and place racks on top, securing with supplied tamper resistant hardware, 3/8” x 1-1/2” SS screw with clamping nut. (see fig. 4)



Rail-Mount Inverted-U/2 Rack

The Rail-Mount inverted-U option creates a portable rack system. It can be placed at any location and moved for cleaning snow or debris. This versatile rack system can be furnished with additional rails to create longer rows. Rails can be anchored with tamper resistant concrete anchor systems. (see fig. 3)

The Rail-Mount option can be used with standard one-bend, Vintage Rack styles, two-bend or optional square pipe models.

U/2 Square In Ground	U/2 Square Surface
12810G	12810S

Cycle-Safe Maintenance-Free U/2 Bike Racks

Cycle-Safe U/2 Racks Are The Standard:

Cycle-Safe bicycle racks are designed to provide safety for users and to fit into any urban environment. The Cycle-Safe engineering team has developed three variations for installation to accommodate your needs: In-ground, Surface-Mount, or Rail-Mount.

How to Specify Bike Racks

Bicycle rack part (indicate model and installation type), as manufactured by Cycle-Safe, Inc.

- 1-1/2" SCHD. 40 PIPE (2" O. D.), bent in the shape of an inverted "U" to a 24" outside radius of standing 36" high.
- Coating to be black plastisol rubberized applying 12-20 mils thick jacket.
- Standard Color-Black
- Texture-regular grain
- Gloss-semi-gloss (optional textured)
- Tensile Strength-1800 PSI min.
- Resistance to abrasion
- Salt Spray Resistance to >2000 hours
- Hardness (Shore D) ASTMD 2240 – Results 52
- Custom colors available with TGIC polyester powder coat finishes upon request
- Installation Options: In-ground (G), Surface-Mount (S), Rail-Mount (R)

Visit our Web site for information and images...
www.cyclesafe.com

Download complete specifications for each rack in Word format.

MEMBER SINCE 2000

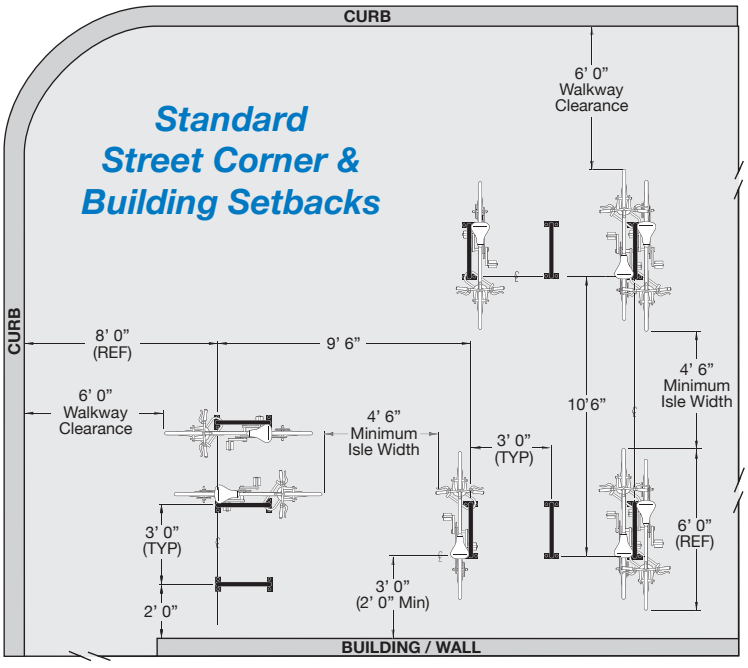
MADE IN U.S.A.

Cycle-Safe also manufacturers bike lockers and a wide range of bicycle locker accessories.
Please call or visit our web site for details. www.cyclesafe.com

Installation Layouts & Space Requirements:

Based on recommendations from the Association of Pedestrian and Bicycle Professionals and over 26 years in the bike parking industry, the following diagrams show typical configurations and space allowances for installations of multiple bike racks.

The minimum space between each rack is 3'0", more if possible to allow for ease of access. Aisles separate the rows of racks, with a minimum between aisles to be 4'-6", to allow for one person to walk one bike. In high traffic areas, the recommended aisle width is 6'-0". Aisle widths are measured tip to tip of bike tires between the rows of racks. Six feet should be allowed for each row of parked bicycles. Conventional upright bicycles are just less than 72 inches long, with handlebar widths varying from 22"-27" and can be easily accommodated with these recommended spacings.



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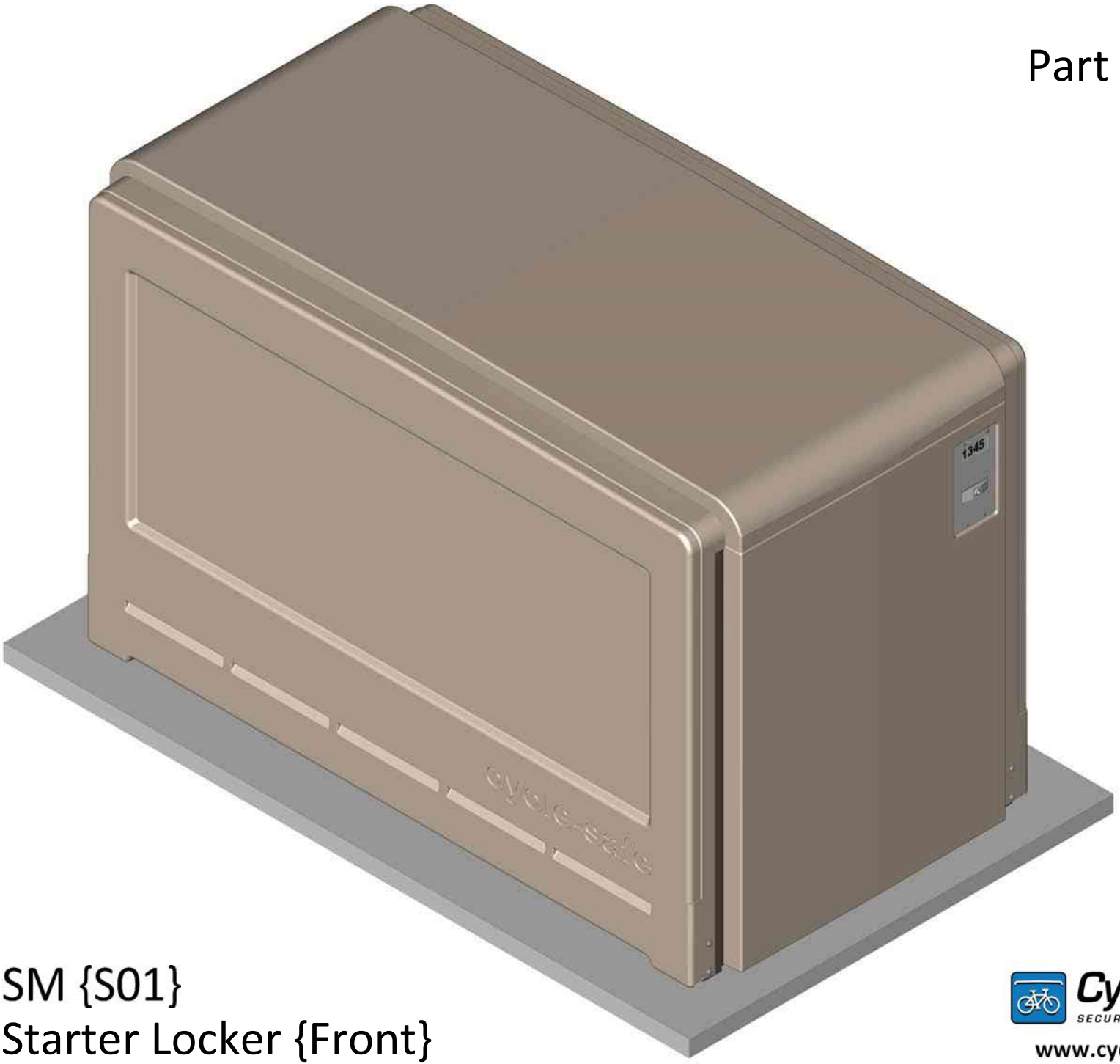
LR4.1.001-C 10.25.17

CycleSafe®
SECURE BICYCLE PARKING

info@cyclesafe.com
www.cyclesafe.com
TF (888) 950-6531
P (616) 954-9977
F (616) 954-0290

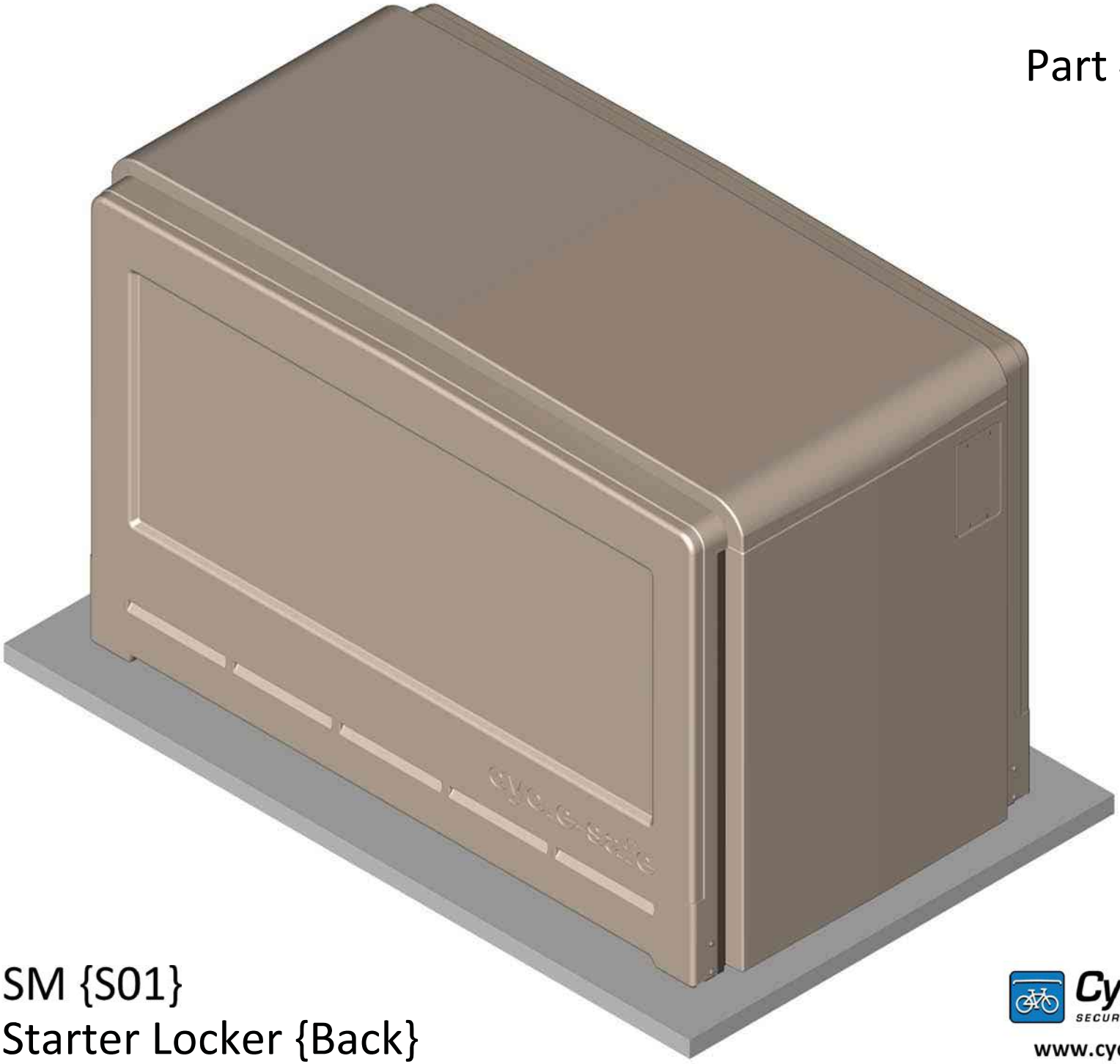
Part #10017



ProPark SM {S01}
{1-Bike} Starter Locker {Front}

CycleSafe
SECURE BICYCLE PARKING
www.cyclesafe.com

Part #10017



ProPark SM {S01}
{1-Bike} Starter Locker {Back}

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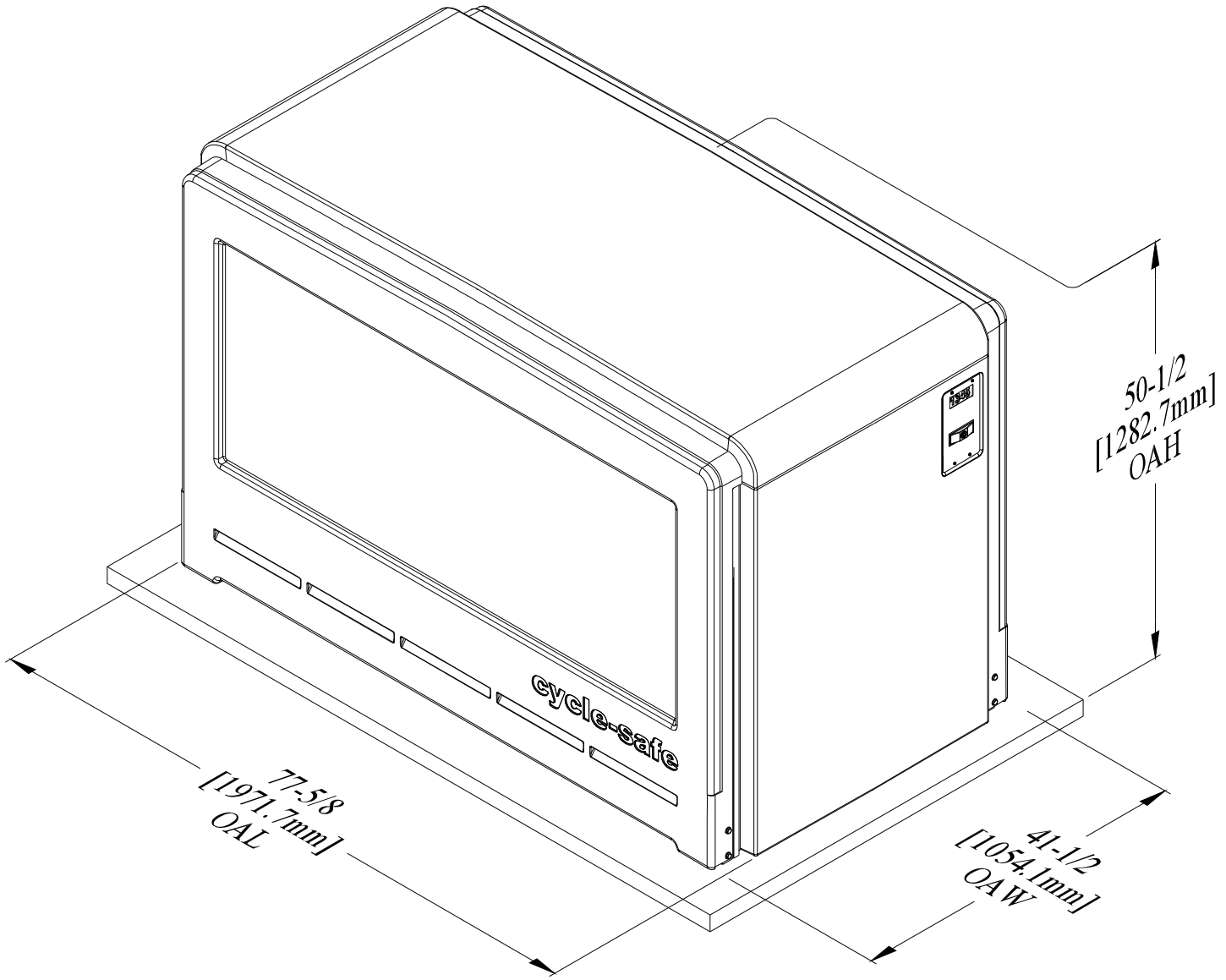
Part #10017



ProPark SM {S01}
{1-Bike} Starter Locker {Dims}

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Part #10017

ProPark SM {S01}
{1-Bike} Starter Locker {Open}

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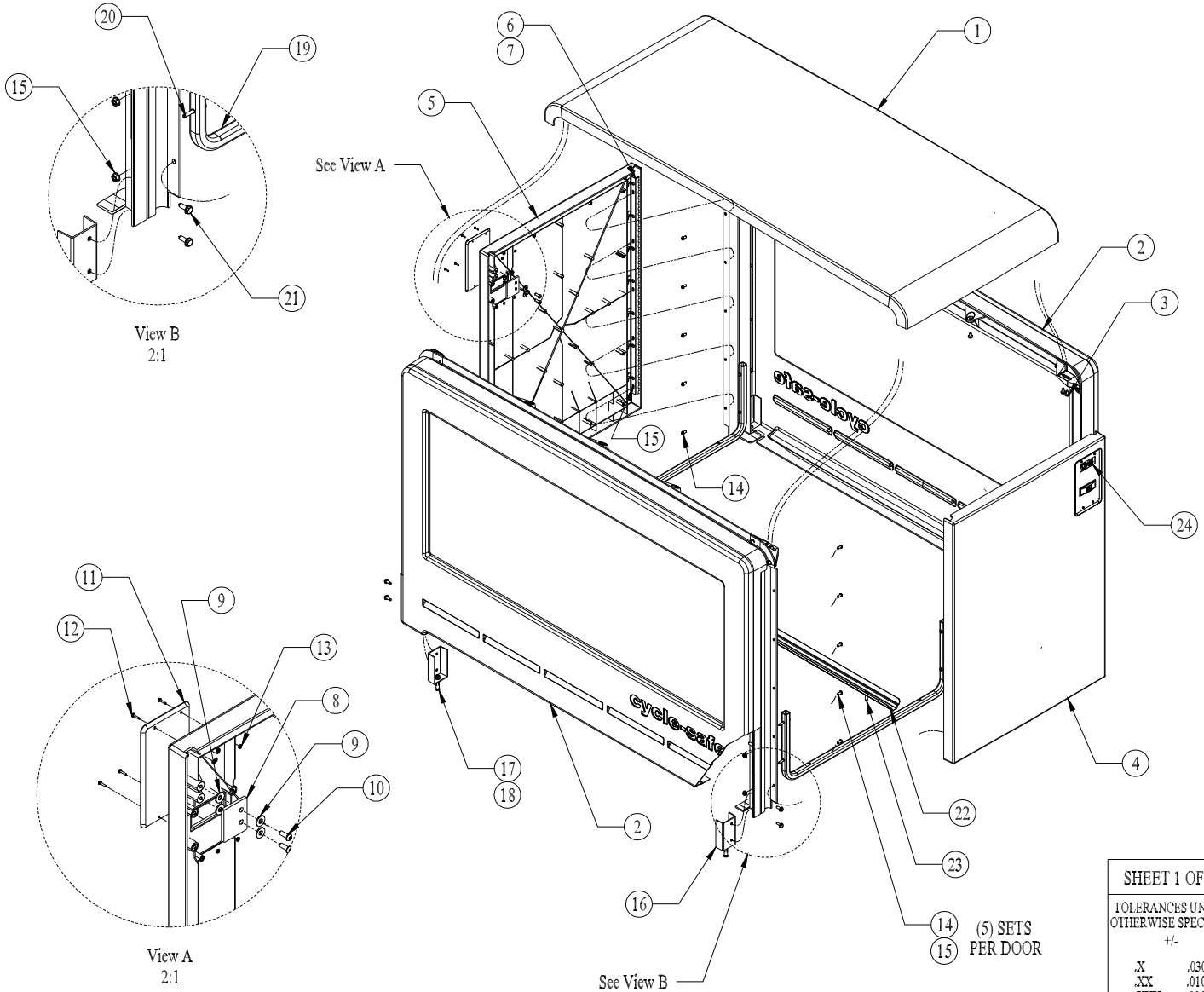
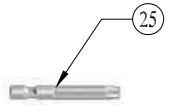


ITEM	QTY	DESCRIPTION	PART NO.
1	1	TOP PANEL	10301
2	2	END PANEL {STANDARD}	10960
3	14	5/16"-18NC x 1-1/4" LG. SHIMS	10222
4	1	DOOR {LOWER} ASSEMBLY {STANDARD}	10701
5	1	DOOR {LOWER} PANEL {STANDARD}	10700
6	1	HINGE ASSEMBLY	10706
7	7	1/4-10NC x 1/2" PHILLIPS PAN HEAD SCREW	10705
8	2	STATIONARY LATCH	10742
9	8	7/16" ID x 15/16" OD S/S FLAT WASHER	10832
10	4	5/16-18NC x 2" FLANGE HEAD SCREW {ZINC}	10833
11	1	DOOR {THICK} COVER PLATE	11702
12	4	3/16" x 3/8" x 1/2" LG. S/S POP RIVET	10928
13	4	3/16" S/S FLAT WASHER	10929
14	10	5/16-18NC x 3/4" LG. HHCS {ZINC}	10219
15	18	5-16-18NC WHIZ NUT {ZINC}	10304
16	4	LEVELING PLATE	10216
17	4	3/8-16NC x 1-7/8" ANCHOR BOLT	10211
18	4	3/8" S/S FLAT WASHER	10909
19	2	INTERIOR DOOR SUPPORT	10755
20	8	5/16-18NC x 2" LG. HHCS {ZINC}	11106
21	8	1/4-20NC x 1-1/4" LG. SELF-TAPPING SCREW	10217
22	1	BIKE TRACK	10410
23	3	3/8-16NC LAG BOLT ASSEMBLY	10415
24	1	NUMBER PLATE	10703
25	1	T40 ~ TORX BIT	10801

NOTES:

1. ALL MATERIALS MUST BE CLEAN AND FREE OF MILL LUBRICATION
2. ANY BLEMISHES OR RUST WILL NOT BE ALLOWED ON COMPLETED PRODUCTS



