1. Legal Ad

   Documents: PB LEGAL AD 9-29-15.PDF

2. Agenda

   Documents: PB AGENDA 9-29-15.PDF

3. Communication Item

   Documents: COMMUNICATION.PDF

4. 667 Congress Street

   4.I. Memo

   Documents: CONGRESS ST. - 667 (MEMO).PDF

   4.II. Staff Attachments

   Documents: CONGRESS ST. - 667 (STAFF ATTACHMENTS).PDF

   4.III. Applicants Submittal

   Documents: CONGRESS ST. - 667 (APPLICANTS SUBMITTAL).PDF

   4.IV. Plans

   Documents: CONGRESS ST. - 667 (PLANS).PDF

5. IR-1 And 2 Accessory Dwelling Units

   5.I. Memo

   Documents: IR DWELLING UNITS (MEMO).PDF

   5.II. Attachments

   Documents: IR DWELLING UNITS (ATTACHMENTS).PDF

6. 425 Marginal Way

   6.I. Report And Attachments

   Documents: MARGINAL WAY - 425 (REPORT AND ATTACHMENTS).PDF

7. B-7 Parking Revisions

   7.I. Report And Attachments

   Documents: B-7 REPORT AND ATTACHMENTS.PDF

8. 72 Munjoy Street

   8.I. Report

   Documents: MUNJOY STREET - 72 (REPORT).PDF

   8.II. Report Attachments

   Documents: MUNJOY STREET - 72 (REPORT ATTACHMENTS)PDF.PDF

8.III. Applicants Submittal

Documents: MUNJOY STREET - 72 (APPLICANTS SUBMITTAL).PDF

8.IV. Plans

Documents: MUNJOY STREET - 72 (PLANS).PDF

9. 93 St. Lawrence Street

9.I. Report

Documents: ST. LAWRENCE STREET - 93 (REPORT).PDF

9.II. Staff Attachments

Documents: ST. LAWRENCE STREET - 93 (STAFF ATTACHMENTS).PDF

9.III. Applicants Submittal

Documents: ST. LAWRENCE STREET - 93 (APPLICANTS SUBMITTAL.PDF

9.IV. Plans

Documents: ST. LAWRENCE STREET - 93 (PLANS)PDF.PDF

LEGAL ADVERTISEMENT
PORTLAND PLANNING BOARD MEETING

The Portland Planning Board will hold a meeting on Tuesday, September 29, 2015, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. **Public comments will be taken at this meeting.**

Workshop – 4:30 p.m.

i. Level III Site Plan and Subdivision; 667 Congress Street; Redfern Properties, Applicant. The Board will hold a workshop on a proposed mixed use development to include an 8 story building with 139 market-rate residential units with ground floor retail space along Congress Street in the B-3 zone. The bedroom mix includes 34 efficiencies, 97 one-bedroom and 8 two-bedroom units. Parking for 78 vehicles is proposed on two levels of structured parking along with 56 bicycle spaces.

Public Hearing – 6:30 p.m.
Old Business:

i. Zoning Text Amendments; IR-1 and I-2 Accessory Dwelling Units (ADU, City of Portland, Applicant (6:30 p.m.-7:15 p.m. estimated time). The Board will hold a public hearing to consider Land Use Code text amendments to Division 7.1 - 7.2 (IR-1 and IR-2 Island Residential Zones) Section 14-145.3 and Section 14-145.9 to modify the standards for accessory dwelling units. This item was tabled on 9/152015.

New Business

i. Zoning Text Amendments, B-5 Zone Self Storage; 425 Marginal Way; U-Haul International, Inc., Applicant. (7:15 p.m. – 8:00 p.m. estimated time) The Board will hold a public hearing on text amendments to the Urban Commercial Mixed Use B-5 Zone to add self-storage facilities and outdoor storage and moving equipment for on-peninsula locations only, as a conditional use with standards of review. Accompanying B-5 standards are proposed in Portland's Design Manual

ii. Zoning Tex Amendments, B-7 Parking Revisions and Commercial Kitchens in B-7 and B-2 zones, City of Portland, Applicant. (8:00- 8:30 p.m. estimated time) The Board will hold a public hearing on zoning text amendmenst in the B-7 zone reducing the required parking lot setback for existing gravel areas that propose a certain level of building development on the site. The Board will also consider an amendment that would allow commercial kitchens as a permitted use with an accompanying retail store or testing room in the B-7and the B-2/ B-2b zones.

iii. Level III Site Plan; 72 Munjoy Street; C and B Realty, Applicant. (8:30-9:00 p.m. estimated time) The Board will hold a public hearing on a proposed 3 unit residential building at 72 Munjoy Street. The lot area is 5,762 sq. ft. and the proposed building will be attached to an existing 2-family structure in the R-6 zone. Parking for five vehicles is proposed on the ground floor with three 2-bedroom condominium units above.

iv. Level III Site Plan and Subdivision; 93 St. Lawrence Street; Laurence Gross and Barbara Colby, Applicants. (9:00 p.m. estimated time) The Board will hold a public hearing for a proposed three-story building with a mezzanine that will contain four (4) two-bedroom residential units.. A 4 car garage and one unit are proposed on the first level with the other three units located in the upper two floors. The 5,000 sq. ft. building is in the Residential R-6 Zone.

STUART O'BRIEN, CHAIR - PORTLAND PLANNING BOARD

CITY OF PORTLAND, MAINE

PLANNING BOARD

Stuart G. O'Brien, Chair
Elizabeth Boepple, Vice Chair
Sean Dundon
Bill Hall
Carol Morrissette
Jack Soley
David Eaton

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PUBLIC HEARING – 6:30 p.m.

1. ROLL CALL AND DECLARATION OF QUORUM

2. COMMUNICATIONS AND REPORTS

3. REPORT OF ATTENDANCE AT THE MEETING HELD ON SEPTEMBER 15, 2015:
Public Hearing: All members were present.

4. REPORT OF DECISIONS AT THE MEETING HELD ON SEPTEMBER 15, 2015:

i. Proposed India Street Form Based Code Zoning, City of Portland Applicant Boepple moved and Morrissette seconded a motion to find the India Street Form Based Code, related text and map amendments are consistent with the Comprehensive Plan and the India Street Sustainable Neighborhood Plan and recommends adoption of the IS-FBC, related text and map amendments and the Building Design Standards to the City Council. Vote: 7-0

ii. Proposed India Street Historic District, City of Portland, Applicant Boepple moved and Morrissette seconded a motion that finds the proposed India Street Historic District meets the minimum criteria for designation in Article IX of the Land Use Code (historic preservation ordinance) and that the district designation is consistent with the Comprehensive Plan and the India Street Sustainable Neighborhood Plan, and recommends to City Council designation of the India Street Historic District subject to two amendments: that: 1) the proposed amendment to the historic preservation ordinance's standards for new construction, which applies to allowable building heights in the India Street Historic District, be revised by staff to apply to existing contributing structures; and 2) the site plan ordinance provision which applies to the review of new construction within 100 feet of an historic district boundary or landmark apply only to landmarks in the India Street Historic District. Vote: 5-2 (Soley and Dundon)

iii. Housing Incentives Boepple moved and Morrissette seconded a motion to table item #2 of the Housing Incentives related to IR-1 and IR-2 to the September 29, 2015 meeting. Vote: 7-0

Boepple moved and Morrissette seconded the motion to find the following:

1. proposed map amendment to the B-3 Downtown Height to increase the height to 65 feet in the Danforth and York area is consistent with the comprehensive plan and recommends adoption to the City Council; and
2. the proposed text amendments for accessory units in the R-5 zone are consistent with the comprehensive plan and recommends adoption to the City Council.
   Voted: 7-0

Boepple moved and Morrissette seconded a motion that the text amendments to the Division 30 (Affordable Housing), including density bonuses and inclusionary zoning requirement are consistent with the Comprehensive Plan and recommends adoption to the City Council. Voted: 1-6 (Boepple, Dundon, Eaton, Hall, Morrissette, and Soley).

5. OLD BUSINESS

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STUART O'BRIEN, CHAIR - PORTLAND PLANNING BOARD

431 Woodford Street
Portland, Maine 04103

September 23, 2015

City Clerk's Office, Room 203
City Hall
389 Congress Street
Portland, Maine 04101

Dear Ms. Jones,

I would like to inform you of my resignation from the Portland Planning Board effective immediately. I have thoroughly enjoyed my experience serving the Portland community over the last five years as a member of the planning board and look forward to contributing in a new capacity moving forward.

Please let me know if there are any additional steps I need to take to conclude my tenure on the board. Of course please feel free to contact me with any questions or to request additional information.

Sincerely,

Stuart G. O'Brien

Cc: Jeff Levine, Director of Planning and Urban Development

Memorandum
Planning and Urban Development Department
Planning Division

To: Elizabeth Boepple, Vice Chair and Members of the Portland Planning Board
From: Shukria Wiar, Planner
Date: September 25, 2015
Re: Longfellow Apartments, 667 Congress Street, Redfern Properties
Project #: 2015-093 CBL: 046 C019 001
Meeting Date: September 29, 2015

I. INTRODUCTION

On behalf of MSD Properties, LLC, Jonathan Cully of Redfern Properties has submitted a Level III site plan and subdivision application for the property at 667 Congress Street. Redfern Properties is working in partnership with MSD Properties, LLC and Joe's Super Variety to redevelop the property with an eight-story apartment building. The property is bordered by Congress Street, Avon Street, and Vernon Place on the peninsula within the Downtown Business Zone (B-3). The property was rezoned from B-3 and Residential R-6 zones to Downtown Business B-3 zone with accompanying height overlap map revisions. The City Council approved the zone change on June 15, 2015.

The proposed project will have a total of one hundred and thirty-nine (139) apartment units that will include thirty- four (34) efficiency units, ninety-seven (97) one-bedroom units, and eight (8) two-bedroom units. The proposed building will provide a total of eighty-one (81) parking spaces on the first two levels of the building; thirty-seven (37) of the spaces located in the basement level of the building and the remaining forty-four (44) spaces on the first floor of the building. Three of the 81 total spaces will be reserved for Joe's Smoke Shop resulting in a total of 78 spaces reserved for tenants of the building. In addition, secured covered space in the garage is reserved for bicycle parking (for a total of 56 bicycles), a private share vehicle parking space for the use of the tenants, and three motorcycle parking spaces.

The property is approximately 25,740 square feet with 98 feet of frontage on Congress Street. The site also has frontages along Avon Street and Vernon Place. The property is within the Congress Street Historic District and abuts another historic district in the rear of the property, the Deering Street Historic District.

A notice of this Workshop was sent to 270 property owners within 500 feet and interested citizens, and appeared in the September 21st and September 22nd, 2015 editions of the *Portland Press-Herald*. At the time of preparing this report the Planning Division had not received any written comments.

II. PROJECT DATA

Existing Zoning	Downtown Business B3
Tax Map	CBL:
Existing Use	Retail; Surface parking
Proposed Use	Market-rate Apartments with Structured Parking
Parcel Size	25,740 SF
Number of Units to be Demolished	None
Number of Affordable Units	The proposed units will be market rate.

Proposed Bedroom Mix	**34 efficiency units, 97 one-bedroom, 8 two-bedroom units**
Building Footprint	**23,968 SF**
Building Floor Area	**141,742 SF**
Building Height	**65' at all streets (street wall) and stepbacks to 85'**
Impervious Surface Area	**26,121 SF**
Parking Spaces	**81 spaces: 37 on basement level; 44 on first level**
Bicycle Parking Spaces	**56 spaces: 52 in garage and 4 along Congress Street**
Estimated Cost of Project	**$20,000,000**

III. EXISTING CONDITIONS AND ZONING

The north and north-west sides of the site abut the Deering Street neighborhood, which is composed of single and multifamily homes are all within the Deering Street Historic District. The buildings to the east of this property are the Trelawney Building at 655 Congress Street and an apartment building at 645 Congress Street. Across the street from the proposed property is the George S. Hunt Block and Lafayette Building. All of these sites are within the Congress Street Historic District.

Figure 1- Existing Site from Congress Street

Currently, the site contains a two and half story building that houses Joe's Variety Shop and a surface parking lot with sixty-three (63) parking spaces that leased generally serve abutting properties. Avon Street is a one-way street that connects to Deering Street, whereas Vernon Place is a two-way street. There is one entry to the parking area via Vernon Street. There are three curb cuts on Avon Street to the site; however all of the curb cuts are blocked with guardrails.

The property is located within the Congress Street Historic District and abuts the Deering Street Historic District, and is generally characterized by medium- to large scale residential development of a historic nature. The properties directly across Congress Street are marked by residential multi-family development and commercial businesses. The Joe's Varity Shop building is considered noncontributing to the Congress Street Historic District and can therefore be demolished to make way for the redevelopment project.

Historic photographs of the subject parcels generally show residential and business development of the type characteristic of Congress Street today. A church, a lunch room, and general store occupied the proposed site at the time of the 1924 tax records. The St. Stephen's Church was razed in 1965 and the property has been used as a surface parking since then.

IV.

Figures 2 & 3: 1924 tax photos showing 665 Congress Street and 667 Congress Street.

PROPOSED DEVELOPMENT

The applicant is proposing to construct a development of an eight- story multifamily apartment building with two levels of parking underneath. Joe's Variety Shop will be occupying the front portion (Congress Street) of the first floor. The basement and first level will house the parking spaces (37 on the basement level and 44 spaces on first level, 81 in total) for the building uses. The upper floors are proposed as rental apartments. The site would be accessed via two entrances: one off of Avon Street for the basement level and one off of Vernon Place for the first level.

Figure 4: Aerial of the Proposed Site

The parcel currently contains a surface parking lot with spaces within 35' of adjacent streets. Surface parking, whether existing or proposed, may not be located within 35' of the street, which in this case includes Vernon and Avon. These spaces, as proposed, are considered structured parking, in which case they are allowed.

Figure 5: Rendering of the Proposed Building, Congress Street

In terms of design and building form, the site is located within the Congress Street Historic District and is subject for review under the Historic Preservation Ordinance and would be exempt from the B-3 Design Guidelines

The Historic Preservation Board held a workshop and a public hearing on this project and the development was granted a certificate of appropriateness from the Board on September 2, 2015.

V. PUBLIC COMMENT

As of the writing of this report, no public comments have been submitted.

A Neighborhood Meeting is required for this project and the applicant has confirmed that the neighborhood meeting was held on August 26, 2015, see Attachment 13.

VI. RIGHT, TITLE AND INTEREST AND FINANCIAL/TECHNICAL CAPACITY

a. The owner of the property is MSD Properties, LLC. The applicant has provided a copy of a deed of sale personal representative, recorded at the Cumberland County Registry of Deeds (Book 32458 Page 30720), which demonstrates their right, title and interest in the property.

b. The estimated cost of the development is $20,000,000. The applicant has submitted a letter from NBT Bank, dated August 27, 2015, as demonstration of their financial and technical capacity to complete the proposed development.

VII. DEVELOPMENT REVIEW

A. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant has not submitted a recording plat. The final plat will need to be submitted for review and approval. The plat shall reflect any easements that relate to the subdivision plan.

B. SUBDIVISION (Section 14-497)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below.

1. *Will Not Result in Undue Water and Air Pollution (Section 14-497 (a) 1), and Will Not Result in Undue Soil Erosion (Section 14-497 (a) 4)*

David Senus, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plan and is satisfied with the proposed plans.

2. *Sufficient Water Available (Section 14-497 (a) 2 and 3)*
The project will be served by the utility services located in Congress Street. Separate services are proposed for the commercial property and the residential units. Confirmation of ability to serve letter from PWD and DPS has been submitted.

3. *Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)*
Tom Errico, P.E. Ty Lin reviewed the proposal's details including the access, parking, and vehicle circulation (Attachment 1). Mr. Errico finds the project to be acceptable. The proposed project is not anticipated to cause unreasonable traffic congestion.

4. *Will Provide for Adequate Sanitary Sewer and Stormwater Disposal (Section 14-497 (a) 6), and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage (Section 14-497 (a) 7)*
The development is anticipated to have 23,810 gallons per day of wastewater flow and DPS has confirmed that there is sufficient sewer capacity to serve the project.

5. *Scenic Beauty, Natural, Historic, Habitat and other Resources (Section 14-497 (a) 8)*
The proposal site is within an historic district and has received a certificate of appropriateness for the proposed building from the Historic Preservation Board. It is in an urban neighborhood surrounded by a variety of residential building types. The proposed building does not impact the natural beauty of the area or adversely affect any significant wildlife habitat, rare or irreplaceable natural areas, or any public access to the shoreline. The staff finds the proposal in conformance with this standard.

6. *Comprehensive Plan (Section 14-497 (a) 9)*
The applicant has submitted their analysis of the projects conformance with the Comprehensive Plan (refer to Attachment C).The staff has identified the following goals and policies which are relevant to the proposed housing development and finds the proposal in conformance with the Comprehensive Plan:

Portland Housing Goal: Ensure that an adequate supply of housing is available to meet the needs, preferences, and financial capabilities of all Portland households, now and in the future.
Policies

- Ensure the construction of a diverse mix of housing types that offers a continuum of options across all income levels, which are both renter and owner-occupied, including but not limited to the following:
  ii. Housing units for decreasing household size, such as young professionals, empty nesters, single-parent households, and senior citizens.
- Encourage higher density housing for both rental and home ownership opportunities, particularly located near services, such as schools, businesses, institutions, employers, and public transportation.
- Increase Portland's rental housing stock to maintain a reasonable balance between supply and demand yielding consumer choice, affordable rents, and reasonable return to landlords.
- Identify vacant land and redevelopment opportunities throughout the City to facilitate the construction of new housing.

Portland Housing Goal: Maintain and enhance the livability of Portland's neighborhoods as the City grows and evolves through careful land use regulations, design and public participation that respect neighborhood integrity.
Policies

- Encourage innovative new housing development, which is designed to be compatible with the scale, character, and traditional development patterns of each individual residential neighborhood.

- Encourage new housing development in proximity to neighborhood assets such as open space, schools, community services and public transportation.
- Ensure the integrity and economic value of Portland's neighborhoods.

7. *Financial Capability (Section 14-497 (a) 10)*
The estimated cost of the development is $20,000,000. The applicant has submitted a letter from NBT Bank, dated August 27, 2015, as demonstration of their financial and technical capacity to complete the proposed development.

8. *Easements*
The applicant will provide the city with a pedestrian easement for those areas of the sidewalk that are within the development property bounds. Plantings are proposed within the City ROW on Congress Street which are being reviewed by the City Arborist and the Urban Designer. As proposed, the raised urban plantings on Avon Street and landscaping along Vernon Place would require easements. The utilities' easements for the neighborhood would also need to be on the subdivision plat.

C. SITE PLAN STANDARDS (Section 14-526)
The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations. Staff comments are listed below.

1. *Transportation Standards*

a. Impact on Surrounding Street Systems and Access and Circulation- see Subdivision, Paragraph VIII (B) (3), above.

b. Construction Management Plan
A construction management plan has been submitted by the applicant and the review by the Department of Public Services is pending. Any recommendations will be forwarded to the applicant.

c. Sidewalks
The sidewalk and ADA ramps along Congress Street will be rebuilt and replaced. As for the Avon Street, the applicant is not proposing to install a sidewalk along their frontage and thus, increase the width of the street from fourteen (14) feet to sixteen (16) feet. On Vernon Place, the existing street does not include a sidewalk adjacent to the project. The applicant is proposing a shared vehicle and pedestrian space for Vernon Place. The shared space will be delineated by a stamped and flash pavement walkway from the main building entrance to on the Vernon Street first level garage entrance.

The City staff had recommended that Avon Street should be a shared street, similar to Foundry Lane. The revised site plan does not show this recommendation and the City staff is currently reviewing this information. It is the intention of the City to meet with the Applicant on Monday, September 28th to discuss this.

As currently proposed the applicant will have to submit a waiver request for sidewalk and curbing for both Avon Street and Vernon Place.

Tom Errico, Consultant Traffic Engineer, has reviewed the revised site plans and offers the following recommendations:

The plans note that the sidewalk on Vernon Place will not have curbing. I will review this with DPS staff.
Status: I continue to review design treatments for Vernon Place given its unique function. As noted below, the applicant shall complete the formal waiver process for curb and sidewalk. The City needs to be comfortable with the design and function of Vernon Place with the added project traffic (traffic volumes will increase substantially from current conditions). Specifically accommodating pedestrians safely, vehicle movements, DPS maintenance equipment and their ability to turn around safely, landscaping, drainage, and access/egress movements into and out of the garage and the driveways on the west side of the street.

The alignment of the sidewalk ramps on Congress Street will need to direct pedestrians to the appropriate path of travel from an ADA perspective. Adjustments will need to be incorporated.
Status: The ramp at corner of the Avon Street is unacceptable and alignment for walking parallel to Congress Street shall be provided. I would also note that the ramp at Vernon Place may need to change following the final configuration of the street.

The applicant is requesting a waiver for driveway width. 18 feet is being proposed. My initial review indicates I would be supportive of a waiver given the characteristics of Vernon Place and Avon Street.
Status: I have no further comment.

The width of the sidewalk along Avon Street abutting the property is noted as between 3 and 5 feet wide. I need to review specific details regarding this sidewalk to ensure appropriate accessibility is provided.
Status: Given the narrow width of the street and sidewalk, I recommend that a fully shared street be considered (curbs to be removed or relocated to buildings on both sides of the street with special surface pavement treatment). This would allow for improved or desired emergency access, easier maintenance, and would allow for a multi-modal street that would provide for all users in a safe and calmed environment.

The applicant shall formally request a waiver for a sidewalk along Vernon Place.
Status: The City has a defined Waiver criteria process that the applicant should comply with.

The crosswalk on Avon Street should be eliminated.

d. Public Transit Access
The site is on METRO lines Route 1- Congress Street, Route 8- Peninsular Loop, and Routes 9A/9B- Crosstown Loop. The applicant will need to coordinate with METRO to determine if bus shelters or other bus stop amenities will be required.

e. Parking
It is understood that the applicant is using the site at present for parking for tenants from other properties and are on a monthly rental.

The proposed building design provides a total of 81 parking spaces; three of these spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces reserved for tenants of the

building. In addition, secured covered space is reserved for bicycle parking (total space for 52 bicycles), four exterior bicycle parking spaces along Congress Street, a private auto share service, and three motorcycle parking spaces.

Section 14-332.1 (k) – For residential development on the peninsula, including new construction, the parking requirement is one space per dwelling unit. This same section also states that:

> *The planning board may establish a parking requirement that is less than the normally required number of spaces upon a finding of unique conditions that result in a lesser parking demand, such as housing for persons who cannot drive, housing that participates in a travel demand management program, availability of transit, or housing which includes permanent restrictions on automobile usage, and which is permanently restricted from utilizing resident on-street parking stickers.*

The applicant is proposing to provide a ride share car, per Zoning Ordinance (Section 14-332.1 (k) 2), which allows the parking spaces to be reduced by eight spaces. The applicant is proposing to locate the car-share space on-site. The City staff finds this acceptable. Tom Errico requests that *"[t]he applicant should provide information how the general public will be granted access rights to the vehicle and how to locate the vehicle"*.

The proposed development is for 139 residential units with 81 parking spaces, of which three are for Joe's Variety Store, as part of this project. Following is the breakdown of the parking that is required by zoning versus the reduced ratio that the applicant is requesting:

	1:1 Ratio (As required by Zoning)	.58 :1 Ratio (As requested by Applicant)
Parking spaces as required per zoning (minus the first three proposed units)	139	139 x .58 = 81
U-car share	8	8
Total of Spaces Required	**131**	**73**

The request for a reduced ratio is based on the data collected on projects on Portland's Peninsula. It should be noted that the data is from either affordable housing or mixed affordable and market rate housing. This development is only market rate housing.

Tom Errico, Consultant Traffic Engineer, has reviewed the revised site plans and offers the following recommendations:

> *I have reviewed the traffic impact study prepared by Traffic Solutions and while I continue to review details, I generally find the conclusions to be acceptable.*
>
> ***Status: I concur with the conclusions of the Traffic Impact Study that the project will not have a significant impact on traffic operations and safety in the vicinity of the project. I have no further comment.***
>
> *The applicant has noted that an on-going parking study of similar developments is proceeding and the results of the parking study will be provided in the future.*
> ***Status: The applicant has conducted a parking evaluation and is suggesting use of a parking generation rate of 0.58 parking spaces per residential unit. In my professional opinion the type of residential apartment (market rate versus low***

income or other) will influence parking demand of a project. The highest parking generation rate recorded was for the Island View Apartments (a market rate complex), where 0.70 parking spaces per unit were recorded. It is my suggestion that the applicant provide a parking analysis that is solely based on market rate apartments.

- ***The applicant has submitted a Transportation Demand Management Plan and I find it to be reasonable. It is my assumption that all the strategies noted in the report will be implemented.***
- ***I support a waiver from the City's Technical standards for parking stall size.***
- ***The applicant should identify any parking circulation aisle waiver requirements.***
- ***The applicant should provide information on how the tandem parking spaces will be managed.***

The applicant should confirm that one handicapped parking space meets ADA or other required standards.

f. Bicycle Parking

The proposals include fifty-six (56) bicycle parking spaces in the garage of the building (52) and along Congress Street façade (4).

2. *Environmental Quality Standards*

a. Preservation of Significant Natural Features

There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation

The applicant is proposing three street trees on Congress Street, in front of the building. The City standards requires one street tree per unit, therefore with 139 units, a total of 139 street trees are required. Due to site restrictions, the remaining streets cannot be planted on the site. The applicant has asked for a waiver of this standard. If a waiver is granted by the Planning Board, the applicant will need to contribute $200 per tree to the City's Tree Fund for the remaining trees (136).

The applicant is proposing landscaping along the front of the building as well as some landscaping on the side of the property along Avon Street and Vernon Place. The applicant is proposing to install planters along the building façade on Congress Street. Caitlin Cameron, Urban Designer, has reviewed the landscaping plans and is concerned that the planters along the building façade are not acceptable for an urban setting. The applicant and the City Arborist will meet to discuss proposed landscaping for the development. Their comments will be available at the workshop on Tuesday.

c. Water Quality, Storm Water Management and Erosion Control

There is currently a separation of the combined sewer and stormwater within Avon Street and close proximately to the site. The City of Portland has hired a contractor to perform a sewer separation and roadway reconstruction project on Deering Street; the work is beginning at this time. As part of this work, a new, separated storm drain and sewer system will be installed in Avon Street, up to the location of the proposed storm drain connections for this project. According to the City's Consultant Engineer, David Senus, the proposed project "appears that the design is well coordinated with those plans; we encourage the Applicant and their engineering and construction team to work closely with the City DPS Office and their Contractor during the construction phase to ensure that the timing of this work and the associated pipe connections can be properly coordinated with the Deering Street work which will occur over the coming months".

The existing site area is a single paved and gravel parking area with an existing building. The current surface runoff from the site flows into two subcatchments ending in the existing catch basins located in the Northeast and Northwest corners of the property. The majority of runoff, about 96%, flows from the existing building, parking lot, to the newly proposed catchbasin and separated storm drain piping on Avon Street. The remaining runoff, about 4%, consists of flow from the west border along an overgrown gravel area to the catch basin at the end of Vernon Place.

The new development will have all stormwater flow, including snowmelt, from the first floor parking directed to the basement floor and then connected to the existing municipal system. The majority of the first floor parking will be covered by the proposed building while the perimeter parking will be open (no roof).

In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards.

Since the project will not result in an increase in impervious area and therefore will not need to meet the General or Flooding Standards. As such, the project is not required to include any specific stormwater management features for stormwater quality control or to control the rate or quantity of stormwater runoff from the site.

David Senus of Woodard and Curran has reviewed the preliminary project and had the following comments:

- *Based on comments received from the City Department of Public Services, the Applicant has revised the outlet from the Oil/Water Separator to connect to the sanitary sewer in Avon Street. The flow into the Oil/Water Separator is intended to solely include drainage from the floor drains from the two covered parking deck areas; however, on Sheet C30 it appears that an underdrain connection is proposed into the floor drain system. All underdrains should be connected into the separated storm drain system.*
- *Sheet C31 shows the floor drain locations for the upper parking deck. These locations are reflected on Sheet C30 as "first floor downspouts". Are these downspouts discharging to the surface of the lower parking deck or connecting directly into the lower parking area floor drain system? If connecting directly, this should be depicted on C30.*

3. *Public Infrastructure and Community Safety Standards*

a. Consistency with Master Plans

See Subdivision, Paragraph VIII (B)6 above.

b. Public Safety and Fire Prevention

The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance address the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime. The main entry to the building is from Congress Street.

A lighting and photometric plan has been submitted and the review is pending. Since the project is a historic district, the lighting fixtures were reviewed and approved by the Historic Preservation Board.

c. Availability and Adequate Capacity of Public Utilities

Water/ Sanitary Sewer/ Natural Gas:
The proposed project is anticipated to add a net water usage from the development of approximately 24,000 gallons per day (GPD). Separate services are proposed for the commercial property and the residential units. For the residential units, the developer has proposed a new 8-inch fire line service for the development that would tie into the existing water main in Congress Street with a redundant connection within Avon Street, as well as a four-inch domestic service in Congress Street. The developer is also proposing an individual one-inch service for the commercial property.

The development is anticipated to have 23,810 GPD of wastewater flow and has contacted the City Department of Public Services requesting ability to serve letter for sewer demand, and awaits response. Separate services are proposed for the commercial property and the residential units. For the residential units, the developer has proposed a new 8-inch sewer service for the development that would tie into the existing sewer within Avon Street. The developer is also proposing an individual six-inch service for the commercial property, including a 4-inch service for kitchen waste leading from an internal grease interceptor.

The developer plans to serve the proposed building with a gas service; the new service be established from the existing underground line within Vernon Place, and into the mechanical closet for the development.

Electricity/ Telephone/ Cable TV:
There are currently overhead wires crossing the proposed site that are anticipated to be removed as part of this project. The new service for electrical will be from the existing line within Congress Street, and into the existing CMP manhole within the Vernon Place corridor. Electric services currently existing within Vernon Place are anticipated to be redirected from the existing CMP manhole within the Vernon Place corridor, onto the utility poles adjacent to the project, and then reconnecting to each existing Vernon Place service.

As for the telephone and cable (communication), the new service will be from the existing services overhead within Vernon Place. All utilities lines shall be underground to the site.

Waste Management:
All residential development of will provide for the temporary storage and removal of all trash and recyclable materials. All storage of trash and recyclables containers are fully enclosed within the first floor of the development, and screened from the public view.

4. Site Design Standards

a. Snow and Ice Loading
The applicant is proposing on-site snow storage; the area for storage is to the east of the parking lot (Attachment 11).

b. View Corridors
This site is not within a Protected View Corridor as per the "View Corridor Protection Plan" approved by the Portland City Council in 2001.

c. Historic Resources
The site is within the Congress Street Historic District and has been reviewed and approved by Historic Preservation Board on September 2, 2015.

d. Exterior Lighting

A lighting and photometric plan has been submitted and the review is pending. Since the project is a historic district, the lighting fixtures were reviewed and approved by the Historic Preservation Board.

e. Noise and Vibration

All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will have to be shown on the plans and meet state and federal emissions requirements. These mechanical equipment should be located to the interior of the site, away from abutting residential properties and be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof. This information will have to be submitted for review as part of the building permit.

f. Signage and Wayfinding

This standard does not apply to the proposal.

g. Zoning Related Design Standards

Since the property is located in the Congress Street Historic District, the Historic Preservation Board reviewed the design of the building. The Board has had one workshop and a public hearing on the item on September 2nd, 2015. The project was approved the Board.