SHEET 1 OF 1

TOLERANCES UNLESS OTHERWISE SPECIFIED:
+/-
.X .030
.XX .010
.XXX .005
ANGLE 1/2°

REV	DESCRIPTION	DATE
A	RELEASE FOR PRODUCTION	08/31/11

PROPARK ~ SM {S01} {SINGLE-SIDED} LOCKER

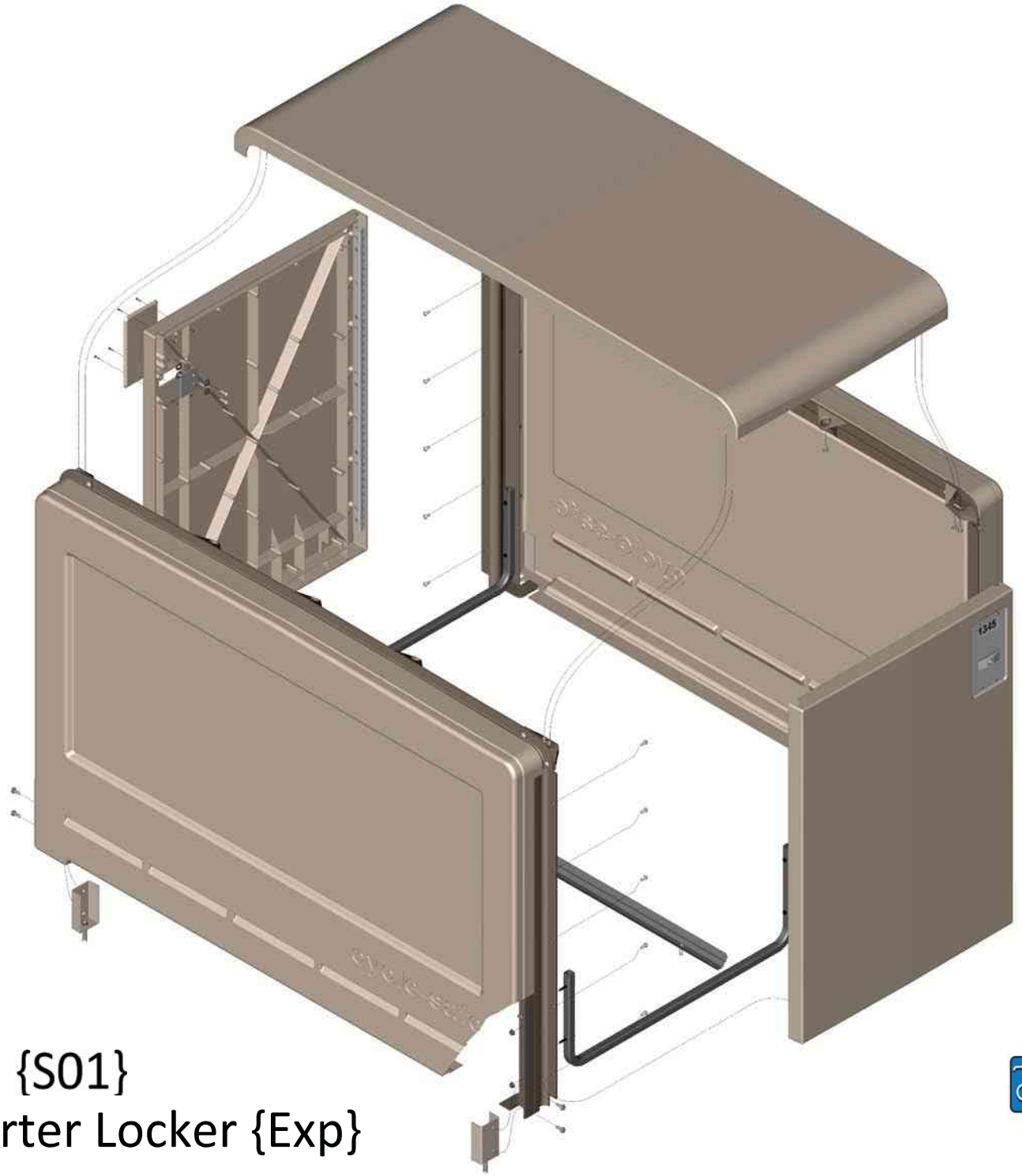
R.E.S.	08/29/11
R.E.S.	06/07/11
APPROVED	DATE

Cycle Safe
947 FOREST HILL AVE
GRAND RAPIDS, MI 49546
www.cyclesafe.com

SIZE			REV
D	{SM} LOCKER {LOWER} TIER ASSEMBLY	10017	A

10017 - {SM} LOCKER {SINGLE-SIDED} ASSEMBLY

Part #10017



ProPark SM {S01}
{1-Bike} Starter Locker {Exp}

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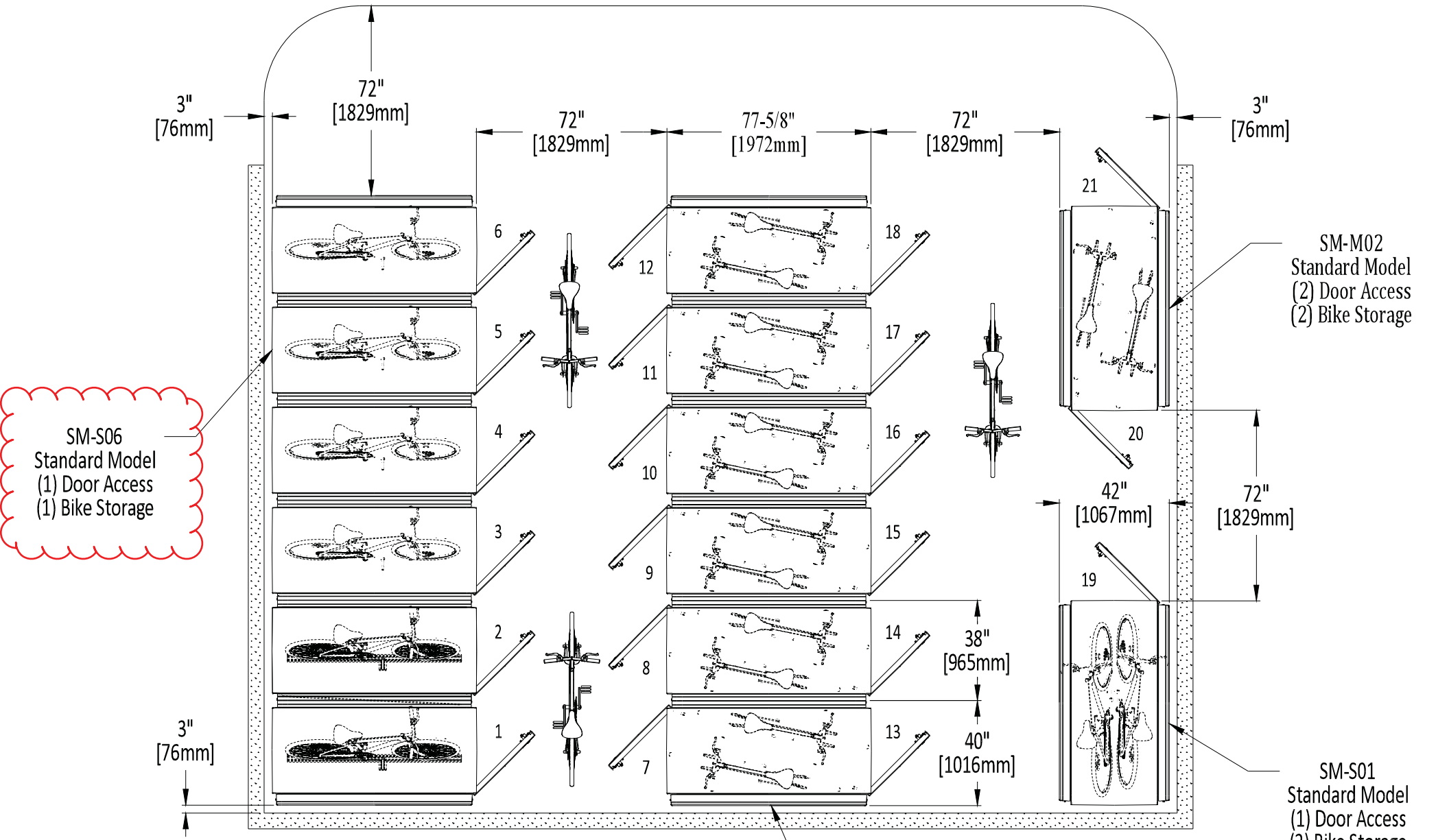

ProPark {Locker} Layout
Clearances & Capacities

CycleSafe
SECURE BICYCLE PARKING
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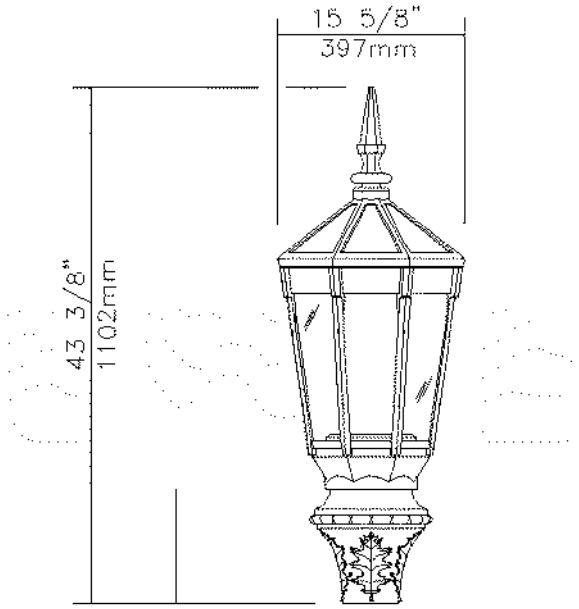
Burlington UVM HSRF (29810)



EPA: 2.7 sq ft / weight: 48 lb (21.8 kg)
Note: 3D image may not represent color or option selected.
Logos above include link, click to access.

		Type	**PL1**
Qty	**8**	Luminaire	**[L70-001]-65W48LED4K-ES-PC-FC-LE3-277-SFO-GN8TX**

Description of Components:

Finial: Decorative cast 356 aluminum, mechanically assembled.

Hood: In an octogonal tapered shape, this hood is made of a one-piece cast 356 aluminum mechanically assembled to the luminaire.

Guard: In a octogonal tapered shape, this guard is a one-piece cast 356 aluminum mechanically assembled to the fitter.

Access-Mechanism: Two-integrated hinges on hood with stopper and a captive screw shall offer access to the inside of the luminaire and to the lamp. An embedded memory-retentive gasket shall ensure weatherproofing.

Light Engine: LifeLED™ composed of 3 main components: **LED lamp / Optical System / Heat Sink**
Electrical components are RoHS compliant.

Heat Sink: Made of cast aluminum optimising the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device)

Lens: (PC-FC), Made of frosted clear polycarbonate assembled on the guard with brackets.

Lamp: LED Module (Included), LED type Philips Lumileds Rebel ES. Composed of 30 high-performance white LEDs, 40w lamp wattage. Color temperature of 4000 Kelvin nominal, 70 CRI. Operating lifespan after which the system emits 70% of its original lumen output, all of those parameters are tested for 100% of light engines. Use of a metal core board ensures greater heat transfer and longer lifespan of the light engine.

Optical System: (LE3), IES type III (asymmetrical). Shall have an individual pre-oriented acrylic lens to achieve desired distribution. Each LED shall have a protection against shut off maintaining operation of light engine.

Driver: High power factor of 90%. Electronic driver, operating range 50/60 Hz. **Auto-adjusting to a voltage between 120 and 277 volt AC rated for both application line to line or line to neutral, Class II**, THD of 20% max. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. Certified in compliance to cULus requirement. Dry and damp location. Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221F(105C) degrees.

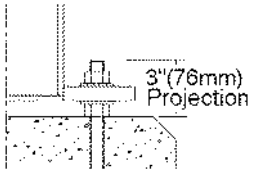
The current supplying the LEDs will be reduced by the driver if the internal driver temperature exceeds 185F(85C), as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction.

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid-State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Fitter: (SFO), Cast 356 aluminum c/w 4 set screws 3/8-16 UNC. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Burlington UVM HSRF (29810)

Base & Bolts Information



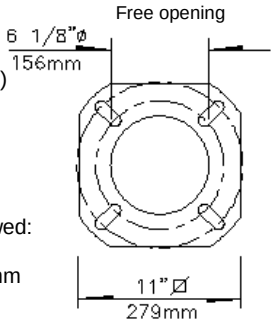
Comes with 4 steel anchor bolts, 3/4" X 17" + 3" J Type Bolts, 8 nuts and 8 washers. Important: Do not obstruct space between anchor plate and concrete base.

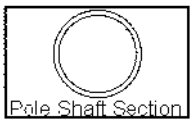
Anchor Plate

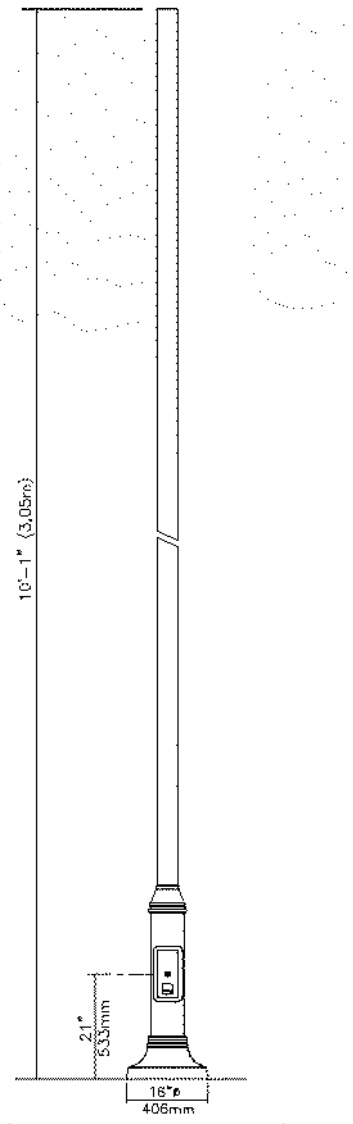
-Bolt Circle:
10 1/2" (267mm)

- Material:
Cast Aluminum

- NOTE:
Bolt Circle Allowed:
9" to 11"
229mm to 279mm







		Type	**PL1**
Qty	**8**	Pole	**AM6F-12.08-PW-VPA-GN8TX**

Description of Components:

Pole Shaft: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum tubing, having a 0.125" (3.2mm) wall thickness, welded to the pole base.

Joint Cover: Two-piece round joint cover made from cast 356 aluminum, mechanically fastened with stainless steel screws.

Pole Base: Shall be made from a 6 5/8" (168mm) round extruded 6061-T6 aluminum tubing base having a 0.135" (3.4mm) wall thickness, welded to both the bottom and top of the anchor plate.

Maintenance Opening: The pole shall have a 4 1/2" x 10" (114mm x 254mm) maintenance opening centered 21" (533mm) from the bottom of the anchor plate, complete with a weatherproof embossed aluminum cover and a copper ground lug.

Base Cover: Two piece round base cover made from cast 356 aluminum, mechanically fastened with stainless steel screws.

Pole Options: (**PW**) Wiring included without connector. Length supplied is from luminaire to the pole base with 6" (152mm) minimum exceeding from maintenance opening.
(VPA) Vandalproof screw(s), Allen-type vandalproof screw(s), with pin-in-socket tamper-resistant head.

Note: A tenon will be provided when the luminaire or bracket does not fit directly on pole shaft. Tenon not shown on the drawing.

IMPORTANT: Philips Lumec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.

Pole Weight: 21 lbs (9.5 kg)

Miscellaneous

Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, **wiring included without connector**. Length supplied is from luminaire to the pole base with 6" (152mm) minimum exceeding from maintenance opening. **Wiring will be shipped in a separate box and will be installed by others.**

Hardware: All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: Color to be **dark forest green textured (GN8TX)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

LED products manufacturing standard: The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control: The manufacturer must provide a written confirmation of its ISO 9001-2008 and ISO 14001-2004 International Quality Standards Certification.

Web site information details: Click on any specific information details you need:

Paint finish / Warranties / ISO 9001-2008 Certification / ISO 14001-2004 Certification / CSA Pole Certification

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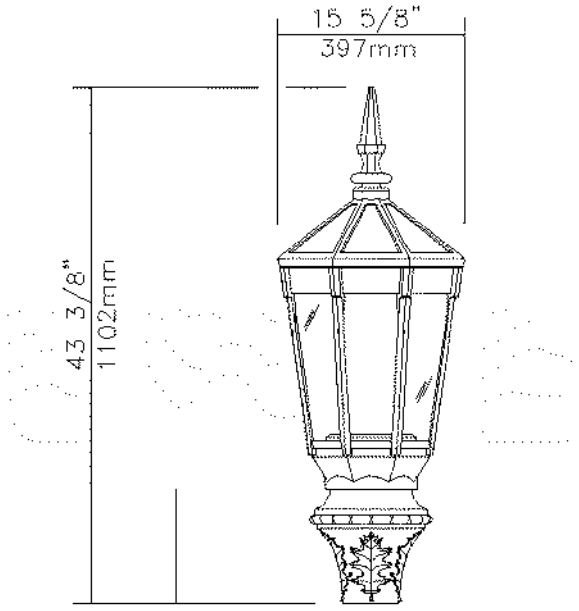
Burlington UVM HSRF (29810)



EPA: 2.7 sq ft / weight: 48 lb (21.8 kg)
Note: 3D image may not represent color or option selected.
Logos above include link, click to access.

		Type	**PL1**
Qty	**8**	Luminaire	**[L70-001]-65W48LED4K-ES-PC-FC-LE5-277-SFO-GN8TX**

Description of Components:

Finial: Decorative cast 356 aluminum, mechanically assembled.

Hood: In an octogonal tapered shape, this hood is made of a one-piece cast 356 aluminum mechanically assembled to the luminaire.

Guard: In a octogonal tapered shape, this guard is a one-piece cast 356 aluminum mechanically assembled to the fitter.

Access-Mechanism: Two-integrated hinges on hood with stopper and a captive screw shall offer access to the inside of the luminaire and to the lamp. An embedded memory-retentive gasket shall ensure weatherproofing.

Light Engine: LifeLED™ composed of 3 main components: **LED lamp / Optical System / Heat Sink**
Electrical components are RoHS compliant.

Heat Sink: Made of cast aluminum optimising the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device)

Lens: (PC-FC), Made of frosted clear polycarbonate assembled on the guard with brackets.

Lamp: LED Module (Included), LED type Philips Lumileds Rebel ES. Composed of 30 high-performance white LEDs, 40w lamp wattage. Color temperature of 4000 Kelvin nominal, 70 CRI. Operating lifespan after which the system emits 70% of its original lumen output, all of those parameters are tested for 100% of light engines. Use of a metal core board ensures greater heat transfer and longer lifespan of the light engine.

Optical System: (LE3), IES type III (asymmetrical). Shall have an individual pre-oriented acrylic lens to achieve desired distribution. Each LED shall have a protection against shut off maintaining operation of light engine.

Driver: High power factor of 90%. Electronic driver, operating range 50/60 Hz. **Auto-adjusting to a voltage between 120 and 277 volt AC rated for both application line to line or line to neutral, Class II**, THD of 20% max. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. Certified in compliance to cULus requirement. Dry and damp location. Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221F(105C) degrees.

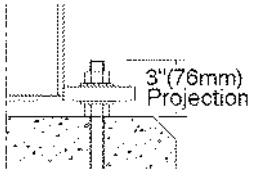
The current supplying the LEDs will be reduced by the driver if the internal driver temperature exceeds 185F(85C), as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction.

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid-State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Fitter: (SFO), Cast 356 aluminum c/w 4 set screws 3/8-16 UNC. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Burlington UVM HSRF (29810)

Base & Bolts Information



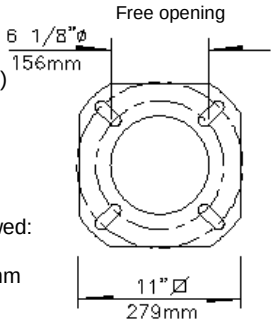
Comes with 4 steel anchor bolts, 3/4" X 17" + 3" J Type Bolts, 8 nuts and 8 washers. Important: Do not obstruct space between anchor plate and concrete base.

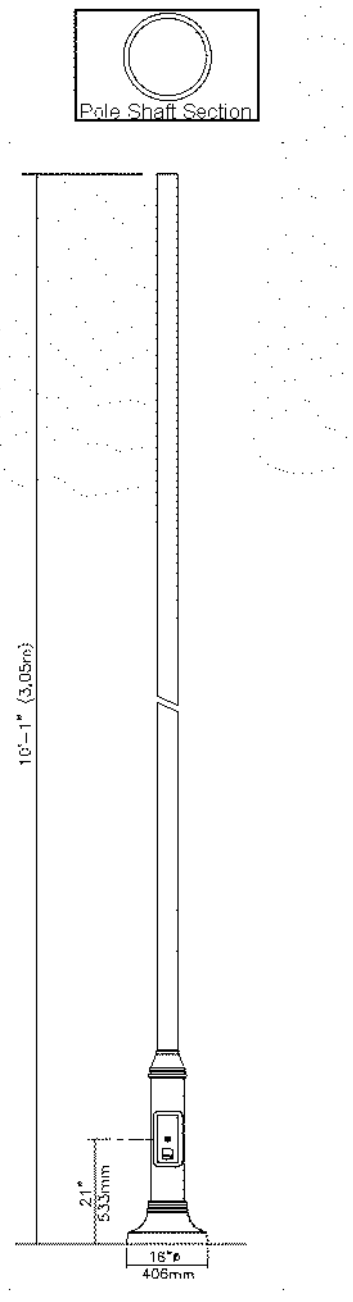
Anchor Plate

-Bolt Circle:
10 1/2" (267mm)

- Material:
Cast Aluminum

- NOTE:
Bolt Circle Allowed:
9" to 11"
229mm to 279mm





		Type	**PL1**
Qty	**8**	Pole	**AM6F-10.08-PW-VPA-GN8TX**

Description of Components:

Pole Shaft: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum tubing, having a 0.125" (3.2mm) wall thickness, welded to the pole base.

Joint Cover: Two-piece round joint cover made from cast 356 aluminum, mechanically fastened with stainless steel screws.

Pole Base: Shall be made from a 6 5/8" (168mm) round extruded 6061-T6 aluminum tubing base having a 0.135" (3.4mm) wall thickness, welded to both the bottom and top of the anchor plate.

Maintenance Opening: The pole shall have a 4 1/2" x 10" (114mm x 254mm) maintenance opening centered 21" (533mm) from the bottom of the anchor plate, complete with a weatherproof embossed aluminum cover and a copper ground lug.

Base Cover: Two piece round base cover made from cast 356 aluminum, mechanically fastened with stainless steel screws.

Pole Options: (**PW**) Wiring included without connector. Length supplied is from luminaire to the pole base with 6" (152mm) minimum exceeding from maintenance opening.
(VPA) Vandalproof screw(s), Allen-type vandalproof screw(s), with pin-in-socket tamper-resistant head.

Note: A tenon will be provided when the luminaire or bracket does not fit directly on pole shaft. Tenon not shown on the drawing.

IMPORTANT: Philips Lumec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.

Pole Weight: 21 lbs (9.5 kg)

Miscellaneous

Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, **wiring included without connector**. Length supplied is from luminaire to the pole base with 6" (152mm) minimum exceeding from maintenance opening. **Wiring will be shipped in a separate box and will be installed by others.**

Hardware: All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: Color to be **dark forest green textured (GN8TX)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

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PHILIPS
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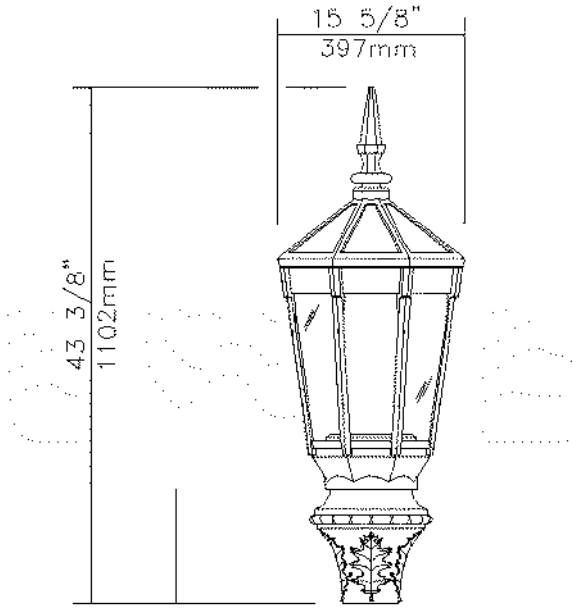
Burlington UVM HSRF (29810)



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		Type	**PL1**
Qty	**8**	Luminaire	**[L70-001]-65W48LED4K-ES-PC-FC-LE3-277-SFO-GN8TX**

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Burlington UVM HSRF (29810)

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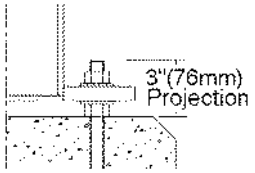

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- Material:
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- NOTE:
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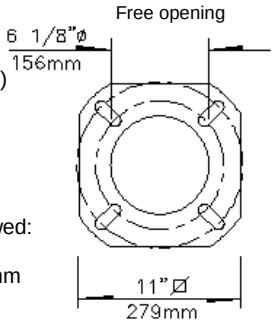

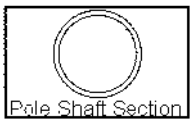

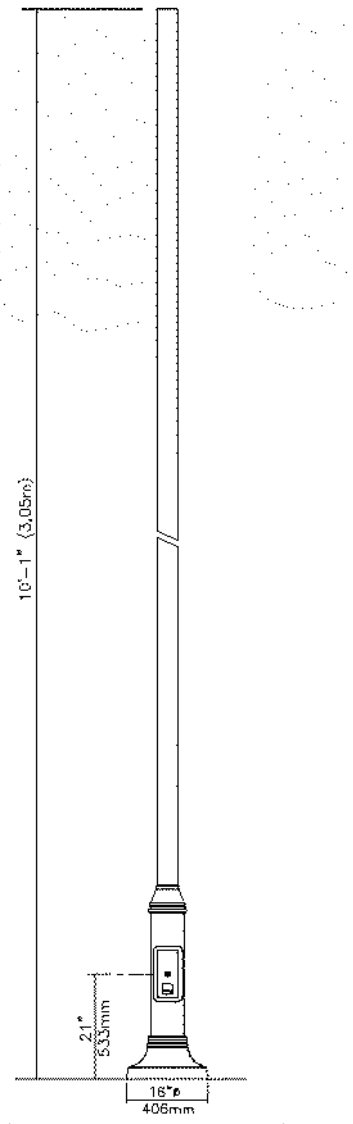

		Type	**PL1**
Qty	**8**	Pole	**AM6F-12.08-PW-VPA-GN8TX**

Description of Components:

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Pole Weight: 21 lbs (9.5 kg)

Miscellaneous

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Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, **wiring included without connector**. Length supplied is from luminaire to the pole base with 6" (152mm) minimum exceeding from maintenance opening. **Wiring will be shipped in a separate box and will be installed by others.**

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PHILIPS
LUMEC

CB 1-S SIGNATURE HELP POINT®

Code Blue

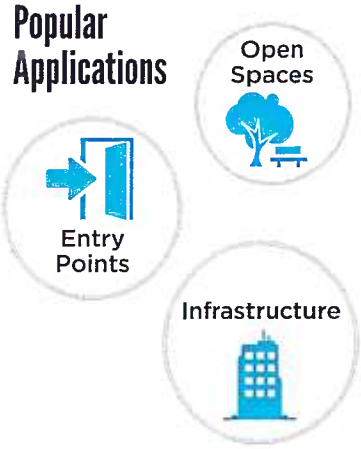
Product Description

The CB 1-s is our most-popular pedestal Help Point. Highlighted by a high intensity area light that provides added visibility, this blue light emergency tower provides direct contact with first responders and is an excellent choice for walkways, parking lots, open campus areas and more.

Standard Features

- Durable quarter-inch steel construction
- Trademarked cylindrical design
- 9 feet tall
- 12.75" diameter
- LED faceplate light

Popular Applications



Popular Upgrades

Public Address

Overhead Camera Mount

Dual Faceplates

Mounting Rings

AED Housing

Get It Customized

We know your installation is unique. From paint and graphics to height and mountings, if you dream it, we can make it. Contact Customer Service at customerservice@codeblue.com or 800-205-7186 to learn more.

© 2016 Code Blue Corporation

Technical Features

Specifications

- **Height:** 9' (274.32 cm)
- **Weight:** 330 lbs. (149.69 kg)
- **Diameter:** 12.75" (32.38 cm)
- **Material & thickness:** 0.25" steel
- **Access door:** 14" x 9.64" (35.56 x 24.49 cm)

Power

- **Standard:** 12-24V AC/DC
- **Optional:** 120, 240, 277, 347V AC
  - Hardwire
  - NightCharge²
  - PoE

Communication

- **Speakerphone Options**
  - **IP5000:** Full duplex, SIP compatible VoIP phone.
  - **IA4100:** Analog full duplex phone.
- Hardwire
- Cellular
- IP wireless

Lighting

- LED faceplate light
- Beacon/strobe
- Area light

Style

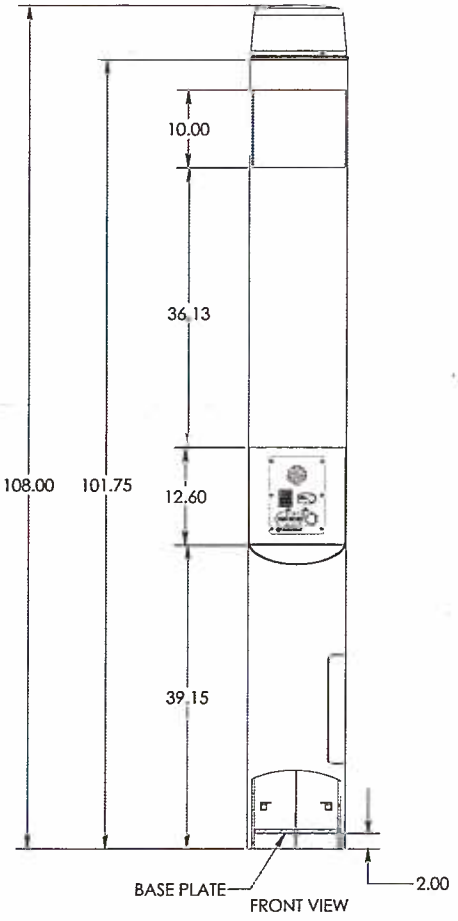
- **Standard colors:** British Racing Green, Cardinal Red, Dark Bronze, Gloss White, Gloss Black, Medium Bronze, Midnight Blue, Safety Blue, Safety Red, Safety Yellow, Tiger Orange, Bright Silver
- **Graphics text:** Assistance, Courtesy, Emergency, Police, Security, Information, Help Point
- **Graphics colors:** Black, Blue, Green, Red, White, Yellow

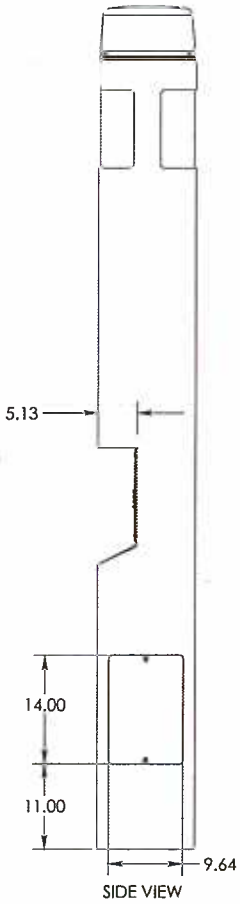
Compliance

- UL 2017
- UL 60950-1
- IP56
- NEMA 4
- ADA

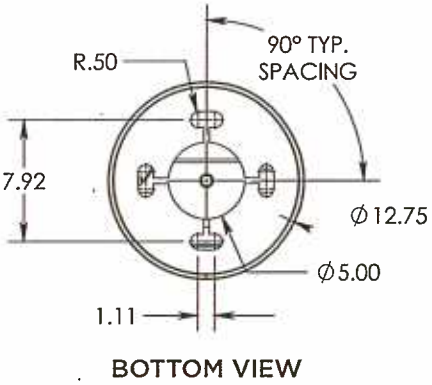
Options

- Public address speakers
- Overhead camera mount
- Temperature-controlled AED housing
- Mounting ring
- Dual faceplates





Mounting Schematics



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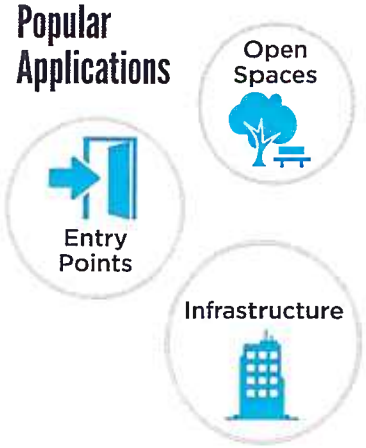
CB 2-E SIGNATURE HELP POINT®

Code Blue

Product Description

The CB 2-e is Code Blue's most popular wall-mounted Help Point. Highlighted by a high intensity LED beacon/strobe that provides high visibility and is a deterrent to potential crime, and a hands-free emergency speakerphone for direct communication with first responders, it can extend security efforts to parking decks, dorm entrances, hallways and public transit centers.

Popular Applications



Standard Features

- ✔ Durable stainless steel construction
- ✔ ADA compliant
- ✔ 12-24V AC/DC power standard

Popular Upgrades

Public Address

AED Housing

Get It Customized

We know your installation is unique. From paint and graphics to height and mountings, if you dream it, we can make it. Contact Customer Service at customerservice@codeblue.com or 800-205-7186 to learn more.

- Heights, widths, depths
- Graphics, text and logos
- Bezel text, color, design

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Technical Features

Specifications

- **Height:** 32.2" (81.79 cm)
- **Width:** 12.00" (30.48 cm)
- **Depth:** 7.88" (20.02 cm)
- **Weight:** 55 lbs. (23.59 kg)
- **Material & thickness:** 0.105" stainless steel

Power

- **Standard:** 12-24V AC/DC
- **Optional:** 120, 240, 277, 347V AC
  - Hardwire
  - PoE

Options

- Public address speaker
- Temperature-controlled AED housing

Communication

- Speakerphone Options
  - **IP5000:** Full duplex, SIP compatible VoIP phone.
  - **IA4100:** Analog full duplex phone.
- Hardwire

Lighting

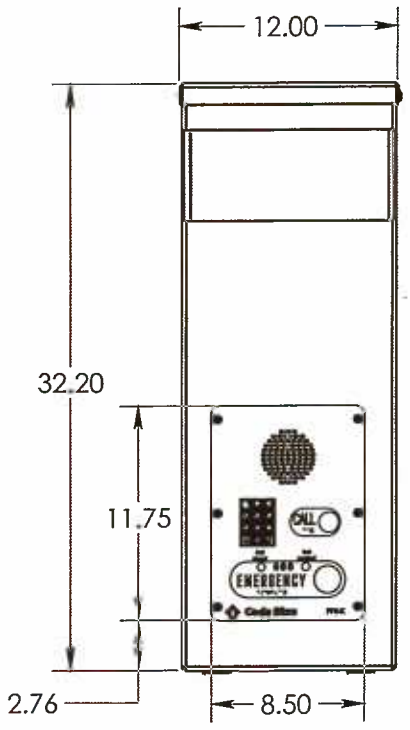
- Beacon/strobe

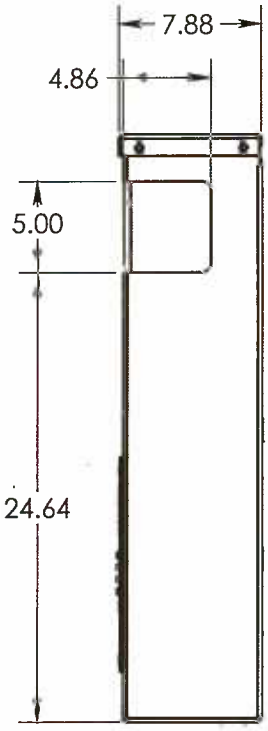
Compliance

- UL 2017
- UL 60950-1
- IP56
- NEMA 4
- ADA

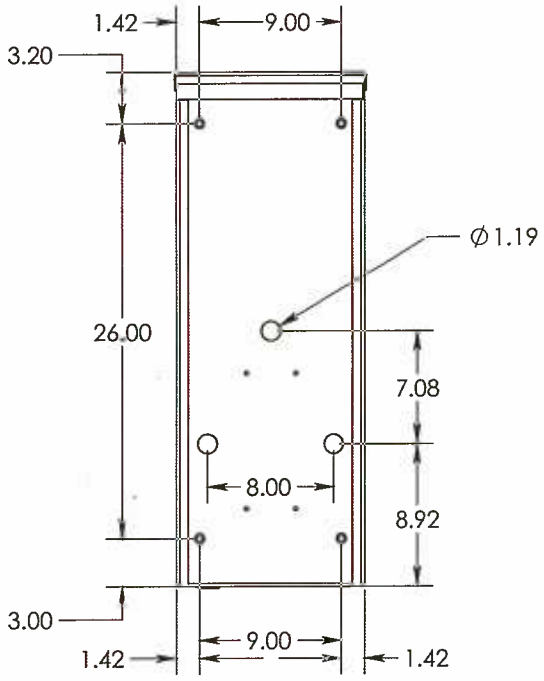
Style

- **Optional painted colors:** British Racing Green, Cardinal Red, Dark Bronze, Gloss White, Gloss Black, Medium Bronze, Midnight Blue, Safety Blue, Safety Red, Safety Yellow, Tiger Orange, Bright Silver
- **Graphics text:** Assistance, Courtesy, Emergency, Police, Security, Information, Help Point
- **Graphics colors:** Black, Blue, Green, Red, White, Yellow





Mounting Schematics



BACK VIEW

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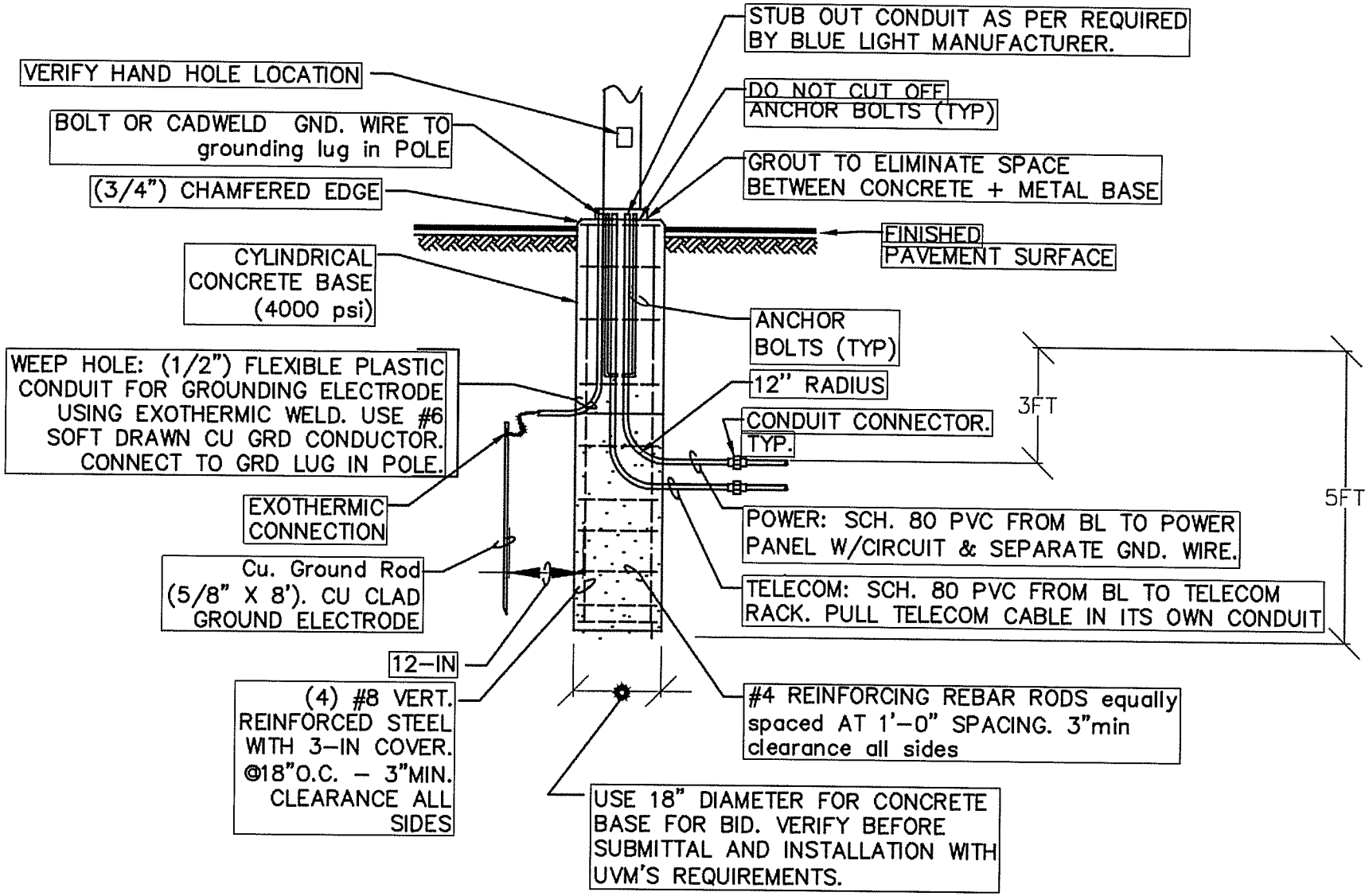
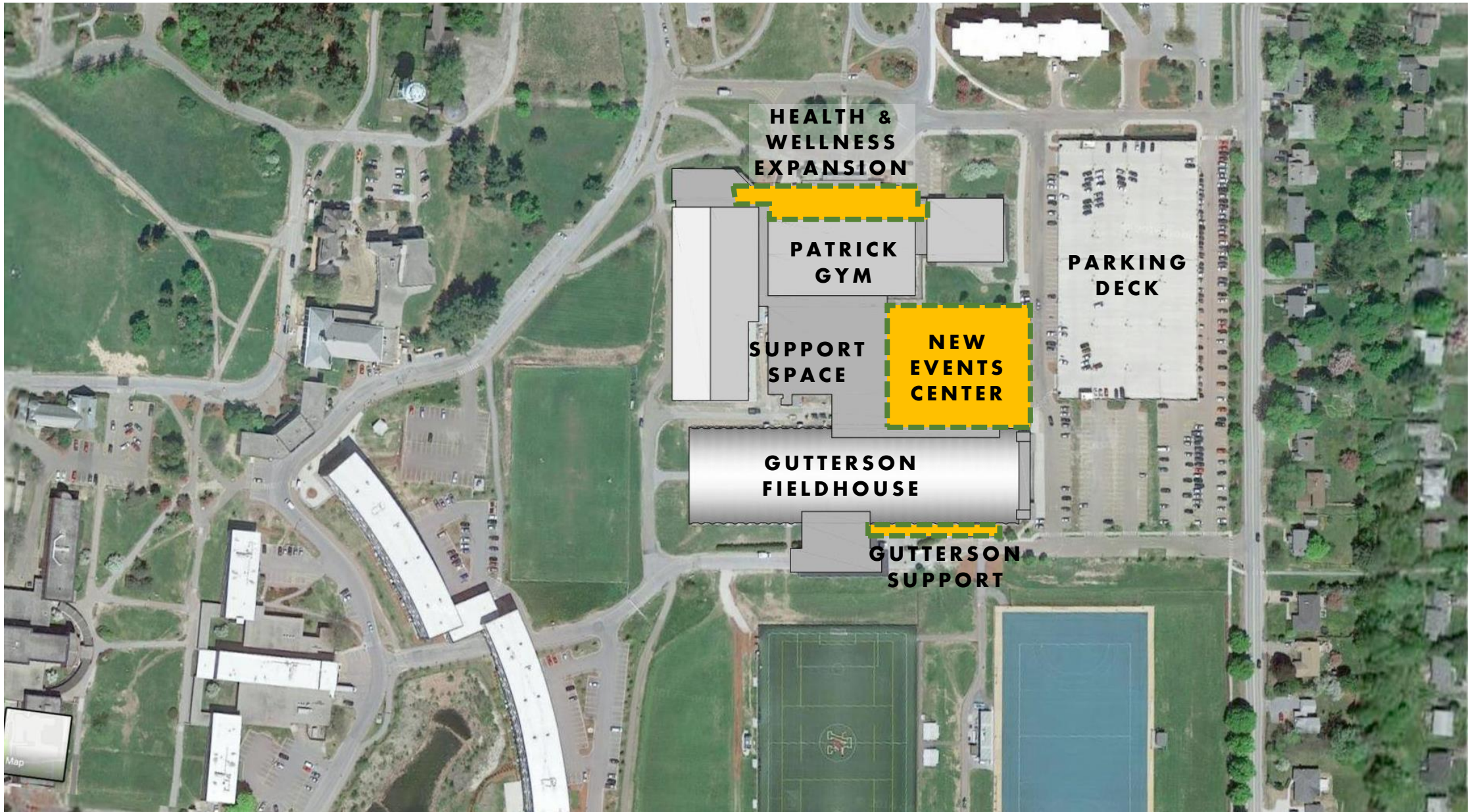


TYPICAL CONCRETE BASE EMERGENCY BLUE LIGHT

SCALE: N.T.S.

University of Vermont
Proposed Multipurpose Center & Health & Wellness Expansion



EXTERIOR PERSPECTIVE: Proposed North Entrance
Campus Health & Wellness, University of Vermont

EXTERIOR PERSPECTIVE: Proposed East Entrance (2)

Events Center, University of Vermont

EXISTING CONDITIONS

Campus Health & Wellness

EXTERIOR PERSPECTIVE

Events Center

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NOT FOR CONSTRUCTION

No.	Description	Date
-	BURLINGTON DESIGN REVIEW BOARD SUBMISSION	12 APR 2018
-	DD PRICING SET	23 MAR 2018
-	DD PROGRESS SET	2 MAR 2018
-	SUPPLEMENTAL SD SET	3 NOV 2017
-	SD PRICING SET	25 AUG 2017

Drawing Title:

LAYOUT & MATERIALS PLAN

Project No.: 005353.00 Checked by: JH

L100

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SCALE OF FEET

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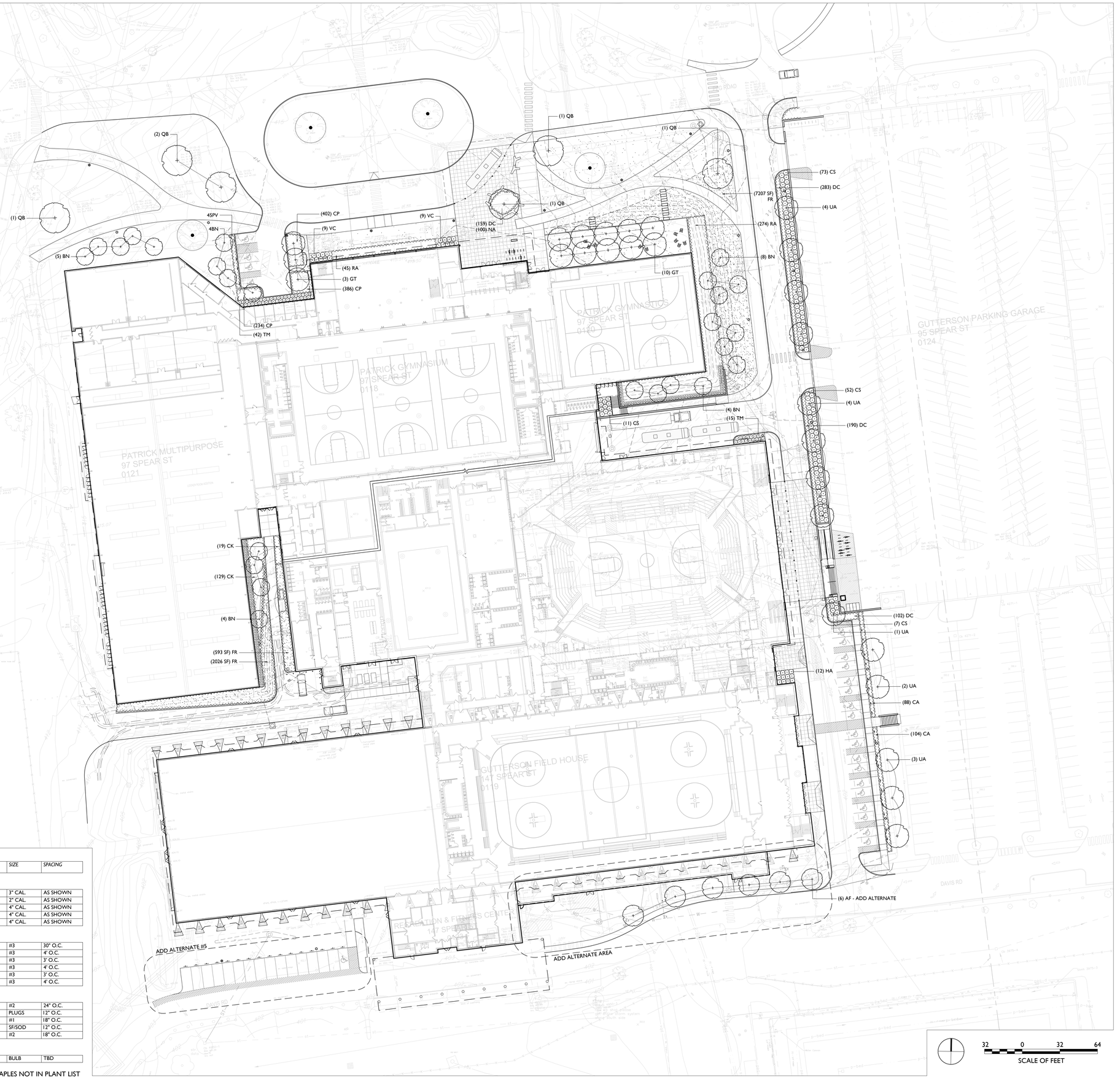