ATTACHMENTS:

Memo Attachments

1. Traffic Engineering Review (Tom Errico, T Y Lin), comments dated 09.23.2015
2. Department of Public Services Review, David Margolis-Pineo, dated 09.22.2015
   a. DPS Sewer Capacity letter dated 09.24.205
3. Civic Engineer Review, David Senus, dated 09.18.2015
4. Fire Department Review, Capt. Keith Gautreau, dated 08.18.2015

Public Comments- No Public Comments

Applicant's Submittal

1. Cover Letter
2. Level III Application
3. Zoning Analysis
4. MSD Properties LLC Deed
5. Ability to Serve Request Response
6. Stormwater Report
7. Erosion Control Report
8. Waste Removal Letter
9. Waivers Request
10. Financial Capacity Letter NBT
11. Snow Storage Plan_7-30-15
12. Traffic Memorandum Preliminary
    12a- Traffic Impact Study
13. Neighborhood Meeting Package
14. Fire Risk Management Memo_9-11-15
15. Parking Assessment Study_9-15-15
16. Construction Management Plan_9-11-15

17. Site Logistic Narrative
18. Photometric Plan_9-10-15
19. Exterior Wall Sconce
20. Congo_Waivers_9-15-15
21. TDM Report

Plans

Plan1	C-01 Cover Sheet_9-15-15
Plan2	C-02 Notes Sheet_9-15-15
Plan3	C-03 Demolition Plan_9-15-15
Plan4	C-10 Site Plan Basement_9-15-15
Plan5	C-11 Site Plan First_9-15-15
Plan6	C-30 Grading Basement_9-15-15
Plan7	C-31 Grading First_9-15-15
Plan8	C-40 Site Details 1_9-15-15
Plan9	C-41 Site Details 2_9-15-15
Plan10	C-42 Utility Details_9-15-15
Plan11	C-43 Drainage Details_9-15-15
Plan12	C-45 Esc Details_9-15-15
Plan13	L-01 Landscape_9.15.15
Plan14	Sk1 Circulation Basement_9-15-15
Plan15	Sk2 Circulation First_9-15-15

Att. 1

From: Tom Errico <thomas.errico@tylin.com>
To: Shukria Wiar <SHUKRIAW@portlandmaine.gov>
CC: David Margolis-Pineo <DMP@portlandmaine.gov>, Katherine Earley <KAS@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Jeff Tarling <JST@portlandmaine.gov>
Date: 9/23/2015 3:41 PM
Subject: 667 Congress Street - Traffic Comment Update

Shukria - The following is a status update on my August 24, 2015 comments.

* The parking layout on the first floor is extremely tight and the applicant needs to provide auto-turn templates for most parking spaces.
Status: The applicant has provided the requested auto-turn analysis that illustrates a mid-sized vehicle can access and egress parking spaces. I find the layout to be acceptable but would note that drivers will have difficulty accessing parking spaces, particularly for larger vehicles.

* The parking layout on the basement level appears less constrained, but some tight spaces are proposed where columns are complicating maneuvering and therefore requires an auto-turn analysis.
Status: See prior comment.

* The plans note that the sidewalk on Vernon Place will not have curbing. I will review this with DPS staff.
Status: I continue to review design treatments for Vernon Place given its unique function. As noted below, the applicant shall complete the formal waiver process for curb and sidewalk. The City needs to be comfortable with the design and function of Vernon Place with the added project traffic (traffic volumes will increase substantially from current conditions). Specifically accommodating pedestrians safely, vehicle movements, DPS maintenance equipment and their ability to turn around safely, landscaping, drainage, and access/egress movements into and out of the garage and the driveways on the west side of the street.

* The alignment of the sidewalk ramps on Congress Street will need to direct pedestrians to the appropriate path of travel from an ADA perspective. Adjustments will need to be incorporated.
Status: The ramp at corner of the Avon Street is unacceptable and alignment for walking parallel to Congress Street shall be provided. I would also note that the ramp at Vernon Place may need to change following the final configuration of the street.

* The applicant is requesting a waiver for driveway width. 18 feet is being proposed. My initial review indicates I would be supportive of a waiver given the characteristics of Vernon Place and Avon Street.
Status: I have no further comment.

* I have reviewed the traffic impact study prepared by Traffic Solutions and while I continue to review details, I generally find the conclusions to be acceptable.
Status: I concur with the conclusions of the Traffic Impact Study that the project will not have a significant impact on traffic operations and safety in the vicinity of the project. I have no further comment.

* The applicant has noted that an on-going parking study of similar developments is proceeding and the results of the parking study will be provided in the future.
Status: The applicant has conducted a parking evaluation and is suggesting use of a parking generation rate of 0.58 parking spaces per residential unit. In my professional opinion the type of residential apartment (market rate versus low income or other) will influence parking demand of a project. The highest parking generation rate recorded was

for the Island View Apartments (a market rate complex), where 0.70 parking spaces per unit were recorded. It is my suggestion that the applicant provide a parking analysis that is solely based on market rate apartments.

* The applicant shall provide documentation on current users of the existing parking lot.
Status: The applicant has noted that existing vehicles parking on the site are not conditioned to a site plan approval requirement. I have no further questions.

* The width of the sidewalk along Avon Street abutting the property is noted as between 3 and 5 feet wide. I need to review specific details regarding this sidewalk to ensure appropriate accessibility is provided.
Status: Given the narrow width of the street and sidewalk, I recommend that a fully shared street be considered (curbs to be removed or relocated to buildings on both sides of the street with special surface pavement treatment). This would allow for improved or desired emergency access, easier maintenance, and would allow for a multi-modal street that would provide for all users in a safe and calmed environment.

* The applicant shall formally request a waiver for a sidewalk along Vernon Place.
Status: The City has a defined Waiver criteria process that the applicant should comply with.

New Comments

* The applicant has submitted a Transportation Demand Management Plan and I find it to be reasonable. It is my assumption that all the strategies noted in the report will be implemented.

* I support a waiver from the City's Technical standards for parking stall size.

* The applicant should identify any parking circulation aisle waiver requirements.

* The applicant should provide information on how the tandem parking spaces will be managed.

* The crosswalk on Avon Street should be eliminated.

* The applicant should confirm that one handicapped parking space meets ADA or other required standards.

Please contact me if you have any questions.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
[T.Y. Lin International]T.Y. Lin International
12 Northbrook Drive
Falmouth, ME 04105
207.781.4721 (main)
207.347.4354 (direct)
207.400.0719 (mobile)
207.781.4753 (fax)
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Visit us online at www.tylin.com<http://www.tylin.com>
Twitter | Facebook | LinkedIn | YouTube

"One Vision, One Company"

Please consider the environment before printing.

Att. 2

From: David Margolis-Pineo
To: Barbara Barhydt; Shukria Wiar
Date: 9/22/2015 3:40 PM
Subject: Final Comments for 667 Congress St

August 24, 2015
---September 22, 2015 – Response to Comments

Memo To: Barbara Barhydt
Shukria Wiar
From: David Margolis-Pineo
Re: 667 Congress Street Development Review Comments (2015-125)

The Department of Public Services has the following comments for the above mentioned project.

1. It is unclear on Sheet C-10 the width of sidewalk on Avon St. Please clarify by showing dimensions. A statement is made that the contractor shall construct sidewalk varying in width from 3 to 5 feet. This issue needs to discussed and clarified.
---Waiver Requested
2. The proposed 14' (Sheet C-10) width of Avon St. may cause access issue for Public Safety. Please review with Public Safety. Sheet C-11 shows a width of 14.47'. Again, clarification will be required here.
---Waiver Requested
3. The design of all corner sidewalk ramps will require approval of the City's Bike/Ped Coordinator, Bruce Hyman. The current shown ramp alignment does not appear acceptable.
----Ramp alignment adjusted.
4. I is my understanding that a sidewalk with vertical granite curbing will be required for the full length on Vernon St. If not, a waiver request must be submitted. Please show sidewalk and street widths on Vernon St.
---Waiver Requested
5. The applicant shall install proposed sanitary manhole (smh #1) with PVC SDR-35 and Fernco connectors to adapt from PVC to VC pipe in Avon St. A dog house manhole is not allowed in this case. Please eliminate proposed smh #2 since both the proposed 4" and 6" piping can be tied directly into the sanitary sewer without a manhole.
----This comment has been addressed.
6. Add note stating, "All work within the City street right of way shall meet City of Portland Technical Manual standards."
---Note added
7. The current Wastewater Capacity Application is not acceptable as submitted. Please provide breakdown on how the total estimated volume in gallon per day (gpd) was calculated.
----Corrections made
8. Although not stated on the plans, it is expected that the entire sidewalk on Congress St will need to be replaced once the foundation is completed. Please indicate that the brick sidewalk will be replaced or provide assurances that the sidewalk will be protected.
---The existing sidewalk will be replaced.
9. Grease Interceptor/Trap Removal Unit: This issue will require more discussion prior to authorization by Water Resources Division. Please contact Ben Pearson (874-8843) for sizing requirements and approval.
---No comment required
10. Proposed parking area Oil\Water Separator shall discharge to the City's sanitary sewer and not the stormwater system.
---Correction made.
11. It appears that the proposed building foundation and underdrain system may be encroaching the street right of way. If so an easement/license will be required from the City and shown on the Recording Plat.
---No encroachment of the building is proposed at this time.
12. A 12" drain line is shown crossing the rear of the property conveying drainage from Vernon Place to Avon Street. Since this line will be under the proposed building it shall be replaced with ductile iron pipe of the appropriate size to convey the intended drainage.
----Change made
13. All power and communication lines to the proposed development must be extended to the site underground from the street right of way.
----All utilities are proposed underground
14. Any underground or overhead utilities which feed adjacent infrastructure which cross but are not related to this

development shall have easements recorded and shown on the Recording Plat.
----Recording Plat has not been submitted.
15. Catchbasin detail shown on Sheet C-44 shall be modified to show a three foot sump.
---Change made
16. A stamped Recording Plat is required with plan set.
----Recording Plat has not been submitted.
17. A 10" VCP is shown entering a manhole on Avon St. If this line is to be abandoned the manhole penetration shall be sealed and the manhole channel/shelf area modified accordingly. The remaining pipe in the road right of way shall be either grout filled or removed. Please state what is intended for this existing pipe.
---Comment addressed
18. Assurances and construction easements need to be provided to protect the interest of the abutting property owner to the rear.
---The proposed building has been pulled away from the rear property line so an easement is not required.
New comments as of 8-31-15
19. Place note on plans at existing smh #2 Avon St that before installing the proposed 8" sanitary sewer, contact John Emerson (318-0239) for guidance on how to construct the manhole pipe penetration and the reconstruction of the manhole channel and shelf.
----Comment addressed
New comments as of 9-22-15
20. The existing sewer on Congress St is a combined sewer. Therefore a backflow preventer on the proposed 6" sewer lateral is required.
---No response necessary

This Department has no additional comments at this time.

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 3

MEMORANDUM

TO: Shukria Wiar, Planner
FROM: David Senus, PE
DATE: September 18, 2015
RE: 667 Congress Street, Level III Site Plan Application

Woodard & Curran has reviewed the revised information provided for the Level III Site Plan Application for the proposed mixed use development located at 667 Congress Street in Portland, Maine. The project involves the demolition of an existing variety store and surface parking lot and the construction of an eight story building for rental apartments, commercial space, and two levels of parking.

Documents Reviewed by Woodard & Curran

- Engineering Plans, Sheets C-01, C-02, C-03, C-10, C-11, C-20, C-30, C-31, C-40, C-41, C-42, C-43, C-44, C-45, and C-50, REV dated September 15, 2015, prepared by Acorn Engineering, Inc., on behalf of Redfern Properties, LLC.

Comments

1) Confirmation of ability to serve wastewater should be forwarded upon receipt; we anticipate that coordination and review of ability to serve wastewater is occurring as part of DPS' review of the Site Plan application.
2) Based on comments received from the City Department of Public Services, the Applicant has revised the outlet from the Oil/Water Separator to connect to the sanitary sewer in Avon Street. The flow into the Oil/Water Separator is intended to solely include drainage from the floor drains from the two covered parking deck areas; however, on Sheet C30 it appears that an underdrain connection is proposed into the floor drain system. All underdrains should be connected into the separated storm drain system.
3) Sheet C31 shows the floor drain locations for the upper parking deck. These locations are reflected on Sheet C30 as "first floor downspouts". Are these downspouts discharging to the surface of the lower parking deck or connecting directly into the lower parking area floor drain system? If connecting directly, this should be depicted on C30.

MEMORANDUM

To: FILE

From: Shukria Wiar

Subject: Application ID: 2015-125

Date: 9/25/2015

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

2009 NFPA 1 18.4 Fire Flow Requirements for Buildings
-may require installation of fire hydrant to meet fire flow requirements.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Construction Management Plan
Streets must maintain a 20' width for Fire Department access at all times.
Fire Hydrants shall not be blocked or enclosed by fencing. A 3' foot clearance must be kept at all times around the fire hydrant.
If gates are locked, a Portland Fire Department Knox padlock must be purchased by the applicant to allow access for the Fire Department.
The Construction Company' emergency contact information shall be posted on the property in case of an after hours emergency.
All construction shall comply with 2009 NFPA 1 Chapter 16 Safeguards During Building Construction, Alteration, and Demolition Operations.
Any cutting and welding done will require a Hot Work Permit from Fire Department.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

4.Plan Review

1.)At submitter's expense all building permits and fire protection systems design must be approved by the 3rd party fire protection engineer prior to submission for the required permits and is part of the required 3rd party review of the entire building. That would be a complete review with a stamped letter from the 3rd party fire protection engineer stating that the design has been reviewed for compliance with the pertinent codes, standards, and regulations, and submitted with an electronic copy of the approved plans and documents for permitting.

2.)In addition we're asking for the 3rd party fire protection engineer to be present when the installing contractors perform the final commissioning (testing) of the fire protection systems and issue a second stamped letter that they observed the final commissioning of the systems and the systems are installed and function as required by the pertinent codes, standards, and regulations. Fire protection systems include, but are not limited to: fire alarm, sprinkler, standpipe systems and other suppression system equipment.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Hydrants
2009 NFPA 1 18.3 Water Supplies and Fire Hydrants
-Fire Department Connections shall not be located where large diameter hose may block egress.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Premises Identification
The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.
Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.
If the building entry faces a different street, both the street name and number should be large enough to read from the street.
Address numbers must be a minimum of 4 inches high.
The number should be in Arabic numerals rather than spelled out (for example, "130" instead of "One Hundred and Thirty').
Color: Addresses should be in a color that contrasts with the background.
Whenever possible, should be illuminated.

MEMORANDUM

To: FILE

From: Shukria Wiar

Subject: Application ID: 2015-125

Date: 9/25/2015

Comments Submitted by: Keith Gautreau/Fire on 8/21/2015

The proposed width on Avon Street of 14' is a major concern for Emergency Access. The minimum width is 16' in accordance with the Technical Standard.

Att. 1

redfern properties

P.O. Box 8816
Portland, ME 04104
Office: 207-221-5746
Fax: 207-221-2822
www.redfernproperties.com

July 31, 2015

Shukria Wiar
Planning Division, City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

Re: 667 Congress Street, Level III Site Plan Application

Dear Shukria:

Please find attached the Preliminary Level III Site Plan Application related to our proposed mixed-use development at 667 Congress Street. The proposed project contemplates 139 market rate rental apartments on Floors 2-8, with Joe's Super Variety occupying a ground floor retail suite. Two levels of parking will provide 82 parking spaces. The project is designed to incorporate 'smart growth' principles and a high standard for energy efficiency.

Attached to this application, please find the following documents:

1. Completed Application Form (7 pages)
2. Evidence of Right, Title, & Interest – MSD Properties LLC Deed (3 pages)
3. Zoning Analysis (2 pages)
4. Written Requests for Waivers (2 pages)
5. Traffic Analysis (1 page)
6. Boundary Survey (1 page)
7. Civil Engineer Cover Letter (3 pages)
8. Site Plan/Civil Engineering Drawings (14 pages)
9. Preliminary Stormwater Management Plan (61 pages)
10. Preliminary Erosion Control Plan (12 pages)
11. Capacity to Serve Letters (20 pages)
12. Architectural Drawings & Renderings, including elevation (8 pages)

We have made a separate application to the Historic Preservation Board for a Certificate of Appropriateness related to our Architectural Design.

We do not believe that any federal or state permits are required for this project

With respect to Financial and Technical Capacity, we believe that Redfern Properties LLC track record of developing successful projects in Portland constitutes ample evidence. If the City requires a letter from one of our prospective lenders, we would be happy to provide one.

We look forward to working with the City of Portland to achieve a successful project. Please do not hesitate to contact me.

Sincerely,

Jonathan Culley
Redfern Properties LLC

Att. 1a

ACORN ENGINEERING, INC.

Shukria Wiar – Planner
City Planner
Planning Division
389 Congress Street
4th Floor
Portland, ME 04101

July 30th, 2015

Re: Preliminary Civil Application
667 Congress St Redevelopment
667 Congress St, Portland ME 04101

Shukria,

Acorn Engineering, Inc., in coordination with the project team, is pleased to submit the civil engineering components for a Preliminary Application for a Level III Site Plan for the redevelopment of 667 Congress Street. The proposed development design is at a considerable level of completion for a preliminary application. The following design work has been completed:

1) **Existing Conditions:** Acorn Engineering has teamed up with Titcomb Associates to produce an initial survey of the development site. The survey outlines the existing utilities and grades of the area and serves as a basis for all continued design. A geotechnical report has also been completed by Summit Geoengineering Services and defines the structural soundness of the subsurface as well as outlines any structural guidelines for further development based on existing soil conditions. The report is included as an attachment in the Stormwater Report.

   Acorn is also aware of the current Deering Street reconstruction by Woodard & Curran and have incorporated the anticipated finished project into the initial design; this reconstruction will directly impact the Congress Street redevelopment's drainage system.

   Regarding exiting easements there is an existing stormwater drain easement that extends 10 feet from the northernmost property line as well. Proposed easements may include a grease trap within the City ROW, a pedestrian easement from the developer to the City and guy wire easement to reinforce an existing pole.

2) **Site Plan:** The current layout includes an interior parking garage in the basement and first floor of the building. The proposed basement parking access is located on Avon Street while the first floor access is off of Vernon Place; this outlet arrangement allows for split traffic patterns and ease of access from two separate points. There is a total of 81 physical parking spaces comprised of both standard and compact spaces. However, with the introduction of a single shared parking space, the effective parking space total increases to 88 (1 shared space as the equivalent of 8 spaces) which represents 63% of total residential units.

   Because the majority of parking need is residential, it is defined as a low turnover lot and can therefore support a more compact layout. Using a parking lot design study published by Carl Walker, Inc. as a basis of design, the proposed layout uses a 75 degree angled, elongated

compact parking space (8.5' X 16-18') with a one-way drive aisle width. Carl Walker, Inc. is an engineering firm that specializes in parking structure design. This layout is supported by the User Comfort Factor (UCF) and Level of Service (LOS) approach and is able to maximize parking spaces while maintaining parking maneuverability.

Due to the covered nature of the parking lots, no landscaping was incorporated into the interior design; these lots are most like a parking garage and therefore do not apply to the requirements set by the City of Portland Code of Ordinances for Land Use. However, there will be three trees planted along Congress Street in front of the building. This is an improvement to the lack of trees or landscaping currently on the property. The additional street trees required along Vernon Place and Avon Street will not be put into place due to space restrictions but the equivalent of 13 trees will be contributed to the City of Portland Tree Fund.

The remaining building space will be occupied by a commercial space (Joe's Variety Store) on the first floor with seven additional floors of residential units.

3) **Utility Plan:** Acorn Engineering has sent out Ability to Serve letters to gas, water, telephone, cable, electricity, solid waste removal, and sewer utilities and have successfully secured responses from Unitil (gas), Portland Water District (water), Fairport Communications (phone/cable), and Central Maine Power (electricity). The majority of these providers have also been met with onsite and reviewed proposed changes to existing utilities. A summary of the responses is included in this application.

4) **Grading, Drainage and Erosion Control Plan**: Through implementation of a covered parking lot, the majority of surface runoff will be from the roof with minimal runoff from some exposed bituminous concrete on the first floor. Therefore, the proposed development produces cleaner runoff than the existing, uncovered surface parking lot. All runoff is to be redirected to the basement floor and then connected to the newly separated stormwater system within Avon Street.

   For a more detailed description of the proposed drainage and grading system, refer to the Stormwater Report. This report includes evidence that the proposed development will not increase surface runoff flows.

5) **Lighting**: The existing building front is directly lit by a street light on Congress Street that meets the downtown district municipal standards. A portion of the site is also lit by another approved lamp on the corner of Congress Street and Vernon Place. Vernon Place and Avon Street will be lit by mounted lamps along the building's edge; these lamps will comply with the Historic District's guidelines.

Please do not hesitate to contact our office with any questions or comments.

Sincerely,

Will Savage, P.E.
President
Acorn Engineering, Inc.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

ACORN ENGINEERING, INC.

667 CONGRESS STREET PRELIMINARY CIVIL APPLICATION:

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   4.4. HydroCAD Calculations
   4.5. Summit Geoengineering Services – Soil Boring Logs, May 2015
5. Erosion Control Report
6. Waste Removal Letter
7. List of Requested Waivers

APPENDICIES:

C-01 Cover Plan
C-02 General Notes
EX Existing Conditions Plan – Titcomb Surveying
C-10 Site Layout Plan: Basement
C-11 Site Layout Plan: First Floor
C-20 Utility Plan
C-30 Grading & Drainage Plan: Basement
C-31 Grading & Drainage Plan: First Floor
C-40 Site Details – 1
C-41 Site Details – 2
C-42 Utility Details
C-43 Drainage Details - 1
C-44 Drainage Details - 2
C-45 Erosion Control Details & Notes
SNOW Snow Storage Plan

Att. 2

Portland, Maine — Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☒ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

Applicant Signature: _____ Date: 7/31/2015

I have provided digital copies and sent them on: _____ Date: 7/31/2015

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

Updated: June 1, 2015

PROJECT NAME:___Longfellow Apartments_____

PROPOSED DEVELOPMENT ADDRESS: ____667 Congress Street_____

PROJECT DESCRIPTION: Project contemplates demolition of existing variety store and subsequent construction of 8-story apartment building with one ground floor retail suite and 2 levels of parking. In total the new building will have 139 market-rate rental apartments and 82 parking spaces.

CHART/BLOCK/LOT: _46-C-19-20_____ **PRELIMINARY PLAN** _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Redfern Properties LLC, on behalf of MSD Properties LLC Address: P.O. Box 8816 City/State : Portland, ME Zip Code: 04104	**Applicant Contact Information** Work # Home# Cell # 207-776-9715 Fax# e-mail: jonathan@redfernproperties.com
Owner – (if different from Applicant) Name: MSD Properties LLC Address: P.O. Box 5055 City/State : Portland, ME Zip Code: 04101	**Owner Contact Information** Work # Home# Adam Taylor Attorney 207-828-2005 Cell # Fax# e-mail: ataylor@tmfttorneys.com
Agent/ Representative Name: Address: City/State : Zip Code:	**Agent/Representative Contact information** Work # Cell # e-mail:
Billing Information Name: Redfern Properties LLC Address: Same as Above City/State : Zip Code:	**Billing Information** Work # Cell # 207-776-9715 Fax# e-mail: jonathan@redfernproperties.com

Engineer Name: Acorn Engineering/Will Savage Owner Address: 158 Danforth Street City/State : Portland, ME Zip Code: 04102	**Engineer Contact Information** Work # 207-775-2655 Cell # 207-317-1884 Fax# e-mail: wsavage@acorn-engineering.com
Surveyor Name: Titcomb Associates Address: 133 Gray Road City/State : Falmouth, ME Zip Code: 04105	**Surveyor Contact Information** Work # 207-797-9199 Cell # Fax# e-mail: dtitcomb@titcombsurvey.com
Architect Name: Ryan Senatore Architecture Address: 565 Congress Street, Suite 304 City/State : Portland, ME Zip Code: 04101	**Architect Contact Information** Work # 207-650-6414 Cell # 207-650-6414 Fax# e-mail: ryan@senatorearchitecture.com
Attorney Name: Pierce Atwood/Eben Adams Partner Address: 254 Commercial St. City/State : Portland, ME Zip Code: 04101	**Attorney Contact Information** Work # 207-791-1175 Cell # Fax# e-mail: eadams@pierceatwood.com

APPLICATION FEES:
Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews) ___ Less than 50,000 sq. ft. ($500.00) ___ 50,000 - 100,000 sq. ft. ($1,000) __x 100,000 – 200,000 sq. ft. ($2,000) ___ 200,000 – 300,000 sq. ft. ($3,000) ___ over $300,00 sq. ft. ($5,000) ___ Parking lots over 11 spaces ($1,000) ___ After-the-fact Review ($1,000.00 plus applicable application fee) **Plan Amendments (check applicable reviews)** ___ Planning Staff Review ($250) ___ Planning Board Review ($500) _____ The City invoices separately for the following: • Notices ($.75 each) • Legal Ad (% of total Ad) • Planning Review ($40.00 hour) • Legal Review ($75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	**Other Reviews (check applicable reviews)** ___ Traffic Movement ($1,000) ___ Stormwater Quality ($250) __x Subdivisions ($500 + $25/lot) # of Lots _139_ x $25/lot = _$3,475_____ _Site Location ($3,000, except for residential projects which shall be $200/lot) # of Lots ___ x $200/lot = _____ ___ Other _____ ___ Change of Use ___ Flood Plain ___ Shoreland ___ Design Review ___ Housing Replacement ___ Historic Preservation

Updated: June 1, 2015

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. **One (1) full size site plans** that must be **folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
   a. Application form that is completed and signed.
   b. Cover letter stating the nature of the project.
   c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	**Date:**
	7/31/2015

PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site	26,126.91	sq. ft.
Proposed Total Disturbed Area of the Site	26,126.91	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
Impervious Surface Area		
Impervious Area (Total Existing)	26,126.91	sq. ft.
Impervious Area (Total Proposed)	26,126.91	sq. ft.
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	3,672.72	sq. ft.
Building Footprint (Total Proposed)	23,968	sq. ft.
Building Floor Area (Total Existing)	3,672.72	sq. ft.
Building Floor Area (Total Proposed)	141,742	sq. ft.
Zoning		
Existing	B-3	
Proposed, if applicable		
Land Use		
Existing	Retail & Parking Lot	
Proposed	Retail, Residential	
Residential, If applicable		
# of Residential Units (Total Existing)	0	
# of Residential Units (Total Proposed)	139	
# of Lots (Total Proposed)	1	
# of Affordable Housing Units (Total Proposed)	0 (no subsidized units)	
Proposed Bedroom Mix		
# of Efficiency Units (Total Proposed)	34	
# of One-Bedroom Units (Total Proposed)	97	
# of Two-Bedroom Units (Total Proposed)	8	
# of Three-Bedroom Units (Total Proposed)	0	
Parking Spaces		
# of Parking Spaces (Total Existing)	63	
# of Parking Spaces (Total Proposed)	81	
# of Handicapped Spaces (Total Proposed)	2	
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	56	
Estimated Cost of Project	$20,000,000.00	

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
x		1	Completed Application form
x		1	Application fees
x		1	Written description of project
x		1	Evidence of right, title and interest
n/a		1	Evidence of state and/or federal approvals, if applicable
x		1	Written assessment of proposed project's compliance with applicable zoning requirements
n/a		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
x		1	Written requests for waivers from site plan or technical standards, if applicable.
see cover letter		1	Evidence of financial and technical capacity
x		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
x		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
x		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
x		Proposed grading and contours;	
x		Existing structures with distances from property line;	
x		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
x		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
x		Preliminary infrastructure improvements;	
x		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
x		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
x		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
x		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
x		Exterior building elevations.	

RYAN SENATORE ARCHITECTURE

April 7, 2015

Apartments
665 Congress, Portland, Maine

Zoning Analysis

Zone: B3 Downtown Business Zone 14-216
- Congress Street Historic District
- Pedestrian Overlay Zone
- Downtown Urban Design Guidelines

CBL: Portland Tax Map 046, Block C, Lots 19, 20
Street Address: 663-669 Congress Street, 1-21 Vernon Place, 2-22 Avon Street
Lot Size: 25,730 sf = 0.5907 acres

Uses Allowed: Multifamily Residential, Retail

Dimensional Requirements:

	Required	Provided
Minimum Lot Size	none	25,730 sf
Minimum Street Frontage	15 ft	641 ft
Street wall line max setback	5 ft	2 ft
Minimum Yard Dimensions	none	-
Minimum Lot Width	none	-
Maximum Lot Coverage	100%	100%
Maximum Blank Facade (Congress Street Only)	15 ft	3 ft
Maximum Blank Facade (Vernon and Avon Only)	30 ft	12 ft

207-650-6414
senatorearchitecture.com
ryan@senatorearchitecture.com
565 Congress St, Portland ME

	Required	Provided
Maximum building height (to top of highest roof beam)	85 ft	85’ from avg grd.
Maximum Street Wall 65’ (All 3 streets)	65 ft	65 ft
Minimum Building Height within 50’ of Street (not required at covered parking, exception 1)	35’	65 ft
Residential Density	No Limit	-
Parking	1 per Unit	81 total spaces
PAD Overlay Zone 75% Street Facade (Congress Only)	20’ deep retail	80%

207-650-6414

senatorearchitecture.com

ryan@senatorearchitecture.com

565 Congress St, Portland ME

Att. 4

DEED OF SALE BY PERSONAL REPRESENTATIVE

Maine Statutory Short Form

WE, LOUIS A. DISCATIO, of 18 Smith Farm Lane, Portland ME 04103, and **TERESA REO**, aka **THERESA DISCATIO**, of 99 Lowell Street, South Portland ME 04106, duly appointed and acting **PERSONAL REPRESENTATIVES of the ESTATE of JOSEPH L. DISCATIO, Cumberland Probate Docket #2012-1034**, by the power conferred by the Probate Code, and every other power, and with the right provided by decedent to convey property without notice to devisees or heirs, for consideration paid, **grant** to **MSD PROPERTIES, LLC**, a Maine Limited Liability Company with a principal place of business at 665 Congress Street, Portland ME 04101, certain lots or parcels of land and improvements in Portland, Cumberland County Maine on the northerly side of Congress Street bounded on the south by Congress Street, on the west by Vernon Place, and on the east by Avon Street, of approximately .6 acres, described on Exhibit A attached.

This property was conveyed to Joseph L. Discatio and Mary Discatio as joint tenants by warranty deed of Joseph L. Discatio dated September 16, 1990 and recorded on September 18, 1990 in Book 9322 Page 86 of the Cumberland County Registry of Deeds. Mary Discatio died on July 8,1999; her estate was not probated.

MAINE REAL ESTATE TAX PAID

WITNESS, my hand and seal this 10 day of June, 2013.

Witness

Louis A. Discatio
Grantor – Louis A. Discatio, Personal Representative
Estate of Joseph L. Discatio

Witness

Teresa A. Reo
Grantor – Teresa Reo, aka Theresa Discatio,
Personal Representative Estate of Joseph L. Discatio

State of Maine
Cumberland, SS

Personally appeared before me, the above named Louis A. Discatio and Teresa Reo, aka Theresa Discatio, in their capacity as Joint Personal Representatives of the Estate of Joseph L. Discatio, acknowledged the foregoing instrument to be their free act and deed, and subscribed the same.

Before me,
6-10-2013
Date

Andrew J. Doukas, Attorney At Law
ME BAR #2932

EXHIBIT A – LEGAL DESCRIPTION OF PROPERTY AT 665 CONGRESS STREET, PORTLAND, CUMBERLAND COUNTY, MAINE

PARCEL I

A certain lot or parcel of land with the buildings thereon, situated on the northwesterly corner of Congress Street and Congress Place, in said City of Portland, County of Cumberland and State of Maine, and having a frontage of thirty-eight (38) feet on Congress Street, and a frontage of about two hundred two (202) feet on Congress Place, with a depth of forty-five (45) feet at the northerly end. Said premises being bounded on the south by Congress Street, on the east by Congress Place, on the north by land now or formerly of T.A. and W.H. Roberts, and on the west by land now or formerly of H.W. and A. Deering, and by land of St. Stephens Church.

Congress Place is now known as Avon Street.

PARCEL II

First: A certain lot or parcel of land situated in said Portland on the easterly side of Vernon Court and numbered 13 and 15 on said Court, and being the same property conveyed by Grenville H. Deering to Ernest J. Eddy by deed dated November 2, 1907 and recorded in Cumberland County Registry of Deeds in Book 816, Page 149, to which deed and the deeds therein referred to reference is hereby made for a more particular description.