PLANT SCHEDULE

KEY	QTY.	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING
DECIDUOUS TREES					
AF	6	Acer x freemanii 'Celebration'	CELEBRATION MAPLE	3" CAL.	AS SHOWN
BN	25	Betula nigra 'Heritage'	RIVER BIRCH - SINGLE STEM	2" CAL.	AS SHOWN
GT	13	Gleditsia triacanthos inermis	THORNLESS HONEY LOCUST 'SHADEMASTER'	4" CAL.	AS SHOWN
QB	6	Quercus bicolor	SWAMP OAK	4" CAL.	AS SHOWN
UA	14	Ulmus 'Morton' ACCOLADE	ELM	4" CAL.	AS SHOWN
SHRUBS					
CK	148	Cornus sericea 'Kelseyi'	KELSEY RED TWIG DOGWOOD	#3	30" O.C.
CS	143	Cornus sericea 'Allemans'	COMPACT RED TWIG DOGWOOD	#3	4' O.C.
HA	12	Hydrangea arborescens Annabelle	ANNABELLE HYDRANGEA	#3	3' O.C.
RA	319	Rhus aromatica 'Gro-low'	FRAGRANT GRO-LOW SUMAC	#3	4' O.C.
TM	57	Taxus × media 'Taunton'	YEW	#3	3' O.C.
VC	18	Viburnum carlesii 'Baby Spice'	KOREAN SPICE VIBURNUM	#3	4' O.C.
ORNAMENTAL GRASSES					
CA	192	Calamagrostis acutiflora 'Karl Foerster'	FOERSTER'S FEATHER REED GRASS	#2	24" O.C.
CP	1022	Carex pensylvanica	PENNSYLVANIA SEDGE	PLUGS	12" O.C.
DC	734	Dechampsia cepitosa 'Golden Tau'	TUFTED HAIRGRASS	#1	18" O.C.
FR	9826	Festuca rubra	CREEPING RED FESCUE	SF/SOD	12" O.C.
PV	45	Panicum varigatum 'Shenandoah'	SWITCH GRASS	#2	18" O.C.
PERENNIALS					
NA	100	Narcissus sp.	DAFFODIL	BULB	TBD

* SEE PLAN FOR ADD ALTERNATE TREE PLANTINGS - (6) 4" CAL. CELEBRATION MAPLES NOT IN PLANT LIST

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No.	Description	Da
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-	DD PRICING SET	23 M
-	DD PROGRESS SET	2 MA
-	SUPPLEMENTAL SD SET	3 NO
-	SD PRICING SET	25 A

Drawing Title:

PLANTING PLAN

Project No.: 005353.00 Checked by:

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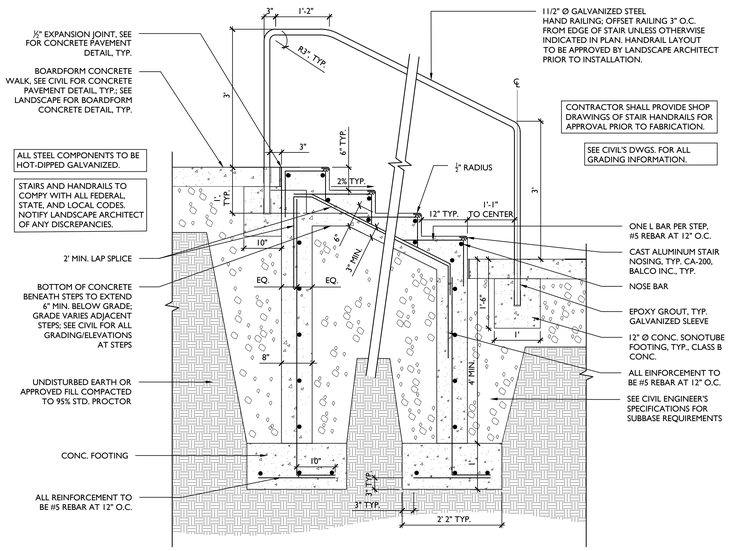
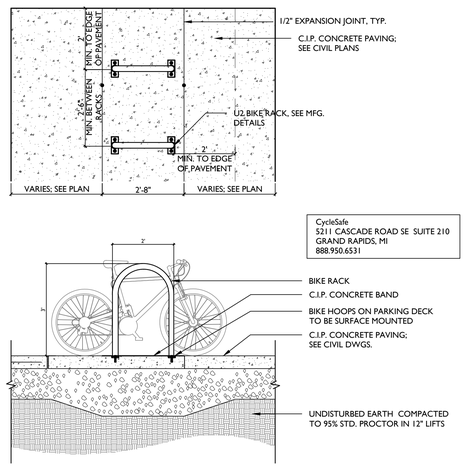


1 CIP CONCRETE STAIR
½"=1'-0"



2 BIKE HOOP
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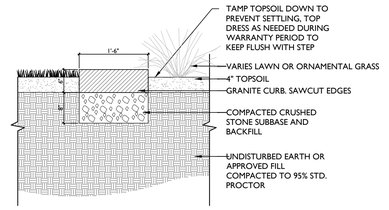

3 STEPPING STONES IN PLANTING BED
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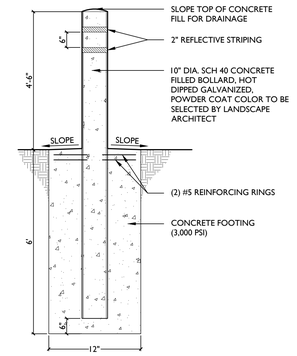

4 UTILITY BOLLARD
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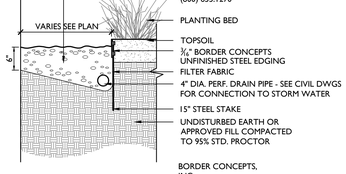
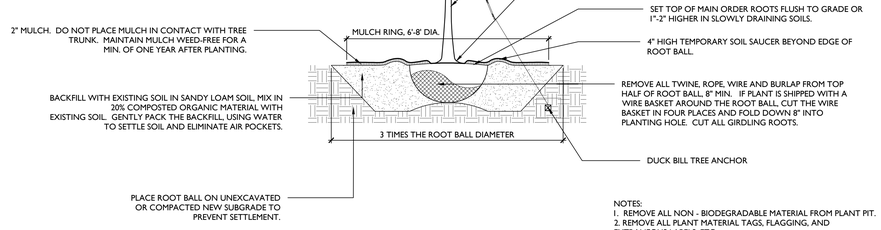


5 DRIP EDGE
½"=1'-0"

6 STEEL EDGING
½"=1'-0"



7 DECIDUOUS TREE PLANTING
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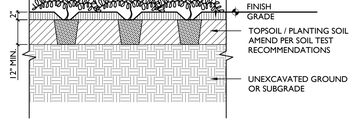
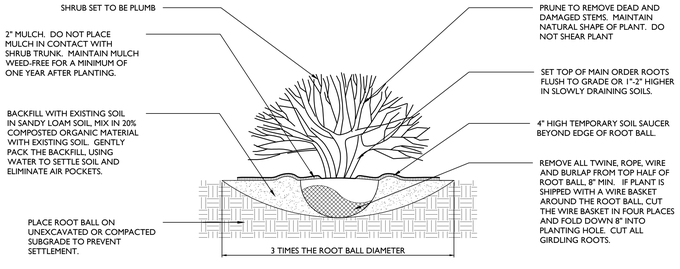


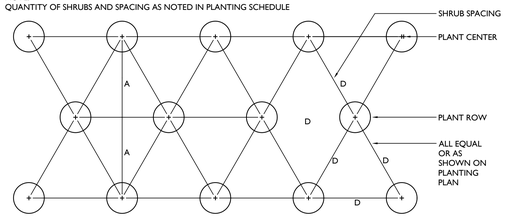
8 PERENNIAL PLANTING
½"=1'-0"



9 DECIDUOUS SHRUB PLANTING
½"=1'-0"

SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ.FT.
60" O.C.	51.96"	0.04
48" O.C	41.52"	0.07
42" O.C.	36.52"	0.10
36" O.C.	31.20"	0.12
30" O.C.	26.00"	0.18
24" O.C.	20.76"	0.28

NOTE:
QUANTITY OF SHRUBS AND SPACING AS NOTED IN PLANTING SCHEDULE



10 PLANT SPACING
½"=1'-0"

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-	SD PRICING SET	25 A

Drawing Title:

LANDSCAPE DETAILS

Project No.: 005353.00 Checked by:

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Department of Planning and Zoning
149 Church Street
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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
Ryan Morrison, Associate Planner
Anita Wade, Zoning Clerk
Layne Darfler, Planning Technician

TO: Design Advisory Board
FROM: Ryan Morrison
DATE: May 22, 2018
RE: 18-0899CA/MA; 56, 58, 66 North Avenue

==========

Zone: RM Ward: 3C
Owner/Applicant: Sara Holbrook Center / Duncan Wisniewski Architecture

Request: Expansion of Sara Holbrook Community Center at 66 North Avenue, demolition of a duplex and garage 58 North Avenue, and demolition of a duplex and a shed at 56 North Avenue.

OVERVIEW:
The applicant proposes to combine three parcels into one 20,545 sf parcel and renovate and expand the existing Sara Holbrook Community Center, totaling approximately 12,500 sf. The project will result in the addition of a multi-purpose/gym space for pre-middle school children; toddler space on the first floor; improved kitchen and food prep area for snacks, lunches and community dinners; a vehicle drop-off to the main entrance; an office expansion; an art space; three after-school care classrooms – keeping two existing classrooms for adult ESL classes; and a total of 15 new parking spaces.

The proposal also includes the demolition of two adjacent duplexes (one each at 56 & 58 North Ave.), and demolition of two accessory structures. While the duplex structures were constructed circa 1899, neither are listed on any historic registers, and have both seen exterior modifications over the years.

The current project was reviewed by the Technical Review Committee on January 11, 2018. Previous renditions of the project went through sketch plan reviews with the DRB on September 16, 2014 and January 28, 2016. Those renditions differ slightly from what is currently proposed.

ARTICLE 6: DEVELOPMENT REVIEW STANDARDS
Part 1, Land Division Design Standards
No land division will occur. The project review will include the merger of three parcels, which can be accomplished as a boundary line adjustment.

Part 2, Site Plan Design Standards
Sec. 6.2.2, Review Standards
(a) Protection of important natural features
No significant or important natural features exist.

(b) Topographical alterations
No topographical alterations have been included within the plans, and are not anticipated.

(c) Protection of important public views
There are no protected views from any of the three parcels.

(d) Protection of important cultural resources
While the Center has been serving the community since 1937, the existing building is not identified as historic. The two duplexes are over 50 years old, both being constructed around 1899. While not listed their age makes them eligible for consideration as historic. However, while the massing of the original buildings remains, there have been considerable exterior modifications to both over the years. This application proposes the demolition of both of the structures. The new construction will greatly improve the Sara Holbrook Center, an important community resource. Thus, the loss of these buildings at this location is acceptable due to the greater community benefit resulting from the project.

(e) Supporting the use of alternative energy
No renewable energy resources are specified but the applicant is considering adding such resources into the project proposal.

(f) Brownfield sites
The property is not identified as a brownfield by the State of Vermont.

(g) Provide for nature's events
The applicant notes that the site has virtually no stormwater control. The stormwater design will utilize the existing underlying sandy soils to infiltrate runoff from the building rooftop and parking area using a proposed underground infiltration facility located to the east of the proposed building. How snow removal/storage will be handled is unknown at this time, and shall be planned for prior to the upcoming Development Review Board hearing.

(h) Building location and orientation
The proposed development is an extension of the Sara Holbrook Center footprint. It is oriented toward the street front with a curved entry driveway to provide a safe off-street drop off. The existing building is setback from the existing development pattern and rhythm of structures along the existing streetscape. The addition will maintain the same setback. Given the use and modern design of the building, this is acceptable. The mass of the building, surface articulation, fenestration, and building features clues that this is a different use than other smaller scale residential structures along North Avenue. Also with other large structures in the vicinity along North Avenue and North Street this structure is not an anomaly in the overall neighborhood.

(i) Vehicular access
While a single access drive currently serves the community center, a drop-off area off North Avenue that doesn't require backing out to the street is proposed, in combination with a driveway at the south end of the parcel, which will go under the second level of the new addition. This will facilitate quick and easy delivery of children and materials. It may be problematic if used as short-term or unauthorized parking. The site plan does not, but should, indicate the intended pattern of traffic flow within the drop-off lane (one way directional).

A 15-space parking lot is proposed will be effectively concealed from the street by locating behind the addition.

The applicant states that the existing and proposed vehicle trip ends, based upon the ITE Trip Generation Manual, 9th Edition, show increases in vehicle trip ends of 18 AM peak hour and 17 PM peak hour when comparing the proposed development to the existing development. VTrans Traffic Impact Study Guidelines identify the need for a traffic study when a site generates 75 of more trip ends in a peak hour.

(j) Pedestrian access
An entry court accessed directly from the public sidewalk will provide a direct pedestrian route to the building. Additionally, walkways are proposed along the front and rear of the building, allowing pedestrian access from the parking area.

(k) Accessibility for the handicapped
The building will be required to meet all ADA standards. Review of compliance is under the jurisdiction of the building inspector.

(l) Parking and circulation
Vehicular entry will occur at a southerly driveway, with the ability to enter the drop-off area or access the parking lot. It is recognized that two existing curb cut (for 56 and 58 North Avenue) will be eliminated with the plan.

The 15 space parking area is accessed through and under the building, and is located at the rear at the southeast portion of the site.

(m) Landscaping, fences, and retaining walls
Two street trees existing within the greenway between the sidewalk and North Avenue, and will remain. The landscape plan identifies planting islands with various shrubs and grasses in front of the existing structure and at the southwest corner of the lot. The project also proposes two new red maple trees – one along the south property line, and the other at the rear of the parking lot.

A chain link fence exists along the north property line and behind the existing community center. A stockade fence exists along the rear property lines of 56 & 58 North Avenue, and will remain. A stockade fence also exists along the north property line of 52 North Avenue. No new fencing is proposed as part of the project.

(n) Public plazas and open space
An entry patio is proposed on the North Avenue frontage; a smaller rear patio with a connected walkway leading to the parking lot will locate to the rear of the building. The rear lawn will be used for play space.

(o) Outdoor lighting
A lighting plan has been submitted, which incorporates soffit mounted recessed LED lighting, as well as parking area LED lighting designed to meet dark sky standards. The lighting will have to meet the lighting performance standards of Sec. 5.5.2 CDO.

(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.
Rooftop mechanical equipment will be screened by the stair and vertical transportation elements that extend above the roof.

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.
The site plan indicates a garbage/recycling bin enclosure at the rear of the parking lot

Part 3, Architectural Design Standards
Sec. 6.3.2, Review Standards
(a) Relate development to its environment
1. Massing, Height, and Scale
The proposed design will see an extension of the existing structure along the North Ave. frontage. The height of the addition will be consistent with that of the existing structure. The new Center entrance is at the west end of the building and opens into an entrance lobby. The frontage along North Avenue contains other smaller scale residential structures along North Avenue, but also includes other large structures in the vicinity along North Avenue and North Street. Thus this structure is not an anomaly in the overall neighborhood.

2. Roofs and Rooflines
The development includes flat roofs. The current building has a flat roof and the new construction repeats this treatment. While there are few other flat roofs, the ones that exist are on larger non-residential structures – the police station and the "Mermaid" Building at the corner of North Avenue & North Street (two lots away).

Roof-top mechanicals shall be screened from view from the public street, and should be incorporated into and hidden within the roof structure whenever possible.
As noted above, roof top mechanical equipment will be screened by the stair and vertical transportation elements that extend above the roof.

Solar panels, light colored ballast or roof membranes, split roof clerestories, planted or "green" roof technologies (with a clearly articulated maintenance plan) and "gray water" collection are encouraged. Active rooftop uses are also encouraged to add to the visual complexity and activity of the city's skyline, and afford public access to otherwise unseen views of the city and surrounding landscape.
As noted, the rooftop is flat. The roof is designed to accommodate the installation of solar PV, which will be included as budget and fundraising allow.

3. Building Openings
Principal entrances shall be clearly defined and readily identifiable from a public street whether by a door, a canopy, porch, or other prominent architectural or landscape

features. People with physical challenges should be able to use the same entrance as everyone-else and shall be provided an "accessible route" to the building.

The primary accesses are clearly identifiable.

Attention shall also be accorded to design features which provide protection from the affects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage.

The entrance to the Center is under a canopy and a vestibule will provide safe and comfortable respite from inclement weather.

Window openings shall maintain consistent patterns and proportions appropriate to the use. The window pattern should add variety and interest to the architecture, and be proportioned to appear more vertical than horizontal. Where awnings over windows or doors are used, the lowest edge of the awning shall be at least eight (8) feet above any pedestrian way, and shall not encroach into the public right-of-way without an encroachment permit issued by the dept. of public works.

An irregular pattern of window placement on the primary North Ave. façade, exhibiting an informality and freshness that exudes a playful quality appropriate to the intended neighborhood users, is proposed.

(b) Protection of important architectural resources

None of the buildings within the plan are listed on the State or National Register of Historic Places.

(c) Protection of important public views

There are no protected public views from the site.

(d) Provide an active and inviting street edge

The proposed development is setback to provide safe drop-off area for children. There is a front plaza that adds interest and provides circulation space. The proposed entry for the Center is a 12 ft. wide opening to the entry doors. This provides an easily identifiable and accessible entry.

Non-residential buildings should provide visual access into the interior of building at the street level through the use of large transparent windows and/or window displays in order to create a dynamic and engaging public streetscape. The use of mirrored, frosted, or tinted glass shall not be permitted along an active pedestrian street-level façade.

The use of the building is not necessarily conducive to needing glass along the entry. The ample entry opening provides clear access to the interior.

(e) Quality of materials

Façade materials include brick masonry, fiber cement or other composite material lap siding, fiber cement or other composite material panels, stucco or EFIS, and metal siding accents. All new operable windows will be fiberglass, storefront entry door systems will be anodized aluminum, storefront fixed windows will be fiberglass, and some existing windows that are in acceptable condition will remain.

(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. The applicant is exploring rooftop solar PV, a green roof over the enclosed courtyard, and permeable paving in the parking area.

(g) Make advertising features complimentary to the site
While not advertising, the applicant notes that the use of the SHC logo on the entrance façade is intended to be a playful expression of the buildings true purpose.

(h) Integrate infrastructure into the building design
A fully enclosed trash/recycling bin will be located to the rear of the parking lot, out of sight from the public street. Rooftop mechanical equipment will be concealed behind the rooftop equipment screen located to minimize any visibility from the street level.

(i) Make spaces safe and secure
The building entrances and parking area will be adequately lit for safety.

RECOMMENDED MOTION:
Forward to the Development Review Board with the following conditions:

1. Indicate a traffic flow pattern for the site on the site plan.
2. More definitive height measurements shall be identified on the elevation drawings.
3. Spec sheets for all new windows, doors, light fixtures, siding, roofing materials, mechanical units, etc. shall be submitted.

Duncan Wisniewski
ARCHITECTURE

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PLANNING & ZONING

SARA HOLBROOK CENTER

Prepared for: The City of Burlington Department of Planning & Zoning
Prepared by: Duncan Wisniewski Architecture

April 6, 2018

The Sara Holbrook Center (SHC) is pleased to present this Certificate of Appropriateness Level II Zoning Application, conjunction with a Lot Line Adjustment Application, for the renovation and expansion of its existing building at 66 Nor Avenue (also incorporating properties at 56 and 58 North Avenue), to the City of Burlington Department of Planning & Zoning for review under the Comprehensive Development Ordinance.

The proposal includes the renovation of the existing building and new construction that totals approximately 12,500 S that upon completion will include the addition of a multi-purpose/gym space for pre-middle school kids; toddler spac the first floor; improved kitchen and food prep area for snacks, lunches and community dinners; a vehicle drop-off to main entrance; a clear separation between the children's play space and any vehicular traffic; modest office expansio art space; three after school care classrooms; keeping two existing classrooms for adult ESL classes; and a total of 1 new parking spaces. For reference, the existing building at 66 North Avenue currently totals approximately 5,000 SF.

The proposal also includes the demolition of two adjacent duplexes, one each at 56 and 58 North Avenue. Please re to accompanying documents for actual areas and a complete project description.

Please schedule this proposal for the earliest possible Design Advisory Board Design Review Board meetings.

An application fee check in the amount of $4,810 ($2,225,000 @ $2/M + $110 + $200 Lot Line Adjustment) is includ All attachments are listed in the Index.

Sincerely,

Bob Duncan, RA, AIA

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Duncan Wisniewski
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Sara Holbrook Center
66 North Avenue
Burlington, VT 05401

April 6, 2018

DESIGN NARRATIVE

The Sara Holbrook Community Center (SHCC) has been serving the Burlington community since 1937, and now requ to make some property improvements and a building expansion to continue to serve our community and its clients w into the future. As the mission and focus of the Center have evolved, and as community needs have changed, an expansion to its child care capacity and its ability to serve the community is required. While the Center retains its nam and will continue to serve as a community center, this portion of its mission is greatly reduced, and has become a complementary use to its primary focus as a child care facility; consequently, the community center component is no only evenings and weekends, so the two different uses share portions of the facility, and at completely different times.

The program requirements include the addition of a multi-purpose/gym space for pre-middle school kids; toddler spa at the first floor; improved kitchen and food prep area for snacks, lunches and community dinners; a vehicle drop-off the main entrance; a clear separation between the children's play space and any vehicular traffic; modest office expansion; an art space; three after school care classrooms; keeping two existing classrooms for adult ESL classes; a total of 15 new parking spaces. Current design includes structural accommodations for future expansion above the existing building.

The proposed design completes the two story portion of the existing building by adding new construction over the existing NW corner one story portion, and extends the existing building to the south to create a skylit circulation court leading to the new multi-purpose/gym space. The new SHCC entrance is at the west end of the courtyard space, opening to an expanded existing entrance plaza. The new art room faces the street above the new entrance. Toddle space is located near the main entry, which will be a secure entry, monitored by camera and/or staff in the reception a The second floor classrooms cover and conceal part of the on-grade parking area, the entrance to which is through a one-story masonry landscaping wall that shields the parking and defines the entry drive. The 14 space parking lot s effectively concealed from the street by tucking under the second story classrooms. The massing of the new construction is in keeping with several recent developments in the immediate area, including the Commodore Apartments, the Mermaid Building at the corner of North and North, and COTS new headquarters at 95 North Avenu

The new construction will be a combination of steel and wood framing, with the SHCC portion primarily steel and the addition primarily wood or steel, as market conditions dictate at the time of construction. Exterior materials will be a combination of masonry, fiber cement panels and lap siding, and fiberglass windows. In addition to sustainable mate we are exploring other green features to include solar PV, a green roof over the enclosed courtyard, permeable paving the parking area, etc.