Second: A certain lot or parcel of land, with any buildings thereon, situated on the easterly side of Vernon Court in said Portland and being the most northerly lot of land on the easterly side of said Court and being the premises numbered 19 and 21 as shown on the city valuation plan recorded in Cumberland County Registry of Deeds in Book 5, Page 46, and being the same premises conveyed by Elizabeth E. Deering to said Ernest J. Eddy by deed dated December 18, 1908 and recorded in said Registry of Deeds in Book 835, Page 6, to which deed and the deeds therein referred to reference is hereby made for more particular description of the premises.

Third: A certain lot or parcel of land, with any buildings thereon, situated on the northeasterly side of Vernon Court, otherwise known as Vernon Place, and being the same property conveyed by Robert C. Schmidt to said Ernest J. Eddy by deed dated December 14, 1908 and recorded in said Registry of Deeds in Book 835, Page 4, to which deed and the deeds therein referred to reference is hereby made for a more particular description of the premises.

Fourth: A certain lot or parcel of land at 18-22 Avon Street running in a southerly direction towards Congress Street from the southerly boundary line of the former Kelsey property at the southwest corner of Avon and Deering Streets, a distance of seventy-three and one-half (73 ½) feet, more or less to a junction with the property now or formerly of the Avon Corp. located at the west corner of Avon and Congress Streets, bounded on the southerly side by the said property now or formerly of the Trustees of the Dalton Memorial Chapel and Burnham Hall; bounded on the west by property now or formerly of the Trustees of the Dalton Memorial Chapel and Burnham Hall and

bounded on the north by said former Kelsey property and property now or formerly of said Avon Corp.

Fifth: A certain lot or parcel of land at number 11 (called 5) Vernon Place, together with the brick frame dwelling, or apartment house thereon, the said property being bounded as follows: On the northerly side by the land, brick and frame house of the said Dalton Memorial Chapel and Burnham Hall, a distance of forty-five (45) feet, more or less, on the easterly side by property now or formerly of the Avon corp. located at the northwesterly corner of Congress and Avon Streets a distance of approximately thirty-six (36) feet, more or less, to a junction with the land and Parish house of the Rector, Wardens and Vestrymen of St. Stephen's Parish, or Church; on the southerly side by the said land and Parish House of said Rector, Wardens and Vestrymen of St. Stephens's Parish or Church; on the westerly side by the line of Vernon Place.

Sixth: Also releasing and conveying all my right, title and interest in the following described real estate: A certain lot or parcel of land with (any) buildings thereon, situated on the northerly side of Congress Street and numbered 665 ½ Congress Street and now or formerly known as "Joe's Smoke Shop," said land beginning at a point one hundred and eighty-five (185) feet, more or less, from State Street at the easterly line of St. Stephen's Episcopal Church edifice and extending in an easterly direction eight and one-half (8 ½) or nine (9) feet thence in a northerly direction a distance of thirty-six (36) feet; thence approximately seven (7) feet in a westerly direction to the easterly wall of the said St. Stephen's Episcopal Church edifice, the said wall being the westerly boundary of the said property.

Seventh: Also a certain other lot or parcel of land, with any buildings thereon, known as St. Stephen's Church, and situated on the northerly side of Congress Street in said Portland, bounded and described as follows:

Said lot is on the corner of Congress Street and Vernon Court, so-called, and is sixty-three (63) feet on Congress Street running back on Vernon Court one hundred and thirty (130) feet, more or less, on the easterly side of said court as far northerly as the land formerly owned and occupied by Hiram W. and Alvin Deering, said lot is bounded on the easterly side thereof by a line described in a Decree of the Supreme Judicial Court held in and for the County of Cumberland, April Term 1838 in the case of Hannah Harding In Equity vs. Job Randall, as a "line drawn from the northerly corner of said lot to Main Street and intersecting said Street two (2) feet easterly of the easterly end of the dwelling house in said pleadings mentioned and excluding the well near said house," to which Decree, duly entered on the Docket of said Court, in said suit, reference for a particular description of said easterly side line of the lot hereby conveyed is always to be had.

Meaning and intending to convey, and hereby conveying, all right, title and interest in and to lots 19-23 as shown on City of Portland Assessors Chart Plan 46, Block C, as recorded in the City Assessors, Portland, Maine.

Meaning and intending to convey, and hereby conveying, all real estate of the grantor which is situated in the block in said Portland which is bounded southerly by Congress Street; westerly by Vernon Place and easterly by Avon Street.

Received
Recorded Register of Deeds
Jun 10,2013 03:36:33P
Cumberland County
Pamela E. Lovley

A C O R N
ENGINEERING, INC.

Central Maine Power Company
Attn: Jamie Cough
162 Canco Road
Portland, Maine 04103

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

Mr. Cough,

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for Central Maine Power's ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

The developer plans to serve the proposed building with a 3-phase electric service. At this time we have proposed that the new service be established from the existing line within Congress Street, and into the existing CMP manhole within the Vernon Place corridor. We are assuming that Congress Street has 3-phase power. The service would then be routed overhead to the existing utility poles within Vernon Place. From the utility poles, the service would then be redirected underground into a transformer, located at the western property corner. Pull boxes are anticipated to be placed at corners, and conduit is anticipated to be encased in concrete within the City of Portland ROW. Within the building, the secondary distribution line will run within the basement slab at the ground level, up a support column to the first floor ceiling, and finally into the mechanical closet.

Furthermore, overhead wires crossing the proposed development are anticipated to be removed as part of this project. Electric services currently existing within Vernon Place are anticipated to be redirected from the existing CMP manhole within the Vernon Place corridor, onto the utility poles adjacent to the project, and then reconnecting to each existing Vernon Place service. Please see the Utility Plan (attached).

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping confirming single and three-phase power locations within Vernon Place, Avon Street and Congress Street.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing system.
4. CMP's proposed infrastructure improvements within the project vicinity.
5. CMP's ability to serve the project.
6. Any input on the proposed location of the transformer and offsets. If required, other options such as in-ground mounting within the sidewalk location may be explored.
7. Whether CMP allows for secondary distribution line to be run within the basement of the facility, up support columns, and/or within ceiling conduit.
8. Access requirements to the CMP meters.
9. Metering options to reduce the necessary wall space.

I have attached a preliminary utility plan to facilitate your review. The project is anticipated to be three-phase. Electrical loading computations and final metering will be performed by the electrical engineer, at a later date. Please let me know if you have any further questions or comments.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

4/27/2015

Michael Guethle, E.I.T.
Engineer

Acorn Engineering, Inc
PO Box 3372
Portland, Maine 04104
Sent via email to: mguethle@acorn-engineering.com

RE: Ability to Serve Letter for 667 Congress Street project, Portland, ME.

Dear Mr. Guethle:

CMP has the ability to serve the proposed project located at 667 Congress Street in Portland, Maine, in accordance with our CMP Handbook (web link below). We can provide you the desired pad or pole mounted transformers per your request and city approval, in accordance with our CMP Standards Handbook. If you have any questions on the process, or need help in completion of the documents, please feel free to contact me.

New Service Milestones

- Call 1-800-565-3181 to establish a new account and an SAP work order.
- Submit any electronic drawings (PDF (preferred) or DWG files) of the site layout and proposed electrical connections if you have them.
- Submit Load information. Please complete this CMP spreadsheet using load information
- Submit the easement information worksheet. Please complete this CMP form and either email or fax back to us.
- Preliminary meetings with CMP to determine the details of job
- Field planner design appointment to cost out job and develop CMP Invoice.
- Submit invoice for payment.
- Easements signed and payment received.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer delivery, potential substation upgrades, return of completed paperwork, and other jobs in the system that may be ahead of yours. In addition, contact with the other utilities, including telephone and cable, should be commenced as soon as practical. They may have additional work or charges in addition to the CMP work required to bring your project on line.

162 Canco Road Portland, ME 04103
Tel (800) 750-4000
207-842-2367 office
207-458-0382 cell
207-626-4082 fax

For your convenience, here is a link to the CMP Website which contains our Handbook with details on most service requirements:

CMP Handbook of Standard Requirements
(http://www.cmpco.com/MediaLibrary/3/6/Content%20Management/YourAccount/PDFs%20and%20Docs/handbook.pdf)

If you have any questions, please contact me.

Regards,

Jamie Cough
Energy Services Advisor
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207-842-2367 office
207-458-0382 cell
207-626-4082 fax

A C O R N
ENGINEERING, INC.

Department of Public Services
Attn: Frank J. Brancely, B.A, M.A.
55 Portland Street
Portland, Maine 04101

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

Dear Mr. Brancely,

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for the Department of Public Services' ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Conservative Estimate of Anticipated Design Flows				
Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing flow to be removed				
Restaurant: With Food Prepared	Per Meal Prep	100	1	100
Restaurant: Employees	Per Employee	12	12	144
Proposed flow				
Restaurant: With Food Prepared	Per Meal Prep	150	1	150
Restaurant: Employees	Per Employee	12	12	144
Residential Units	≤2 – Bedroom	132	180	23,760
Net Change				23,810

*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition

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Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

The proposed project is anticipated to add a net water usage from the development of approximately 24,000 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. The anticipated flow assumes a conservative water usage estimate; a higher food preparation value was used as an estimated flow for the restaurant, and many of the proposed apartments are 1-bedroom apartments or studio apartments. For these reasons, the actual water usage for this location may be lower.

Separate services are proposed for the commercial property and the residential units. For the residential units, the developer has proposed a new 8-inch sewer service for the development that would tie into the existing sewer within Avon Street. The developer is also proposing an individual six-inch service for the commercial property, including a 4-inch service for kitchen waste leading from an internal grease interceptor.

Grease Waste Interceptor Sizing						
Number of Meals/Peak Hour		Waste Flow Rate	Retention Time	Storage Factor	**Calculated Size**	**Manufactured Size**
Capacity	Meal Factor	Single Service	Single	10 HRS	**(gallons)**	**(gallons)**
15	1.33	2	1.5	1.25	**74.8125**	**100**

*Based on values from Uniform Plumbing Code Formula

**Extrapolating between storage factors for 11A-9P hours

The grease interceptor calculations are based upon coordination with the future owners of the proposed facility.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within the adjacent roadway corridors.
2. Currently, we are proposing a grease interceptor within the kitchen location appurtenant to a sampling manhole within the Congress Street corridor. We are aware that Maine Subsurface Wastewater Disposal Rules does not allow for an industrial external grease interceptor less than 750 gallons. Can DPS please comment on the potential for an internal grease interceptor, as well as the potential to not include a sampling/control manhole?
3. Alternative connection locations from the development to the existing system.
4. DPS's proposed infrastructure improvements including combined sewer separations within the project vicinity.
5. DPS's ability to serve the project.

I have attached a preliminary utility plan to facilitate your review. Please let me know if you have any further questions or comments.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: 4/22/2015

Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail:fjb@portlandmaine.gov

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 667 Congress Street

Chart Block Lot Number: Refer to Letter

Proposed Use: Commercial, Apartments

Previous Use: Commercial/Retail

Existing Sanitary Flows: 244 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to receive the proposed building sewer lateral.

Refer to the attached plan

Site Category		
	Commercial *(see part 4 below)*	X
	Industrial *(complete part 5 below)*	
	Governmental	
	Residential	X
	Other *(specify)*	

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: Shukria Wiar Phone: 756-8083

Owner/Developer Name: Jonathan Culley- Redfern Properties, LLC

Owner/Developer Address: P.O. Box 8816, Portland, Maine 04104

Phone: 207-776-9715 Fax: E-mail: jonathan@redfernproperties.com

Engineering Consultant Name: Acorn Engineering, Inc.

Engineering Consultant Address: PO Box 3372, Portland, Maine 04104

Phone: 207-775-2655 Fax: E-mail: wsavage@acorn-engineering.com

(Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review)

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 23,810 GPD

Peaking Factor/ Peak Times: Diurnal Residential Flow Pattern

Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine,"*
__ *"Plumbers and Pipe Fitters Calculation Manual,"* __ *Portland Water District Records,* __ *Other (specify)*
STATE OF MAINE SUBSURFACE WASTEWATER DISPOSAL RULES

(Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet)

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:	8
Size of External Grease Interceptor:	100 gallons
Retention Time:	1.5 hours
Peaking Factor/ Peak Times:	1 / 11:00AM-2:00PM, 5:00PM-8:00PM

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations N/A

Estimated Industrial Process Wastewater Flows Generated:			GPD	
Do you currently hold Federal or State discharge permits?	Yes		No	
Is the process wastewater termed categorical under CFR 40?	Yes		No	
OSHA Standard Industrial Code (SIC):	*http://www.osha.gov/oshstats/sicser.html*			
Peaking Factor/Peak Process Times:				

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

Please refer to the attached letter with calculations, and plan

A C O R N
ENGINEERING, INC.

Fairpoint Communications
Attn: John Caprio
5 Davis Farm Road
Portland, Maine 04103

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

John Caprio,

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for Fairport Communication's ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

The developer plans to serve the proposed building with an underground landline telephone service. At this time we have proposed that the new service be established from the existing services overhead within Vernon Place. From the utility poles, the service would then be redirected underground into a transformer, located at the western property corner. Pull boxes are anticipated to be placed at corners, and conduit is anticipated to be encased in concrete within the City of Portland ROW. Within the building, the service will run within the basement slab at the ground level, up a support column to the first floor ceiling, and finally into the mechanical closet.

Furthermore, the project anticipates rerouting the existing overhead telephone, electric and communications wires currently crossing the development to the Vernon Place corridor. Communications services currently existing within Vernon Place are anticipated to be redirected from the existing communications line within the Vernon Place corridor, as indicated on the Utility Plan (attached). Overhead wires crossing the proposed development, as well as overhead wires and utility poles within Vernon Place are anticipated to be removed as part of this project.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within Vernon Place.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing communication system.
4. Fairpoint's proposed infrastructure improvements within the project vicinity.

5. Fairpoint's ability to serve the project.
6. Whether Fairpoint allows for service to be run within the basement of the facility, up support columns, and/or within ceiling conduit.

We have attached a preliminary utility plan to facilitate your review. Please let me know if you have any further questions or comments.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

A C O R N
ENGINEERING, INC.

Portland Water District
Attn: MEANS Department
225 Douglas Street
Portland, Maine 04104

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

To whom it may concern:

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for Portland Water ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

Based upon the Section 4 of the Maine Subsurface Water Disposal Rules, the project anticipates the following design flows:

Development	Unit Size	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing flow to be removed				
Restaurant: With Food Prepared	Per Meal Prep	100	1	100
Restaurant: Employees	Per Employee	12	12	144
Proposed flow				
Restaurant: With Food Prepared	Per Meal Prep	150	1	150
Restaurant: Employees	Per Employee	12	12	144
Residential Units	≤2 – Bedroom	132	180	23,760
Net Change				23,810

*Values based on STATE OF MAINE: SUBSURFACE WASTEWATER DISPOSAL RULES, most recent edition

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Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

The proposed project is anticipated to add a net water usage from the development of approximately 24,000 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. The anticipated flow assumes a conservative water usage estimate; a higher food preparation value was used as an estimated flow for the restaurant, and many of the proposed apartments are 1-bedroom apartments or studio apartments. For these reasons, the actual water usage for this location may be lower.

Separate services are proposed for the commercial property and the residential units. For the residential units, the developer has proposed a new 8-inch fire line service for the development that would tie into the existing water main in Congress Street with a redundant connection within Avon Street, as well as a four-inch domestic service in Congress Street. The developer is also proposing an individual one-inch service for the commercial property. I have attached a preliminary utility plan to facilitate your review.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within Vernon Place.
2. Alternative connection locations from the development to the existing system.
3. PWD's proposed infrastructure improvements within the project vicinity.
4. PWD's ability to serve the project.

Please let me know if you have any further questions or comments.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

June 11, 2015

Acorn Engineering, Inc.
P. O. Box 3372
Portland, ME 04104

Attn: Michael Guethle
Re: 667 Congress Street - Portland
Ability to Serve with PWD Water

Dear Mr. Guethle:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on April 22, 2015. Based on the information provided, we can confirm that the District will be able to serve the proposed project as further described in this letter.

Conditions of Service

The following conditions of service apply:

- If the existing service will no longer be used as a result of the development then it must be retired per PWD standards. This includes shutting the corporation valve and cutting the pipe from the water main.
- As the water mains in Congress Street and Avon Street are more than 50 years old, both fire services and the 4" domestic service will require a tapping valve at the main and a second gate valve at street line.
- A redundant fire protection service has been requested. The Utility Plan indicates an 8-inch fire service on both Congress Street and Avon Street. The connection on Avon Street should be revised to a 6" X 6" tapping sleeve with a 6-inch gate valve, a 2-foot section of 6-inch ductile iron pipe and a 6" X 8" increaser. A testable double check valve assembly will be required at the building entrance on each service and each connection shall be treated as an individual fire service with separate billing accounts.
- Water District approval of water infrastructure plans will be required for the project prior to construction. As your project progresses, we advise that you submit any preliminary design plans to MEANS for review of the water main and water service line configuration. We will work with you to ensure that the design meets our current standards.

Existing Site Service

According to District records, the project site does currently have existing water service. A 3/4-inch diameter copper water service line, located as shown on the attached water service card, provides water service to this site. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

225 DOUGLASS STREET P.O. BOX 3553 PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 FAX: 207.761.8307 WEB: WWW.PWD.ORG

Water System Characteristics

According to District records, there is a 16-inch diameter cast iron water main on the north side of Congress Street, a 6" cast iron water main on the east side of Vernon Court, a 6" cast iron water main on the west side of Avon Street and a public fire hydrant located at the site.

The current data from the nearest hydrant with flow test information is as follows:

Hydrant Location:	Congress Street at Avon Street
Hydrant Number:	POD-HYD00089
Last Tested:	8/8/2014
Static Pressure:	66 psi
Residual Pressure:	64 psi
Flow:	1,162 GPM

Public Fire Protection

You have not indicated whether this project will include the installation of new public hydrants to be accepted into the District water system. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Should private fire protection be required, please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact the MEANS Division to request a hydrant flow test and we will work with you to get more complete data.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Glissen Havu, E.I.
Design Engineer

A C O R N
ENGINEERING, INC.

Time Warner Cable
Attn: Mark Pelletier
5 Davis Farm Road
118 Johnson Road
Portland, Maine 04102

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

Mark Pelletier,

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for Time Warner Cable's ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

The developer plans to serve the proposed building with an underground communications service. At this time we have proposed that the new service be established from the existing services overhead within Vernon Place. From the utility poles, the service would then be redirected underground into a transformer, located at the western property corner. Pull boxes are anticipated to be placed at corners, and conduit is anticipated to be encased in concrete within the City of Portland ROW. Within the building, the service will run within the basement slab at the ground level, up a support column to the first floor ceiling, and finally into the mechanical closet.

Furthermore, the project anticipates rerouting the existing overhead telephone, electric and communications wires currently crossing the development to the Vernon Place corridor. Communications services currently existing within Vernon Place are anticipated to be redirected from the existing communications line within the Vernon Place corridor, as indicated on the Utility Plan (attached). Overhead wires crossing the proposed development, as well as overhead wires and utility poles within Vernon Place are anticipated to be removed as part of this project.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within Vernon Place.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing communication system.
4. Time Warner Cable's proposed infrastructure improvements within the project vicinity.

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Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

5. Time Warner Cable's ability to serve the project.
6. Whether Time Warner allows for service to be run within the basement of the facility, up support columns, and/or within ceiling conduit.

I have attached a preliminary utility plan to facilitate your review. Please let me know if you have any further questions or comments.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

A C O R N
ENGINEERING, INC.

Unitil Service Corp.
Attn: Kelly Fowler
P.O. Box 3586
Portland, Maine 04104

April 22, 2015

Subject: 667 Congress Street Development - Redfern Properties, LLC – Portland
Re: Ability to Serve

Kelly Fowler,

On behalf of Redfern Properties, LLC, we are pleased to submit the following request for Unitil's ability to serve the proposed development. 667 Congress Street is a 132-unit vertical urban infill development located near Longfellow Square in Portland. The proposed building is anticipated to be 8 stories tall; the first story will comprise of a retail space and an indoor parking facility; and the second through eighth stories will contain a total of 132 rental units within the building. A basement-level parking lot will also be included in the design.

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which is to be demolished as part of the proposed project. The smoke shop/variety store will be incorporated into the new building.

The developer plans to serve the proposed building with a gas service. At this time we have proposed that the new service be established from the existing underground line within Vernon Place, and into the mechanical closet for the development. I have attached a preliminary utility plan to facilitate your review. Gas loading computations, delivery pressure, total number of meters, and other site information will be performed by the contractor's mechanical engineer, at a later date. Please let me know if you have any further questions or comments.

On behalf of the client we are requesting the following information:

1. Any additional information, such as additional utility mapping within Vernon Place.
2. Alternative connection locations from the development to the existing system.
3. Unitil's proposed infrastructure improvements within the project vicinity.
4. Unitil's ability to serve the project.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

A C O R N

ENGINEERING, INC.

Sincerely,

Michael A. Guethle

Design Engineer
Acorn Engineering, Inc.

cc: Will Savage – Acorn Engineering, Inc.
Jonathan Cully – Redfern Properties, LLC
Ryan Senatore – Ryan Senatore Architecture

Unitil
natural gas

April 28, 2015

Michael A. Guethle
PO Box 3372
Portland, ME 04101

Re: Ability to Serve 667 Congress Street Development – Redfern Properties, LLC - Portland

Dear Mr. Guethle:

Thank you for your interest in using natural gas for the above referenced project.

Unitil has natural gas infrastructure in the vicinity of this project to provide gas service. There is a 2" low pressure main on Vernon Place, a 4" low pressure main on Avon Street and an 8" low pressure main on Congress Street. The evaluation to complete the design, determine which main to provide service from, estimate the costs to serve and determine what the customer contribution may be, if any, can be completed once Unitil receives the completed design, gas load information, and other project information. Unitil welcomes the opportunity for further discussions regarding this project.

If you have any further questions or require additional information, please contact me directly at (207) 541-2505 or at fowler@unitil.com.

Sincerely,

Kelly Fowler

Kelly Fowler
Sr. Business Development Representative
Unitil Corporation
(o) 207-541-2505 (f) 207-541-2565

Att. 6

A C O R N
ENGINEERING, INC.

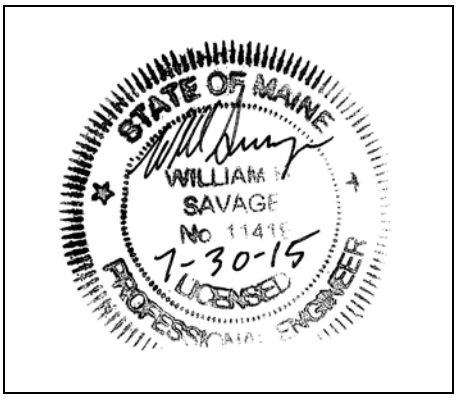
STORMWATER MANAGEMENT REPORT

Prepared For:

Redfern Properties, LLC
667 Congress Street Redevelopment
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



July 2015

INTRODUCTION

Acorn Engineering, Inc. has been retained by Redfern Properties, LLC to provide civil engineering services for the proposed development of Joe's Variety Store. The proposed redevelopment project is located at 665 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. The existing commercial building and parking lot are to be redeveloped to include:

- 1 Commercial Spaces on the first floor (approximately 4500 SF).
- 139 Residential Units on seven floors.
- 44 Parking Spaces on the first floor off of Commercial Street and 37 spaces located below in a lower level parking garage.

A stormwater analysis will be prepared to demonstrate that the project will meet the following requirements of the City of Portland (the City):

- City of Portland Land Use Ordinance Chapter 14, Article V. Site Plan Section 14-523. Required Approvals and Applicability (F) Level III Site Plan Review.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management Amended January 11, 2015.

On May 12th representatives of Acorn Engineering met with Frank Rubino onsite to discuss the condition existing sewer main with Avon St. Under Frank's supervision the City of Portland – Department of Public Services tv'd approximately 246 lf of the existing 10" vitrified clay pipe starting at the intersection with Deering St working south. Overall the condition of the existing sewer main was found to be in good condition with relatively few cracks. A copy of the video inspection and observation and report with still images was provided for Acorn Engineering documenting the results.

Acorn has also coordinated with Woodard & Curran Deering Street Reconstruction Plans Sheets 4 and 7, dated 3/23/2015. Specifically the separation of the combined sewer with the construction of CB12A and Pipe 9D within Avon Street. Should field conditions change the inverts of CB12A we would request that the City provide the applicant with a set of As-Built Plans.

EXISTING CONDITIONS

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which are to be demolished as part of the proposed project.

The City of Portland has rezoned the entire parcel as a B-3 zone due to its proximity to Commercial Street and Downtown Portland.

Abutting Uses:

- North R-6 Zone – Single and Multi-Family Residential

- East B-3 Zone – Green Hand Bookshop, Parking Lot
- Southwest B-3 Zone – Boda/Bangkok Thai
- Northwest R-6 Zone – Single and Multi-Family Residential
- South B-3 Zone – Video Expo, Empire Theater, Barber Shop

The existing project area is made up of a single paved and gravel parking area with a single, existing building. The distribution of surfaces is as follows:

- Paved Surface: 81%
- Existing Building: 14%
- Gravel with Limited Overgrowth: 5%

All surfaces are impervious with an existing grade ranging from approximately 0-10%.

Based on the most recent survey data, all surface runoff can be defined in two subcatchments ending in the existing catch basins located in the Northeast and Northwest corners of the property. The majority of runoff, about 96%, flows from the existing building, parking lot, and eastmost border to the newly proposed catchbasin and separated storm drain piping on Avon Street. The remaining runoff, about 4%, consists of flow from the westmost border along an overgrown gravel area to the catch basin at the end of Vernon Place. This catch basin also flows to the newly built catch basin on Avon St.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting and existing impervious surfaces, a field inventory of significant natural feature was not undertaken. The project is also not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The 667 Congress Street Redevelopment is an eight floor, 139-unit residential and commercial building with parking garage features on the basement and first floors. Both the basement and first floor will include mechanical and electrical facilities for development as well as two elevator shafts located at the North and South ends of the building.

The parking lot grading topography will be kept between 1% to 2% slopes directing stormwater towards internal floor drains on the eastern and western sides of the development; all stormwater flow, including snowmelt, from the first floor parking with be redirected to the basement floor and then connected to the existing municipal system. The majority of the first floor parking will be covered by the proposed building while the perimeter parking will be open (no roof). The drainage collection points are located as not to direct surface below the proposed building. The basement parking will be covered by the first floor parking with the exception of the basement entrance ramp.

Due to proposed basement grades the existing 12” RCP pipe along the northern property line will need to be rebuilt to lower the elevations. The work will be coordinated with recently completed catch basin along Avon St.

No landscape is anticipated and all undeveloped areas are assumed to be covered with mulch. Currently, only overgrown weeds cover a very small section of non-paved impervious gravel adjacent to a guardrails and signage.

The development is anticipated to be served by the Portland Water District, underground power/cable/communications, natural gas and the municipal sewer system. Solid waste and recycling will be contracted through a private waste disposal and recycling provider.

GENERAL STANDARDS - WATER QUALITY

It is our understanding that the project will not be required to meet the General Standards because of the exception set forth in the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500, B. General Standards (3) Exception from the general standards, (e).

> "Stormwater Management Law project including redevelopment. For a project requiring a Stormwater Management Law permit that includes redevelopment of impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), the redevelopment of that impervious area is not required to meet General standards provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts resulting from the proposed project's stormwater runoff beyond the level of impact already caused by the runoff from the existing impervious area. The requirements of Appendix D must still be met, if applicable."

Although additional stormwater treatment is not required, the project has been designed to improve upon the existing condition for the following reasons:

- The significant change in land use from surface parking to the building/covered parking.
- The stabilization of the existing gravel areas with pavement or landscaping.
- The elimination surface stormwater flows directly to the municipal sewer.
- The installation of catch basins with catch basin hoods to mitigate transport of oil, floating debris, and larger suspended particles into the storm drain piping.
- The installation of catch basins which incorporates a deeper 3-ft (2 ft typ.) sump to store items listed above until routine cleaning is performed.

FLOODING STANDARD – WATER QUANTITY

To review the Section E. Flooding Standard, the proposed development was modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25 year storm events were used. The corresponding rainfall amounts for these storms are 3.00", 4.70", and 5.50" respectively. Rainfall amounts from the Maine DEP Volume III: BMPs Technical Design Manual Chapter 2 Stormwater Hydrology Table 2-1 Rev. 4/10/92.

Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering, Inc. to round to the nearest whole number. However due to the small size of the project the stormwater runoff shall be rounded to the nearest tenth of a cubic feet per second (cfs). Given the relatively small watershed areas, urban setting, and predominance of impervious area, a 5 minute time of concentration (T_c) was applied to each subcatchment for both the pre and post-development conditions.

Pre-development Calculations

The pre-development condition was modeled as two subcatchments. Subcatchment 1 is tributary to the catch basin at the end of Vernon Place. Subcatchment 2 is tributary to the newly constructed catch basin on Avon Street at the Northeast end of the property line.

- Subcatchment 1, Existing Northwest Subcatchment – Area (337 SF, 0.02 acres) tributary to the existing municipal sewer (POI#1) on Avon Street.
- Subcatchment 2, Existing Northeast Subcatchment – Area (20,856 sf, 0.58 acres) tributary to the existing municipal storm drain catch basin on Avon Street. This storm drain is then tributary to the municipal sewer (POI#1) also located on Avon Street.

The surface flows tributary to the municipal storm sewer are also included below. A Pre-development Watershed Map developed for this project can be viewed in Attachment A, and a copy of the HydroCAD calculations is included within Attachment D of this report. Peak flow rates for the storm events are as follows:

Table 1 – Pre-Development Peak Stormwater Flows			
Drainage Area	**2 – Year Storm Event (cfs)**	**10 – Year Storm Event (cfs)**	**25 – Year Storm Event (cfs)**
Subcatchment 1	.1	.1	.1
Subcatchment 2	1.7	2.7	3.1
Point of Interest #1	1.8	2.8	3.3

Post-development Calculations:

The post-development condition was modeled as one subcatchment with the same point of interest, as all stormwater is anticipated to leave the site through one location and connect to the recently completed 15" storm drain within Avon. The proposed Grading and Drainage Plan was designed to maintain the historical area tributary to the municipal storm sewer on Avon Street.

- Subcatchment 1 – Area (0.60 acres) tributary to the existing municipal sewer within Avon Street

The post development calculations assumed that there was no land change; all surfaces on the property will remain impervious and therefore did not result in a net stormwater increase. The post-development conditions now convey all stormwater flows to the municipal sewer on Avon Street (POI #1). The following table represents comparison of predevelopment and post-development condition peak runoff rates at the respective point of interest.

Table 2 – Comparison of Peak Flows						
Drainage Area	**2 – Year Storm Event (cfs)**		**10 – Year Storm Event (cfs)**		**25 – Year Storm Event (cfs)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
POI #1	1.8	1.8	2.8	2.8	3.3	3.3

As shown in Table 2, the post development peak flows shall remain at or below the predevelopment levels. A Post-development Watershed Map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment D, of this report.

Pipe sizes were generated using the rational method.

SOILS

Onsite soil information includes the following:

- Summit Geoengineering Services – Soil Boring Logs, dated March 31st, 2015 and April 15th, 2015. A formal Geotechnical Report has also been prepared by Summit Geoengineering Services for the project, dated May 2015.
- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County.

Given the soils information, listed above, and the fact that greater than 50% of the proposed development site is currently developed, it is Acorn Engineering's professional opinion that a more intense hydric soil boundary delineation is not required because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soils types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Hinckley	.17	.17

The soil "K" values for the soils, listed above, indicate a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. The site's soils map from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County is included as Attachment C.

Conclusion

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as envisioned shall improve upon the existing stormwater management.