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Sara Holbrook Center
66 North Avenue
Burlington, VT 05401

April 6, 2018

ZONING SUMMARY

Existing Uses	Community Center, preschool, child care (66 North Avenue); duplex (each on 56 and North Avenue. Current SF @ 66 North Avenue = 5020 SF (1st = 2732 SF; 2nd = 228 SF; total = 5020 SF).
Zoning District	Residential Medium Density (RM); max density is 20 units/acre (20,545 SF/ 43,560 SF .472 a X 20 = 9.43 units.
Primary Permitted Uses	Appendix A allows, among others, residential (single detached, duplex, multi-family, assisted living, boarding house (up to 4), etc. See Appendix A, Use Table for full list.
Primary Conditional Uses	With DRB (Development Review Board) approval: Community Center, School, Child c multi-family/mixed use). See Appendix A, Use Table for full list.
Lot Size	66 North Ave = 10,335 SF, 58 North Ave = 6542 SF; 56 North Ave = 3668 SF. Total a = 20,545 SF.
Frontage	66 North Ave = 66', 58 North Ave = 33'; 56 North Ave = 38'.
Depth	Varies, lot shapes are irregular.
Density	Residential density @ 20 units/acre. At combined lot size of 20,545 SF, the allowable density would be 20,545/43,560 x 20 = 9.43 units, rounded down to 9.
Density equivalent	Non-residential density equivalent is 1500 SF/DU; therefore, the maximum buildable a is 13,500 SF.
Lot Coverage	40%, however, existing lot coverage exceeds allowable; therefore, any new developm is limited to not more than existing lot coverage. 66 North Ave = 76%; 58 North Ave = 51%; 56 North Ave = 46%. Total of all properties combined is 62%.
Setbacks	Front: avg of two adjacent lots on both sides, +/- 5'; side: 10% of width, minimum 5', maximum 20'; rear: 25% of lot depth, minimum 20', maximum 75'.
Proposed uses	Community center (evenings and weekends), preschool/child care/after school (max 6 children by licensing) and small adult ed weekdays (max 20 students + two teachers). Proposed total area approximately 12,500 SF (lower than density equivalent calculate above). All uses are conditional uses in this district.
Parking requirements	Preschool/child care/after school (daytime): 1/2 employees + 1/5 children = 14/2 + 60 19; School, post-secondary (daytime and nights/weekends): 2/1000 SF = 2 X 1.068 (1068 SF) = 2 spaces; Community center (nights/weekends): 3.3/1000 SF = 3.3 X 2.2 (2200 SF) = 7. Total daytime parking requirement is 19 + 2=21, total nights/weekends requirement is 2=9.

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Parking provided

15 spaces on site, up to 11 spaces at 95 North Avenue nights and weekends. Presc child care/after school and Community center are complementary uses (i.e., they do n happen simultaneously), but preschool/child care/after school and small adult educati do occur simultaneously. Therefore, total parking requirement is 21 spaces. The adu program (post-secondary school) has been in operation for many years, and parking l never been allowed on site due to space constraints, so teachers and any driving adu have always found other places to park. In fact, many of the adults attending languag and other classes walk to the Center, drop their kids off at pre-school, and head upst for classes - the vast majority of these parents do not have cars. The extent of the p secondary/adult ed program will not be increased.

Variance requested

The maximum parking requirement is 21 spaces for daytime uses, 2 of which are for a language classes which could be considered as not required based upon historical us The maximum nights/weekends requirement is 9, which is easily met be onsite parkin and in the occasion where a large evening or weekend activity may occur, the 15 spa plus the overflow of 11 at COTS will be much more than adequate.

15 spaces is a 28.5% reduction request from the maximum 21 daytime spaces, and a 21% reduction from the 19 space theoretical daytime need. Since two long-time staf members walk to work, and since the majority of children served in preschool/child ca after school programs are not typically driven to the site, we are confident that a 21-28.5% reduction from the zoning requirement is justified, and well within the allowa DRB discretionary reduction of 50%.

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Sara Holbrook Center
66 North Avenue
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April 6, 2018

APPLICATION NARRATIVE

PROJECT OVERVIEW

The Sara Holbrook Center (SHC) is planning an exciting expansion of its facility located at 66 North Avenue. The pla to annex two properties to its south (58 and 56 North Avenue), combine all three parcels into one larger parcel, which after removing the buildings on the two annexed properties, will provide sufficient space for the expansion of the Cen

CONTEXT

The neighborhood context varies in both use and building type/size. North Avenue includes a mix of single family ho duplexes, small apartment buildings, three story multifamily/commercial (Mermaid Building, COTS), Commodore Poin condominiums, commercial uses (Star Printing, Brian's Auto/QuickStop) and even industrial uses (steel fabrication sh The Lakeview Terrace neighborhood and its intersecting streets include single family homes, multi-family apartments condominiums, including the new three story 24 unit multi-family building at the north end of the neighborhood. The building styles range from traditional pitched roof buildings in a variety of historical periods to more recent structures flat roofs.

Parking for all of these uses is generally served on their respective sites, although street parking is standard on all adjacent streets.

SITE DESIGN

The site is in an RM District (medium density residential), which allows for 20 units/acre; commercial uses can be substituted for residential units at a rate of 1,500 SF of commercial use for every allowable dwelling unit. The combin lots total 20,545 SF, which at 20 units/acre would yield 9.43 units, to be rounded down to 9; 1500 SF/unit X 9 units = 13,500 SF allowable total building size. Proposed design provides 12,517 SF gross area.

The combined properties currently have 62% lot coverage, which exceeds the allowable in the district, but which is permissible to match under redevelopment of the combined properties. The site is very flat and trapezoidal in shape maximizing open space while providing the most parking possible are both important considerations. Several progra and design considerations are critical: provide a safe drop-off/pick-up area at the main entrance for those who may b dropping off kids; maintain compatibility of scale with neighbors, and minimize the visual impact of parking on the streetscape. We have provided a drop-off area at the main entrance, have designed a building of two stories height, which is consistent with or lower than immediate neighbors, and have created a mural wall to screen parking from th street and merge with the building design.

Much of the parking is located under the second floor extension, and our engineering consultants have designed a stormwater system to comply with DPW and state requirements.

SITE LIGHTING & ELECTRIC/CATV/PHONE

Each building entrance will have soffit mounted recessed LED lighting, as well as parking area LED lighting designed meet Dark Sky standards (both ceiling mounted and pole mounted), as indicated on the Site Plan. Bollards and build mounted light fixtures will provide additional pedestrian and modest security lighting. Electrical/CATV/phone utilities a

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overhead across the street; therefore, these utilities will be overhead to the building, consistent with other adjacent properties.

CIVIL

The project civil engineer (Peter Smiar of VHB) has communicated with DPW to assure that the design meets city requirements, including sufficient water and sewer services, as well as a storm water mitigation design that utilizes underground infiltration structures to mitigate stormwater flow. The existing building and new construction will be sprinklered.

Sewer, water and natural gas utilities will be underground from existing services. Existing sewer, water and gas servi to the demolished buildings will be terminated in accordance with the corresponding utility requirements. A new wat service to accommodate a sprinkler system will be required.

PROPOSED DESIGN

The program requirements include the addition of a multi-purpose/gym space for kids; toddler space at the first floor improved kitchen and food prep area for snacks, lunches and community dinners; a vehicle drop-off to the main entrance; a clear separation between the children's play space and any vehicular traffic; modest office expansion; an space; three after school care classrooms; keeping two existing classrooms for adult ESL classes; and a total of 15 parking spaces. Current design includes structural accommodations for future expansion above the new constructio

The proposed design completes the two story portion of the existing building by adding new construction over the existing NW corner one story portion, and extends the existing building to the south to create a skylit circulation cour leading to the new multi-purpose/gym space. The new SHCC entrance is at the west end of the courtyard space, opening to an expanded existing entrance plaza. The new art room faces the street above the new entrance. Toddl space is located near the main entry, which will be a secure entry, monitored by camera and/or staff in the reception The second floor classrooms cover and conceal part of the on-grade parking area, the entrance to which is through one-story masonry landscaping wall that shields the parking and defines the entry drive. The 15 space parking lot s effectively concealed from the street by tucking under the second story classrooms. The massing of the new construction is in keeping with several recent developments in the immediate area, including the Commodore Apartments, the Mermaid Building at the corner of North and North, and COTS new headquarters at 95 North Avenu

The new construction will be a combination of steel and wood framing, with the SHCC portion primarily steel and the addition primarily wood or steel, as market conditions dictate at the time of construction. Exterior materials will be a combination of masonry, fiber cement panels and lap siding, and fiberglass windows. In addition to sustainable mate we are exploring other green features to include solar PV, a green roof over the enclosed courtyard, permeable pavin the parking area, etc.

Proposed lot coverage, as shown in attached documents, matches existing total lot coverage (62%).

BUILDING DESIGN

The concept provides for toddler and pre-school age children to be located on the first floor, and older children for th after school program at the second floor. Common space for both age groups exists on the first floor, along with a common kitchen space. These common spaces also serve as after hours community spaces for meetings, pot-luck suppers, etc.

A primary building and program design consideration is to minimize energy use by striving toward net zero; the existi building, built ca 1965 is a challenge to this consideration; therefore, skinning the building with exterior insulation and additional roof insulation is imperative. Another goal, driven by the building's purpose to serve the community and its children, is to offer a playful and welcoming presence to the street, hence the window projections and modulating wi patterns. The SHCC logo is reproduced on the street facade, lining the main entrance to the parking entrance, broke a series of masonry piers and walls, which provide a tactile and durable surface. The overhanging projection provide weather protection along the facade for any children who may be picked up, and it also serves to provide a small are roof plantings.

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The stair and vertical transportation elements extend above the roof and integrate into mechanical equipment screen thus using these architectural elements to provide visual screening of necessary equipment. The new multi-purpose space, with 12' ceiling height, steps down in height for the main two story portion, thus allowing for natural light into second floor corridor space.

Fully one third of the parking is covered by the new second floor construction, thus taking advantage of the lot cover being provided by the second floor, and also screening the parking from the street.

Roof-mounted solar PV will be installed as budget and fund-raising efforts permit.

OTHER

Traffic: VHB has calculated existing and proposed vehicle trip ends based upon the ITE *Trip Generation Manual, 9th Edition*, the results of which show increases in vehicle trip ends of 18 AM peak hour and 17 PM peak hour when comparing the proposed development to the existing development. VTrans Traffic Impact Study Guidelines identify t need for a traffic study when a site generates 75 or more trip ends in a peak hour. Since the trip ends are well below standard, adverse impacts on the adjacent roads are not anticipated.

The design will meet applicable state and federal handicapped accessibility requirements.

The building envelope will be highly energy efficient and we will be working closely with BED to utilize all available incentives. As mentioned above, the roof structure will be designed to incorporate photovoltaic panels either in this phase or the future.

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ZONING NARRATIVE

The application to the Department of Planning and Zoning of the City of Burlington for 66 North Avenue is made on b of the Sara Holbrook Center by Bob Duncan of Duncan Wisniewski Architecture. This project falls into the permit typ "COA Level II", due to project cost and major impact. The proposed development consists of a renovation and expansion of its existing facility at 66 North Street, which includes the incorporation of the properties of 56 and 58 N Avenue into one combined new lot. The attached Zoning Summary explains the specific zoning and parking requirements in more detail. The following is the required narrative which explains compliance with the Comprehensi Development Ordinance and an appendix of submitted forms and drawings.

1. Zoning District Requirements:

The attached Zoning Summary summarizes uses, density, height, lot coverage, proposed development, etc. as appli the proposed development of combined parcels of 56, 58 and 66 North Avenue.

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

The proposal falls under 3.5.2 (b) Major Impact Review as a development in an RM district with a development footpr that exceeds 8,000 SF. As such, it is required to comply with both the Conditional Use Review Standards of Section 3.5.6(a) and the Major Impact Review Standards of Section 3.5.6(b).

a. Conditional Use Review Standards:
   (1) Existing or planned public utilities, facilities or services are capable of supporting the proposed use in addi to the existing uses in the area;
   (2) The character of the area affected as defined by the purpose or purposes of the zoning district(s) within wh the project is located, and specifically stated policies and standards of the municipal development plan;
   (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;
   (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; and,
   (5) The utilization of renewable energy resources; and,
   (6) Any standards or factors set forth in existing City bylaws and city and state ordinances; the proposal will n result in an undue adverse effect on the capacity of existing or planned community facilities.

b. Applicant Responses:
   (1) Public utilities, etc: Because of a change in design concept, we have presented to two Technical Review Committee (TRC) meetings, the most recent of which was on 1/11/18.
      a. Department of Public Works: Stormwater design has been reviewed and approved by DPW. Ability to serve letter for water and sewer from DPW is attached to this application.
      b. Based upon input from Burlington Electric Department at the 1/11/18 TRC meeting, there are no elect service issues.
      c. Natural gas: A representative from VT Gas Co was not in attendance at TRC meeting, but gas service the building is expected.
      d. Burlington Fire Department: The BFD responded in detail to the TRC presentation, and that comment letter is attached to this application. The conditions and expectations are acceptable to the Applicant
      e. Department of Parks and Recreation: P&R responded in writing to the TRC presentation, and that comment letter is attached to this application. The conditions and expectations are acceptable to the Applicant.
   (2) Character of the area:
      a. Existing context: The neighborhood context varies in both use and building type/size. North Avenue includes a mix of single family homes, duplexes, small apartment buildings, three story multifamily/ commercial (Mermaid Building, COTS), Commodore Point condominiums, commercial uses (Star Prin Brian's Auto/QuickStop) and even industrial uses (steel fabrication shop). The Lakeview Terrace neighborhood and its intersecting streets include single family homes, multi-family apartments and condominiums, including the new three story 24 unit multi-family building at the north end of the neighborhood. The building styles range from traditional pitched roof buildings in a variety of historical periods to more recent structures with flat roofs.

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b. Proposed design: The proposed design completes the two story portion of the existing building by ac new construction over the existing NW corner one story portion, and extends the existing building to t south to create a skylit circulation courtyard leading to the new multi-purpose/gym space. The new S entrance is at the west end of the courtyard space, opening to an expanded existing entrance plaza. new art room faces the street above the new entrance. Toddler space is located near the main entry, which will be a secure entry, monitored by camera and/or staff in the reception area. The second floo classrooms cover and conceal part of the on-grade parking area, the entrance to which is through a c story masonry landscaping wall that shields the parking and defines the entry drive. The 15 space pa lot s effectively concealed from the street by tucking under the second story classrooms. The massin the new construction is in keeping with several recent developments in the immediate area, including Commodore Apartments, the Mermaid Building at the corner of North and North, and COTS new headquarters at 95 North Avenue.

c. Conclusion: While the character of the area is changing, the proposed design sensitively responds to existing building and the context in which it is situated. Its total height of two stories is consistent with adjacent residential buildings, its overall massing is responsive to other changes in the neighborhood have occurred over the last 15-20 years, and the way the parking has been concealed reduces its ove visual impact.

(3) Nuisance impacts: while the process of construction and renovation will necessarily include some noise, and minor vibrations, the operation of the building will not have any nuisance impacts than typically genera elsewhere in the zoning district. Hours of construction will be limited as per City requirements, and hours operation of the Center are generally weekday all day hours; however, occasional events such as pot-luck dinners will occur some nights or weekends, but will never extend beyond 11 PM.

(4) Transportation system: the majority of the population served by the SHC is local/neighborhood; conseque much of the traffic to the building is by bus or walking. Several current staff members walk to work. The parking that is being provided, while less than full compliance with the zoning requirements, is adequate fo needs of the facility as demonstrated in the zoning summary, and for which a variance has been requested The SHC is located on a collector street and is served by bus transportation very nearby at the Mermaid Building. The attached Trip Generation Study prepared by VHB demonstrates that the impact on traffic is minimal. For all of these reasons, we conclude that the existing transportation system is capable of suppo the proposed use in addition to the existing uses in the area.

(5) Renewable energy: Burlington is very fortunate to have a public utility that is 100% renewably generated. Sara Holbrook Center is committed to reducing its carbon footprint, both in terms of energy use and embodied energy. Toward that end, part of its fundraising appeal is to raise additional funds to strive to m the 2030 Challenge, and to be able to provide solar PV, which will be roof-mounted. The new roof construction will be designed to permit the installation of solar PV, and during the development of the drawings, the existing building roof framing will be evaluated to determine its capability to accommodate t addition of solar PV. Of course, the building will meet or exceed the requirements of the 2015 Commercia Building Energy Code (CBES).

(6) Other standards or factors: The City's Housing Replacement Ordinance will be applicable to this project, a four housing units will be eliminated. The Applicant has been working closely with Todd Rawlings in CEDO determine the necessary compliance requirements with this Ordinance, and which will be accepted as a condition of approval of this application. There are no other identified conflicts with City bylaws or state ordinances.

c. Major Impact Review Standards: Before a major impact development may receive approval, the DRB must be satisfied, based on documentation provided by appropriate city agencies, experts, interested parties and/or th applicant that the proposed development shall:

(1) Not result in undue water, air or noise pollution;
(2) Have sufficient water available for its needs;
(3) Not unreasonably burden the city's present or future water supply or distribution system;
(4) Not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dange or unhealthy condition may result;
(5) Not cause unreasonable congestion or unsafe conditions on highways, streets, waterways, railways, bikeways, pedestrian pathways or other means of transportation, existing or proposed;
(6) Not cause an unreasonable burden on the city's ability to provide educational services;
(7) Not place an unreasonable burden on the city's ability to provide municipal services;

(8) Not have an undue adverse effect on rare, irreplaceable or significant natural areas, historic or archaeolog sites, nor on the scenic or natural beauty of the area or any part of the city;
(9) Not have an undue adverse effect on the city's present or future growth patterns nor on the city's fiscal ab to accommodate such growth, nor on the city's investment in public services and facilities;
(10) Be in substantial conformance with the city's municipal development plan and all incorporated plans;
(11) Not have an undue adverse impact on the present or projected housing needs of the city in terms of amo type, affordability and location; and/or
(12) Not have an undue adverse impact on the present or projected park and recreation needs of the city.

d. Applicant responses:
(1) A complete stormwater management plan has been reviewed and approved by DPW, and included in the application. The proposed stormwater management system includes capture and on-site retention of stormwater, and also includes minor rain gardens to facilitate infiltration of some roof drainage.
(2) Ample capacity is available, and is supported by the attached "ability to serve" letter.
(3) See item 2 above.
(4) The stormwater management plan also includes a construction site erosion plan, and specific requirement a stabilized construction entrance.
(5) Traffic: refer to the attached Trip Generation Summary prepared by VHB.
(6) The proposed development will not have any impact on the city's ability to provide educational services; ra the Sara Holbrook Center and the School department work closely together top serve school-aged childre
(7) The proposed development will have modest impacts on city services; however, those impacts will be mitigated by the impact fees being assessed. In addition, water, sewer and electrical services have all bee identified as having the ability to serve the project.
(8) The proposed development is located in an area of previous development, including two existing duplexes miscellaneous outbuildings. The duplexes were created from original single family homes, and although ol are not considered historic or significant. Their proposed demolition has been explained in two different technical review committee meetings, two different NPA meetings, and one DRB sketch plan meeting, and objections to their proposed demolition were raised. Therefore, it can be concluded that there will not be a undue adverse effect under this standard.
(9) The proposed development is located on a major street and thus has no impact on present or future grow patterns, or the City's the city's fiscal ability to accommodate such growth, nor on the city's. The impact fe being applied to the proposed development are intended to offset the City's ability to accommodate the growth, therefore there is no undue effect under this standard.
(10) The proposed development is in conformance with the municipal plan and the currently adopted Comprehensive Development Ordinance.
(11) The proposed development includes the removal of a total of four (4) apartments. The Owner understands and agrees to comply with the housing replacement requirements of the CDO. Such housing replacement requirements have been adopted by the City to offset the potential negative effects of removing housing u from available stock, therefore, the proposed project will not have an undue adverse impact on the presen projected housing needs of the city.
(12) In order to meet its State licensing requirements for exterior play space for its child care programs, the Sar Holbrook Center currently uses Battery Park and Waterfront Park to provide additional exterior recreation space. The proposed development will provide additional exterior space on-site, so the combination of additional new space and continuing use of existing park space will not have an undue adverse impact on present or projected park and recreation needs of the city.

3. Special Uses and Performance Standards (Article 5): See the attached Zoning Summary for lot coverage, buildabl area, setbacks, and building height restrictions.

a. 5.4.8 Historic Buildings and Sites (pg 5-28). Under this proposal, the circa 1900 duplexes at 56 and 58 North Avenue will be removed or demolished. (The Owner has been seeking potential partner(s) to consider relocati of one or both buildings). In Staff comments prepared on 9/16/14 for an earlier Sketch Plan Review, the follow was noted:

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(d) Protection of Important Cultural Resources:
While the Center has been serving the community since 1937 their existing building is not identified as historic.
The two duplexes are over 50 years old, both being constructed around 1899. While not listed their age makes them eligible for consideration as historic. However, while the massing of the original buildings remains, there have been considerable exterior modifications to both over the years. This application proposes the demolition of one of the structures, with the other being relocated. The new construction w greatly improve the Sara Holbrook Center an important community resource and will prove additional affordable housing. Thus, the loss of these buildings at this location is acceptable due to the greater community benefit resulting from the project

Reference is made to *Sec. 5.4.8*, which needs to address the applicability or non-applicability of that sect to these buildings.

In 3/2/16 Staff comments for a subsequent Sketch Plan Review, the following was noted:

(b) Protection of Important Architectural Resources:
None of the buildings within the plan are listed on the state or National Register of Historic Places.

Therefore, removal of these two buildings has been previously demonstrated to be permissible. The SHC is aware th the Housing Replacement Ordinance will apply to this application.

b. 5.5.2 Outdoor Lighting (pg 205). Refer to civil drawings.
c. 5.5.3 Stormwater and Erosion Control (pg 213). Refer to civil drawings.

4. Development Review Standards (Article 6, Site Plan Design Standards), Section 6.2.2 Review Standards:

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a. Protection of Important Natural Features: not applicable.
b. Topographical Alterations: not applicable.
c. Protection of Important Public Views: not applicable.
d. Protection of Important Cultural Resources: not applicable.
e. Supporting the Use of Renewable Energy Resources: the new addition has been designed to accommodate rooftop solar PV if financially feasible.
f. Brownfield Sites: not applicable.
g. Provide for nature's events: the existing site has virtually no stormwater control whatsoever. The stormwater design utilizes the existing underlying sandy soils to infiltrate runoff from the building rooftop and parking area using a proposed underground infiltration facility located to the east of the proposed building. A small amount proposed rooftop will receive treatment in two small Bioretention areas to be located between the new buildin and the City sidewalk. These systems have been designed to infiltrate runoff for storm events up to and inclu the 10- year storm event.
h. Building Location and Orientation: new addition has been carefully designed to respect the scale of its surrounding context, and the location of the street facade extension maintains the neighborhood setbacks.
i. Vehicular Access: new site access provides for a small drop-off area, as well as a separate parking lot entranc All cars will be able to leave the site facing into North avenue, unlike most other adjacent properties which req backing out onto the street.
j. Pedestrian Access: the new primary entry relates directly to the sidewalk grid and to the repurposed landscap area, thus improving pedestrian access and safety.
k. Accessibility for the Handicapped: the building will be fully handicapped accessible in accordance with City, S and Federal requirements.
l. Parking and Circulation: as noted above, the new drop-off area and parking area will dramatically improve acc into and out of the property.
m. Landscaping and Fences: landscaping and fencing will be provided as shown on the site plan.
n. Public Plazas and Open Space: the site's existing small plaza area is being repaved and landscaped.

o. Outdoor Lighting: refer to site plan. Designed to conform to Section 5.5.2.
p. Integrate infrastructure into the design: Trash is being collected and stored in totes stored out of site at ground level and will be collected multiple times/week as required. Staff will bring all internally generated trash to the trash storage shed on the east side of the parking area.