Attachments

Attachment A: Pre Development Watershed Map
Attachment B: Post Development Watershed Map
Attachment C: Soils Map
Attachment D: HydroCAD Calculations
Attachment E: Summit Geoengineering Services – Soil Boring Logs, dated May 2015

GENERAL NOTES:

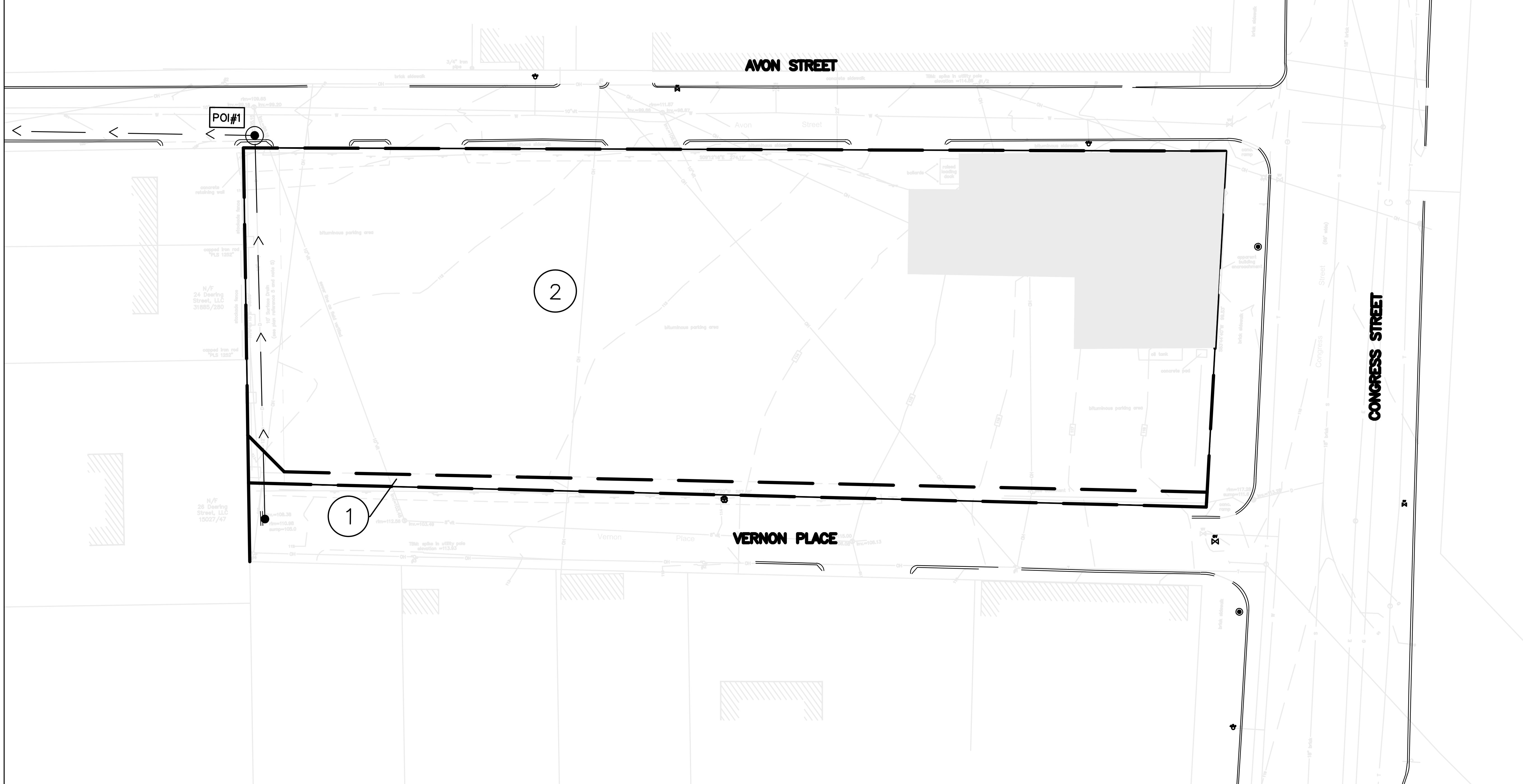
1. REFER TO STORMWATER REPORT FOR MORE INFORMATION
2. GIVEN THE URBAN SETTING, SMALL WATERSHED AREA AND PREDOMINANCE OF IMPERVIOUS AREAS A 5 MINUTE TIME OF CONCENTRATION WAS USED FOR BOTH THE PRE–DEVELOPMENT AND POST–DEVELOPMENT CONDITIONS.

(1) SUBCATCHMENT NUMBER

ROOF OUTLINE

POI#1 POINT OF INTEREST (POI)

SUBCATCHMENT OUTLINE



ISSUED FOR	BY / DATE

REVISION	REV. / DATE

DRAWING NAME:
PRE–DEVELOPMENT STORMWATER PLAN

PROJECT NAME:
667 CONGRESS ST. REDEVELOPMENT

CLIENT:
REDFERN PROPERTIES, LLC.
P.O. BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC
P.O. BOX 3372
PORTLAND, MAINE 04104
(207) 775–2655

FILE:	1060_CIVIL
DATE:	7/29/15
JN:	1060
SCALE:	1"=20'
DESIGN BY:	WHS
DRAWN BY:	
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
PRE

GENERAL NOTES:

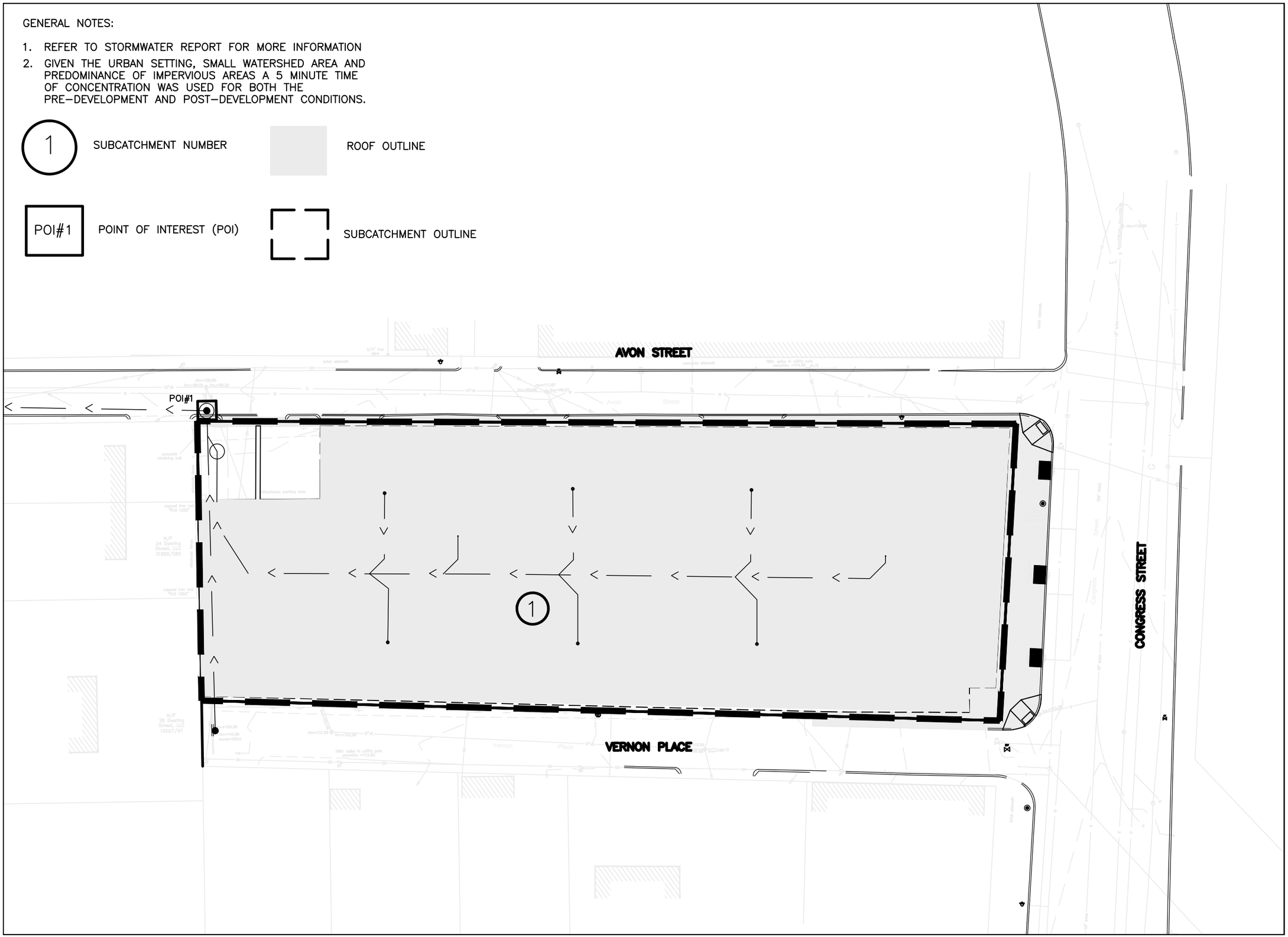
1. REFER TO STORMWATER REPORT FOR MORE INFORMATION
2. GIVEN THE URBAN SETTING, SMALL WATERSHED AREA AND PREDOMINANCE OF IMPERVIOUS AREAS A 5 MINUTE TIME OF CONCENTRATION WAS USED FOR BOTH THE PRE–DEVELOPMENT AND POST–DEVELOPMENT CONDITIONS.

1 SUBCATCHMENT NUMBER

ROOF OUTLINE

POI#1 POINT OF INTEREST (POI)

SUBCATCHMENT OUTLINE



ISSUED FOR	BY DATE
REVISION	REV. DATE

DRAWING NAME: POST–DEVELOPMENT WATER QUALITY PLAN

PROJECT NAME: 667 CONGRESS ST. REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC

P.O. BOX 3372
PORTLAND, MAINE 04104
(207) 775–2655

FILE:	1060_CIVIL
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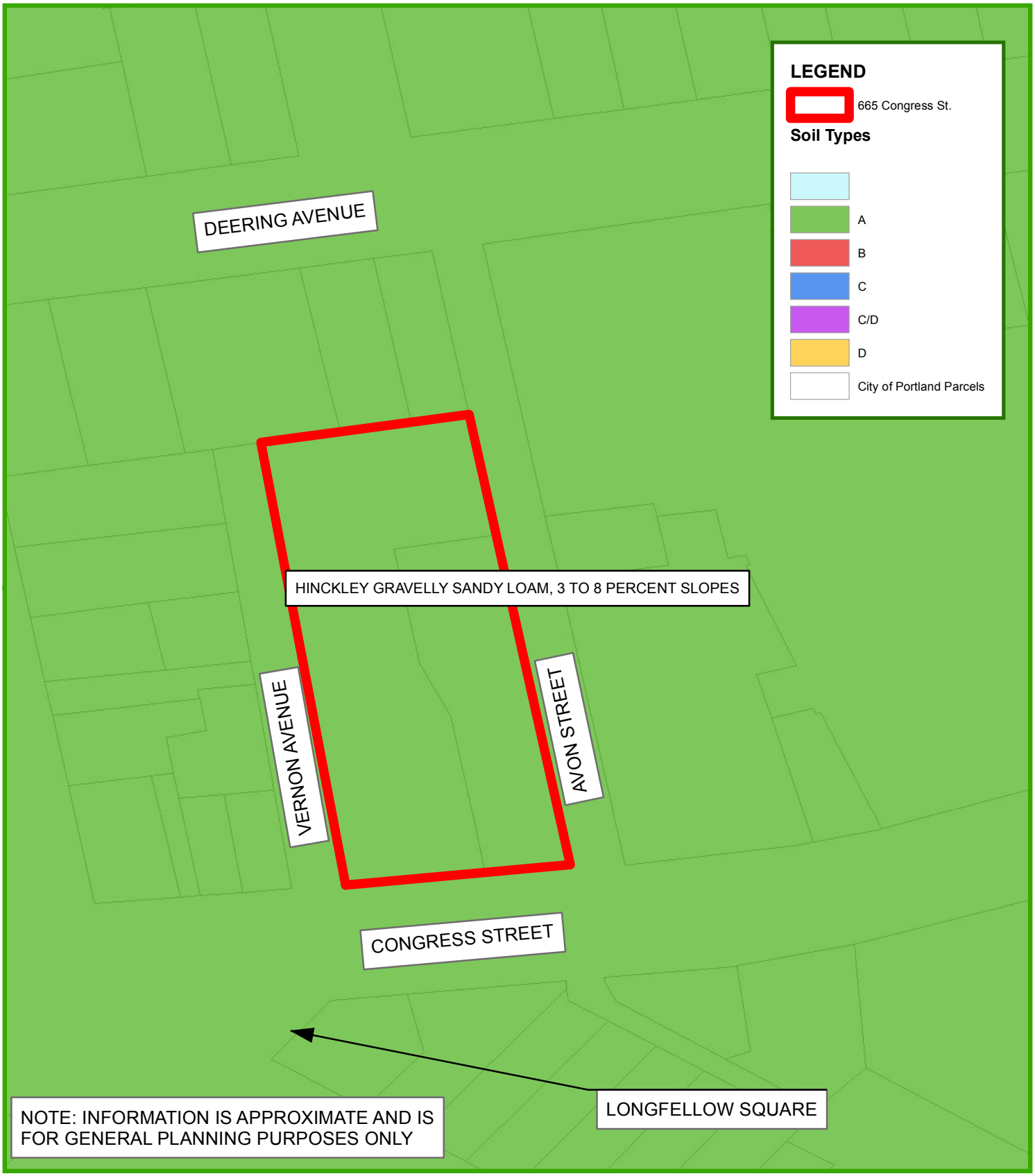
DRAWING NO.

POST



665 CONGRESS STREET DEVELOPMENT

SOILS ADJACENT TO DEVELOPMENT

665 CONGRESS STREET, PORTLAND, MAINE

Data Sources: MEGIS, City of Portland, Acorn Engineering, Inc.

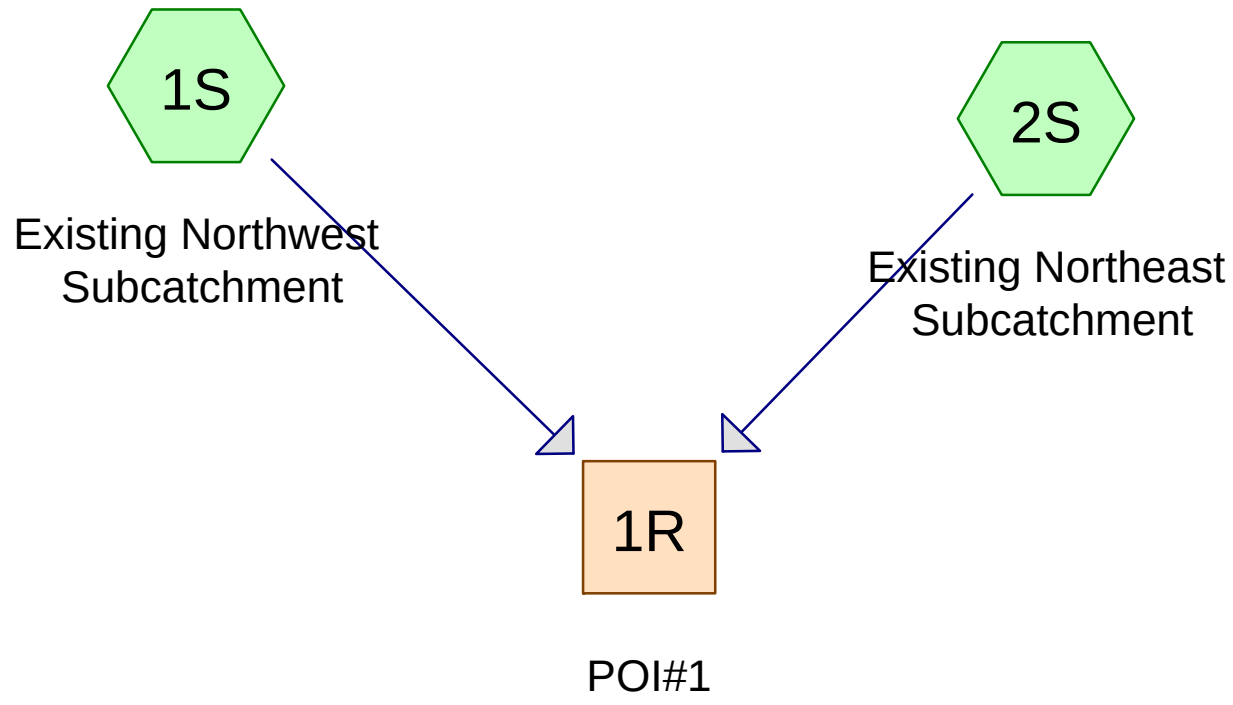
Date: 4/8/2015 by Acorn Engineering, Inc. for Redfern Properties, LLC

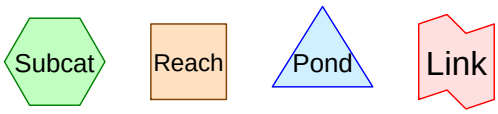
N

1 INCH = 80 FEET

0 40 80

ACORN ENGINEERING, INC





Drainage Diagram for JSH Pre-Development 7-24-15
Prepared by {enter your company name here}, Printed 7/27/2015
HydroCAD® 8.50 s/n 000620 © 2007 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.028	96	Gravel (1S,2S)
0.084	98	Building (2S)
0.487	98	Pavement (1S,2S)
0.599		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.599	Other	1S, 2S
0.599		**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Northwest Runoff Area=0.024 ac 33.33% Impervious Runoff Depth>2.50"
Tc=5.0 min CN=97 Runoff=0.07 cfs 0.005 af

Subcatchment 2S: Existing Northeast Runoff Area=0.575 ac 97.91% Impervious Runoff Depth>2.59"
Tc=5.0 min CN=98 Runoff=1.71 cfs 0.124 af

Reach 1R: POI#1 Inflow=1.78 cfs 0.129 af
Outflow=1.78 cfs 0.129 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.129 af Average Runoff Depth = 2.59"
4.67% Pervious = 0.028 ac 95.33% Impervious = 0.571 ac

Summary for Subcatchment 1S: Existing Northwest Subcatchment

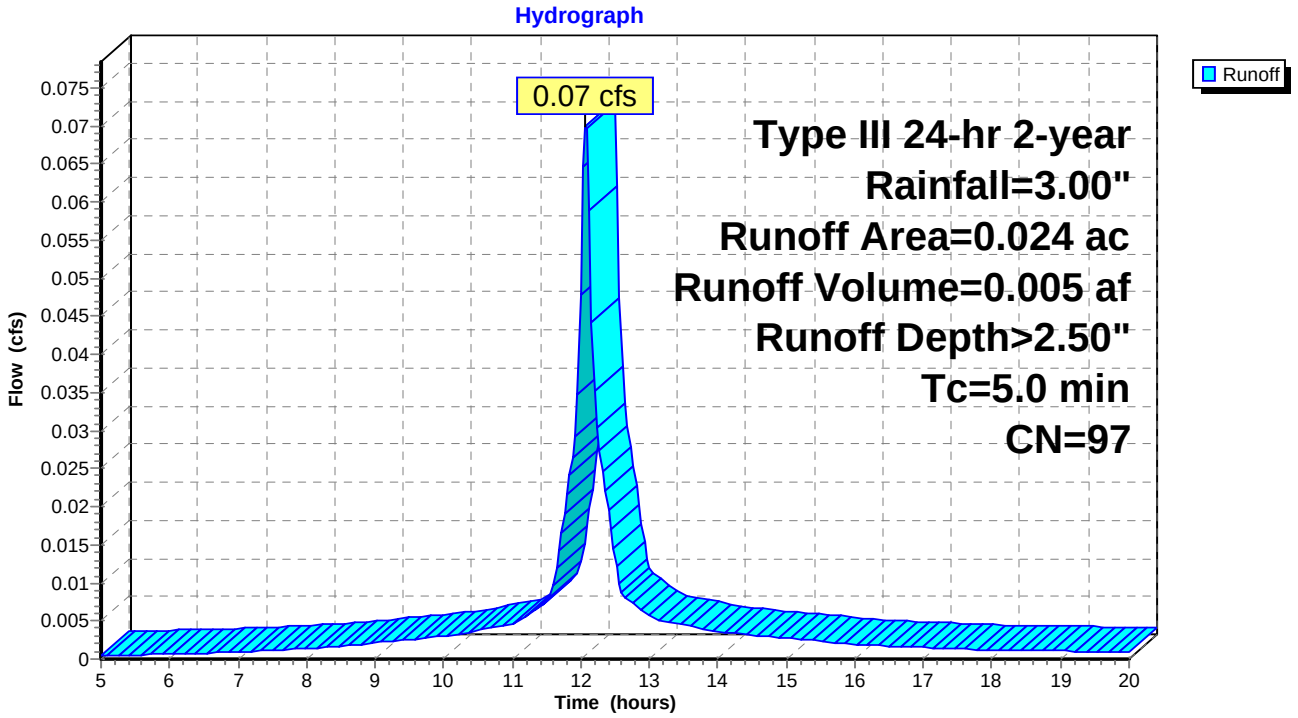
Runoff = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (ac)	CN	Description
*	0.008	98	Pavement
*	0.000	98	Building
*	0.016	96	Gravel
	0.024	97	Weighted Average
	0.016		Pervious Area
	0.008		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 1S: Existing Northwest Subcatchment



Summary for Subcatchment 2S: Existing Northeast Subcatchment

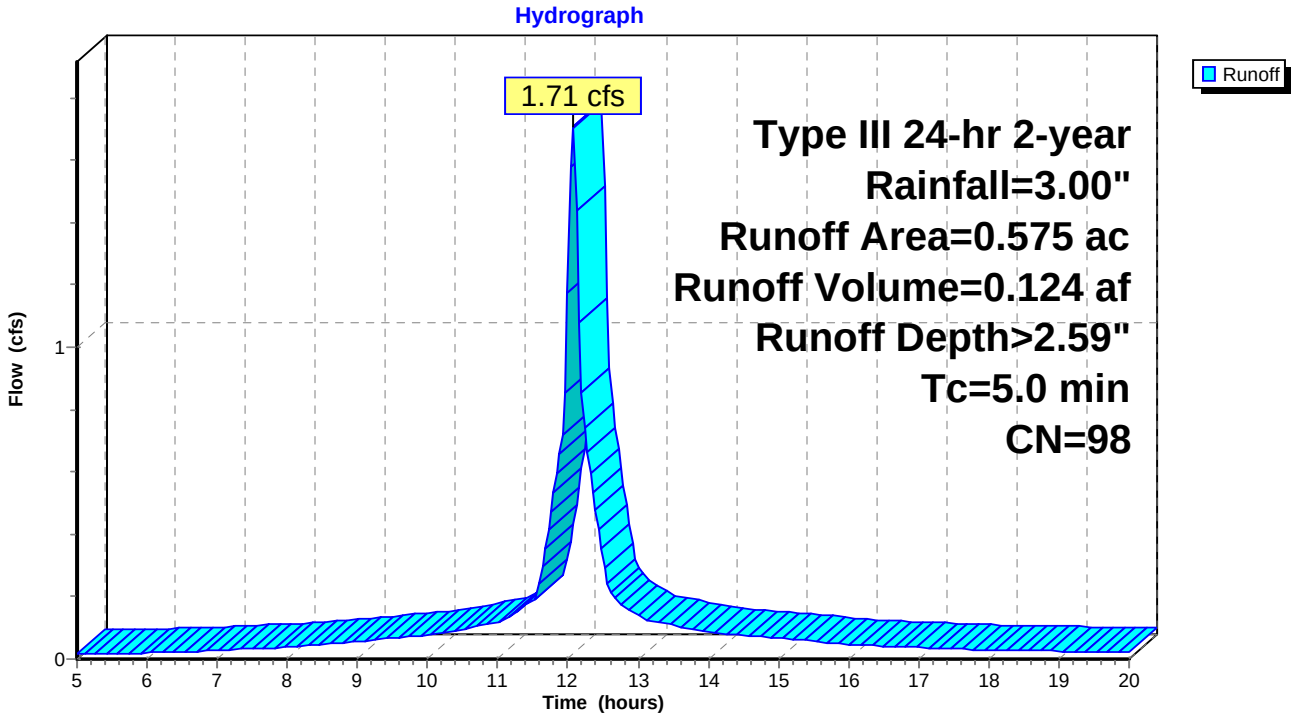
Runoff = 1.71 cfs @ 12.07 hrs, Volume= 0.124 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (ac)	CN	Description
*	0.012	96	Gravel
*	0.084	98	Building
*	0.479	98	Pavement
	0.575	98	Weighted Average
	0.012		Pervious Area
	0.563		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 2S: Existing Northeast Subcatchment



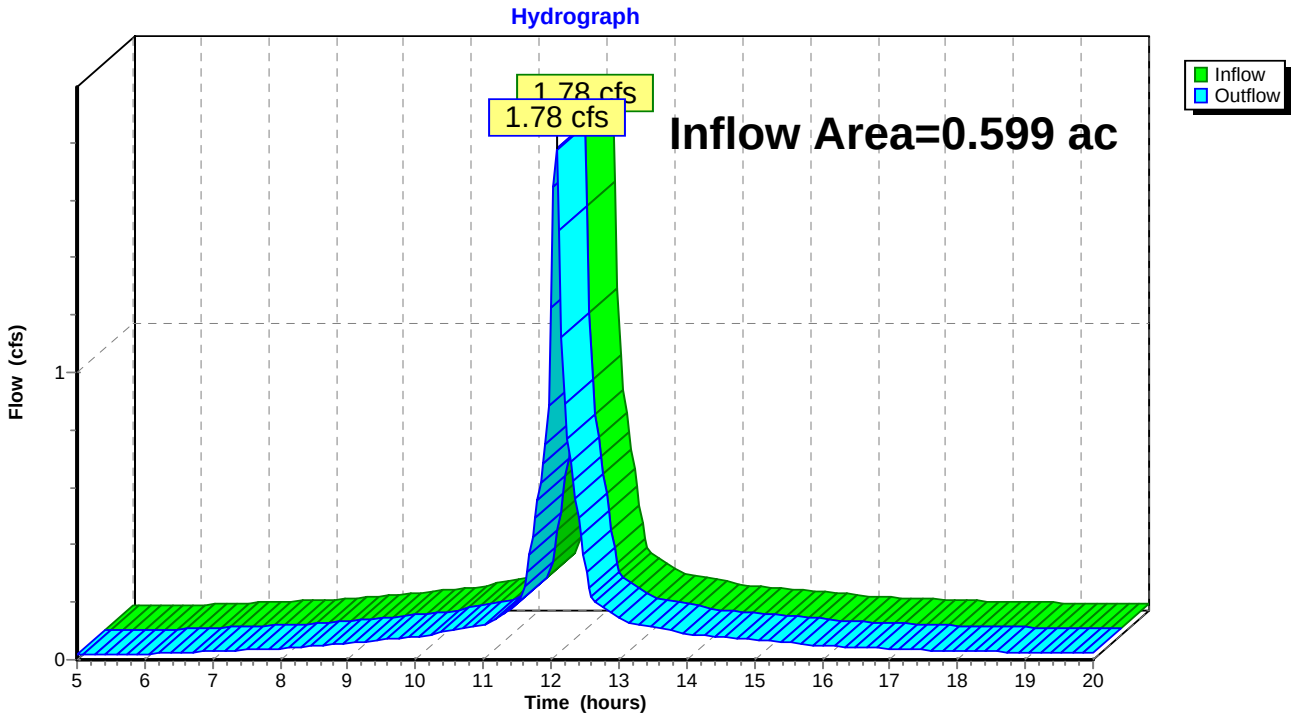
Summary for Reach 1R: POI#1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.599 ac, 95.33% Impervious, Inflow Depth > 2.59" for 2-year event
Inflow = 1.78 cfs @ 12.07 hrs, Volume= 0.129 af
Outflow = 1.78 cfs @ 12.07 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1



Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Northwest Runoff Area=0.024 ac 33.33% Impervious Runoff Depth>4.07"
Tc=5.0 min CN=97 Runoff=0.11 cfs 0.008 af

Subcatchment 2S: Existing Northeast Runoff Area=0.575 ac 97.91% Impervious Runoff Depth>4.14"
Tc=5.0 min CN=98 Runoff=2.70 cfs 0.199 af

Reach 1R: POI#1 Inflow=2.81 cfs 0.207 af
Outflow=2.81 cfs 0.207 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.207 af Average Runoff Depth = 4.14"
4.67% Pervious = 0.028 ac 95.33% Impervious = 0.571 ac

Summary for Subcatchment 1S: Existing Northwest Subcatchment

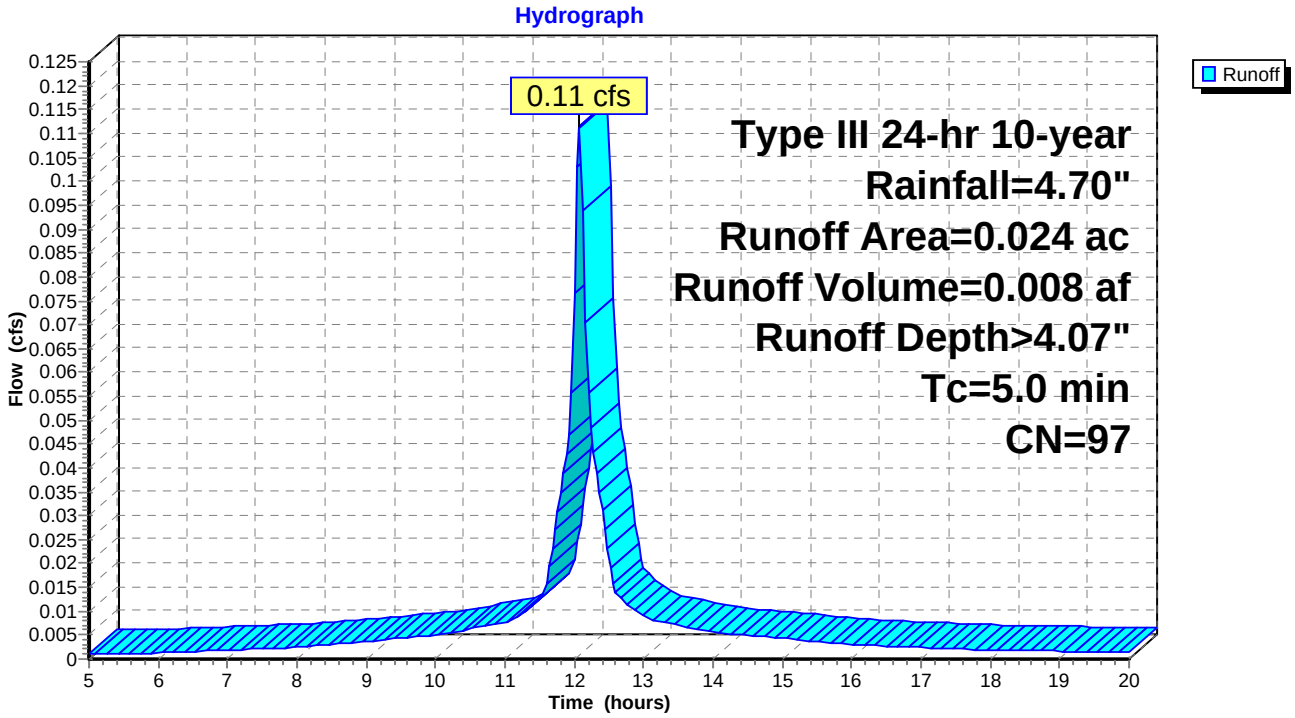
Runoff = 0.11 cfs @ 12.07 hrs, Volume= 0.008 af, Depth> 4.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.008	98	Pavement
*	0.000	98	Building
*	0.016	96	Gravel
	0.024	97	Weighted Average
	0.016		Pervious Area
	0.008		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 1S: Existing Northwest Subcatchment



Summary for Subcatchment 2S: Existing Northeast Subcatchment

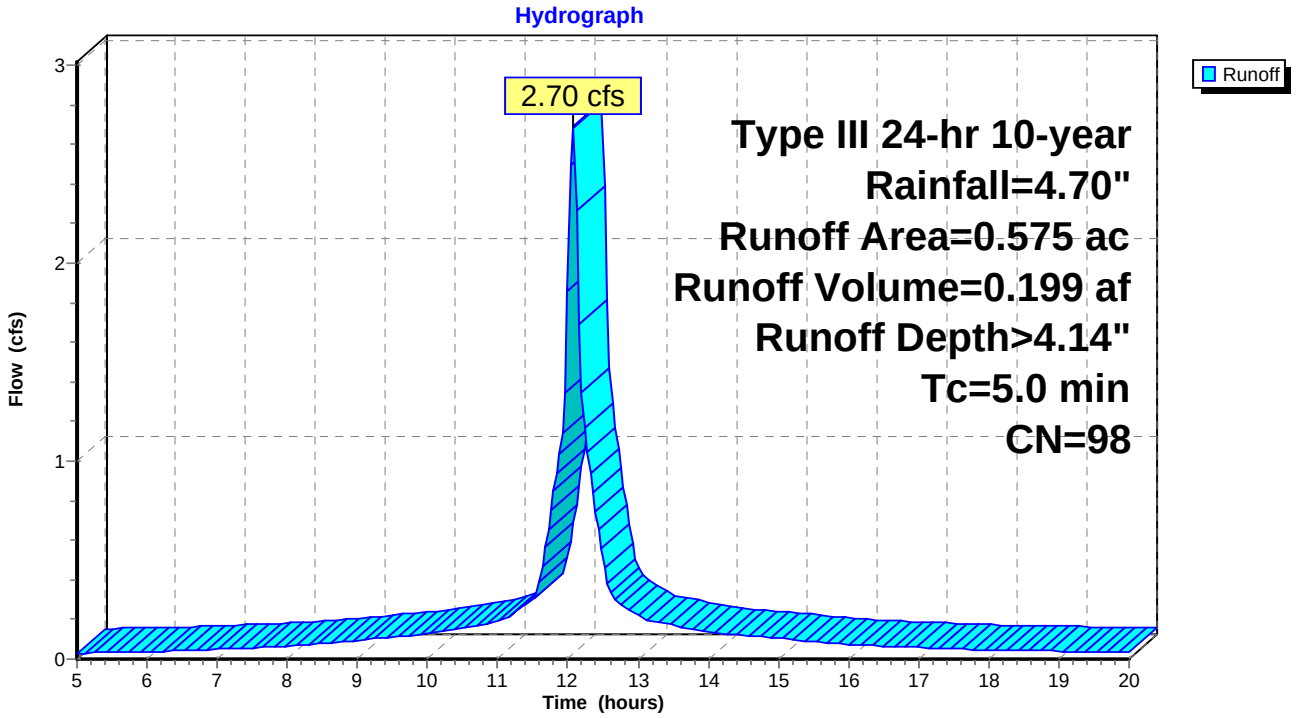
Runoff = 2.70 cfs @ 12.07 hrs, Volume= 0.199 af, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.012	96	Gravel
*	0.084	98	Building
*	0.479	98	Pavement
	0.575	98	Weighted Average
	0.012		Pervious Area
	0.563		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 2S: Existing Northeast Subcatchment



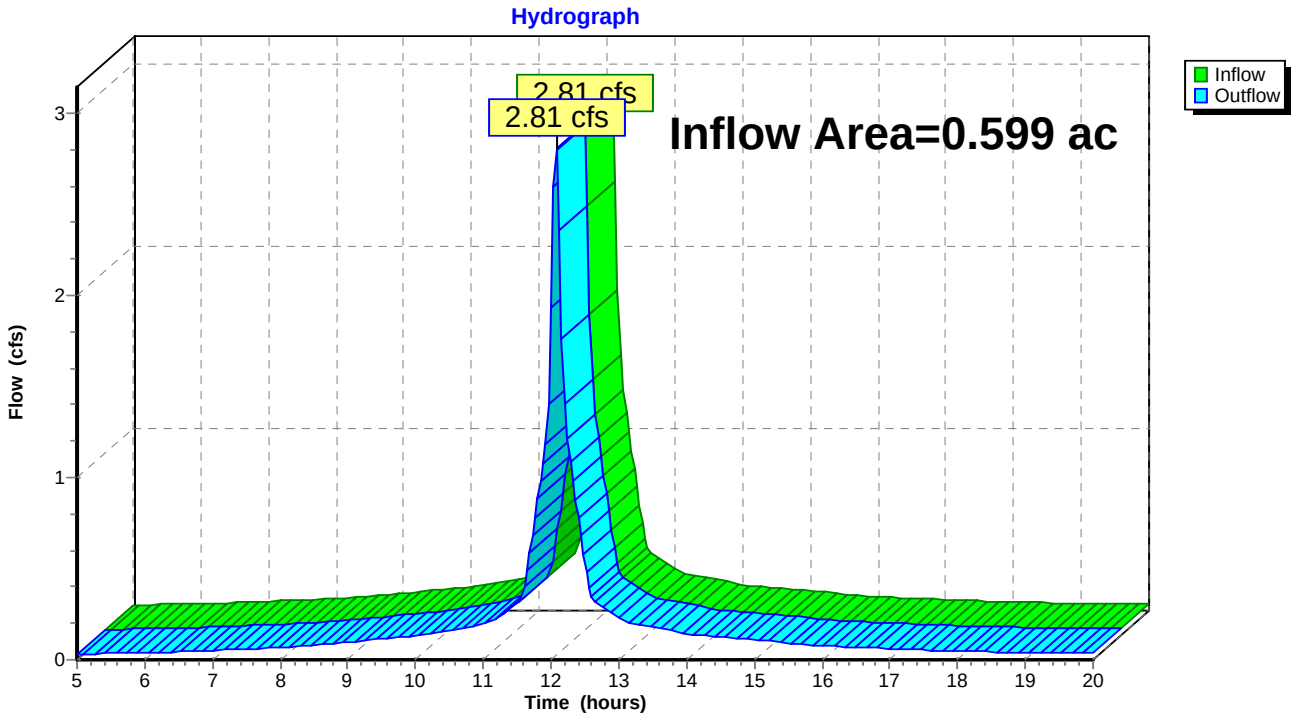
Summary for Reach 1R: POI#1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.599 ac, 95.33% Impervious, Inflow Depth > 4.14" for 10-year event
Inflow = 2.81 cfs @ 12.07 hrs, Volume= 0.207 af
Outflow = 2.81 cfs @ 12.07 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1



Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Existing Northwest Runoff Area=0.024 ac 33.33% Impervious Runoff Depth>4.80"
Tc=5.0 min CN=97 Runoff=0.13 cfs 0.010 af

Subcatchment 2S: Existing Northeast Runoff Area=0.575 ac 97.91% Impervious Runoff Depth>4.87"
Tc=5.0 min CN=98 Runoff=3.16 cfs 0.234 af

Reach 1R: POI#1 Inflow=3.29 cfs 0.243 af
Outflow=3.29 cfs 0.243 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.243 af Average Runoff Depth = 4.87"
4.67% Pervious = 0.028 ac 95.33% Impervious = 0.571 ac

Summary for Subcatchment 1S: Existing Northwest Subcatchment

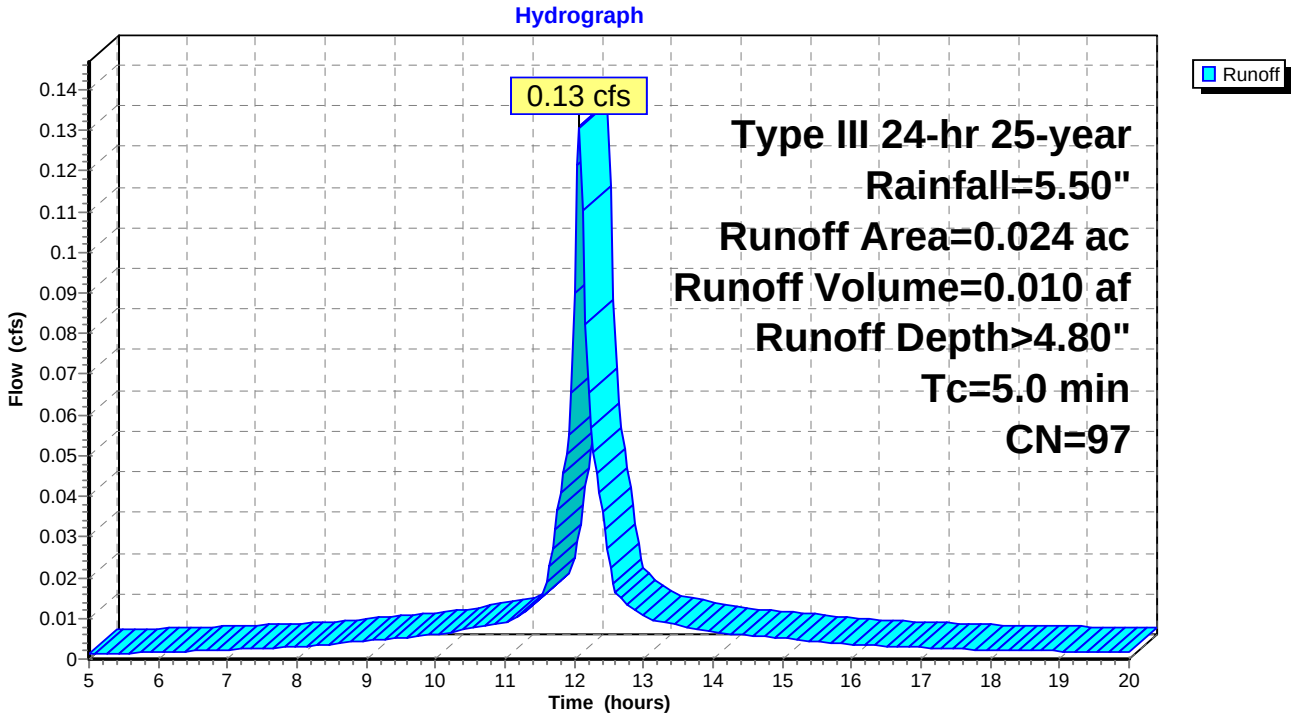
Runoff = 0.13 cfs @ 12.07 hrs, Volume= 0.010 af, Depth> 4.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.008	98	Pavement
*	0.000	98	Building
*	0.016	96	Gravel
	0.024	97	Weighted Average
	0.016		Pervious Area
	0.008		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 1S: Existing Northwest Subcatchment



Summary for Subcatchment 2S: Existing Northeast Subcatchment

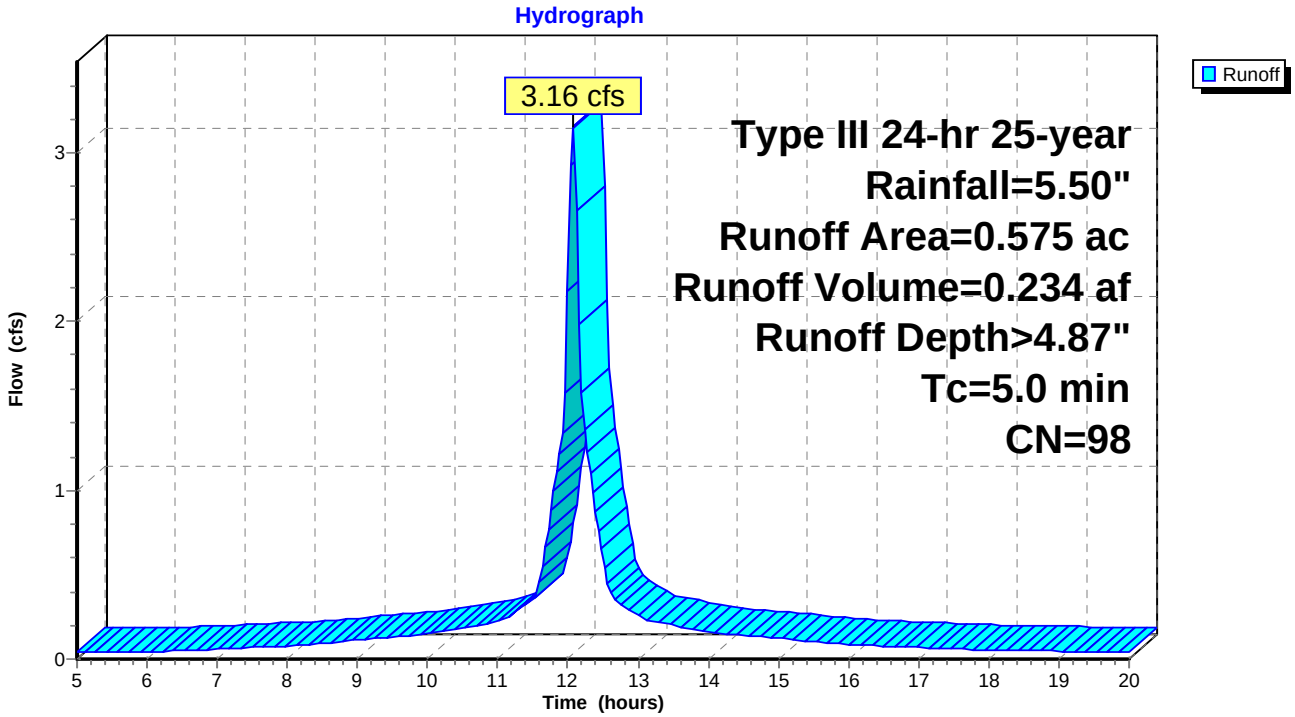
Runoff = 3.16 cfs @ 12.07 hrs, Volume= 0.234 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.012	96	Gravel
*	0.084	98	Building
*	0.479	98	Pavement
	0.575	98	Weighted Average
	0.012		Pervious Area
	0.563		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Minimum 5**

Subcatchment 2S: Existing Northeast Subcatchment



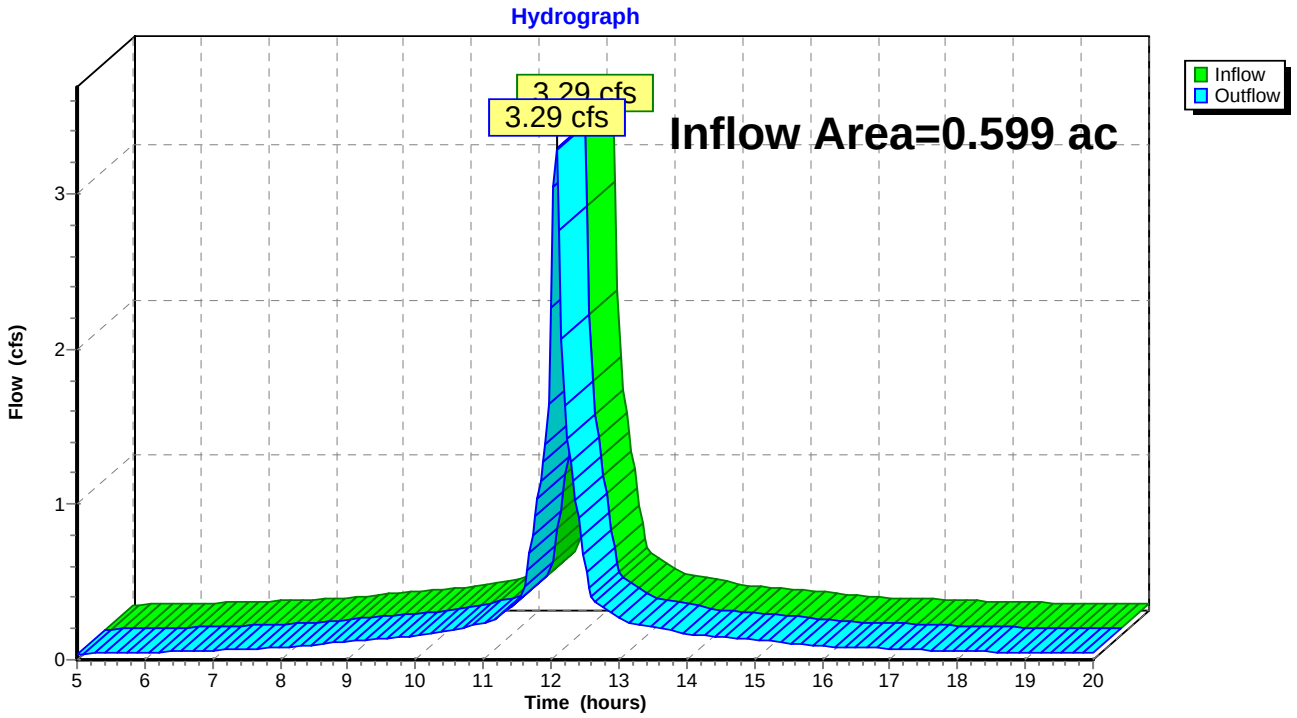
Summary for Reach 1R: POI#1

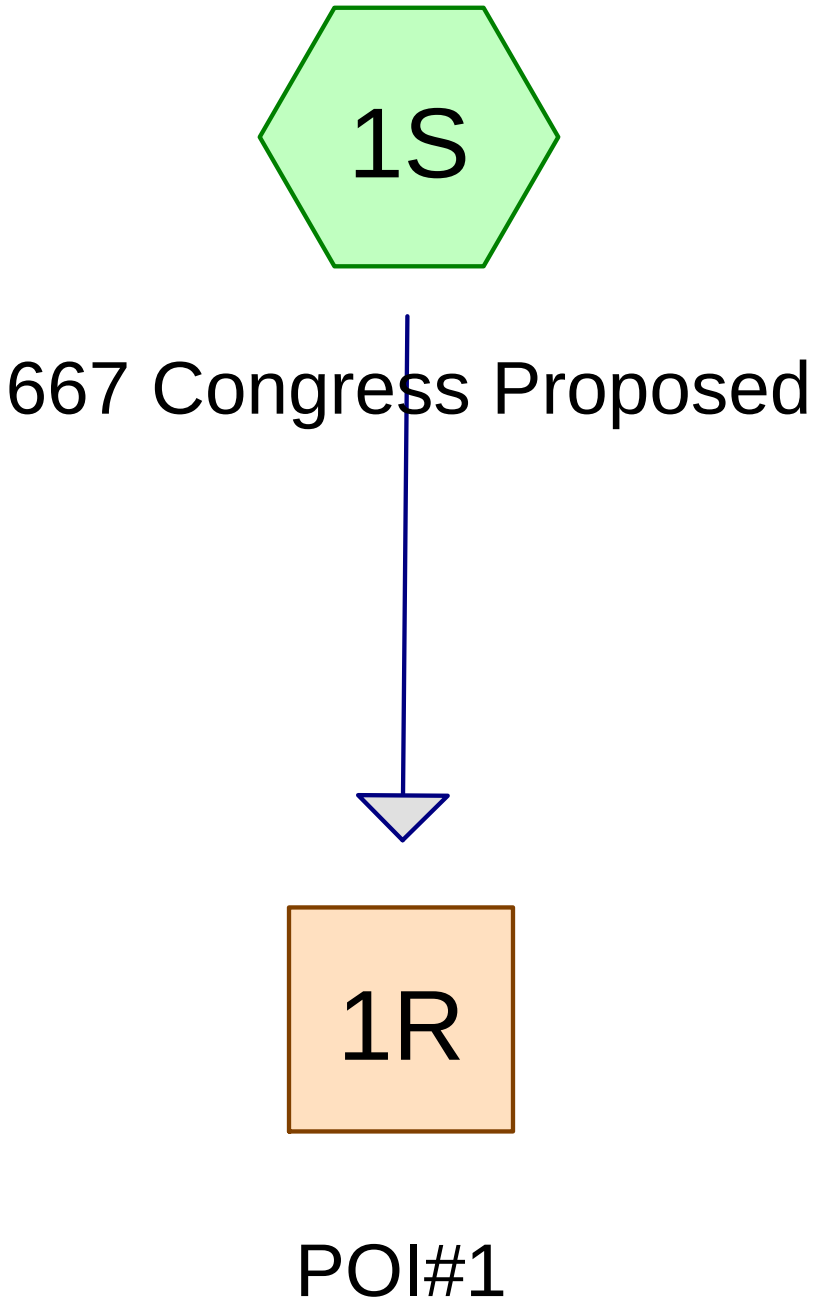
[40] Hint: Not Described (Outflow=Inflow)

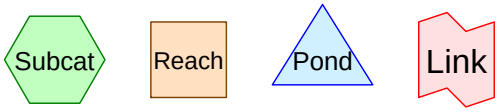
Inflow Area = 0.599 ac, 95.33% Impervious, Inflow Depth > 4.87" for 25-year event
Inflow = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af
Outflow = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1







Drainage Diagram for JSH Post-Development 7-24-15
Prepared by {enter your company name here}, Printed 7/30/2015
HydroCAD® 8.50 s/n 000620 © 2007 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.599	98	Building & Parking (1S)
0.599		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.599	Other	1S
0.599		**TOTAL AREA**

Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 667 Congress Proposed Runoff Area=0.599 ac 100.00% Impervious Runoff Depth>2.59"
Tc=5.0 min CN=98 Runoff=1.78 cfs 0.129 af

Reach 1R: POI#1 Inflow=1.78 cfs 0.129 af
Outflow=1.78 cfs 0.129 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.129 af Average Runoff Depth = 2.59"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.599 ac

Summary for Subcatchment 1S: 667 Congress Proposed

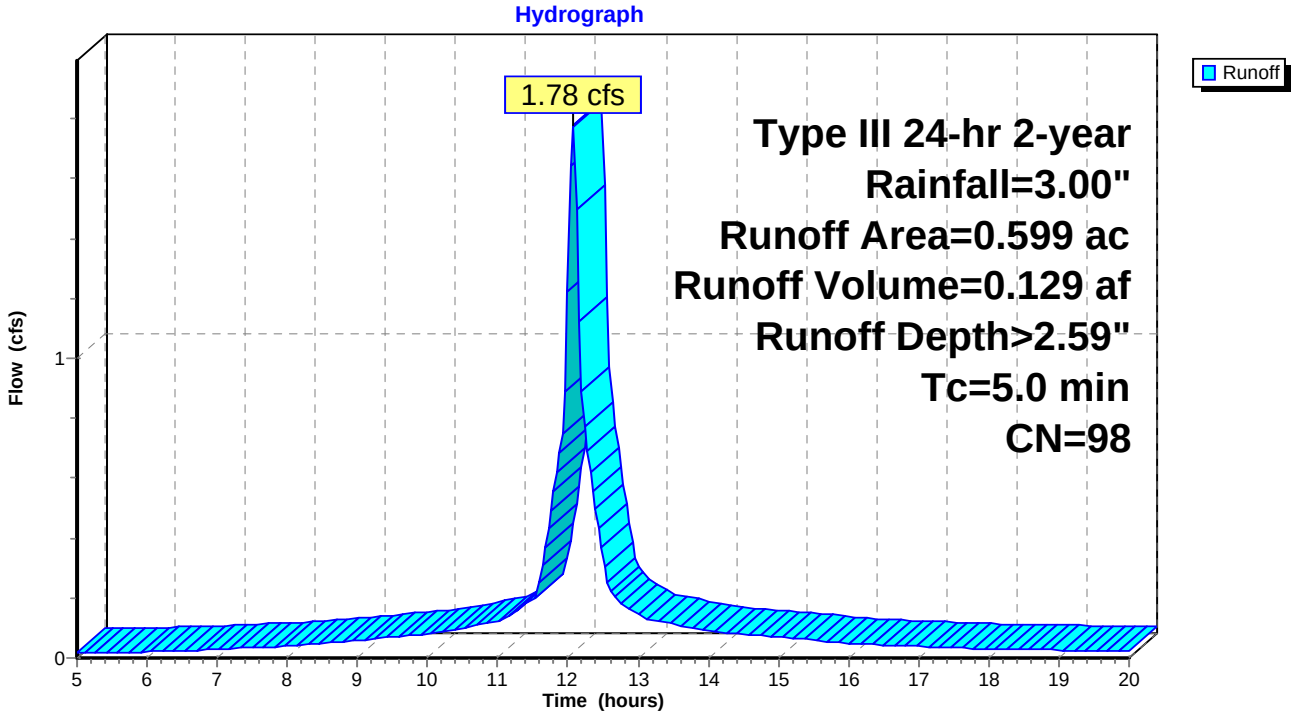
Runoff = 1.78 cfs @ 12.07 hrs, Volume= 0.129 af, Depth> 2.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (ac)	CN	Description
*	0.599	98	Building & Parking
	0.599		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: 667 Congress Proposed



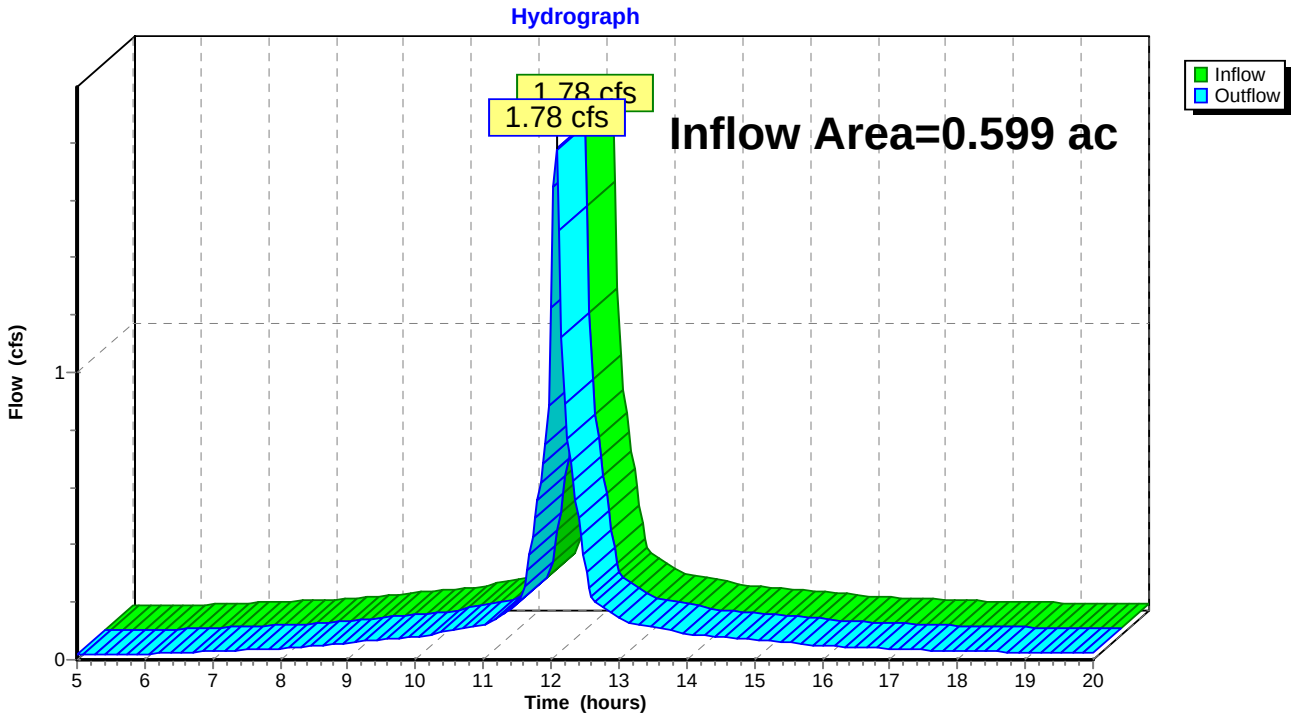
Summary for Reach 1R: POI#1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	0.599 ac,100.00% Impervious,	Inflow Depth >	2.59"	for	2-year event
Inflow =	1.78 cfs @	12.07 hrs,	Volume=	0.129 af	
Outflow =	1.78 cfs @	12.07 hrs,	Volume=	0.129 af,	Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1



Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 667 Congress Proposed Runoff Area=0.599 ac 100.00% Impervious Runoff Depth>4.14"
Tc=5.0 min CN=98 Runoff=2.81 cfs 0.207 af

Reach 1R: POI#1 Inflow=2.81 cfs 0.207 af
Outflow=2.81 cfs 0.207 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.207 af Average Runoff Depth = 4.14"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.599 ac

Summary for Subcatchment 1S: 667 Congress Proposed

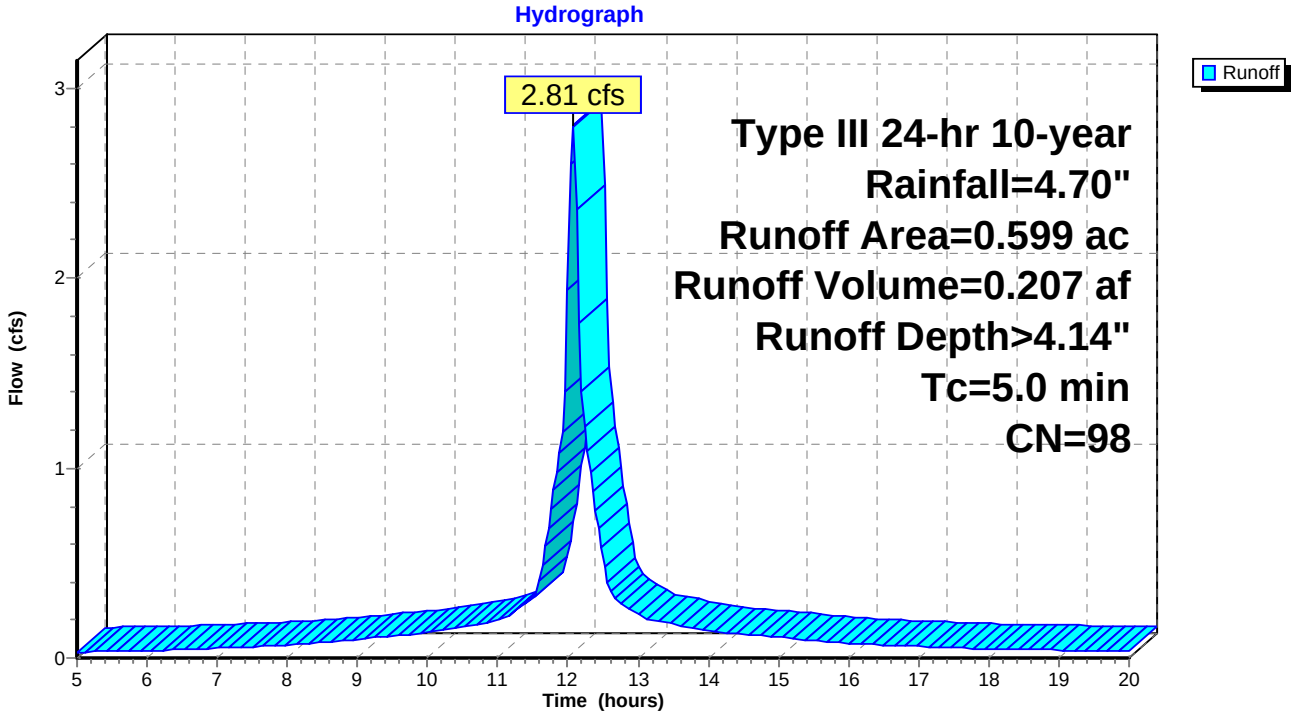
Runoff = 2.81 cfs @ 12.07 hrs, Volume= 0.207 af, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-year Rainfall=4.70"

	Area (ac)	CN	Description
*	0.599	98	Building & Parking
	0.599		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: 667 Congress Proposed