Section 6.3.2 Review Standards

a. Relate development to its environment: The two stories of the building's design are consistent with the typical height and scale of adjacent buildings. At the same time, the overall scale of the building is also consistent w the changing nature of the immediate neighborhood, which includes three story buildings such as the Commodore Point condominiums across the street, the Mermaid Building at North and North, and the recent renovated COTS building at 95 North Avenue.
   (1) Massing, Height and Scale: As noted above, the design of the new addition very carefully maintains the s of surrounding buildings and transitions appropriately to the local neighborhood.
   (2) Roofs and Rooflines: There are a variety of roof forms in the immediate area, ranging from flat or low slopi to more traditional gabled roofs. The proposed design expands on the original building's flat roof. This d serves to both minimize overall building height and scale, and also simplifies the control and direction of stormwater.
   (3) Building Openings: The existing SHC main entrance is not directly visible from the street. This expansion dramatically improves the sense of entrance by directly facing the street, the vehicular drop-off facilitates a safer connection for those few families who drive their children, and the entrance to the parking area conc most of the parking from the street. The SHC logo reproduced on the entry facade clearly announces the building's purpose and connection to the community.
d. Protection of Important Architectural Resources: The existing building has not been deemed to be of particula historic value. Even so, the design of the addition is respectful to the original scale and massing. As noted in 3(a) above, Staff found in its comments prepared on 9/16/14 for an earlier Sketch Plan Review that "The new construction will greatly improve the Sara Holbrook Center an important community resource and will prove additional affordable housing. Thus, the loss of these buildings at this location is acceptable due to the greate community benefit resulting from the project".
e. Protection of Important Public Views: not applicable.
f. Provide an active and inviting street edge: The design offers an inviting (clearly differentiated entrance, fun graphics, attractive tactile materials) and an active street edge by providing a drop-off/pick-up area with shelte roof.
g. Quality of materials: facade materials include brick masonry, fiber cement or other composite material lap sidi fiber cement or other composite material panels, stucco or EFIS, and metal siding accents. All new operable windows will be fiberglass, storefront entry door systems will be anodized aluminum, storefront fixed windows be fiberglass, and some existing windows that are in acceptable condition will remain.
h. Reduce energy utilization: The building will be designed to meet or exceed the requirements of the CBES Cod the state of Vermont, which exceed the Guidelines for Energy Efficient Construction pursuant to the requireme of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances. The roof is being designed to accommodate the installation of solar PV, which will be included as budget and fundraising allow.
i. Make advertising features complementary to the site: while not specifically advertising, the use of the SHC log the entrance facade is intended to be a playful expression of the buildings true purpose.
j. Integrate infrastructure into the building design: bicycle storage is accommodated on the site plan. Staff will b all internally generated trash to an enclosed shed adjacent to the parking area. Trash pick-up will occur as required according to the amount generated. Rooftop mechanical equipment will be concealed behind the rooftop equipment screen located to minimize any visibility from the street level.
k. Make spaces secure and safe: The building has been designed to comply with all applicable building codes. Building security is a genuine concern for this use, and the design includes a space for staff monitoring of the entrance and electronic control of the entrance to maintain safety. The building entrances will be adequately li and an intercom system for building access will be incorporated for those times when staff monitoring is repla by locked doors.

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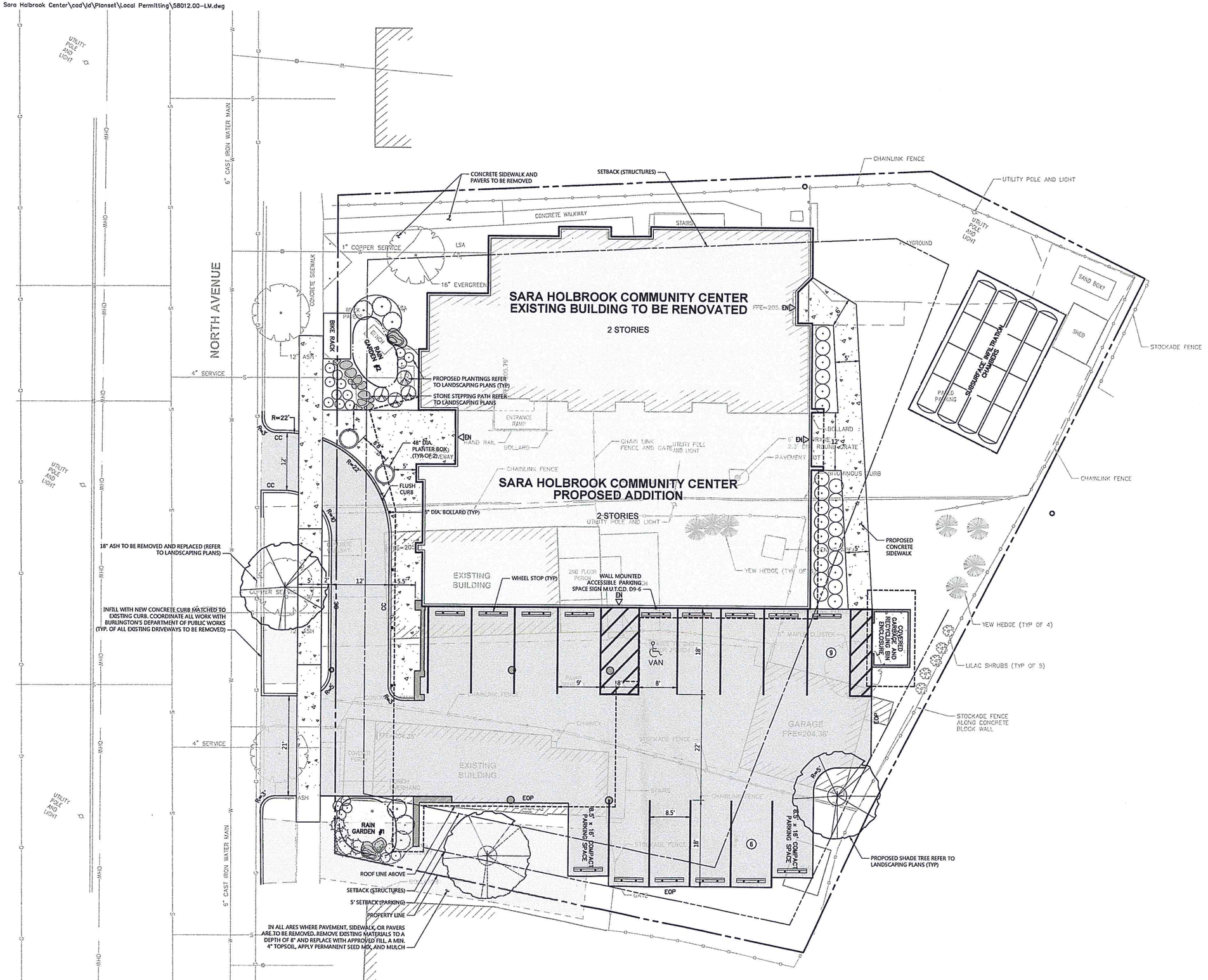

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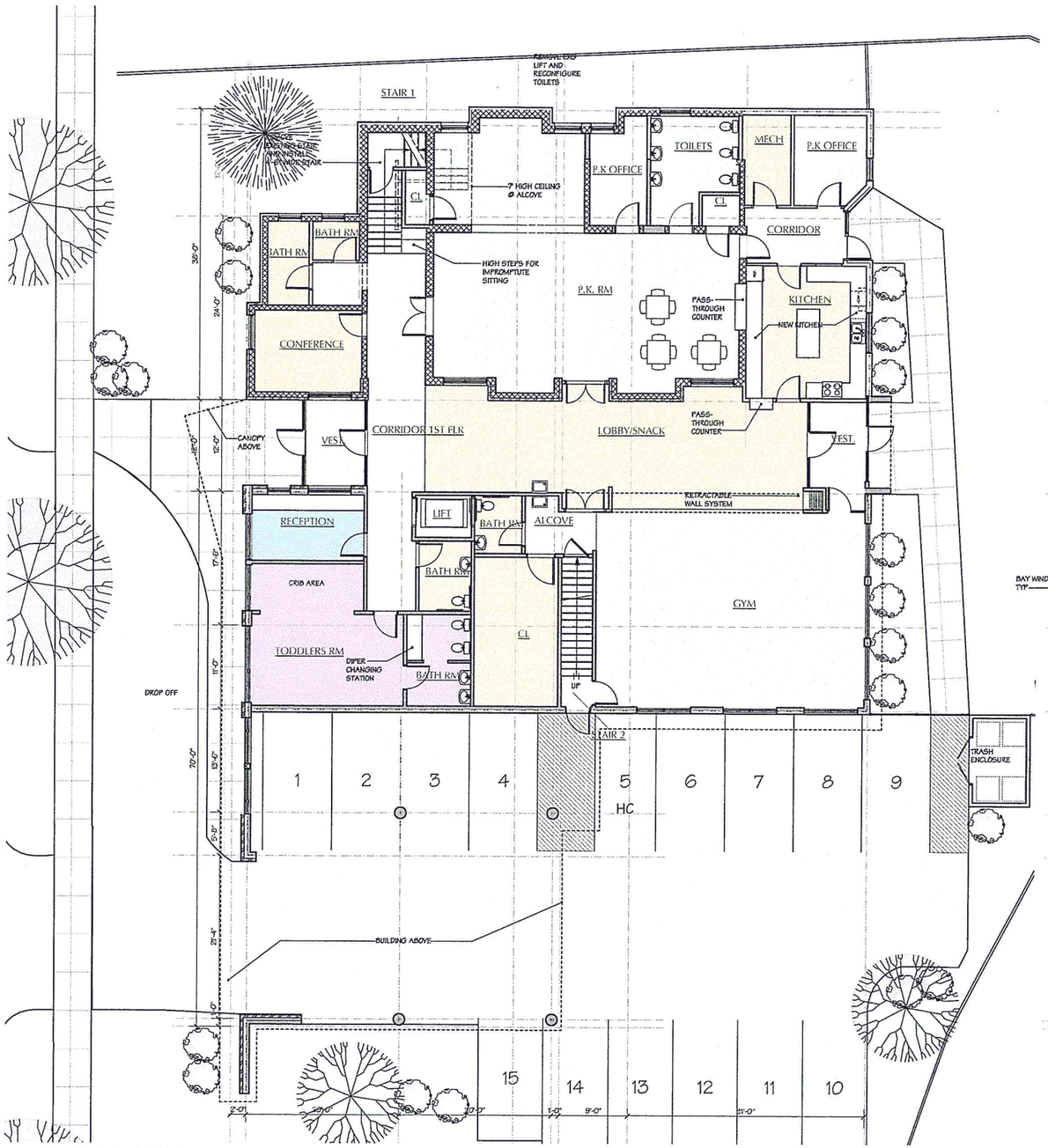
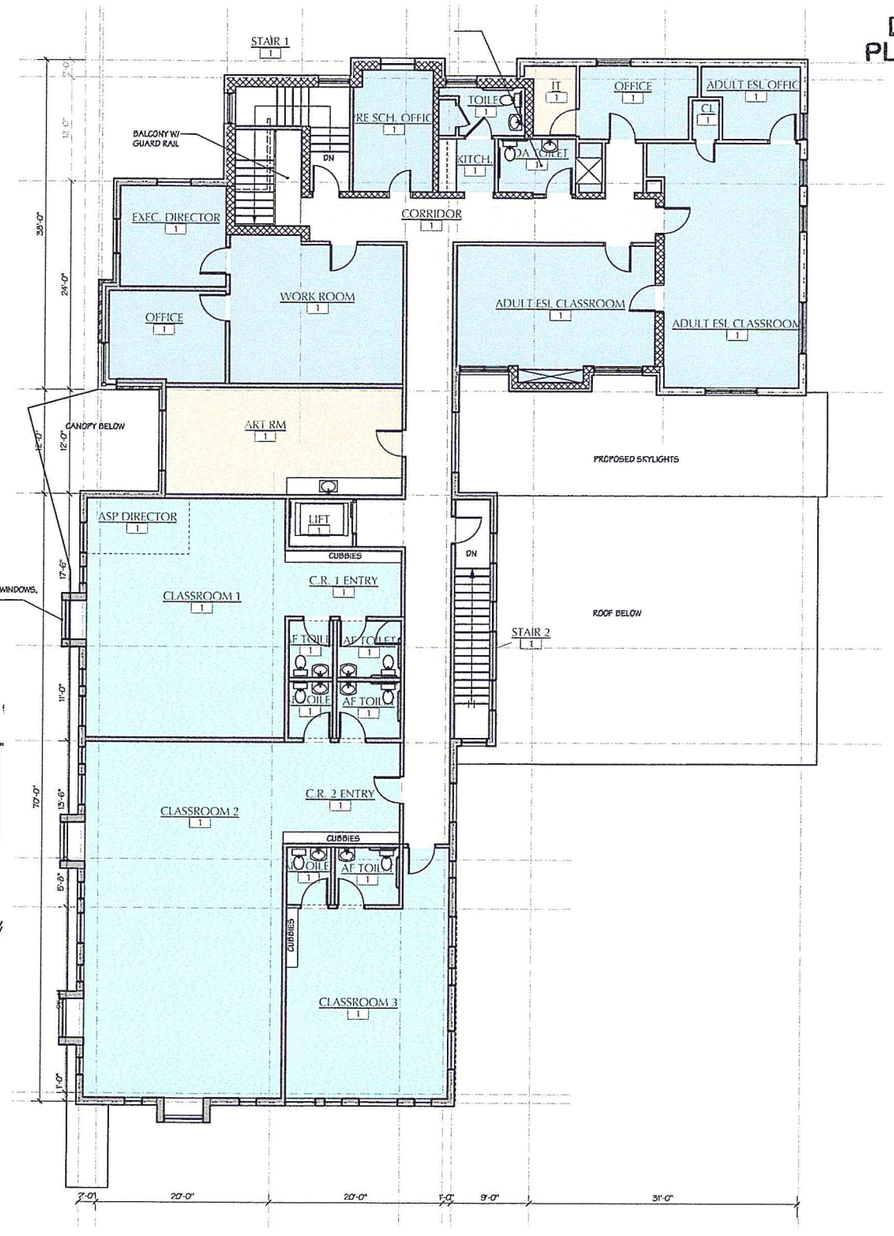


FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"



SECOND FLOOR PLAN
Scale: 1/8" = 1'-0"

SARA HOLBROOK COMMUNITY CENTER

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SCHEMATIC DESIGN

Duncan Wisniewski ARCHITECTURE
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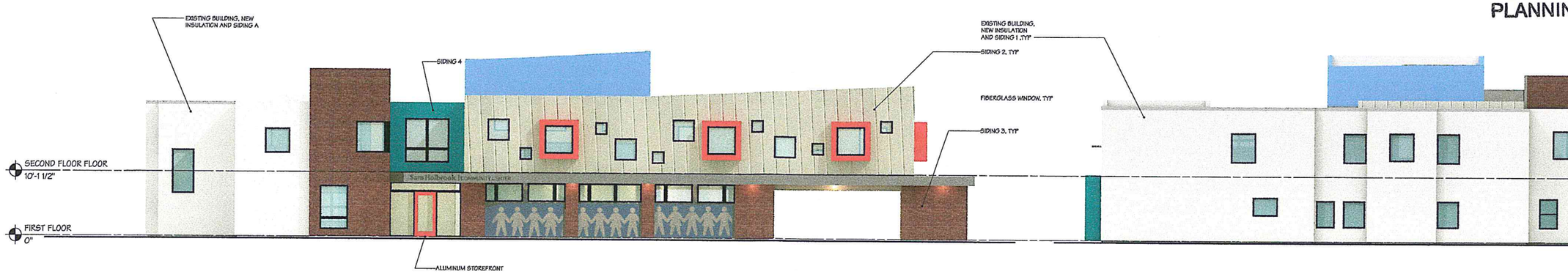

WEST ELEVATION
Scale: 1/8" = 1'-0"

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

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

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

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SCHEMATIC DESIGN

Duncan Wisniewski
ARCHITECTURE
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VIEW FROM NW

VIEW FROM SW

VIEW FROM NW

VIEW FROM SW

VIEW FROM SE

VIEW FROM E

VIEW FROM NORTH WEST

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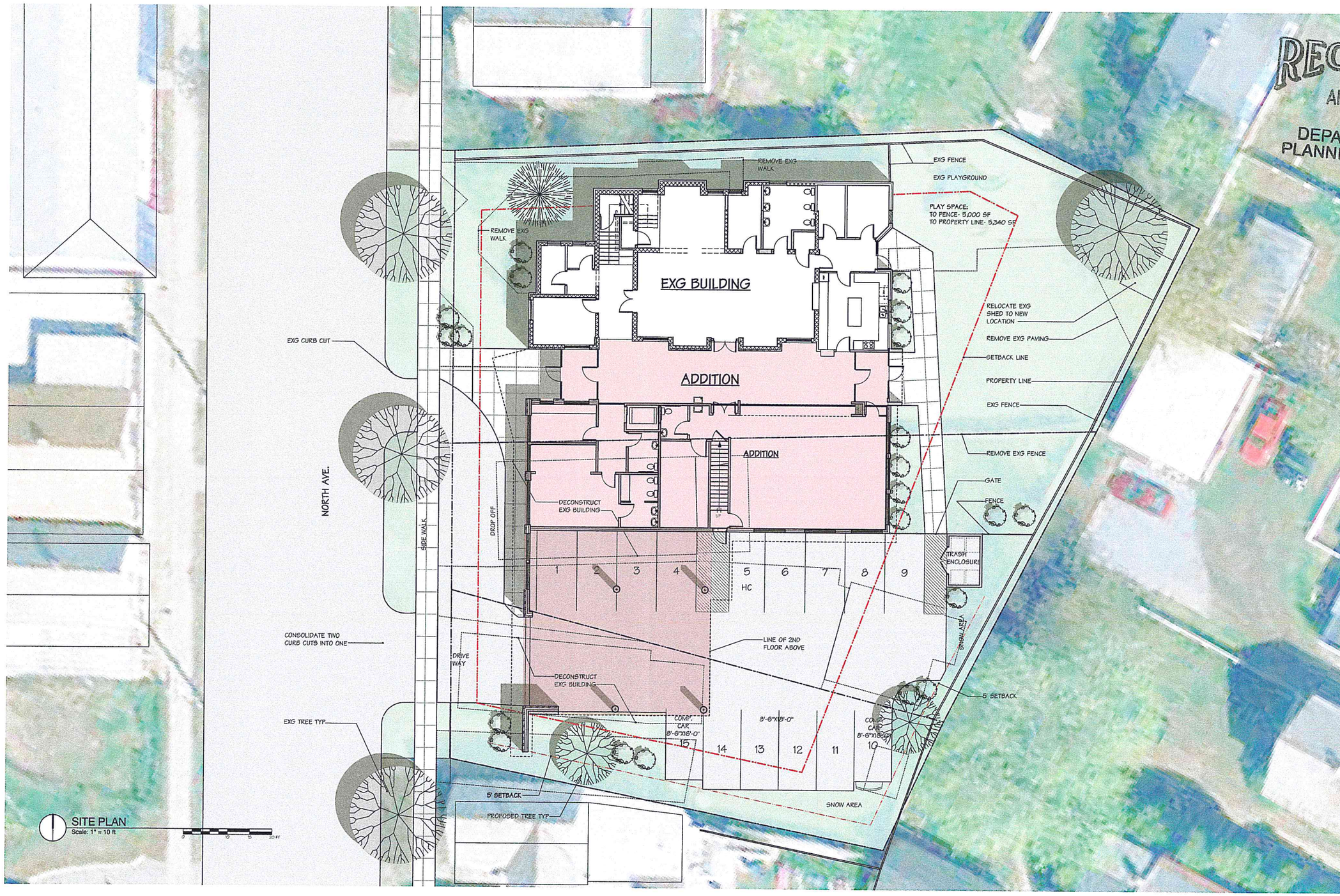

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NORTH AVE EAST ELEVATION

NORTH AVE WEST ELEVATION

VIEW LOOKING SOUTH EAST

VIEW LOOKING SOUTH EAST

VIEW LOOKING NORTH EAST

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ARCHITECTURE
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REMOVE WALK

EXISTING LOT COVERAGE: 12,810 SF
PROPOSED LOT COVERAGE: 12,762 SF

DEMO SHED

444

8158 SF

440 SF

871 SF

2850 SF

1 2 3 4 5 6 7 8 9

15 14 13 12 11 10

SITE PLAN • LOT COVERAGE
Scale: 1" = 10 ft

0 10 15 20 FT

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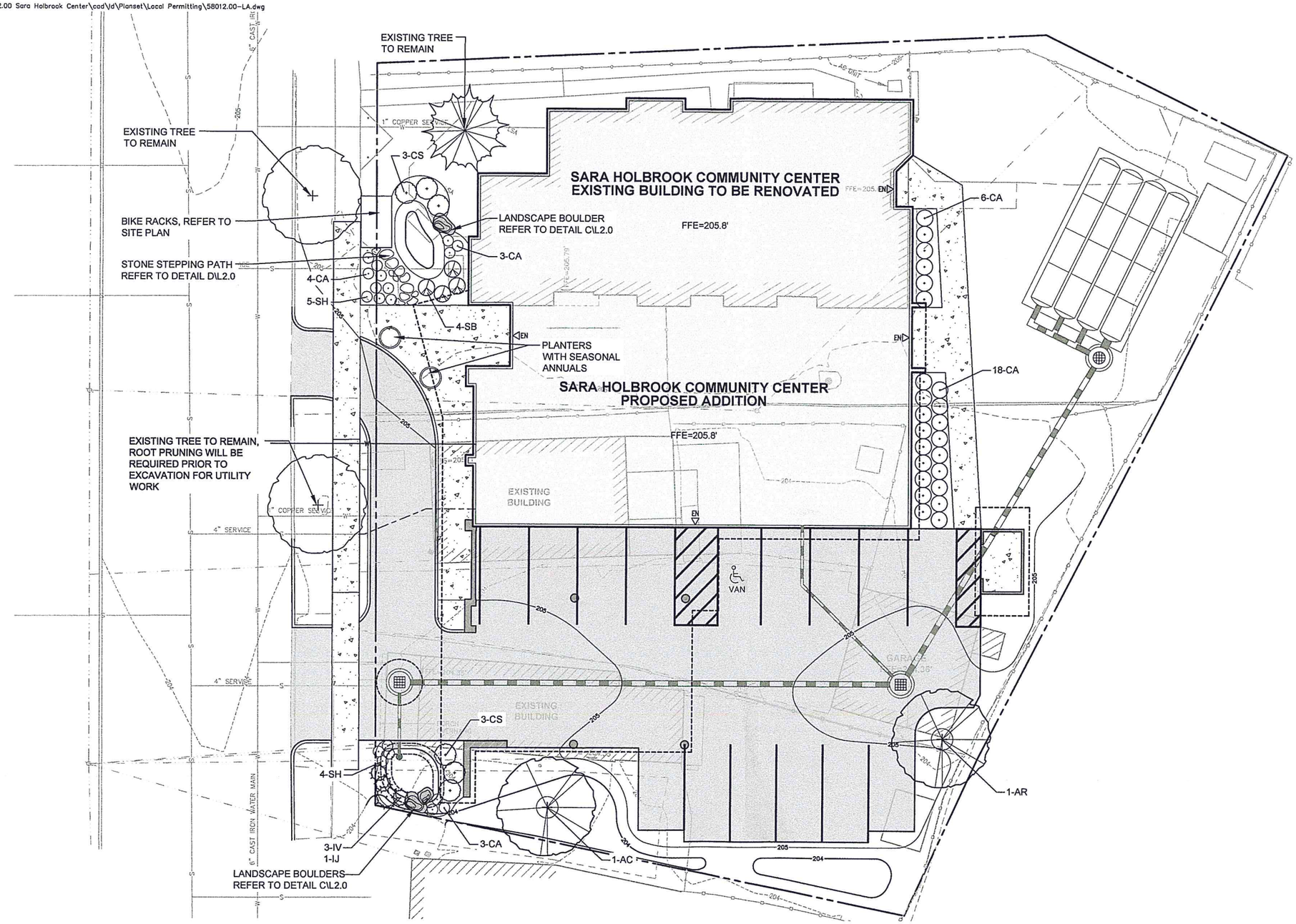

PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
TREES:					
AR	Acer x freemanii 'Sienna Glen'	Red Maple	1	2.5-3" Cal.	B&B, 6' Branching Ht. (Min.)
AC	Acer x freemanii 'Celebration'	Red Maple	1	2.5-3" Cal.	B&B, 6' Branching Ht. (Min.)
SHRUBS:					
CS	Cornus sericea baileyi	Red Twig Dogwood	6	24-30" Wide	B&B, Plant 60" o.c.
IJ	Ilex verticillata 'Jim Dandy'	Winterberry Holly	1	24-30" Wide	B&B, Plant 36" o.c.
IV	Ilex verticillata 'Red Sprite'	Winterberry Holly	3	24-30" Wide	B&B, Plant 36" o.c.
SB	Spiraea x bumulda 'Anthony Waterer'	Anthony Waterer Spirea	4	24-30" Wide	B&B, Plant 36" o.c.
ORNAMENTAL GRASSES:					
CA	Calamagrostis acutiflora stricta 'Karl Forester'	Feather Reed Grass	10	2 Gal.	C.G., Plant 24" o.c.
SH	Sporobolus heterolepis	Prairie Dropseed	9	1 Gal.	C.G., Plant 24" o.c.