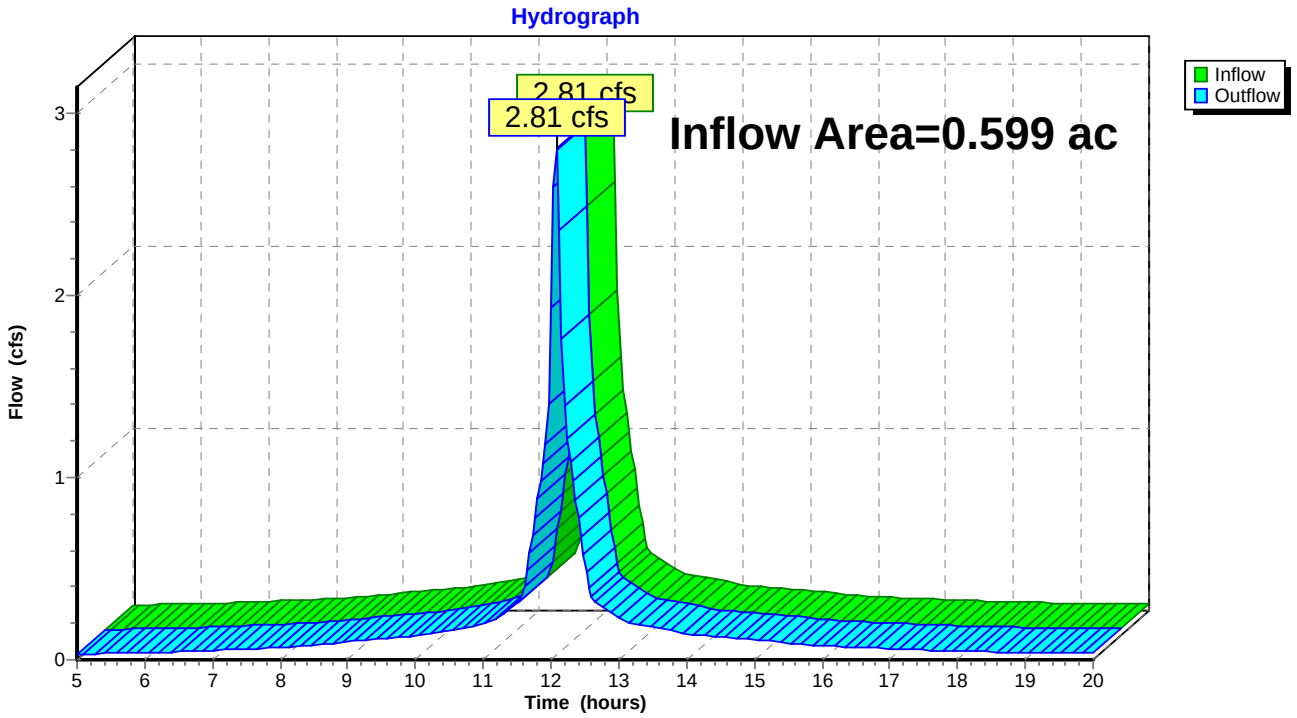
Summary for Reach 1R: POI#1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.599 ac,100.00% Impervious, Inflow Depth > 4.14" for 10-year event
Inflow = 2.81 cfs @ 12.07 hrs, Volume= 0.207 af
Outflow = 2.81 cfs @ 12.07 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1



Time span=5.00-20.00 hrs, dt=0.04 hrs, 376 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 667 Congress Proposed Runoff Area=0.599 ac 100.00% Impervious Runoff Depth>4.87"
Tc=5.0 min CN=98 Runoff=3.29 cfs 0.243 af

Reach 1R: POI#1 Inflow=3.29 cfs 0.243 af
Outflow=3.29 cfs 0.243 af

Total Runoff Area = 0.599 ac Runoff Volume = 0.243 af Average Runoff Depth = 4.87"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.599 ac

Summary for Subcatchment 1S: 667 Congress Proposed

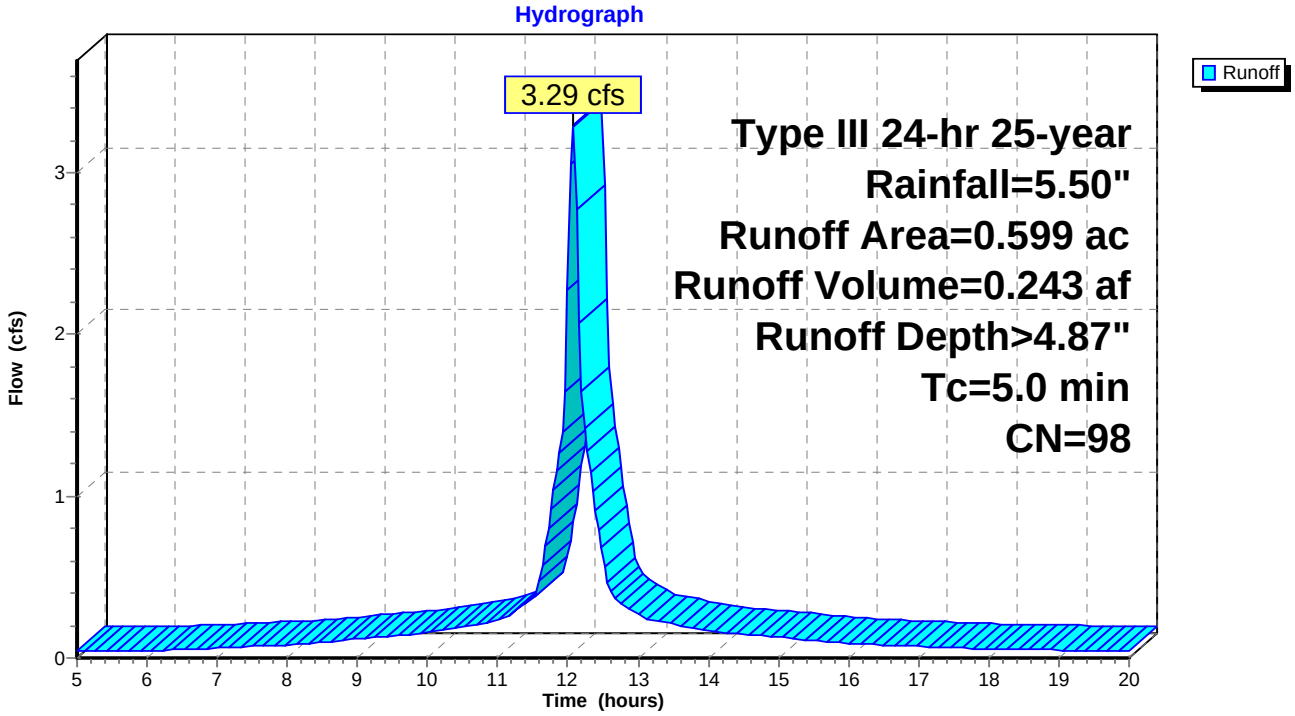
Runoff = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs
Type III 24-hr 25-year Rainfall=5.50"

	Area (ac)	CN	Description
*	0.599	98	Building & Parking
	0.599		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: 667 Congress Proposed



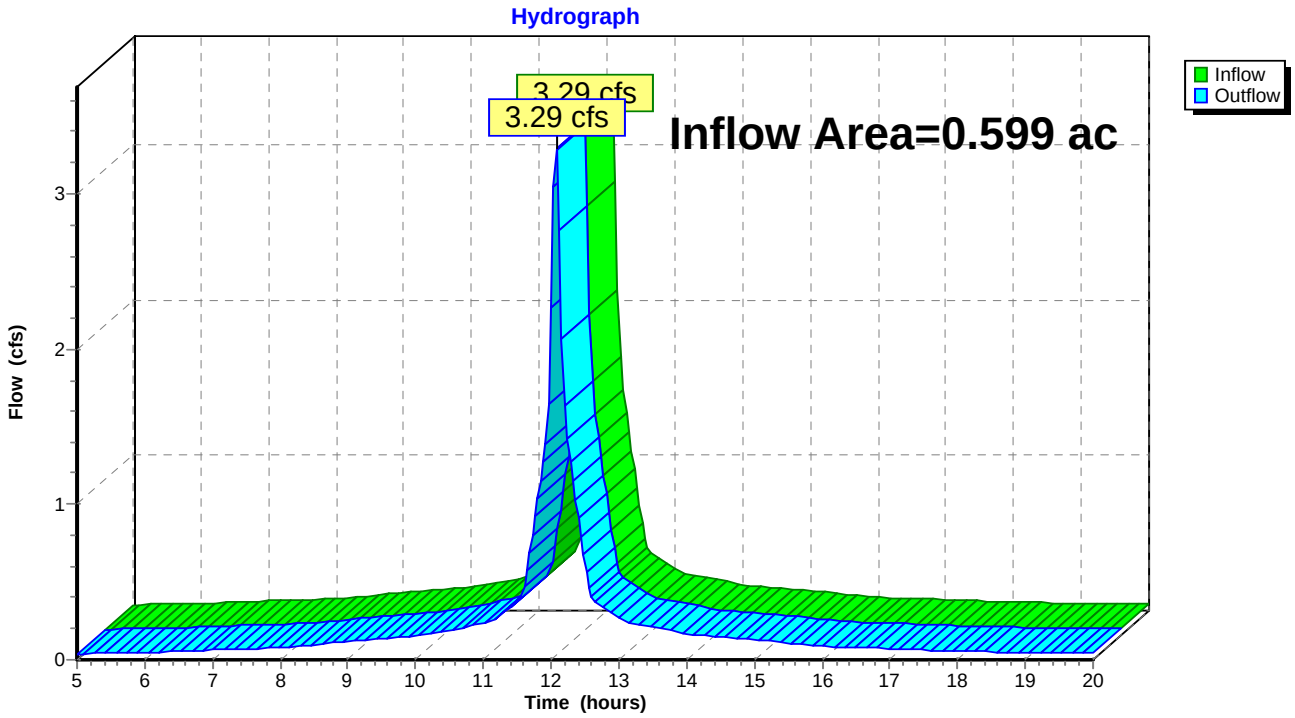
Summary for Reach 1R: POI#1

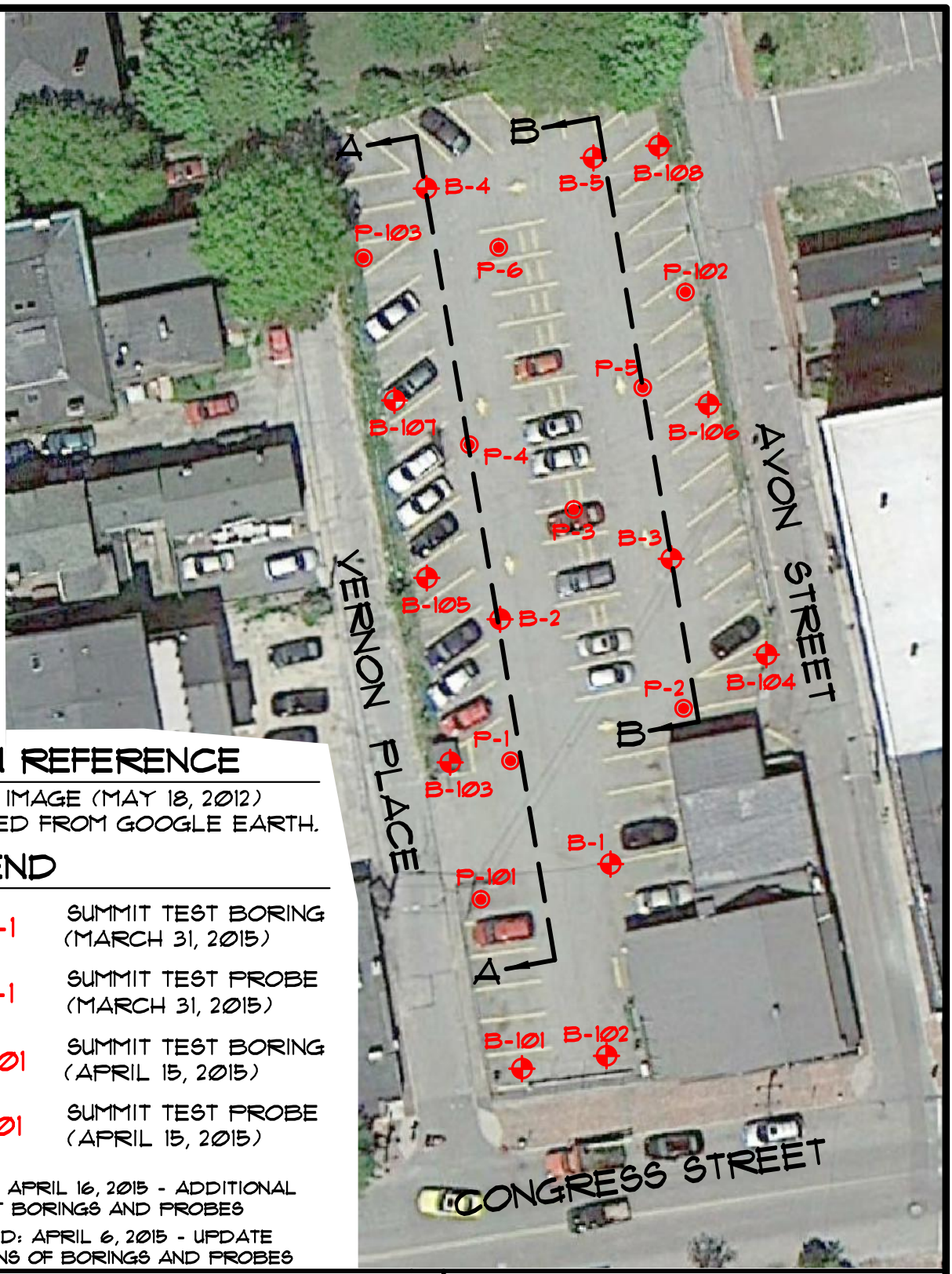
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.599 ac,100.00% Impervious, Inflow Depth > 4.87" for 25-year event
Inflow = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af
Outflow = 3.29 cfs @ 12.07 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.04 hrs

Reach 1R: POI#1





N

NORTH

PLAN REFERENCE

AERIAL IMAGE (MAY 18, 2012) OBTAINED FROM GOOGLE EARTH.

LEGEND

B-1	SUMMIT TEST BORING (MARCH 31, 2015)
P-1	SUMMIT TEST PROBE (MARCH 31, 2015)
B-101	SUMMIT TEST BORING (APRIL 15, 2015)
P-101	SUMMIT TEST PROBE (APRIL 15, 2015)

REVISED: APRIL 16, 2015 - ADDITIONAL TEST BORINGS AND PROBES

REVISED: APRIL 6, 2015 - UPDATE LOCATIONS OF BORINGS AND PROBES

SUBSURFACE EXPLORATION LOCATION PLAN

PROPOSED BUILDING SITE

665 CONGRESS STREET - PORTLAND, MAINE

PREPARED FOR

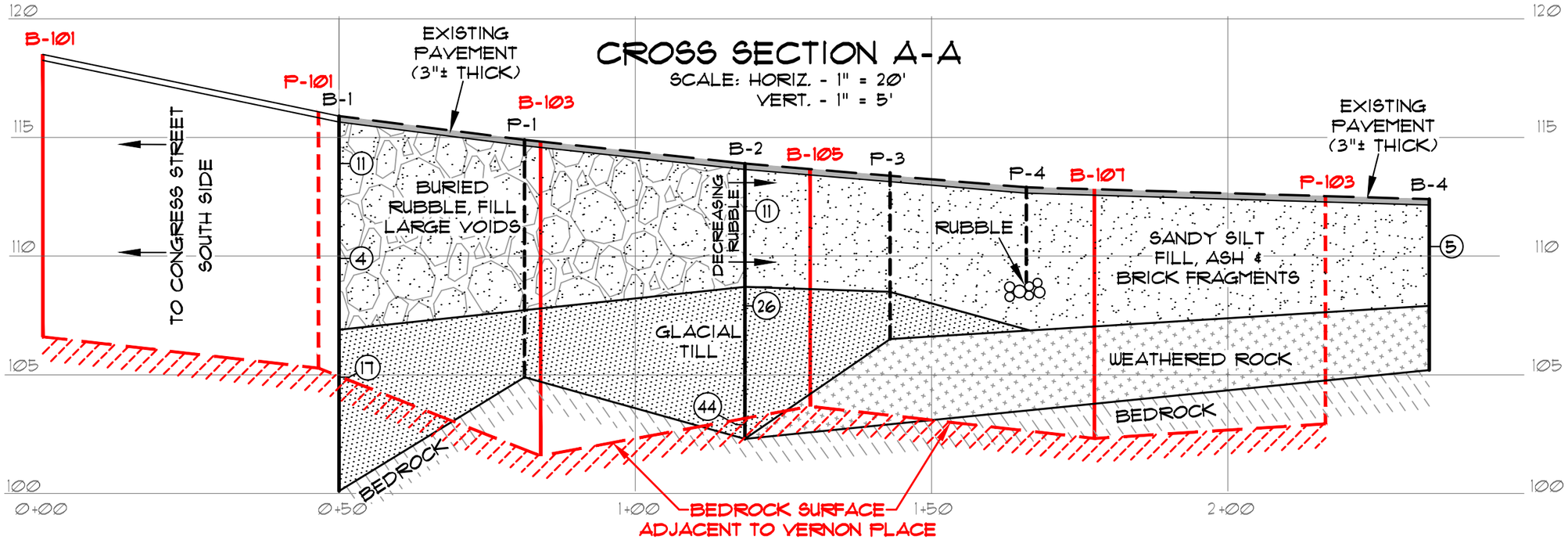
REDFERN PROPERTIES

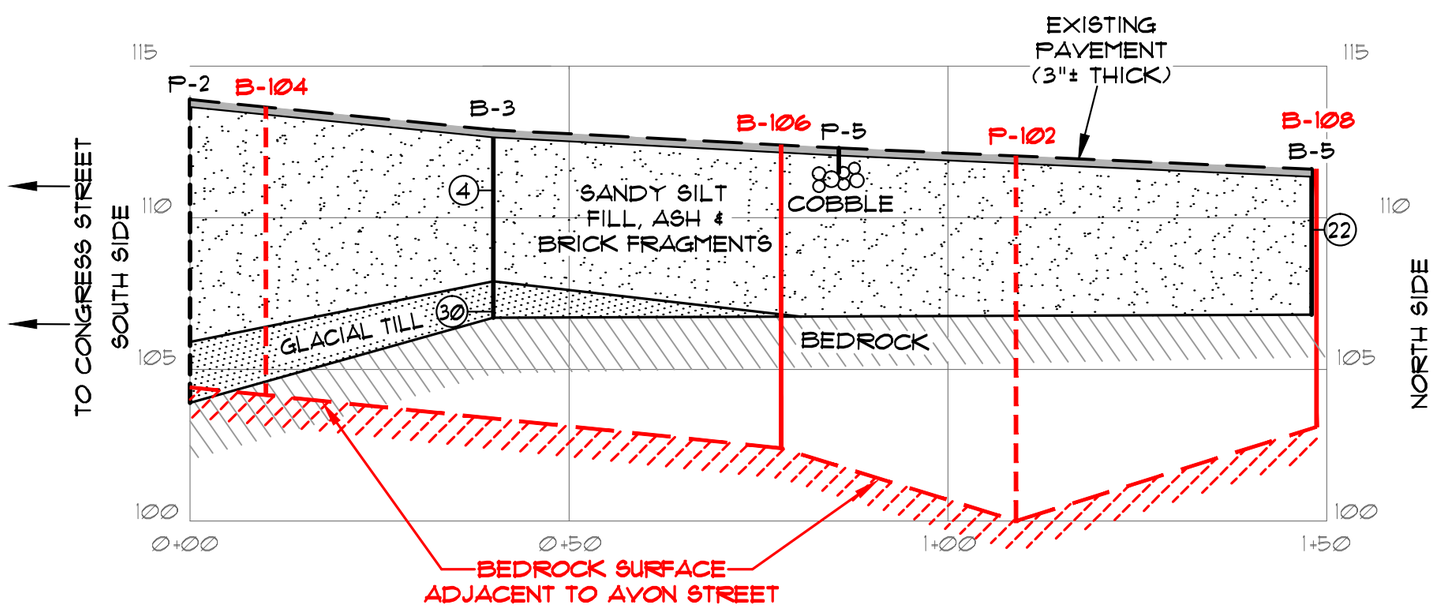
DATE: 4-1-2015	DRAWN BY: KRF	CHECKED BY: WMP
JOB: 15040	SCALE: 1" = 40'	FILE: 15040 BOR

145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

SUMMIT
GEOENGINEERING SERVICES
www.summitgeoeng.com

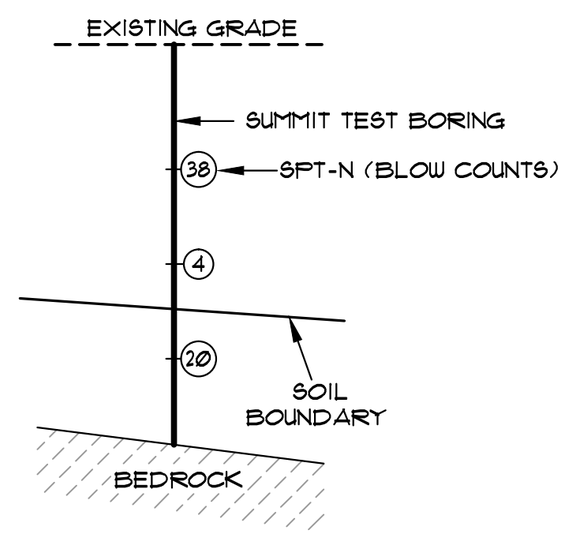




CROSS SECTION B-B

SCALE: HORIZ. - 1" = 20'
VERT. - 1" = 5'

LEGEND



REVISED: APRIL 20, 2015 - CORRECTED SCALE OF CROSS SECTION B-B AND ADDED RED LINES
REVISED: APRIL 6, 2015 - UPDATE LOCATIONS AND ELEVATIONS OF BORINGS AND PROBES

PROJECT: PROPOSED BUILDING SITE
665 CONGRESS STREET - PORTLAND, MAINE

CLIENT: REDFERN PROPERTIES

TITLE: INTERPRETIVE SOIL PROFILES

SCALE: AS NOTED
DRAWN BY: KRF
DATE: APRIL 2, 2015
APPR. BY: WAP

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 516-3313
173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7161

PROJ.#: 15040

FIGURE: 1

EXPLORATION COVER SHEET

The exploration logs are prepared by the geotechnical engineer from both field and laboratory data. Soil descriptions are based upon the Unified Soil Classification System (USCS) per ASTM D2487 and/or ASTM D2488 as applicable. Supplemental descriptive terms for estimated particle percentage, color, density, moisture condition, and bedrock may also be included to further describe conditions.

Drilling and Sampling Symbols:

SS = Split Spoon Sample
UT = Thin Wall Shelby Tube
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RW = Rotary Wash
SV = Shear Vane
PP = Pocket Penetrometer
RC = Rock Core Sample
Hyd = Hydraulic Advancement of Drilling Rods
Push = Direct Push of Drilling Rods
WOH = Weight of Hammer
WOR = Weight of Rod
PI = Plasticity Index
LL = Liquid Limit
W = Natural Water Content
USCS = Unified Soil Classification System

Water Level Measurements:

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable groundwater levels. In impervious soils, the accurate determination of groundwater elevations may not be possible, even after several days of observations. Groundwater monitoring wells may be required to record accurate depths and fluctuation.

Gradation Description and Terminology:

Boulders:	Over 12 inches
Cobbles:	12 inches to 3 inches
Gravel:	3 inches to No.4 sieve
Sand:	No.4 to No. 200 sieve
Silt:	No. 200 sieve to 0.005 mm
Clay:	less than 0.005 mm

Trace:	Less than 5%
Little:	5% to 15%
Some:	15% to 30%
Silty, Sandy, etc.:	Greater than 30%

Density of Granular Soils and Consistency of Cohesive Soils:

CONSISTENCY OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS	
SPT N-value blows/ft	**Consistency**	**SPT N-value blows/ft**	**Relative Density**
0 to 2	Very Soft	0 to 4	Very Loose
2 to 4	Soft	5 to 10	Loose
5 to 8	Firm	11 to 30	Compact
9 to 15	Stiff	31 to 50	Dense
16 to 30	Very Stiff	>50	Very Dense
>30	Hard		

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-1**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	115.9'
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	AMS Power Probe	Diameter:	2"OD/1.5"ID
Method:	2-1/2" H.S.A.	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						2" to 2.5" of Pavement		PAVEMENT
1								0.2'
	S-1	24/4	1 to 3	6		Dark tan Gravelly SAND, little Silt, compact, humid,		FILL
2				11		SP-SM		
				*		* Spoon sampler skewed horizontally, unable to collect		2.0'
3				*		blow counts. Likely due to encountered rubble		
4						Auger advancement produced no cuttings, likely rubble fill with large voids		
5								
	S-2	24/3	5 to 7	WH		Light gray Sandy GRAVEL, cobble pieces, little white Ash		
6				1		trace Silt, very loose, humid, GP		
				3				
7				1				
8								
9								
10								9.0' GLACIAL TILL
	S-3	24/20	10 to 12	6		Olive green SILT, little Clay and Sand, trace Gravel,		
11				8		compact, humid, ML	PP = 8,000 to 9,000 psf	
				9				
12				12				
13								
14								
15								
	S-4	24/9	15 to 17	6		Same as above, slightly mottled		
16				50/3"				
						End of Exploration at 15.8', Auger and Spoon refusal		15.8' BEDROCK
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-2**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	114 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	AMS Power Probe	Diameter:	2"OD/1.5"ID
Method:	2-1/2" H.S.A.	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						2" to 2.5" of Pavement		PAVEMENT
1								0.2'
	S-1	24/20	1 to 3	3		Dark brown Gravelly SAND, little Silt and black/white Ash,		FILL
2				6		loose to compact, frozen, SP-SM		
				5				
3				3				
4								
5								
	S-2	24/22	5 to 7	10		Same as above		
6				13		Olive green slightly mottled SILT, little Sand, trace Clay		5.2'
				13		and Gravel, compact, damp, ML		GLACIAL TILL
7				14				
8								
9								
10								
	S-3	24/16	10 to 12	8		Same as above, heavily mottled seam at 10.8', dense	PP = 4,000 to 7,000 psf	
11				12				
				32				
12				50/1"		End of Exploration at 11.6', Spoon refusal		11.6' BEDROCK
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

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GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-3**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.9 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	AMS Power Probe	Diameter:	2"OD/1.5"ID
Method:	2-1/2" H.S.A.	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" to 3.5" of Pavement		PAVEMENT
1								0.3'
	S-1	24/12	1 to 3	4		Dark brown SILT, large brick fragment in spoon, small		FILL
2				11*		brick fragment in spoon tip, loose, humid, ML		
				4				
3				2		* blow count due to brick fragment		
4								
5								
	S-2	24/12	5 to 7	12		Olive green SILT, little Sand, trace Clay and Gravel,		5' +/-
6				18		compact, humid, ML	PP = 5,000 psf	GLACIAL TILL
				50/3"				
7						End of Exploration at 6.2', Spoon and Auger refusal		6.2'
								BEDROCK
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-4**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.5 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	AMS Power Probe	Diameter:	2"OD/1.5"ID
Method:	2-1/2" H.S.A.	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						2.5" of Pavement		PAVEMENT
1								0.2'
	S-1	24/10	1 to 3	2		Brown Sandy SILT, little fine Gravel and black Ash, loose, humid, ML		FILL
2				2				
				3				
3				2				
						Auger cuttings show increasing ash content with depth and some brick fragments		
4								
	S-2	24/2	4.5 to 6.5	50/5"		Weathered rock fragments in spoon tip		
5								4.5'
						Augered through weathered rock to competent refusal		WEATHERED ROCK
6								
7								
						End of Exploration at 7.2', Auger refusal		7.2'
8								BEDROCK
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-5**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.5 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	AMS Power Probe	Diameter:	2"OD/1.5"ID
Method:	2-1/2" H.S.A.	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						2.5" of Pavement		PAVEMENT
1								0.2'
	S-1	24/8	1 to 3	15		Dark brown to black Sandy SILT, little Gravel and black		FILL
2				16		and white Ash, ML		
				6				
3				2				
4								
						Dense drilling at 4.8'		
5	S-2	24/1	4.8 to 6.8	50/3"		Rock in spoon tip		
						End of Exploration at 4.8', Spoon and Auger refusal		4.8'
6								BEDROCK
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-101**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	118.5 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" Pavement		PAVEMENT
1	S-1	24/4	0.5 to 2.5	4		Brown Silty SAND, loose, humid, SM		0.25' FILL
				3				
2				3				
				3				
3								
4						Possible rubble encountered at 4' during drilling		
5								
	S-2	24/4	5 to 7	7		Brown Silty SAND, trace Gravel, compact humid, SM		
6				7				
				7				
7				7				
8								
9								
10								
	S-3	24/12	10 to 12	4		Dark olive green SILT, little Sand and Gravel, trace Clay,		10.0' +/-
11				8		dense/very stiff, slightly mottled, humid, ML	PP = *1,000 to	GLACIAL TILL
				30			*3,000 psf	
12				50/5		* = Specimen failed via tension crack, low clay content		
						End of Exploration at 11.9', Auger and Spoon refusal		11.9'
13								BEDROCK
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-102**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	118.7 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" Pavement		PAVEMENT
1	S-1	24/4	0.5 to 2.5	4		Dark brown Silty SAND, little Gravel, Gravel pieces in spoon tip, loose, dry, SM		0.25' FILL
				5				
2				5				
				3				
3						Rubble fill, large voids apparent from open hole inpection		
4						Auger encountered refusal at 4.9' during drilling. Moved over 1' and attempted to drill past, refusal encountered in second hole at 3.2'		
5								
						End of Exploration at 4.9', Auger refusal on rubble		4.9'
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-103**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	115.0 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" Pavement		PAVEMENT
1	S-1	24/8	0.5 to 2.5	4		Brown to dark brown SAND, trace silt, large brick fragment in top 4" of sample, brick fragment in spoon tip, loose, humid, SP		0.25' FILL
				6				
2				7				
				9				
3								
4								
5								
	S-2	24/6	5 to 7	5		same as above, no brick fragment, some white Ash		
6				7				
				15				
7				15				
8								
9								
10								9.0' +/- GLACIAL TILL
	S-3	24/20	10 to 12	14		Olive green SILT, little Gravel, Sand, and Clay, cobble pieces fro 10.5 to 11.0', humid, dense/hard, ML	PP = 6,000 to > 9,000 psf	
11				24				
				20				
12				20				
13								
14								
15						End of Exploration at 14.5', Auger refusal		14.5' BEDROCK
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-104**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	113.1 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						4" Pavement		PAVEMENT
1						Augered to 5', relatively easy drillling (no rubble)		0.3' FILL
2								
3								
4								
5								
	S-1	24/18	5 to 7	7		Olive green SILT, little Gravel, Sand, and Clay, mottled, damp, compact/very stiff, cobble pieces at 6.5', ML	PP = 5,000 to 7,000 psf	5.0' +/- GLACIAL TILL
6				7				
				17				
7				23				
8								
9								8.5' WEATHERED ROCK
10						End of Exploration at 9.5', Auger refusal		9.5' BEDROCK
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-105**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	113.8 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	Mobile B-53	Diameter:	2"OD/1.5"ID
Method:	4" Cased Wash	Hammer:	140 lb
Hammer Style:	R&C	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" Pavement		PAVEMENT
1						Augered to refusal for Rock Core		0.25'
2								
3								
4								
5								
6								
7								
8								
9								
10	ROCK CORE DATA							9.1' +/- WEATHERED ROCK
	RUN	DEPTH	RUN	RECOVERY	RQD			
11	C-1a	10 to 13.3	40"	70%	0%	Moderately weathered, very thinly spaced vertical joints, very hard, light to medium gray SCHIST		10.0' BEDROCK
12								
13								
	C-1b	13.3 to 15	20"	100%	80%	Same as above, moderately spaced joints		
14								
15								
						End of Exploration at 15.0', rock core terminated		15.0'
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-106**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	112.0 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Cased Wash	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						3" Pavement		PAVEMENT
1						Augered to refusal for Rock Core		0.25'
2								
3						Dense drilling from approximately 2' to 8', frequent rubble or cobble		
4								
5								
6								
7								
8								
9								
10	ROCK CORE DATA							
	RUN	DEPTH	RUN	RECOVERY	RQD			
11	C-2	10 to 15	60"	66%	33%	Moderately weathered, very thinly spaced joints, very hard light gray to blue SCHIST		10.0' BEDROCK
12						most fractures range from 45° to vertical		
13								
14								
15								
	C-3	15 to 19	48"	96%	65%	Same as above, most joints and fractures are vertical		
16								
17								
18								
19								
20						End of Exploration at 19.0', rock core terminated		19.0'
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-107**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	112.9 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						4" Pavement		PAVEMENT
1	S-1	24/6	0.5 to 2.5	3		Dark brown Sandy SILT, trace Ash and Brick fragments, loose, dry, ML		0.3' FILL
				4				
2				4				
				3				
3								
4								
5								
	S-2	24/24	5 to 7	7		Olive green SILT, slight mottling, litte fine Sand, trace Gravel and Clay, compact/very stiff, humid, ML		5.0' +/- GLACIAL TILL
6				10				
				14				
7				14				
8								
9								
10						Soft rock encountered during augering, drilled 1.5' into rock to hard refusal		9.0' +/- WEATHERED ROCK
11						End of Exploration at 10.5', Auger refusal		10.5' BEDROCK
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Proposed Apartment Building	Boring #:	**B-108**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	110.2 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method: 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
						4" Pavement		PAVEMENT
1	S-1	24/10		8		Tan fine to coarse SAND, little silt, compacy, humid,		0.3'
				9		SW-SM		
2				8		large Brick fragment and white ASH		1.1' +/-
				3				
3								FILL
4								
5								
	S-2	24/4		*50/6"		Light brown Gravelly SAND, cobble piece in spoon tip,		
6						humid, SP		
						* high blow count due to cobble in fill		
7								
8								
9						End of Exploration at 8.5', Auger refusal		8.5'
								BEDROCK
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-1**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	114.9 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		2.5" of Pavement		PAVEMENT
1								0.2' FILL
2								
3						Dense drilling at 3', likely rubble		
4						Auger advancement produced no cuttings, large voids apparent from hole inspection, likely rubble fill		
5								
6								
7								
8								
9								
10								9.0' +/- WEATHERED ROCK
11						End of Probe at 10.0', Auger Refusal		10.0' BEDROCK
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-2**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	113.9 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		2.5" of Pavement		PAVEMENT
1								0.2' FILL
2						Auger cuttings: tan Sandy SILT, some brick fragments,		
3								
4								
5								
6								
7								
8								
9								
10								9.0' +/- WEATHERED ROCK
11						End of Probe at 10.0', Auger refusal		10.0' BEDROCK
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-3**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.8 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		3.5" of Pavement		PAVEMENT
1						Dense drilling at 8", moved over and started new hole		0.3' FILL
2						Auger cuttings: Dark tan SAND, little Silt and Gravel		
3								
4								
5								
6						Auger cuttings: similar to above, little Clay		5.0' +/- GLACIAL TILL
7								
8						Auger cuttings: light tan fine SAND (rock dust)		7.0' +/- WEATHERED ROCK
9								
10								
11						End of Probe at 9.9', Auger refusal		9.9' BEDROCK
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-4**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.9 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		3.5" of Pavement		PAVEMENT
1						Auger refusal at 2', moved over and started new hole		0.3' FILL
2								
3						Encountered dense drilling at 2' again in second hole, drilled past it. Dense driilling ecountered again at 4'. Likely rubble		
4								
						End of Probe at 4.0', Auger refusal		4.0' RUBBLE
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	P-5
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.3 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		3" of Pavement		PAVEMENT
1				↓		Auger refusal at 9"', moved over and started new hole, encounered same refusal. Likely cobble		0.3'
2						End of Probe at 0.8', Auger refusal		0.8' COBBLE
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-6**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Summit Geoengineering Services	Boring Elevation:	112.3 ft
Driller:	C. Coolidge, P.E.	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 3/31/2015	Date Completed: 3/31/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: N/A
Model: AMS Power Probe	Diameter: N/A
Method: 2-1/2" H.S.A.	Hammer: N/A
Hammer Style: Auto	Method: N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
3/31/2015			

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		2.5" of Pavement		PAVEMENT
1						Auger cuttings: Black Sandy SILT, frequent brick fragments, little Clay and black Ash		0.2' FILL
2								
3								
4								
5								
						End of Probe at 5.0', Auger refusal		5.0' BEDROCK
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-101**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	116.4 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	N/A
Model:	Mobile B-53	Diameter:	N/A
Method	4" Solid Stem Auger	Hammer:	N/A
Hammer Style:	R&C	Method:	N/A

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		3" Pavement		PAVEMENT
1						Very difficult drilling, frequent rubbe encountered, refusal encountered in first hole at 4.5', moved over 1' to start new hole		0.25' +/- FILL
2								
3								
4								
5								
6								
7								
8								
9								
10						Smoother drilling started around 9', assumed transizion zone into native till		9' +/- GLACIAL TILL
11						End of Probe at 10.8', Auger refusal		10.8' BEDROCK
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-102**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	111.9 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD	SAMPLER
Vehicle: Tracked	Length: 24" SS
Model: Mobile B-53	Diameter: 2"OD/1.5"ID
Method 4" Solid Stem Auger	Hammer: 140 lb
Hammer Style: R&C	Method: ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		3" Pavement		PAVEMENT
1								
2						Smooth drilling throughout fill layer (no rubble/cobbles)		
3								
4								
5						Increased resistance at 4.8, potential till or soft rock		
6								
7								
8								
9								
10								
11								
12						End of Probe at 12.1', Auger refusal		12.1' BEDROCK
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT
GEOENGINEERING SERVICES

SOIL PROBE LOG

Project:	Proposed Apartment Building	Boring #:	**P-103**
Location:	665 Congress St.	Project #:	15040
City, State:	Portland, ME	Sheet:	1 of 1
		Chkd by:	

Drilling Co:	Great Works Test Boring	Boring Elevation:	112.3 ft
Driller:	Jeff Lee	Reference:	Site Survey by Titcomb Associates
Summit Staff:	M. Hardison, E.I.	Date started: 4/15/2015	Date Completed: 4/15/2015

DRILLING METHOD		SAMPLER	
Vehicle:	Tracked	Length:	24" SS
Model:	Mobile B-53	Diameter:	2"OD/1.5"ID
Method	4" Solid Stem Auger	Hammer:	140 lb
Hammer Style:	R&C	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
4/15/2015	-		None observed

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N_{60}	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
				PROBE		4" Pavement		PAVEMENT
1								0.3'
2						Relatively easy drilling, no rubbe/cobbles encountered		
3								
4								
5								
6								
7								
8								
9								
10						End of Probe at 9.6', Auger refusal		9.6' BEDROCK
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index

Bedrock Joints
Shallow = 0 to 35 degrees
Dipping = 35 to 55 degrees
Steep = 55 to 90 degrees

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

Att. 7

A C O R N
ENGINEERING, INC.

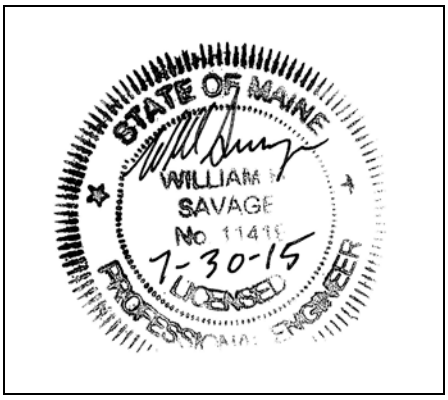
EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

Redfern Properties, LLC
667 Congress Street Redevelopment
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



July 2015

INTRODUCTION

Acorn Engineering, Inc. has been retained by Redfern Properties, LLC to provide civil engineering services for the proposed development of Joe's Variety Store. The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. The existing commercial building and parking lot are to be redeveloped to include:

- 1 Commercial Space on the first floor (approximately 4500 SF).
- 139 Residential Units on the upper seven floors.
- 44 Parking Spaces on the first floor off of Commercial Street and 37 spaces located below in a lower level parking garage.

The following Erosion and Sedimentation Control Report was developed in accordance with the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Appendix A and B (1), Amended January 11, 2015. This narrative also meets the standards required in the Maine DEP's Erosion & Sediment Control BMP's Manual, dated March 2003.

1.0 EXISTING CONDITIONS

The proposed redevelopment project is located at 667 Congress Street (Map, Book, Lot 46 C020 and C019) bordered by Congress Street, Vernon Place, and Avon Street in Portland, Maine. There is an existing smoke shop/variety store building and parking lot located within the project location which are to be demolished as part of the proposed project.

The City of Portland has rezoned the entire parcel as a B-3 zone due to its proximity to Commercial Street and Downtown Portland.

Abutting Uses:

- North R-6 Zone – Single and Multi-Family Residential
- East B-3 Zone – Green Hand Bookshop, Parking Lot
- Southwest B-3 Zone – Boda/Bangkok Thai
- Northwest R-6 Zone – Single and Multi-Family Residential
- South B-3 Zone – Video Expo, Empire Theater, Barber Shop

The existing project area is made up of a single paved and gravel parking area with a single, existing building. The distribution of surfaces is as follows:

- Paved Surface: 81%
- Existing Building: 14%
- Gravel with Limited Overgrowth: 5%

All surfaces are impervious with an existing grade ranging from approximately 0-10%.

1.1 Existing Soils

Onsite soil information includes the following:

- Summit Geoengineering Services – Soil Boring Logs, dated March 31st, 2015 and April 15th, 2015. A formal Geotechnical Report has also been prepared by Summit Geoengineering Services for the project, dated May 2015.
- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County.

According to Summit Services, the soil at the site generally consists of pavement overlying fill overlying glacial till overlying weathered bedrock overlying bedrock. The pavement at the site was present at the location of all drilled borings and probes and ranged from 2.5" to 4.0" in thickness. The fill layer was encountered below all paved areas and ranged from loose to compact and humid to frozen. The glacial till layer was detected in primarily the Southwest corner and ranged from humid to damp and compact to dense. The weathered bedrock was encountered in the center of the property and was between 1.0 to 2.9 feet thick.

Given the soils information, listed above, and the fact that greater than 50% of the proposed development site is currently developed, it is Acorn Engineering's professional opinion that a more intense hydric soil boundary delineation is not required because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soils types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Hinckley	.17	.17

The soil "K" values for the soils, listed above, indicate a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County.

1.2 Existing Erosion Problems

Currently, the site is comprised of a developed paved and gravel parking lot with a single building.

1.3 Critical Areas

Critical areas that would require special attention during construction are the areas adjacent to the municipal stormwater system. This includes, but is not limited to, the catch basins located in the Northeast and Northwest corners of the property.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches, or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public road ways.

2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or

impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.

2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 Vernon Place, Avon Street, and Congress Street shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14 gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Stormdrain inlet protection shall be provided to stormdrains through the use of any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished by the use of any of the following: water, calcium chloride, stone, or an approved MDEP product. Dust control shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7 day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.
2.2.2 All stormwater devices shall be installed and tributary areas stabilized prior receiving stormwater.
2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Erosion and Sedimentation Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching, erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4 inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs/1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded

soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% f the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24 hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Install all other erosion control devices as necessary throughout the remainder of this schedule.
4. Commence installation of drainage infrastructure.
5. Prioritize the downhill retaining and foundation walls to contain runoff within the site while providing an engineered outlet with siltation barrier to the municipal stormwater system within Avon.
6. Commence earthwork operations, wall and foundation installation.
7. Commence installation of utilities.
8. Continue earthwork and grading to subgrade as necessary for construction.
9. Complete installation of drainage infrastructure, as well as other utility work.
10. Complete remaining earthwork operations.
11. Install sub-base and base gravels in paved areas.
12. Install paving, curbing and brickwork.
13. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.

14. Once the site is stabilized, 90% catch of grass has been obtained, or mulching of landscape areas is complete remove all temporary erosion control measures.
15. Touch up areas without a vigorous catch of grass with loam and seed.
16. Complete site signage and striping.
17. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

Solid Waste Disposal

The owner, Redfern Properties, LLC, or their property management company shall be responsible for contracting with a private hauler for removal of solid waste and recyclable material generated from the 139 residential units and 1 commercial spaces. Acorn Engineering, Inc. has reached out to waste management facilities to obtain potential quotes and feasibility statements from solid waste companies. The proposed solid waste room is as noted on the Site Plan (C-10) and include:

- One 2-cubic yard container serviced 4x weekly (trash)
- One 2-cubic yard containers serviced 4x weekly (recycling)

OR

- Four 2-cubic yard containers serviced 4x weekly (trash only)
- Four 2-cubic yard containers serviced 4x weekly (recycling only)

Pickup will occur as indicated above (or as otherwise necessary) to maintain a clean waste storage area. The solid waste containers will be fully enclosed within the first floor of the development, and screened from the public view.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

Written Request for Waivers

The existing commercial building and parking lot on 667 Congress St (Map, Book, Lot 46 C020 and C019) are to be redeveloped into a 139-unit residential and single unit commercial building with covered parking on the basement and first floors (81 total parking spaces). The existing business, Joe's Variety Store, will remain on the first floor with the upper seven floors consisting of studio, single bedroom, and double bedroom apartments for rent.

The following is a list of known project related waivers.

1. **City Standard Parking Size** – The applicant is requesting a waiver to increase the number of Compact Parking Spaces per Standard Parking Spaces (9' X 18'). Of the proposed 81 spaces, 41% are Standard spaces and 59% may be defined as Compact Parking. According to the Technical Standards the maximum allowable Compact spaces for this space is 16. However, in order to adhere to the required parking spaces for residential units, there must be more compact parking within the covered lots.

   Circulation of vehicles within the site has been performed using AutoTurn, a vehicle circulation CAD accessory, and simulations that include these design waivers have shown circulation to be possible.

2. **City Minimum Driveway Width** – The applicant is requesting a waiver for the required 20' wide driveway; the proposed driveway is 18' wide at the overhead door but is otherwise 20' wide after entering the building.

3. **Parking Lot Landscaping** – The applicant is requesting a waiver to the parking lot landscaping requirements to not include the suggested 33 trees for the 81 parking spaces; due to the covered nature of the parking lots in both the basement and first floor (too limited of open air on first floor for tree or shrub growth), it is not feasible to landscape these features. Therefore, the applicant is prepared to contribute an amount proportionate to the cost of required parking lot trees to the City of Portland Tree Fund.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

4. **Street Trees** – The applicant is seeking a waiver to the street trees requirements. Due to limited sidewalk space along the Avon Street and Vernon Place street fronts, there will not be street trees along these walls. There will be 3 trees spaced between 30 – 45 feet along Congress Street as illustrated further in the preliminary drawings. In all, the design decreases the total required street trees from 16 to 3. However, this is an increase in total trees on the property from the original zero. The equivalent of 13 trees will be contributed to the City of Portland Tree Fund.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

August 27, 2015

Shukria Wiar
Planner
City of Portland, Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

RE: 667 Congress Street Apartment Project

Dear Shukria Wiar:

Redfern Properties and its affiliates are well known to NBT Bank. I have worked with Redfern for nearly 10 years and have been directly involved in the financing of numerous successful projects. NBT Bank is providing financing for Redfern's current apartment project at 89 Anderson Street and is interested in entertaining financing for 667 Congress Street. We are looking forward to more substantive conversations as this project materializes.

Please feel free to contact me should you need any additional information. I can be reached at (207) 808-4486.

Sincerely,

Joe Delano
Vice President
NBT Bank Maine

254 Commercial St., Merrill's Wharf, Portland, Maine 04101
Phone: 207-808-4485 · Toll Free 1-800-NBT BANK

Att. 11

NOTES:

1. SNOW MAY BE STORED WITHIN THE SNOW STORAGE AREAS ONLY.

2. SNOW SHALL BE PHYSICALLY REMOVED AND TRANSPORTED OFFSITE AS NECESSARY

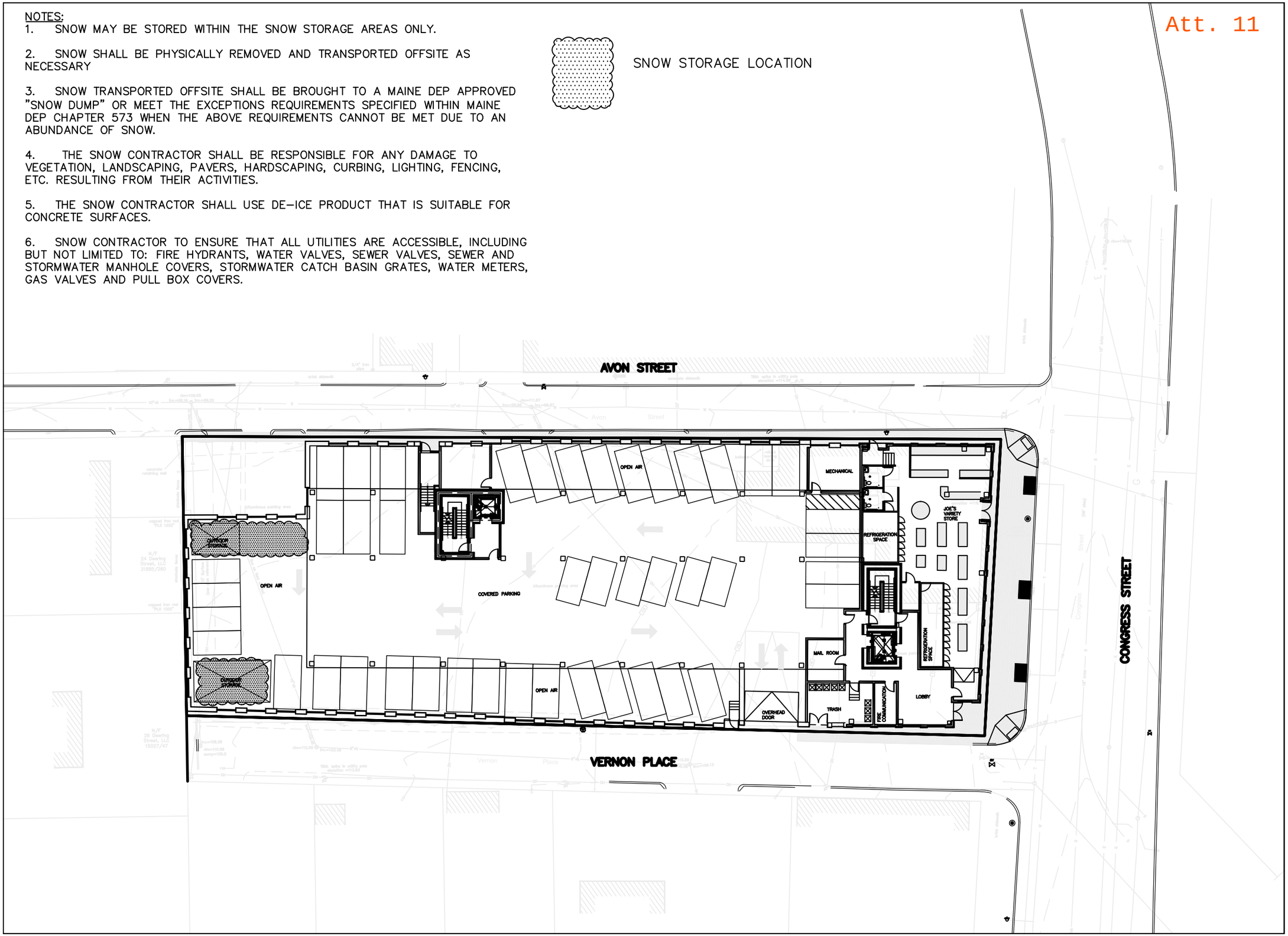
3. SNOW TRANSPORTED OFFSITE SHALL BE BROUGHT TO A MAINE DEP APPROVED "SNOW DUMP" OR MEET THE EXCEPTIONS REQUIREMENTS SPECIFIED WITHIN MAINE DEP CHAPTER 573 WHEN THE ABOVE REQUIREMENTS CANNOT BE MET DUE TO AN ABUNDANCE OF SNOW.

4. THE SNOW CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO VEGETATION, LANDSCAPING, PAVERS, HARDSCAPING, CURBING, LIGHTING, FENCING, ETC. RESULTING FROM THEIR ACTIVITIES.

5. THE SNOW CONTRACTOR SHALL USE DE-ICE PRODUCT THAT IS SUITABLE FOR CONCRETE SURFACES.

6. SNOW CONTRACTOR TO ENSURE THAT ALL UTILITIES ARE ACCESSIBLE, INCLUDING BUT NOT LIMITED TO: FIRE HYDRANTS, WATER VALVES, SEWER VALVES, SEWER AND STORMWATER MANHOLE COVERS, STORMWATER CATCH BASIN GRATES, WATER METERS, GAS VALVES AND PULL BOX COVERS.

SNOW STORAGE LOCATION



ISSUED FOR	BY DATE
REVISION	REV. DATE

DRAWING NAME: SNOW STORAGE PLAN

PROJECT NAME: 667 CONGRESS ST. REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC

P.O. BOX 3372
PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1060_CIVIL
DATE:	7/29/15
JN:	1060
SCALE:	1"=20'
DESIGN BY:	WHS
DRAWN BY:	
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.

SNOW

Att. 12a

TRAFFIC IMPACT STUDY

FOR

PROPOSED

667 CONGRESS STREET APARTMENTS

Prepared For: Redfern Properties, LLC
Prepared By: William J. Bray, P.E.

August 2015

INTRODUCTION

Redfern Properties, LLC is proposing construction of an eight-story building at 667 Congress Street on a parcel of property bordered by Congress Street, Avon Street, and Vernon Place. The proposed project site currently includes Joe's Smoke Shop, a 3,673 square foot variety store located at the Congress Street/Avon Street corner of the parcel and surface parking encumbers the remainder of the property. The proposed project will provide a total of 139 apartment units that will include 34 efficiency units, 97 one-bedroom units, and 8 two-bedroom units. The basement floor provides a total of 37 parking spaces and will be accessed from Avon Street. A total of 44 spaces are proposed on the first floor of the building and will be accessed from Vernon Place. The proposed project also proposes a minor increase in floor area (approximately 856 square feet) to Joe's Smoke Shop.

It is anticipated that construction of the proposed project will be completed in early 2017.

The purpose of this study is to examine existing traffic conditions in the general vicinity of the proposed project, estimate the total number of site trips generated by the project, and make a determination as to whether the existing transportation system can safely accommodate the added traffic demand generated by the project.

EXISTING CONDITIONS

Existing Traffic: Manual turning movement counts were conducted during the week of May 5th at three study intersections per direction received from the City's Traffic Peer Review Consultant. The intersections included the following locations:

1. Congress Street/Avon Street
2. Congress Street/Vernon Place
3. Avon Street/Deering Street

All vehicular traffic entering each intersection was recorded in 15-minute intervals between the hours of 7:00 to 9:00 AM and between 3:00 to 6:00 PM (Copies of the field data summary sheets are attached). In addition, pedestrian and bicycle data was gathered at each location both directionally and by time of day. From a summary of the data, it was determined that the morning peak hour occurs between 8:00 and 9:00 AM at each study area location and the PM peak hour falls between 4:45 and 5:45 at both Avon Street locations and earlier (3:45 to 4:45 PM) at the Congress Street/Vernon Place intersection.

Traffic data collected during the month of May requires an adjustment to reflect "peak" travel conditions during the summer months of July and August. MaineDOT provides factors for adjusting traffic data collected during other periods of time. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. Group I roadways are defined as urban roadways or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways or arterial roads are those that see a combination of commuter and recreational traffic and; therefore, experience moderate fluctuations during the year. Group III roads or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuations. MaineDOT has designated the section of Congress Street, Avon Street, and Deering Street adjacent to the site as a Group 1 roadway, which requires the collected traffic data to be adjusted by a factor of approximately 1.057. Figures 1 and 2 illustratively depict the estimated 2015 PM design hour traffic conditions for the study intersections.

Bicycle and pedestrian volume totals recorded during the vehicular peak hour(s) at each study location are summarized in the following tables:

Bicycle Volumes
(Street Peak Hour)

Intersection/Approach	AM Peak Hour	PM Peak Hour
Congress St./Avon St.		
- Congress Street NB	17	20
- Congress Street SB	11	24
- Avon St.	2	3
Congress St./Vernon Pl.		
- Congress St. NB	13	13
- Congress St. SB	6	4
- Vernon Pl.	0	0
Avon St/Deering St.		
- Deering St. NB	4	1
- Deering St. SB	0	1
- Avon St. EB	1	4
- Avon St. WB	1	1

Overall, bicycle travel through the study intersections was somewhat moderate during both peak travel periods with slightly higher volumes recorded in the afternoon versus the morning peak. The highest volumes of bicycle trips were recorded traveling along the Congress Street corridor (a total of 44 two-way trips) in the evening peak hour with much lower volumes recorded on the secondary roadways during the same time period.

Pedestrian Volumes
(Street Peak Hour)

Intersection/Approach	AM Peak Hour	PM Peak Hour
Congress St./Avon St.		
- Crossing Congress North Approach	26	44
- Crossing Congress South Approach	8	4
- Crossing Avon Street	95	204
Congress St./Vernon Pl.		
- Crossing Congress - North Approach	18	23
- Crossing Congress South Approach	0	0
- Crossing Vernon Place	68	119
Avon St./Deering St.		
- Crossing Avon - East Approach	20	21
- Crossing Deering - North Approach	11	6
- Crossing Deering - South Approach	9	17
- Crossing Avon - West Approach	22	11

The volume of pedestrian movements recorded at each of the three study intersections was as expected, highest crossing the side street approaches at both Congress Street intersections. A total of 204 pedestrians crossed Avon Street at Congress Street in the evening peak hour and a total of 95 pedestrian trips were recorded for the same location in the morning peak hour. Slightly lower pedestrian movements were counted at the Vernon

Place/Congress Street intersection and significantly lower volumes were measured at the Avon Street/Deering Street intersection.

Existing Safety: The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the latest three-year (2012 through 2014) crash data for the Study Area road sections and intersections. Their report is presented as follows:

2012 -2014 Traffic Accident Summary

Location	Total Crashes	Critical Rate Factor
1. Congress Street @ Avon Street	5	1.05
2. Congress Street @ Vernon Place	3	0.61
3. Congress Street @ State Street	25	0.81
4. Avon Street @ Deering Street	1	1.17
5. Congress Street btw. Avon St. and Vernon Pl.	1	0.55
6. Avon Street btw. Congress St. and Deering St.	1	1.60

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the table shows, the incidence of traffic crashes occurring on the identified street network is below MaineDOT's threshold criteria for identification of a high crash location.

SITE TRAFFIC

Site Trip Generation: Trip generation for the proposed 139 apartment units was based upon trip tables presented in the eighth edition of the Institute of Transportation Engineers (ITE) "**TRIP GENERATION**" handbook. Trip generation of the increased building area to Joe's Smoke Shop variety store was estimated based upon actual manual traffic counts performed during both "peak" commuter time periods at the existing store site. Joe's Smoke Shop, located in a very densely populated section of the City of Portland, attracts a significant volume of "walk-in" trips from area residents versus the typical high percentage of automobile trips; therefore, trip rate information presented in the ITE publication inappropriately reflects actual conditions experienced at the existing neighborhood store. The following trip generation estimates were developed for both uses within the proposed building:

Apartment Units

Land-Use Code 223 – Mid-Rise Apartment (139 units)

Street Peak Hour – AM Peak = *0.30 trips/per unit*
Street Peak Hour – PM Peak = *0.39 trips/per unit*

Based upon the ITE trip rate information the proposed 139 apartment units can be expected to generate a total of **42** trips during the AM peak hour and a total of **54** trips during the PM peak hour.

Joe's Smoke Shop Variety Store

A manual traffic count was conducted at Joe's Smoke Shop variety store on Monday, August 9 between the hours of 7:00 and 9:00 AM and 3:00 to 6:00 PM. All vehicle, bicycle, and pedestrian trips entering and exiting the existing variety store were recorded in 15-minute intervals between the noted hours (Copies of the data is

attached). From a summary of the data, a "morning" and "afternoon" peak hour was determined for the store. The AM peak hour occurs between 7:45 and 8:45 AM and the evening peak hour falls between 4:15 and 5:15 PM. During the AM peak hour a total of 16 vehicle trips were recorded parking on Congress Street entering/exiting the store and during the evening peak hour a total 21 trips were observed entering/exiting the store.

Based upon the collected traffic data, it was determined that the existing 3,673 square foot Joe's Smoke Shop variety store generates approximately 4.36 vehicle trips per 1,000 square feet of floor area in the morning peak hour and 5.72 vehicle trips in the evening peak hour.

The proposed development project will increase the floor area of Joe's Smoke Shop by an additional 856 square feet of floor area, which based upon the exiting trip rates, will result in an increase of **4** vehicle trips in the morning peak hour and **5** trips during the afternoon peak hour.

Total Development Trip Generation

The proposed 667 apartment building project can be expected to generate a total of 46 vehicle trips in the AM peak hour and 59 trips during the PM peak hour.

Site Trip Distribution: The Institute of Transportation Engineers handbook provides the following directional distribution rates for an apartment unit for both peak hour time periods. Those rates are presented as follows:

AM Peak Hour	= 31% of trip enter site/69% exit
PM Peak Hour	= 58% of trips enter site/42% exit

Based upon the noted directional distribution patterns, 14 trips during the morning peak hour and 31 trips in the evening peak hour generated by the apartment units will enter the site and the remaining trips (28 AM trips and 23 PM trips) will exit the site.

Existing vehicle trip distribution patterns measured at Joe's Smoke Shop during both peak travel periods show generally an even split in distribution, with equal volumes entering and exiting the existing store.

Site Trip Assignment: In developing a travel forecast model for the proposed apartment building project the parking demand requirements of the proposed site and location of proposed tenant parking must be fully considered. A recent parking study completed by Gorrill-Palmer, Inc. in March of 2014 concluded that an average parking demand rate of 0.48 spaces per apartment unit appropriately meets the parking demand requirements of an apartment complex with the majority of the units either single bedroom or efficiency style units. The earlier Gorrill-Palmer report conservatively applied a parking demand rate of 0.70 spaces per unit in the conduct of their study. Accordingly, the traffic analysis completed for the proposed 667 Congress Street apartment project applied a similar per unit parking rate of 0.70 spaces per unit in developing the travel forecast for the project, resulting in a total parking demand requirement of 97 spaces.

NOTE: A detailed local parking utilization survey will be completed at a later date to more accurately define the appropriate parking demand of the proposed apartment project.

The proposed apartment building design provides a total of 81 parking spaces with 37 of the spaces located in the basement level of the building and the remaining 44 spaces on the first floor of the building. Three of the 81 total spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces reserved for tenants of the building. Development of the trip assignment model assumes that the remaining 19 parking spaces (97 – 78) are located in undetermined locations nearby to the project site; and/or the actual parking demand of the project will be reduced by encouraging building tenants utilization of other modes of transportation other than

automobile travel. The building design presently includes a total of 56 covered bicycle spaces; a U share parking space and 2 to 4 motorcycle parking spaces; each special design feature, will assist in reducing the overall automobile usage of building tenants. Vehicle trips generated by the proposed project were assigned to the roadway system based upon the following percentages:

	AM Peak Hour	PM Peak Hour
Avon Street Site Garage Entrance	35%	35%
Vernon Place Site Garage Entrance	39%	39%
Congress Street Curb Spaces – Joe's Smoke Shop	9%	9%
Undetermined Locations Adjacent to Project Site	17%	17%

Figures 3 and 4 are line diagrams that depict the projected travel patterns of the site traffic for the AM and PM peak hours, respectively.

FUTURE TRAFFIC

Annual Growth: The Traffic Impact Study has been prepared based upon a projected build-out year of 2017. MaineDOT's historical traffic data for the noted sections of Congress Street near State Street would suggest the appropriateness of 3 to 4% percent annual growth rate. To project a conservative assessment of traffic impact, the 2015 design hour traffic volumes were increased by an annual growth rate of 4% per year to estimate 2017 travel conditions.

Other Development Traffic: Traffic generated by projects that have been approved by the Local Planning Board and/or the Maine Department of Transportation, yet are not opened, must be included in the estimate of pre-development traffic. At the direction of the City's Development Review Services Manager, trips generated by the proposed Avesta Housing's 37 unit apartment project at 17 Carleton Street were appropriately added to the base travel conditions forecast for Congress Street at both Avon Street and Vernon Place.

2017 Pre-Development Traffic: The 2015 design hour traffic projections shown on Figures 1 and 2 were increased by an annual growth rate of 4% per year to approximate 2017 travel conditions at each of the three study intersections. Figures 5 and 6 are line diagrams that present the 2017 Pre-Development AM and PM peak hour traffic forecasts for the three study intersections.

2017 Post-Development Traffic: Estimated 2017 Pre-Development traffic forecasts prepared for each study intersection, as depicted on Figures 5 and 6, were combined with the site traffic projections highlighted on Figures 3 and 4 to create estimated 2017 Post-Development traffic estimates for the study intersections. Figures 7 (AM Peak Hour) and 8 (PM Peak Hour) are line diagrams that present the estimated 2017 Post-Development traffic conditions for the study intersections.

MOBILITY ANALYSIS

A capacity analysis of the 2017 Pre and Post-Development traffic conditions were performed for the three study intersections utilizing the Synchro and SimTraffic computer models. Levels of Service rankings are similar to the academic grading system, where an "A" is very good with little delay and "F" represents very poor conditions.