NOTES:
1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL PLANT QUANTITIES FOUND IN THE PLANTING PLANS. IF ANY DISCREPANCIES ARE FOUND, LANDSCAPE ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY.
2. FINAL LAYOUT AND PLACEMENT OF ALL PLANT MATERIAL TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FINAL LAYOUT OF PROPOSED TREES MAY VARY DEPENDING ON SITE CONDITIONS OR ADJUSTMENTS IN THE DESIGN.
3. CONTRACTOR IS RESPONSIBLE TO SEED ALL DISTURBED AREAS ACCORDING TO THE SPECIFICATIONS AND LAWN DETAIL
4. REFER TO PLANTING DETAILS FOR PROPER PLANT MATERIAL INSTALLATION REQUIREMENTS.
5. ALL TREE, SHRUB AND PERENNIAL PLANTING BEDS ARE TO BE CONTINUOUS, COMPLETELY DUG OUT AND BACKFILLED WITH THE PROPER PLANTING BED BACKFILL MATERIAL TO DEPTH SPECIFIED IN DETAILS AND SOIL PREPARATION SPECIFICATION.
6. IF THE LANDSCAPE CONTRACTOR PROPOSES A SUBSTITUTE PLANT SPECIES, ALL SUBSTITUTES NEED TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING PRIOR TO ORDERING.

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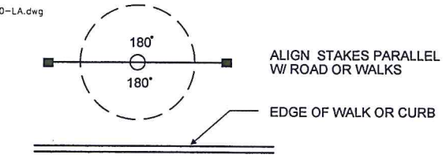
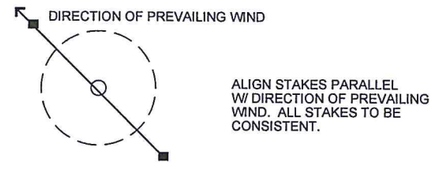
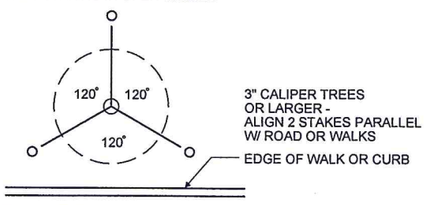


A. TREE STAKING ALONG ROAD OR WALKS



B. TREE STAKING IN OPEN SPACES



C. TREE GUYING

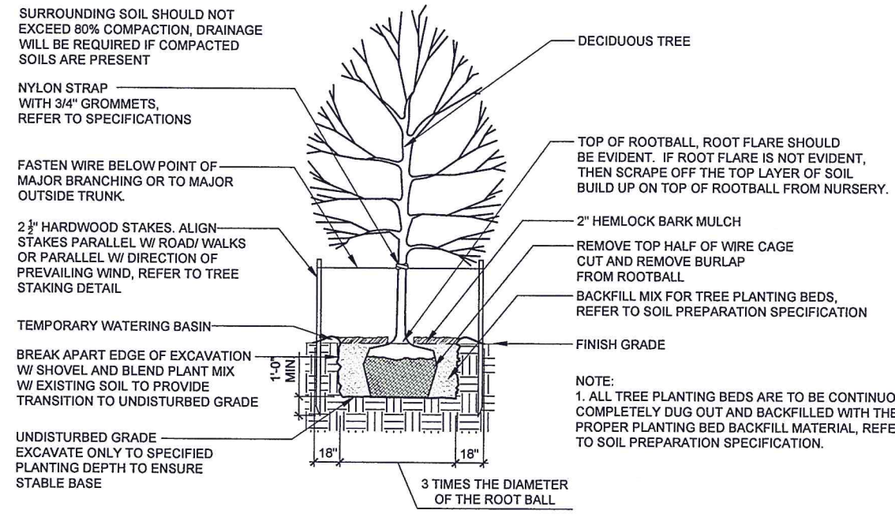
E TREE STAKING LAYOUT

NO SCALE

p-stake.dwg

NOTE: EXAMINE ENTIRE TREE AND REMOVE ALL NURSERY TAGS, ROPE, STRING, OR SURVEYORS TAPE TO PREVENT FUTURE GIRDLING.

SURROUNDING SOIL SHOULD NOT EXCEED 80% COMPACTION, DRAINAGE WILL BE REQUIRED IF COMPACTED SOILS ARE PRESENT

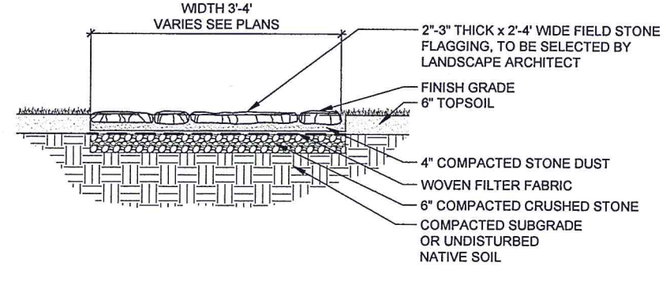


NOTE:
1. ALL TREE PLANTING BEDS ARE TO BE CONTINUOUS, COMPLETELY DUG OUT AND BACKFILLED WITH THE PROPER PLANTING BED BACKFILL MATERIAL, REFER TO SOIL PREPARATION SPECIFICATION.

A TREE PLANTING

SCALE 1/4" = 1'-0"

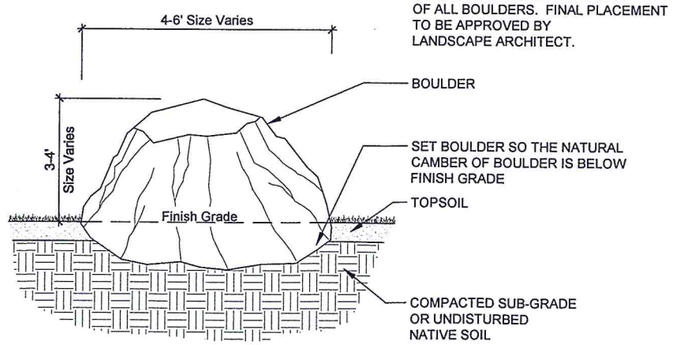
p-decidtree.dwg



D STONE STEPPING PATH

SCALE 1/2" = 1'-0"

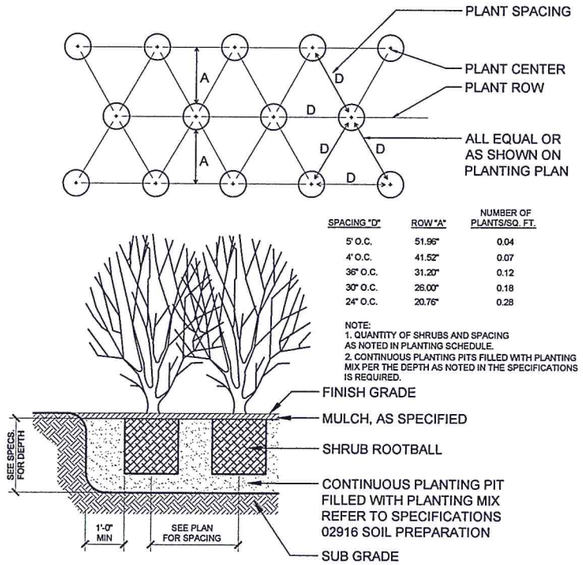
NOTES:
1. BOULDERS WILL BE SELECTED BY LANDSCAPE ARCHITECT
2. BOULDERS VARY IN SIZE.
3. LANDSCAPE ARCHITECT TO ASSIST CONTRACTOR IN FIELD SETTING OF ALL BOULDERS. FINAL PLACEMENT TO BE APPROVED BY LANDSCAPE ARCHITECT.



C LANDSCAPE BOULDER

SCALE 1/2" = 1'-0"

d-landscape boulder.dwg



SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
5' O.C.	51.96"	0.04
4' O.C.	41.52"	0.07
36" O.C.	31.20"	0.12
30" O.C.	26.00"	0.18
24" O.C.	20.76"	0.28

NOTE:
1. QUANTITY OF SHRUBS AND SPACING AS NOTED IN PLANTING SCHEDULE.
2. CONTINUOUS PLANTING PITS FILLED WITH PLANTING MIX PER THE DEPTH AS NOTED IN THE SPECIFICATIONS IS REQUIRED.

B SHRUB PLANTING

SCALE: 1/2" = 1'-0"

Friday, April 06, 2018 2:52:19 PM TSHEDD Plotted Thursday, April 12, 2018 1:20:01 PM Shedd, Tyler

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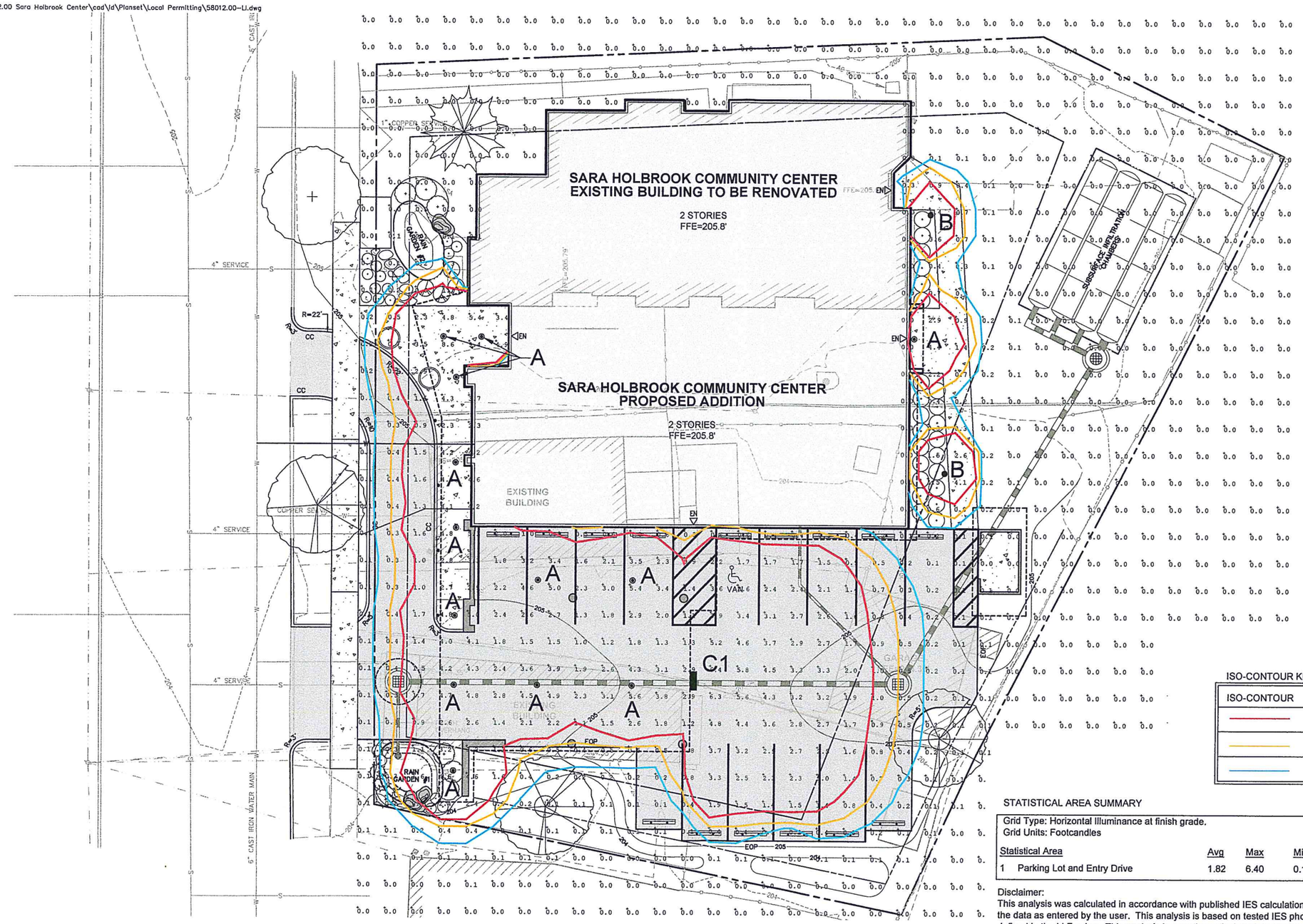

ISO-CONTOUR KEY

ISO-CONTOUR	FOOTCANDLE VALUE
	1.00
	0.50
	0.25

STATISTICAL AREA SUMMARY

Grid Type: Horizontal Illuminance at finish grade.
Grid Units: Footcandles

Statistical Area	Avg	Max	Min	Avg/Min	Max/Min
1 Parking Lot and Entry Drive	1.82	6.40	0.10	18.20	64.00

Disclaimer:
This analysis was calculated in accordance with published IES calculation methods and procedures with the data as entered by the user. This analysis is based on tested IES photometric data, light loss factors as defined in the LLF value. This analysis is a mathematical model of real life situations, and it can be only as accurate as the model itself. Calculated values may vary from actual measurements in certain situations. VHB is not responsible for light output deviations due to light fixture or ballast combinations or other variables.

FIXTURE AND POLE SPECIFICATIONS

Fixture A
Manufacturer: Philips Lightolier
Fixture: SlimSurface LED - S6S (6inch)
Color: Black
LED Color: 4,000k
Voltage: 120v (verify with electrical engineer)

Fixture B
Manufacturer: KIM Lighting
Fixture: Compact Bollard - CB32 LED
Color: Black
LED: 10w
LED Color: 4,200k
Voltage: 120v (verify with electrical engineer)

Fixture C
Manufacturer: Beacon Lighting Products
Fixture: Traverse Wall Light TRV-D
Color: Black
LED: 27w
LED Color: 4,000k
Voltage: 120v (verify with electrical engineer)

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To: Peter Smiar, P.E. Date: March 28, 2018

Project #: 58012.00

From: Erica Quallen, EIT Re: Sara Holbrook Center
Trip Generation Summary

As part of the local permitting process for the proposed expansion of the Sara Holbrook Center, located at 66 Nor Avenue in Burlington, Vermont, VHB has completed trip generation calculations to estimate the existing and prop trips generated by the site.

The Proposed Project involves the acquisition of the properties located at 56 North Avenue and 58 North Avenue, removal of the 2 existing residential buildings, and expansion of the existing building and parking area of the Sara Holbrook Center. Trip generation estimates were performed using a combination of the 9th and 10th Editions of the Institute of Transportation Engineers (ITE) Trip Generation Manual[1].

The existing uses in the three lots impacted by this proposed project are described below:

- 66 North Avenue - Sara Holbrook Center – 8 staff members, 44 children
- 56 North Avenue – Residential building with two 2-bedroom apartments
- 58 North Avenue – Residential building with one 1-bedroom apartment and one 2-bedroom apartment

The proposed project will expand the operation at the Sara Holbrook Center to include a total of 14 staff member and 75 children (i.e. a net increase of 6 staff members and 31 children).

The Sara Holbrook Center trip generation estimates were calculated using Land Use Code (LUC) 565: Day Care Cer The existing residential trip estimates were calculated using LUC 221: Multi-Family Housing (Low Rise). The existing proposed, and net new trips are shown in **Table 1** on the following page. Net new trips were calculated by: 1) subtracting the existing trip generation from the proposed trip generation, and 2) by taking a reduction for non-vehicle trips. The 2017 American Community Survey data shows that over 30% of people in Burlington commute b walking, biking, or taking the bus[2]. For the purpose of this calculation, a conservative reduction of 15% was include to account for people who are working at the Center or dropping off their child by a travel mode other than drivin

---

[1] *Trip Generation Manual, 9th Edition.* Institute of Transportation Engineers, 2012.

[2] *Burlington, VT Economy data.* "Towncharts.com – Burlington, VT Economy Data." N.p., December 2017. Web. Accessed 23 Ma 2018.

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Table 1: Trip Generation Estimates

Peak Period	Proposed Site Generated Trips	Existing Site Generated Trips (15% Active Commuter Reduction Already Applied to Existing)		Active Commuter Reduction (15%)	Net New Trips *(Proposed Existing- Reduction*
AM Peak Hour		Residential	Sara Holbrook		
Entering	33	1	17	5	10
Exiting	30	3	15	4	8
Total	**63**	**4**	**32**	**9**	**18 trips**
PM Peak Hour		Residential	Sara Holbrook		
Entering	29	3	15	4	7
Exiting	32	1	16	5	10
Total	**61**	**4**	**31**	**9**	**17 trips**

As documented in **Table 1** above, the proposed expansion of the Sara Holbrook Center is anticipated to generate total of 18 net new morning peak hour trips and 17 evening peak hour trips. VTrans Traffic Impact Study Guideline identifies the need for a traffic study when a site generates 75 or more trips in a peak hour. This site is well beneat this limit and is therefore not anticipated to have adverse impacts on the adjacent roadway network.

May 16, 2018

Matthew,

I am writing to you regarding the Design Advisory Board's consideration of UVM's permit application for 97 Spear Street. As a resident of Prospect Parkway, you may have some appreciation for perspectives regarding campus traffic on S. Prospect Street.

I am hopeful that you and other members of the DAB would be willing to consider suggesting conditions for inclusion in the UVM permit in order to increase UVM's compliance with previously issued permits and to mitigate aesthetic and health impacts from UVM traffic on South Prospect Street residents. As you know, our homes and neighborhood are precious to us and represent a significant lifetime investment.

Specifically, I would like to see the permit for 97 Spear Street require a <u>functioning</u> gate at the intersection of South Prospect and Davis Road, and no bus, truck or construction traffic on South Prospect Street south of Maple..

Regarding the gate, please can the permit for 97 Spear Street require:

1) UVM to install and maintain a gate that is functioning at all times and prevents traffic from exiting from Davis Road onto South Prospect; (See attachment for comments about gate that has been largely not functioning for the past 3 years)

2) UVM (not the city police) to man the entrance 24/7 when the gate is not operating properly. The attendant should not be a UVM student.

3) A camera installed at the gate so UVM police or maintenance can monitor whether the gate is working properly and whether repair is needed. Timely repairs are important.

4) UVM police to ticket all drivers who drive the wrong way on the one-way section of Davis Road. Perhaps the previously mentioned camera can be positioned to capture license plate information of cars driving the wrong direction on Davis Road.

<u>NO UVM related TRUCK TRAFFIC on South Prospect Street</u>

5) Prohibition of all trucks going to UVM, including construction vehicles, from using South Prospect Street south of Main Street. City ordinance requires vehicles weighing more than 24,000 lbs (G.V.W.) to use truck routes. (Title 27, Section 20-43). South Prospect Street is not a truck route. Furthermore, South Prospect Street , south of Maple, is sign posted as "No Thru Trucks". All trucks entering at Davis Rd would be thru truck traffic since it is not allowed to exit from Davis Road to South Prospect Street.

<u>NO UVM BUSES on South Prospect Street</u>

6) UVM is silent in its permit application for 97 Spear Street as to whether its construction project will affect its on-campus bus routing. None of UVM's on-

campus buses should be diverted to South Prospect Street. Furthermore, UVM has ignored pleas from the majority of South Prospect Street residents (25 signed a petition) to remove the UVM Redstone Bus from South Prospect Street south of Maple Street. UVM's Redstone bus is a private bus, and provides students a very short 4-city block ride (between the Redstone campus and the main campus green). The Redstone bus should use UVM's on-campus road (University Heights Road), like its 3 on-campus buses do, and not our city residential street. The Redstone bus is offensive because it drives by our homes 98 times a day (= every 3 to 6 minutes) and is 71 dBA loud as measured by UVM at the curb. The bus violates the city street weight limit of 24,000 lbs, emits very fine toxic CNG particles, and exceeds acceptable noise threshold levels. Only at a superficial level does the Redstone bus seem unrelated to the project at 97 Spear Street, but it is relevant to the project in that the Redstone bus and the proposed project are both south campus issues. And UVM only accommodates city requests, especially those of residents, when UVM wants a permit from the city. Since UVM wants this permit for 97 Spear Street, and the project is in the south campus, this opportunity is our only leverage to convince UVM to do the right thing by removing their bus from our neighborhood and putting it on the south campus university road. Since traffic circulation is a matter for the DAB to consider, a permit condition that requires moving a private UVM bus off of South Prospect street and putting it on the internal south campus road is a rare opportunity to use of our city leverage. **Furthermore, moving the UVM Redstone bus onto the internal south campus road (University Heights Rd) will also improve traffic flow on Main Street and moving traffic into and out of our downtown is a very important issue that affects thousands of people and the vitality of our city.** UVM's Redstone bus blocks 3 lanes of traffic (one lane headed east and two lanes headed west) on Main Street when it is taking a left turn off of Main Street and onto University Place (without the aid of a turn lane or stop light). **So every 3 to 6 minutes, all day long, the UVM Redstone bus is hindering traffic flow on Main Street**. US Highway 2 traffic would flow much better if UVM's Redstone bus used the on-campus University Heights road (like its other buses do), turned west onto Main Street at the intersection of Main and University Heights, and turned right onto University Place. The state and federal government would probably require UVM to make this change if they were made aware of the way that UVM's Redstone bus is hindering traffic flow on US Route 2. Despite the reeipt of PILOT funds, which should be used as productively as possible, the city would not see as much deterioration of the road surface on South Prospect Street if the UVM bus used its internal campus road. Heavy buses that circulate often are the worst causes of accelerated road deterioration. Moving UVM's over-weight private bus onto UVM's campus road would reduce city expenses on road repair and save taxpayer dollars.

The following paragraphs provide historical context, which may be helpful during the DAB's consideration of UVM's permit application.

On June 22, 2015, the State of Vermont's District Environmental Commission issued a decision regarding UVM's Land Use Permit for Virtue Field (Case No.4C348-6). In this permit, the Environmental Court requires that Davis Road be a one-way street into

campus at its intersection with South Prospect Street; and that egress from Davis Road onto South Prospect Street be prohibited except when directed by emergency or higher level security personnel in emergency or high security situations. (Quotes from this land use permit are provided as an attachment to this letter.)

The language in this June 22, 2015 Environmental Court decision, repeats, reinforces, and tightens the language used in a May 25, 2004 Environmental Court Land Use Permit #4C0025-1 for University Heights. In this earlier permit, Davis Road traffic was also prohibited from exiting onto South Prospect Street.

The Environmental Court's 2004 and 2015 decisions did not define how UVM is to prevent campus traffic from exiting onto South Prospect Street. Although the existing permits do not require a gate, actions are expected to create compliance with conditions. For this reason, UVM installed a gate on Davis Road, about 40 feet east of its intersection with South Prospect Street. When operating properly, the gate is suppose to open when a car approaches it from the South Prospect Street side, and the gate is suppose to close after the car enters campus.

Unfortunately, UVM chose a poor quality gate. For the past 3 years, the gate has often been broken (including most of the 2017-2018 academic year). When the gate is broken, it is left open and campus traffic exits onto South Prospect Street. Hence, for large swaths of past 3 years, UVM has been in violation of the conditions set by the State of Vermont Environmental Commission in the referenced 2004 and 2015 Land Use Permits.

Despite South Prospect Street residents telling UVM for 3 years that its gate is not working and that is left open for too long, and that cars are driving out of campus onto South Prospect Street, only in the past few weeks has UVM started to address this problem.

UVM just ordered a new gate and its receipt is expected soon. UVM's interest in receiving a permit for the 97 Spear Street project is likely the reason why UVM is addressing this long-term circulation problem. UVM recognizes that being out of compliance with earlier permit conditions is an issue when requesting a new permit.

CONCLUSION: It is inadequate for UVM to reference the 2003 and 2009 South Campus Master Transportation Plans. Neither are available any longer on line. Instead, the permit for 97 Spear Street needs to refer to the circulation conditions required by the July 22, 2015 Environmental Commission permit for Virtue Field. Furthermore, UVM has not effectively prevented traffic from exiting onto South Prospect Street via Davis Road despite the 2004 and 2015 permit conditions requiring them to do so. In addition, for 10 years, UVM has ignored South Prospect Street resident requests to remove their Redstone bus from South Prospect Street. Thus, I ask please that you recommend to the Design Advisory Board, that the permit for 97 Spear Street include the aforementioned permit conditions when the DAB considers circulation issues.

Thank you for your time and consideration.

B. Headrick

3 YEAR HISTORY of PROBLEMS WITH EXISTING GATE

Since 2004 UVM was suppose to keep traffic from exiting campus onto South Prospect Street. Only in 2015, after residents on South Prospect Street appealed UVM's permit for Virtue Field, did UVM install a gate at the intersection of Davis Road and South Prospect Street in order to comply with 2004 and 2015 permit conditions. UVM chose a poor quality gate and has not kept it operating over the past 3 years, and as a result, the traffic problems have continued. This indicates that new permits should require UVM to keep the gate functioning and closed; and manned when it is not working. Evidence:

- Soon after installation of the gate in 2015, it kept breaking. In order to reduce wear and tear on the gate, UVM adjusted the timing on the gate so it stays open for about 10 minutes after a car passes through. Traffic uses the long time that the gate is open to exit onto South Prospect Street.

- UVM leaves the gate open for weeks at a time, not just during school breaks, but also throughout the academic year. Repair work is not timely and the repair doesn't last long before the gate is broken again.

- UVM acknowledges that the gate has been broken and open for most of the 2017-2018 academic year. Residents have reported traffic violations to UVM and city police; but UVM's enforcement effort is too weak to stop traffic from driving the wrong way on Davis Road in order to exit onto South Prospect Street.

Before and after the gate installation, UVM has been lackluster in its efforts to stop traffic from exiting onto South Prospect Street, which is a violation of its 2004 and 2015 permits. New permits should not be granted if UVM cannot generate high confidence that it will comply with conditions of existing permits.

QUOTES FROM VIRTUE FIELD PERMIT (#4C0348-6). July 22, 2015

Page	Item	Exerpt
6	24	"Traffic from Special Events may egress from the PFG by either University Heights Road or onto Spear Street. Exceptional Special Events can allow some egress onto Prospect Street only when directed by emergency or higher level security personnel in emergency of high level security situations otherwise egress onto South Prospect Street is prohibited."

Findings of Fact, page 6, item 19:
"The traffic circulation at UVM was discussed and approved in the review f the University Heights (LUP #4C0025-1) issued on May 25, 2004. The Permits and Findings state: …. There will be no exiting from the site via Davis Road to South Prospect Street…"

Findings of Fact, page 11, item 46:
"World Health Organization (WHO) Guidelines state that to avoid hearing impairment, Leg924h) should not exceed 70dBA…."

Findings of Fact, page 13, item 2:
"An adverse aesthetic impact is undue <u>if any</u> of the following is true:
(1) the Project violates a clear written community standard intended to preserve the aesthetics of scenic beauty of the area [Evidence: South Prospect Street is not a designated truck route; and thus the UVM Redstone bus, as a private bus, violates the city regulation of 24,000 lb weight limit for vehicles on streets that are not truck routes];

(2) the Project offends the sensibilities of the average person [Evidence: 25 persons signed a petition to remove the Redstone bus from South Prospect Street south of Maple). A bus driving by 98 times a day is excessive. A bus driving students 4 blocks is wasteful.]

(3) the Applicants failed to take generally mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings." [Evidence: Despite permit conditions prohibiting campus traffic from exiting onto South Prospect Street, and city regulations that specify a 24,000 lb weight limit on streets that are not truck routes, UVM continues to allows its campus traffic and Redstone bus to have an undue adverse impact on South Prospect Street. In addition UVM allows construction trucks to use South Prospect unless it is expressly prohibited in the permits. This is despite the fact that there are alternative entrances into campus and South Prospect Street is sign posted as a "No Thru Truck" Street.]

Conclusion: It is crucial for the aesthetics of our street (quality of life and property values) and health and safety of residents that these issues be resolved via permit conditions for 97 Spear Street.

May 21, 2018

Mr. Scott Gustin
City Planner
City of Burlington
Planning and Zoning Department
149 Church Street
Burlington, VT 05401

Scott,

I am writing to you regarding Planning and Zoning's consideration of UVM's permit application for 97 Spear Street (new multi-event center and basketball stadium in the south campus).

I am hopeful that you, as the lead City Planner on this project, and members of Planning and Zoning's DAB and DRB committees, will consider including conditions that are listed below when preparing your decision regarding UVM's request for this land use permit. The suggested conditions are necessary to:

1. Increase UVM's compliance with 2004 and 2015 land use permits in the south campus.
2. Increase UVM's compliance with city ordinances and federal highway regulations for streets adjacent to south campus;
3. Reduce adverse aesthetic, health, property and financial impacts resulting from UVM traffic on streets adjacent to the south campus.

Violation of 2004 and 2015 Land Use Permits

Currently, UVM is violating its 2004 and 2015 State of Vermont land use permits for its south campus University Heights Living Learning Center complex and Virtue Field facilities.

In State of Vermont May 25, 2004 land use permit for UVM's south campus University Heights complex (#4C0025-1), the Environmental Court included a permit condition specifying that Davis Road traffic was prohibited from exiting onto South Prospect Street. For 10 years, (2004-2015), UVM did nothing to prevent traffic from exiting onto South Prospect Street other than random and rare enforcement.

On July 22, 2015, the State of Vermont's District Environmental Commission issued a decision regarding UVM's Land Use Permit for Virtue Field (Case No.4C348-6) that repeats, reinforces, and tightens the language used in the 2004 land use permit. In the 2015 permit, the Environmental Court restated the 2004 permit condition that Davis Road is to be maintained as a one-way street into campus at its intersection with South Prospect Street. The permit also tightened previous permit language to say that egress from Davis Road onto South Prospect Street is prohibited except when directed by emergency or

higher- level security personnel in emergency or high security situations. (Quotes from this land use permit are provided as an attachment to this letter.)

The Environmental Court's 2004 and 2015 decisions did not specify how UVM is to prevent campus traffic from exiting onto South Prospect Street. Although the existing permits do not require a gate, the court expects permit applicants to take reasonable action to create compliance with conditions.

Consequently, at the time of the Virtue Field Project, UVM installed a gate on Davis Road, about 40 feet east of its intersection with South Prospect Street. When operating properly, the gate is suppose to open when a car approaches it from the South Prospect Street side, and the gate is suppose to close after the car enters campus.

Unfortunately, UVM chose a poor quality gate. For the past 3 years, the gate has often been broken (including most of the 2017-2018 academic year). When the gate is broken, it is left open and campus traffic exits onto South Prospect Street.

Enforcement is rare, random and thus ineffective. Hence, for large swaths of past 3 years, UVM has been in violation of the conditions set by the State of Vermont Environmental Commission in the referenced 2004 and 2015 Land Use Permits.

Despite South Prospect Street residents telling UVM's Lisa Kingsbury and UVM Police for 3 years that its gate is not working properly, that is left open for too long, and that cars are driving out of campus onto South Prospect Street, only in the past few weeks has UVM started to address the problem of the broken gate.

In May 2018, UVM ordered a new gate and its receipt is expected soon. UVM's interest in receiving a permit for the 97 Spear Street project is likely why UVM is addressing this long-term circulation problem. UVM recognizes that being out of compliance with earlier permit conditions is an issue when requesting a new permit.

REQUESTED CONDITIONS for 97 Spear Street Permit

Specifically, it would be very helpful to see the permit for 97 Spear Street require a functioning gate at the intersection of South Prospect and Davis Road, and no bus, truck or construction traffic on South Prospect Street south of Maple during and after the 97 Spear Street project.

Regarding the gate, please can the permit for 97 Spear Street require:

1) UVM to install and maintain a gate that is functioning at all times and prevents traffic from exiting from Davis Road onto South Prospect; (An attachment details UVM's failure to make the existing gate function properly for the past 3 years.)

2) UVM (not the city police) to man the entrance 24/7 when the gate is not operating properly. The attendant should not be a UVM student.

3) A camera installed at the gate so UVM police or maintenance can monitor whether the gate is working properly and whether repair is needed. Timely repairs and enforcement of the one-way entrance are important.

4) UVM police to ticket all drivers who drive the wrong way on the one-way section of Davis Road. Perhaps the previously mentioned camera can be positioned to capture license plate information of cars driving the wrong direction on Davis Road.

NO UVM related TRUCK TRAFFIC on South Prospect Street

5) Prohibition of all trucks going to UVM, including construction vehicles, from using South Prospect Street south of Maple Street. The 2015 land use permit for Virtue Field prohibited construction vehicles from using South Prospect Street. The 97 Spear Street permit needs to restate this condition and expand the language to specify that UVM, UVM vendor, and UVM construction traffic is always prohibited from South Prospect Street south of Maple (during and forever after the project).

This is necessary because UVM believes that the truck regulations do not pertain to South Prospect Street or UVM traffic. UVM's Lisa Kingsbury says UVM is currently keeping its trucks off of South Prospect (not consistently) as a courtesy and not as a requirement.

But city ordinance (Title 27, Section 20-43) requires vehicles weighing more than 24,000 lbs (G.V.W.) to use city defined truck routes. This ordinance is posted at city entrances on Truck Routes. South Prospect Street is not a city designated truck route. Truck routes are listed in the city ordinances and Truck Routes are sign posted throughout the city.

Furthermore, South Prospect Street, south of Maple, is city sign posted as "No Thru Trucks". All trucks entering at Davis Rd would be thru truck traffic since traffic is not allowed to exit from Davis Road to South Prospect Street. Therefore, trucks going to UVM's campus should not be using South Prospect Street south of Maple.

NO UVM BUSES on South Prospect Street south of Maple Street

(6a) UVM is silent in its permit application for 97 Spear Street as to whether the proposed construction project will affect its on-campus bus routing. A condition is needed in the permit to specify that none of UVM's on-campus buses should be diverted to South Prospect Street south of Maple Street.

(6b) Furthermore, UVM has ignored pleas from the majority of South Prospect Street residents (25 signed a petition) to remove the UVM Redstone Bus from South Prospect Street south of Maple Street. Despite this petition, UVM has not removed its Redstone bus from South Prospect Street south of Maple. This is a daily violation of city regulations regarding vehicle weight limits on streets that are not designated truck routes.

Circulation on streets surrounding the south campus are relevant to the project at 97 Spear Street, because:

- The proposed 97 Spear Street project will be used for public events as well as UVM events, and will at times lead to increased traffic going to/from campus;

- The current routing of the Redstone bus from South Prospect to Main to University Place hinders the flow of traffic on Main Street;
- The Redstone bus can serve the south campus dorm and facilities equally well by using the internal campus road (Northbound: University Heights to Main to University Place) and (Southbound: South Prospect to Main to University Heights); and this proposed route would not hinder the flow of traffic on Main Street and would remedy the adverse impacts of the Redstone bus on South Prospect Street homeowners.

UVM's strong interest in obtaining a timely permit for 97 Spear Street is a rare and important opportunity that we as a city need to leverage to remedy adverse impacts from UVM's Redstone bus on Main Street and South Prospect Street. It is a rare and timely opportunity because UVM only accommodates city requests, especially those of residents, when UVM wants a new land use permit. (Example, the need of residents to appeal the 2004 and 2015 permits to the State of Vermont Environmental Court.)

UVM's Redstone bus provides its students a short 4-city block ride: from Coolidge Hall on the Redstone campus to the buildings located at the top of main campus green. Instead of using So Prospect Street south of Main to make this trip, the Redstone bus should use UVM's on-campus road (University Heights Road), as its 3 on-campus buses do, to travel from Coolidge Hall on the Redstone Campus to the west entrance of the Davis Center, and the same bus stops in front of buildings at the top of the main campus green along University Place.

UVM's Redstone bus is offensive because it:

- Blocks 3 lanes of traffic on Main Street (one lane headed east and two lanes headed west) when turning left from Main Street and onto University Place (without a dedicated turn lane). Thus, the current routing of the Redstone bus (from South Prospect to Main Street to University Place) hinders the flow of vehicles on Main Street; which affects thousands of people driving into and out of Burlington; including rush hour traffic in both directions. From 7:40am to 5:10pm, (every 3 to 6 minutes between these hours), the Redstone bus is hindering of traffic flow on Main Street and reducing the appeal of coming to our city and its economic vitality.
- Is violating federal law regarding traffic flow on US highways. The federal government prohibits the hindering of traffic flow on US highways (US Route 2). The federal government, if made aware of this issue, can withdraw funding of road repair monies for US Rt 2 due to the Redstone bus's adverse traffic impacts.
- Drives by South Prospect Street homes 98 times a day (= every 3 to 6 minutes)
- Produces noise of 71dBA (measured by UVM at the curb); which is a health issue for So Prospect St residents. UVM bus noise is too frequent and too loud.
- Violates city street weight limit of 24,000 lbs on streets that are not designated truck routes. City regulation (Title 27, Section 20-43). The regulation exists to protect residents' life, safety and property values, and to protect streets from undue wear and tear.

- Misuses taxpayer dollars by accelerating the deterioration of the South Prospect Street's road surface. Heavy buses that circulate frequently are the worst causes of accelerated road deterioration. Even though $200K of PILOT funds is designated for road repair and other UVM infrastructure impacts, this is a tiny amount compared to city expenses resulting from UVM's use of our city infrastructure. PILOT funds need to be used wisely. Moving UVM's over-weight private bus onto UVM's south campus road would reduce city expenses for road repair.
- Emits toxic CNG particles into the air on a residential street where there are children and elderly who are more susceptible to illnesses from air pollution,
- Provides students a ride of 4-blocks, a short distance that can be walked , biked or ridden via the 3 on-campus buses.
- Is redundant in that the Redstone Campus's Coolidge Hall, the Davis Center and buildings along University Place area also served 3 on-campus buses that use the on-campus University Heights road to get from the south campus to the main campus. Students already have the option of using the 3 existing on-campus buses instead of the UVM Redstone Bus to travel between the Redstone campus and main campus green. These on-campus buses are as fast as the Redstone bus and already operate the same (and longer hours).

CONCLUSIONS:

1) It is inadequate for UVM to reference the 2003 and 2009 South Campus Master Transportation Plans when defining what the circulation should be for the project at 97 Spear Street. These UVM documents are no longer available on-line for us to reference; and are superseded by the 2015 land use permit for Virtue Field. Thus, the permit for 97 Spear Street needs to refer to the circulation conditions required by the July 22, 2015 Environmental Commission permit for Virtue Field.

2) UVM has not effectively prevented traffic from exiting onto South Prospect Street via Davis Road despite the 2004 and 2015 land use permit conditions requiring them to do so. Therefore, the permit for 97 Spear Street needs to require that UVM install and maintain a highly functional gate at the intersection of Davis Road and South Prospect Street; and that UVM man the intersection 24/7 when the gate is not operating properly or otherwise not preventing traffic from exiting onto South Prospect Street.

3) UVM needs to remove its Redstone Bus from South Prospect Street south of Maple and instead use its internal south campus road (University Heights Road) for routing between the south campus bus stops and the main campus bus stops. This will improve traffic flow on Main Street, and benefit thousands of drivers on US Highway 2, and the city as a whole, eliminate a pressing and long-term neighborhood complaint regarding UVM's Redstone bus use of South Prospect Street; and get UVM in compliance with city

ordinances regarding street weight limits and federal highway regulations regarding not blocking traffic flow.

4) UVM's own, vendor and construction vehicles need to be prohibited from using South Prospect Street, south of Maple Street during and after this project at 97 Spear Street. This would be consistent with city regulations regarding weight limits for streets that are not designated truck routes and protect residents from adverse aesthetic, health and financial impacts.

Thank you for your time and consideration.

3 YEAR HISTORY of PROBLEMS WITH EXISTING GATE

Since 2004 UVM was suppose to keep Davis Road traffic from exiting onto South Prospect Street. Only in 2015, after residents on South Prospect Street appealed UVM's permit for Virtue Field, did UVM install a gate at the intersection of Davis Road and South Prospect.

But UVM chose a poor quality gate and has not kept it operating over the past 3 years, and as a result, the traffic violations have continued. This indicates that the permit for 97 Spear Street needs tighter language than prior permits. The requested permit should require UVM to install and maintain a highly functional gate; and that the entrance be manned 24/7 when the gate is not working properly.

Evidence:

- Soon after installation of the gate in 2015, it kept breaking. In order to reduce wear and tear on the gate, UVM adjusted the timing on the gate so it stays open for about 10 minutes after a car passes through. This was an unsatisfactory remedy because a delay in the gate closing allowed traffic to exit onto South Prospect Street.

- UVM leaves the gate open for weeks at a time, not just during school breaks, but also when classes are in session. Repair work is not timely and the repairs don't last long before the gate is broken again.

- UVM acknowledges that the gate has been broken and open for most of the 2017-2018 academic year. Residents have reported traffic violations to UVM and city police; but UVM's enforcement effort is too weak to stop traffic from driving the wrong way on Davis Road in order to exit onto South Prospect Street.

Before and after the gate installation, UVM has been lackluster in its efforts to stop traffic from exiting onto South Prospect Street, which is a violation of its 2004 and 2015 permits. New permits should not be granted if UVM cannot generate high confidence that it will comply with conditions of existing permits.

QUOTES FROM VIRTUE FIELD PERMIT (#4C0348-6). July 22, 2015

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Findings of Fact, page 6, item 19: "The traffic circulation at UVM was discussed and approved in the review of the University Heights (LUP #4C0025-1) issued on May 25, 2004. The Permits and Findings state: …. There will be no exiting from the site via Davis Road to South Prospect Street…"

Findings of Fact, page 11, item 46: "World Health Organization (WHO) Guidelines state that to avoid hearing impairment, (noise) (Leg924h) should not exceed 70dBA"

Findings of Fact, page 13, item 2: "An adverse aesthetic impact is undue <u>if any</u> of the following is true:

(1) The Project violates a clear written community standard intended to preserve the aesthetics of scenic beauty of the area [Evidence: South Prospect Street is not a city designated truck route; and thus the UVM Redstone bus, as a private bus, violates the city regulation of 24,000 lb weight limit for vehicles on streets that are not designated truck routes. This city sign is posted at the all the main entrances to the city and designated truck routes are listed in the city's code of ordinances.. Furthermore, South Prospect Street is sign posted as no-thru truck traffic.]

(2) The Project offends the sensibilities of the average person [Evidence: 25 persons signed a petition to remove the Redstone bus from South Prospect Street south of Maple). A bus driving by 98 times a day is excessive. A bus driving students 4 blocks is wasteful and not environmentally sustainable.]

(3) The Applicants failed to take generally mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings." [Evidence: Despite permit conditions prohibiting campus traffic from exiting onto South Prospect Street, and city regulations that specify a 24,000 lb weight limit on streets that are not truck routes, UVM continues to allows its campus traffic and Redstone bus to have an undue adverse impact on South Prospect Street. In addition UVM allows construction trucks to use South Prospect unless it is expressly prohibited in the permits. This is despite the fact that there are alternative entrances into campus and South Prospect Street is sign posted as a "No Thru Truck" Street.]

Conclusion: South Prospect Street homeowners have shown they are willing to appeal UVM permit applications when Planning & Zoning and the DRB under-appreciate neighborhood concerns. Appeals lead to project delays and city legal expenses.

The city regulation regarding vehicle weight limits on streets that are not designated truck routes is sign posted throughout entrances to the city.

Example of a student's car exiting from Davis Road onto South Prospect Street.
May 2017

Burlington Design Advisory Board
149 Church Street, City Hall
Burlington, VT 05401
http://www.burlingtonvt.gov/PZ/Boards/Design-Advisory-Board/
Telephone: (802) 865-7188
(802) 865-7195 (FAX)

Matt Bushey, Chair
Ron Wanamaker, Vice Chair
Tom Cullins
Steve Offenhartz
Leo Sprinzen
Philip A. Wagner, Alternate
Phil Hammerslough, Alternate

Minutes
Burlington Design Advisory Board
Tuesday, May 22, 2018 3:00 p.m.
Conference Room 12, City Hall, 149 Church Street, Burlington, VT

Present: Matt Bushey (Chair), Tom Cullins, Steve Offenhartz, Ron Wanamaker, Leo Sprinzen, Phil Hammerslough (alternate), Phil Wagner (alternate)
Absent: None
Staff present: Scott Gustin, Ryan Morrison

Session I – 3:00 PM – 4:00 PM

18-0929CA; 97 Spear St (I, Ward 6S) University of Vermont
Addition of new 96,681 gsf multipurpose events center at the east side of the existing UVM PFG complex; also a 17,331 gsf addition to the north side for Health and Wellness, for a total of 119,099 gsf new space. The proposed - 3000 seat events center will replace the existing Patrick Gym which will be reconfigured into practice space. No net addition of spectator seats. Existing circulation to remain. (Project Manager: Scott Gustin)

Project representatives present: Lani Ravin, Lisa Kingsbury, Jim Barr, Claire Forbes, Paul _ , Ken _ , Jeff Hodgson, Derek Reid, Richard Dean, Jeff Schulman
Public: Barbara Headrick

Matt Bushey recused.

Motion by Tom Cullins: I move we recommend approval of the project as presented and forward to the DRB.
2nd: Steve Offenhartz

Vote 4-1-0. Phil Hammerslough participating
Motion carries.

Session II – 4:00 PM – 4:45 PM

18-0899CA/MA; 56, 58, & 66 North Ave (RM, Ward 3C) Sara Holbrook Community Center.
Combine three parcels and expand Sara Holbrook Community Center at 66 North Avenue, demolish a duplex and garage at 58 North Avenue, and demolish a duplex and a shed at 56 North Avenue. (Project Manager: Ryan Morrison)

Project representatives present: Bob Duncan, Arthur Chukhman (Architects); Leisa Pollander (SHCC)

Motion by Ron Wanamaker: I move we recommend approval of the project as proposed with the listed conditions from staff.
2nd: Tom Cullins

Vote 3-2. Alternates not participating.
Motion carries.