The following table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The result of the capacity analysis is presented in the following table:

Level of Service Summary
2017 Pre and Post-Development Conditions

	2017 Pre-Development				2017 Post-Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection/Approach	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
1. Congress Street @ Avon Street								
- Congress Street EB	1 second	A	1 second	A	1 second	A	1 second	A
- Congress Street WB	1 second	A	1 second	A	1 second	A	1 second	A
2. Congress Street @ Vernon Place								
- Congress Street EB	1 second	A	1 second	A	1 second	A	1 second	A
- Congress Street WB	1 second	A	1 second	A	1 second	A	1 second	A
- Vernon Place	5 second	A	5 second	A	5 second	A	6 second	A
3. Deering Street @ Avon Street								
- Deering Street EB	1 second	A	1 second	A	1 second	A	1 second	A
- Deering Street WB	1 second	A	1 second	A	1 second	A	1 second	A
- Avon Street	3 second	A	3 second	A	4 second	A	3 second	A

The results of the analyses shows that all approaches at each study intersection operates at the highest or "*best*" level of service.

SUMMARY

1. The proposed 139 unit apartment building project (that includes 34 efficiency, 97 one-bedroom, and 8 two-bedroom units) can be expected to generate approximately **42** vehicle trips during the morning peak commuter hour and a slightly higher volume of **54** vehicles in the evening peak hour. Additionally, the proposed minor expansion to Joe's Smoke Shop results in a minor increase in peak hour trips with **4** trips projected for the morning peak hour and a total of **5** trips in the evening peak hour. The minor volume of increased vehicle trips generated by Joe's Smoke Shop store are expected to continue utilizing the curb side parking spaces on Congress Street for access to the existing variety store.

2. The proposed apartment building design provides a total of 81 on-site parking spaces with 37 of the spaces located in the basement level of the building and the remaining 44 spaces on the first floor. Three of the 81 total spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces remaining for use by tenants of the building.

3. MaineDOT's Traffic Safety Bureau's latest three-year safety report (2012 through 2014) for the identified sections of Congress Street, Deering Street, and Avon Street shows that all roadway segments and intersections experience fewer traffic crashes than the threshold criteria for identification of a high crash location.

4. The detailed intersection mobility assessment completed for 2017 Pre and Post-Development travel conditions documents that traffic generated by the proposed Redfern Properties, LLC apartment project has no measurable impact on traffic operations at each of the study intersections. Traffic is projected to operate at the highest or "*best*" level of service (Level of Service A) under either travel condition.

5. A detailed Transportation Demand Management Plan will be prepared for the proposed apartment building project in accordance with the City of Portland's requirements and submitted at a later date.

6. A detailed parking survey of similar residential apartment buildings in the City of Portland will be conducted to determine an appropriate parking demand rate for the proposed project. The City's Traffic Peer Review Engineer will be consulted in establishing the survey procedures, etc.

Traffic Solutions
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Portland, ME 04102
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(207) 400-6890 mobile
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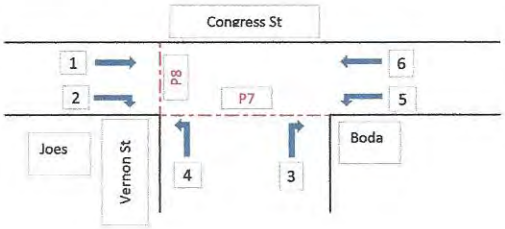
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Congress St & Vernon St
Date: 5/5/15
Day of Week: Tuesday
Weather: Sunny
Remarks:

C= Bicycle Movement
P= Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P7	P8	C1	C6
7:00	7:15	34	0	1	0	0	65	0	0	0	0	0	0	100	5	1	2	2
Truck Count		3	0	0	0	0	3							6				
Semi Count		0	0	0	0	0	0							0				
Bus Count		2	0	0	0	0	1							3				
7:15	7:30	46	1	1	1	0	75	0	0	0	0	0	0	124	8	2	3	0
Truck Count		1	0	0	0	0	0							1				
Semi Count		2	0	0	0	0	1							3				
Bus Count		1	0	0	0	0	3							4				
7:30	7:45	72	0	0	1	2	98	0	0	0	0	0	0	173	20	6	4	2
Truck Count		5	0	0	0	0	3							8				
Semi Count		0	0	0	0	0	0							0				
Bus Count		1	0	0	0	0	1							2				
7:45	8:00	52	0	1	0	1	84	0	0	0	0	0	0	138	11	1	0	6
Truck Count		2	0	0	0	0	4							6				
Semi Count		0	0	0	0	0	1							1				
Bus Count		3	0	0	0	0	3							6				
8:00	8:15	52	1	0	0	1	101	0	0	0	0	0	0	155	11	1	0	7
Truck Count		0	0	0	0	0	2							2				
Semi Count		0	0	0	0	0	0							0				
Bus Count		3	0	0	0	0	3							6				
8:15	8:30	55	0	1	0	2	104	0	0	0	0	0	0	162	25	4	1	1
Truck Count		3	0	0	0	0	2							5				
Semi Count		0	0	0	0	0	0							0				
Bus Count		1	0	0	0	0	2							3				
8:30	8:45	66	1	4	1	1	89	0	0	0	0	0	0	162	13	5	1	2
Truck Count		2	0	0	0	0	2							4				
Semi Count		0	0	0	0	0	0							0				
Bus Count		0	0	0	0	0	3							3				
8:45	9:00	51	1	3	2	7	100	0	0	0	0	0	0	164	19	4	2	3
Truck Count		0	0	0	0	0	0							0				
Semi Count		0	0	0	0	0	0							0				
Bus Count		3	0	0	0	0	3							6				

PEAK HOUR COUNT TIME: 8:00 TO: 9:00

236	3	8	3	11	411	0	0	0	0	0	0	672
249	3	9	3	12	434							

Adjusted volume

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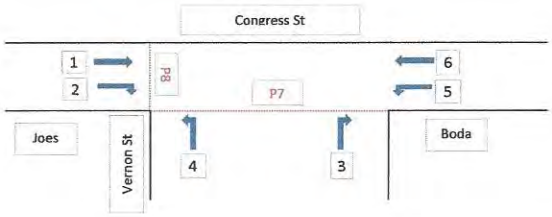
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Congress St/Vernon St
Date: 5/5/15
Day of Week: Tuesday
Weather: Cloudy & Warm
Remarks:

C=Bicycle Movement
P=Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P7	P8	C1	C2	C4	C5	C6
3:00	3:15	81	0	3	1	1	84	0	0	0	0	0	0	170	25	2	3	1	1	0	3
Truck Count		0	0	0	0	0	4							4							
Semi Count		0	0	0	0	0	0							0							
Bus Count		3	0	0	0	0	0							3							
3:15	3:30	81	1	1	1	0	92	0	0	0	0	0	0	176	34	3	6	0	0	0	2
Truck Count		0	0	0	0	0	2							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		2	0	0	0	0	4							6							
3:30	3:45	77	1	0	0	1	84	0	0	0	0	0	0	163	34	4	6	0	0	0	0
Truck Count		1	0	0	0	0	1							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		5	0	0	0	0	1							6							
3:45	4:00	76	0	1	1	2	83	0	0	0	0	0	0	163	31	5	4	0	1	0	5
Truck Count		2	0	0	0	0	0							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		3	0	0	0	0	3							6							
4:00	4:15	82	2	0	3	0	89	0	0	0	0	0	0	176	27	6	5	0	0	0	5
Truck Count		1	0	0	0	0	0							1							
Semi Count		0	0	0	0	0	0							0							
Bus Count		2	0	0	0	0	2							4							
4:15	4:30	84	0	0	0	2	89	0	0	0	0	0	0	175	37	7	3	0	0	0	5
Truck Count		1	0	0	0	0	0							1							
Semi Count		0	0	0	0	0	0							0							
Bus Count		1	0	0	0	0	1							2							
4:30	4:45	81	1	2	0	1	90	0	0	0	0	0	0	175	24	5	6	0	0	1	5
Truck Count		3	0	0	0	0	0							3							
Semi Count		2	0	0	0	0	0							2							
Bus Count		1	0	0	0	0	3							4							
4:45	5:00	69	0	2	3	1	88	0	0	0	0	0	0	163	19	4	6	0	0	0	7
Truck Count		0	0	0	0	0	2							2							
Semi Count		0	0	0	0	0	1							1							
Bus Count		2	0	0	0	0	1							3							
5:00	5:15	79	2	1	0	3	81	0	0	0	0	0	0	166	36	5	4	0	0	0	5
Truck Count		0	0	0	0	0	2							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		2	0	0	0	0	2							4							
5:15	5:30	82	2	2	0	1	86	0	0	0	0	0	0	173	48	3	6	0	0	0	1
Truck Count		1	0	0	0	0	3							4							
Semi Count		0	0	0	0	0	0							0							
Bus Count		2	0	0	0	0	1							3							
5:30	5:45	79	2	4	3	4	91	0	0	0	0	0	0	183	47	6	7	0	0	0	4
Truck Count		1	0	0	0	0	1							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		1	0	0	0	0	0							1							
5:45	6:00	73	2	0	1	2	90	0	0	0	0	0	0	168	30	7	8	1	0	0	1
Truck Count		2	0	0	0	0	0							2							
Semi Count		0	0	0	0	0	0							0							
Bus Count		2	0	0	0	0	3							5							

PEAK HOUR COUNT TIME: 3:45 TO: 4:45

339	3	3	4	5	360	0	0	0	0	0	0	714

Adjusted Volume 358 3 3 4 5 381

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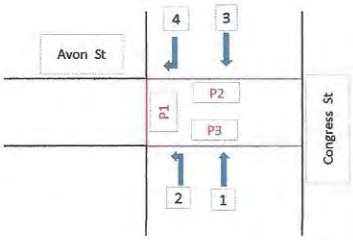
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Congress St/Avon St
Date: 5/6/15
Day of Week: Wednesday
Weather: Sunny
Remarks:

C= Bicycle Movement
P= Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P1	P2	P3	C1	C2	C3	C4
7:00	7:15	51	1	25	2	0	0	0	0	0	0	0	0	79	14	3	1	4	0	4	0
Truck Count		1	0	2	0									3							
Semi Count		0	0	1	0									1							
Bus Count		1	0	1	0									2							
7:15	7:30	60	1	40	0	0	0	0	0	0	0	0	0	101	21	7	2	4	0	3	0
Truck Count		1	0	2	0									3							
Semi Count		2	0	0	0									2							
Bus Count		3	0	1	0									4							
7:30	7:45	90	2	71	1	0	0	0	0	0	0	0	0	164	23	4	1	5	0	3	0
Truck Count		1	0	3	1									5							
Semi Count		0	0	0	0									0							
Bus Count		2	0	1	0									3							
7:45	8:00	88	1	39	0	0	0	0	0	0	0	0	0	128	16	6	5	3	0	2	0
Truck Count		2	0	1	0									3							
Semi Count		0	0	0	0									0							
Bus Count		2	0	1	0									3							
8:00	8:15	90	7	62	0	0	0	0	0	0	0	0	0	159	23	4	2	2	0	3	1
Truck Count		2	0	1	0									3							
Semi Count		0	0	0	0									0							
Bus Count		2	0	5	0									7							
8:15	8:30	116	0	55	0	0	0	0	0	0	0	0	0	171	25	4	0	6	1	1	0
Truck Count		1	1	4	0									6							
Semi Count		0	0	0	0									0							
Bus Count		2	0	1	0									3							
8:30	8:45	111	5	60	1	0	0	0	0	0	0	0	0	177	26	7	3	5	0	4	0
Truck Count		2	2	1	0									5							
Semi Count		1	0	0	0									1							
Bus Count		2	0	0	0									2							
8:45	9:00	96	4	58	1	0	0	0	0	0	0	0	0	159	21	11	3	4	0	4	0
Truck Count		3	0	4	0									7							
Semi Count		2	0	0	0									2							
Bus Count		3	0	3	0									6							

PEAK HOUR COUNT TIME: 8:00 TO: 9:00

433	19	254	2	0	0	0	0	0	0	0	0	708
458	20	268	2	0	0	0	0	0	0	0	0	

Adjusted volume

Traffic Solutions
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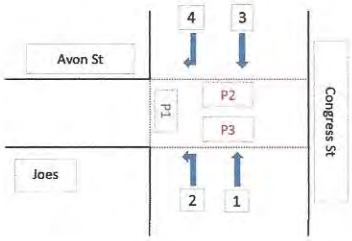
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Congress St/Avon St
Date: 5/6/15
Day of Week: Wednesday
Weather: Nice
Remarks:

C=Bicycle Movement
P=Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P1	P2	P3	C1	C2	C3	C4
3:00	3:15	85	2	76	2	0	0	0	0	0	0	0	0	165	54	10	2	1	0	5	0
Truck Count		0	0	1	0									1							
Semi Count		0	0	0	0									0							
Bus Count		1	0	2	0									3							
3:15	3:30	95	3	83	1	0	0	0	0	0	0	0	0	182	46	14	7	3	0	3	1
Truck Count		1	0	0	0									1							
Semi Count		0	0	0	0									0							
Bus Count		5	0	2	0									7							
3:30	3:45	93	2	73	4	0	0	0	0	0	0	0	0	172	43	7	3	6	0	6	0
Truck Count		0	0	0	0									0							
Semi Count		0	0	0	0									0							
Bus Count		0	0	3	0									3							
3:45	4:00	101	5	71	0	0	0	0	0	0	0	0	0	177	47	13	4	3	0	5	0
Truck Count		1	0	0	0									1							
Semi Count		0	0	0	0									0							
Bus Count		2	0	3	0									5							
4:00	4:15	85	1	78	2	0	0	0	0	0	0	0	0	166	53	6	0	2	0	3	0
Truck Count		2	0	3	0									5							
Semi Count		0	0	0	0									0							
Bus Count		1	0	2	0									3							
4:15	4:30	88	2	74	0	0	0	0	0	0	0	0	0	164	49	8	1	2	0	4	0
Truck Count		1	0	1	1									3							
Semi Count		1	0	0	0									1							
Bus Count		2	0	2	0									4							
4:30	4:45	84	6	75	1	0	0	0	0	0	0	0	0	166	46	12	1	2	0	11	0
Truck Count		3	0	0	0									3							
Semi Count		0	0	0	0									0							
Bus Count		3	0	0	0									3							
4:45	5:00	90	4	78	1	0	0	0	0	0	0	0	0	173	38	10	2	4	0	6	0
Truck Count		2	0	0	0									2							
Semi Count		0	0	0	0									0							
Bus Count		2	0	0	0									2							
5:00	5:15	100	3	89	3	0	0	0	0	0	0	0	0	195	60	13	0	8	0	9	0
Truck Count		0	0	2	0									2							
Semi Count		0	0	0	0									0							
Bus Count		1	0	0	0									1							
5:15	5:30	108	4	95	1	0	0	0	0	0	0	0	0	208	65	15	1	5	0	4	0
Truck Count		1	0	1	0									2							
Semi Count		0	0	0	0									0							
Bus Count		2	0	0	0									2							
5:30	5:45	85	2	80	0	0	0	0	0	0	0	0	0	167	41	6	1	4	2	5	0
Truck Count		3	0	0	0									3							
Semi Count		0	0	0	0									0							
Bus Count		1	0	1	0									2							
5:45	6:00	87	1	81	1	0	0	0	0	0	0	0	0	170	55	23	3	3	1	6	0
Truck Count		0	0	0	0									0							
Semi Count		0	0	0	0									0							
Bus Count		1	0	1	0									2							

PEAK HOUR COUNT **TIME:** 4:45 **TO:** 5:45

395	13	346	5	0	0	0	0	0	0	0	0	759
Adjusted Volume	418	14	366	5	0	0	0	0	0	0	0	

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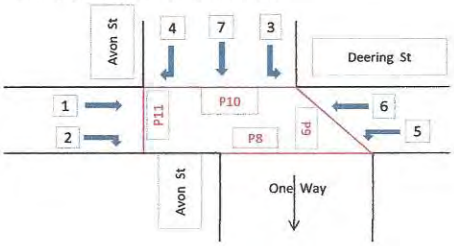
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Deering St/Avon St
Date: 5/6/15
Day of Week: Wednesday
Weather: Sunny
Remarks: 7:30-7:45 2 Cyclists went the wrong way on Avon St
7:45-8:00 1 Cyclist went the wrong way on Avon St
8:15-8:30 1 Cyclist went the wrong way on Avon St

C= Bicycle Movement
P= Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P8	P9	P10	P11	C2	C5	C6	C7
7:00	7:15	6	0	0	2	1	6	1	0	0	0	0	0	16	3	0	1	0	0	0	0	0
Truck Count		0	0	0	0	0	0	1						1								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
7:15	7:30	5	0	1	0	1	3	0	0	0	0	0	0	10	2	1	6	3	0	0	0	1
Truck Count		0	0	0	0	0	0	0						0								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
7:30	7:45	4	2	0	1	4	9	0	0	0	0	0	0	20	4	3	6	3	0	0	0	0
Truck Count		0	0	1	0	0	0	0						1								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
7:45	8:00	8	1	0	0	4	9	1	0	0	0	0	0	23	4	3	9	4	0	0	0	0
Truck Count		0	0	0	0	0	0	0						0								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
8:00	8:15	7	1	0	3	2	6	3	0	0	0	0	0	22	7	3	6	3	0	0	0	1
Truck Count		0	0	0	0	0	0	0						0								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
8:15	8:30	8	0	0	0	3	6	0	0	0	0	0	0	17	6	2	5	2	1	1	1	1
Truck Count		1	0	0	0	0	0	1						2								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
8:30	8:45	4	3	0	4	9	7	0	0	0	0	0	0	27	4	2	7	2	0	0	1	0
Truck Count		0	0	0	0	1	0	2						3								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								
8:45	9:00	2	1	0	2	3	21	1	0	0	0	0	0	30	3	1	4	1	0	0	2	0
Truck Count		0	0	0	0	0	0	0						0								
Semi Count		0	0	0	0	0	0	0						0								
Bus Count		0	0	0	0	0	0	0						0								

PEAK HOUR COUNT TIME: 8:00 TO: 9:00

22	5	0	9	18	40	7	0	0	0	0	0	101

Adjusted Volumes 24 5 0 10 19 42 7 0 0 0 0 0

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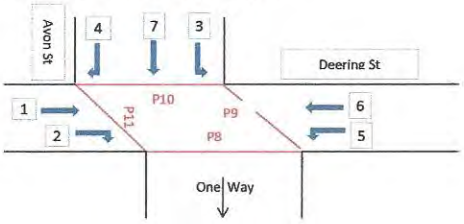
INTERSECTION PLAN
WITH NUMBERED MOVEMENTS:



Portland
Intersection: Deering St/Avon St
Date: 5/6/15
Day of Week: Wednesday
Weather: Nice
Remarks: 4:15-4:30 1 Cyclist went the wrong way on Avon St
5:00-5:15 1 Cyclist went the wrong way on Avon St

C=Bicycle Movement
P=Pedestrian Movement

Count Summary Movement

Start	End	1	2	3	4	5	6	7	8	9	10	11	12	Total	P8	P9	P10	P11	C1	C2	C4	C5	C6	C7
3:00	3:15	6	2	0	3	3	5	0	0	0	0	0	0	19	0	0	3	2	0	0	0	0	0	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
3:15	3:30	7	3	0	2	4	8	2	0	0	0	0	0	26	3	4	3	4	1	0	0	0	0	1
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
3:30	3:45	4	3	2	1	3	9	1	0	0	0	0	0	23	4	4	3	2	0	0	0	0	1	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
3:45	4:00	3	2	0	1	5	11	4	0	0	0	0	0	26	3	5	0	3	0	0	0	0	0	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
4:00	4:15	5	2	0	1	6	12	2	0	0	0	0	0	28	7	5	6	1	0	1	0	0	0	2
Truck Count		0	0	0	0	0	1	0						1										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
4:15	4:30	2	1	0	0	1	8	1	0	0	0	0	0	13	6	3	5	1	0	0	0	0	0	1
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
4:30	4:45	3	6	1	1	1	6	4	0	0	0	0	0	22	7	5	4	1	0	0	0	0	2	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
4:45	5:00	5	3	0	2	9	13	1	0	0	0	0	0	33	3	5	2	1	0	0	0	0	0	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
5:00	5:15	5	5	3	2	2	5	2	0	0	0	0	0	24	5	5	9	3	0	0	0	0	0	0
Truck Count		1	0	0	0	0	0	0						1										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
5:15	5:30	5	0	2	3	5	7	0	0	0	0	0	0	22	7	2	3	1	1	0	0	0	1	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
5:30	5:45	7	4	0	1	8	9	1	0	0	0	0	0	30	6	5	5	1	0	1	2	0	0	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										
5:45	6:00	5	1	1	0	4	13	2	0	0	0	0	0	26	8	6	6	5	0	0	1	0	0	0
Truck Count		0	0	0	0	0	0	0						0										
Semi Count		0	0	0	0	0	0	0						0										
Bus Count		0	0	0	0	0	0	0						0										

PEAK HOUR COUNT **TIME: 4:45 TO: 5:45**

23	12	5	8	24	34	4	0	0	0	0	0	110
24	13	5	9	25	36	4	0	0	0	0	0	

Adjusted Volume

Turn by Turn Traffic Data Services

P.O. Box 1203
Westbrook, Maine 04098

Joes Smoke Shop: Congress St Portland
Monday August 10, 2015
Sunny
Count by: Dawn-Marie Fahey

File Name : Portland, Joes Smoke Shop 081015
Site Code : 00001234
Start Date : 8/10/2015
Page No : 5

	Exit From East		Enter From West		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:45 AM					
07:45 AM	2	2	**3**	**3**	**5**
08:00 AM	2	2	2	2	4
08:15 AM	1	1	2	2	3
08:30 AM	**3**	**3**	1	1	4
Total Volume	8	8	8	8	16
% App. Total	100		100		
PHF	.667	.667	.667	.667	.800

Turn by Turn Traffic Data Services

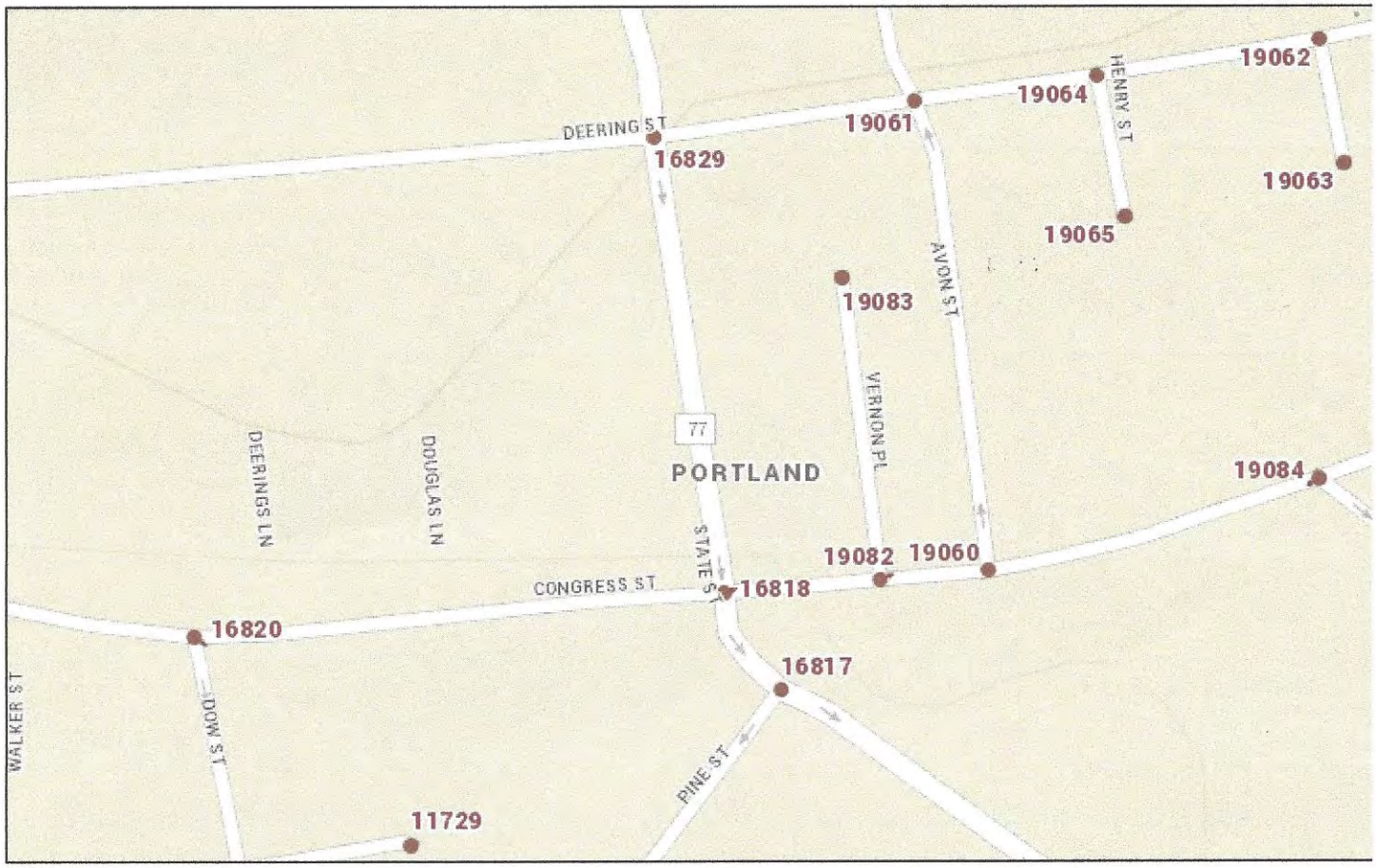
P.O. Box 1203
Westbrook, Maine 04098

Portland: Joes Smoke Shop
Monday August 10, 2015
Sunny
Count by:Patrick Frie

File Name : Portland, Joes Smoke Shop 081015 pm
Site Code : 00000003
Start Date : 8/10/2015
Page No : 5

	Exit From East		Entrance From West		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:15 PM					
04:15 PM	**4**	**4**	**4**	**4**	**8**
04:30 PM	2	2	3	3	5
04:45 PM	2	2	2	2	4
05:00 PM	3	3	1	1	4
Total Volume	11	11	10	10	21
% App. Total	100		100		
PHF	.688	.688	.625	.625	.656

Default title from Map Document



● Nodes - 3

Date: 7/29/2015
Time: 7:09:41 AM

0 0.005 0.01 0.02 0.03 0.04 Miles

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	Injury Crashes K	A	B	C	PD	Percent Injury	Annual M Ent-Veh	Crash Rate	Critical Rate	CRF
19060	0560160 - 1.58	Int of AVON ST, CONGRESS ST	2	5	0	0	1	1	3	40.0	4.301	0.39	0.37	1.05
												Statewide Crash Rate:	0.14	
19082	0560160 - 1.60	Int of CONGRESS ST VERNON PL	2	3	0	0	0	0	3	0.0	4.563	0.22	0.36	0.00
												Statewide Crash Rate:	0.14	
16818	0560160 - 1.63	Int of CONGRESS ST, STATE ST	9	25	0	0	2	3	20	20.0	9.904	0.84	1.03	0.00
												Statewide Crash Rate:	0.66	
19083	0560755 - 0.05	End of VERNON PL	2	0	0	0	0	0	0	0.0	0.072	0.00	-0.10	0.00
												Statewide Crash Rate:	0.14	
19061	0560030 - 0.07	0509481 POR,DEERING,AVON ST.	2	1	0	0	0	1	0	100.0	0.477	0.70	0.60	1.17
												Statewide Crash Rate:	0.14	
Study Years:	3.00	**NODE TOTALS:**		34	0	0	3	5	26	23.5	19.317	0.59	0.61	0.96

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☑ Crash Summary I ☑ Section Detail ☑ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☑ 1320 Summary

REPORT DESCRIPTION

Congress St Avon St area in Portland

REPORT PARAMETERS

Year 2012, Start Month 1 through Year 2014 End Month: 12

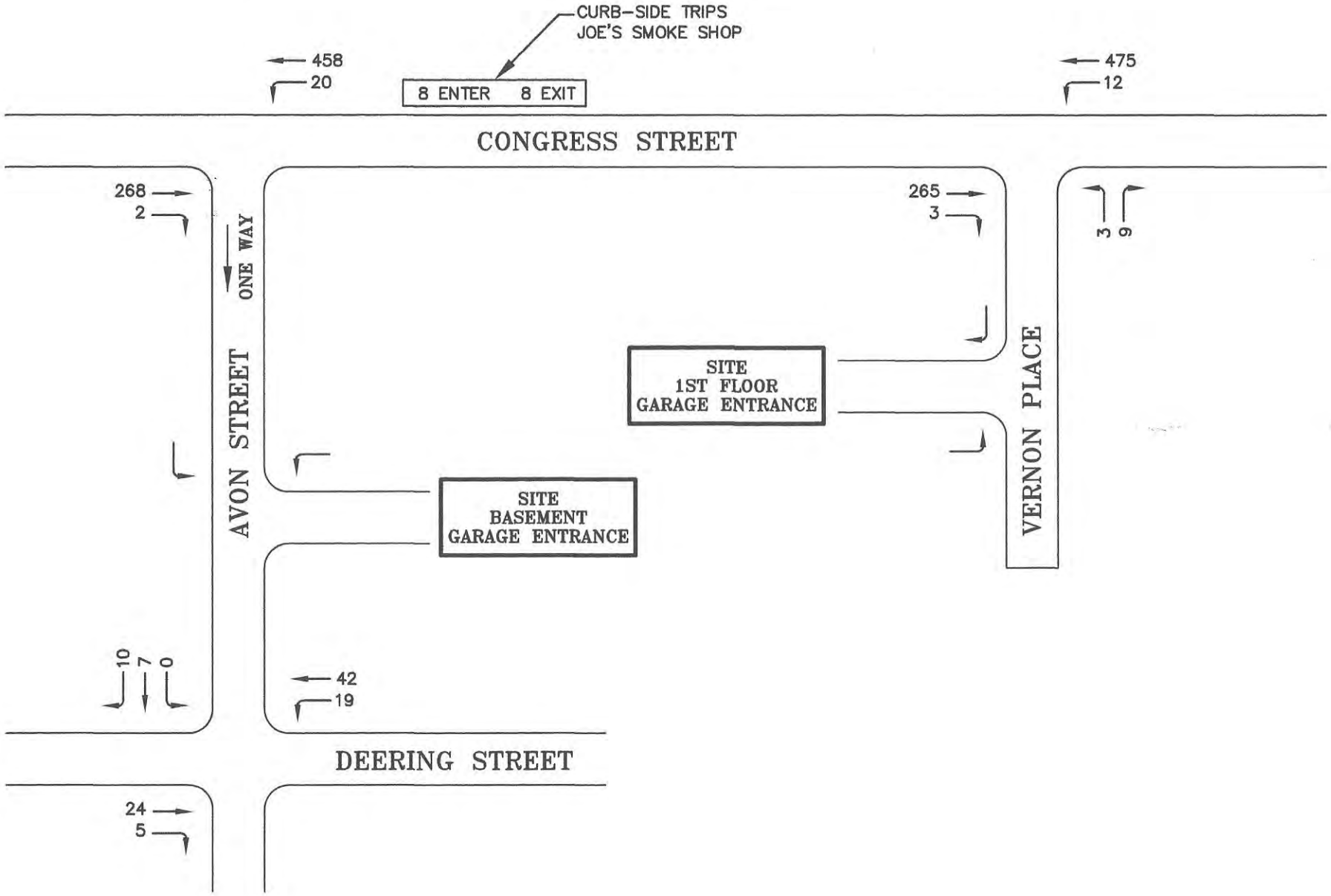
Route: **0560160**	Start Node: **19060** End Node: **16818**	Start Offset: **0** End Offset: **0**	☐ Exclude First Node ☐ Exclude Last Node
Route: **0560755**	Start Node: **19082** End Node: **19083**	Start Offset: **0** End Offset: **0**	☑ Exclude First Node ☐ Exclude Last Node
Route: **0560030**	Start Node: **19061** End Node: **19060**	Start Offset: **0** End Offset: **0**	☐ Exclude First Node ☑ Exclude Last Node

Maine Department Of Transportation - Traffic Engineering, Crash Records Section

Crash Summary I

Sections

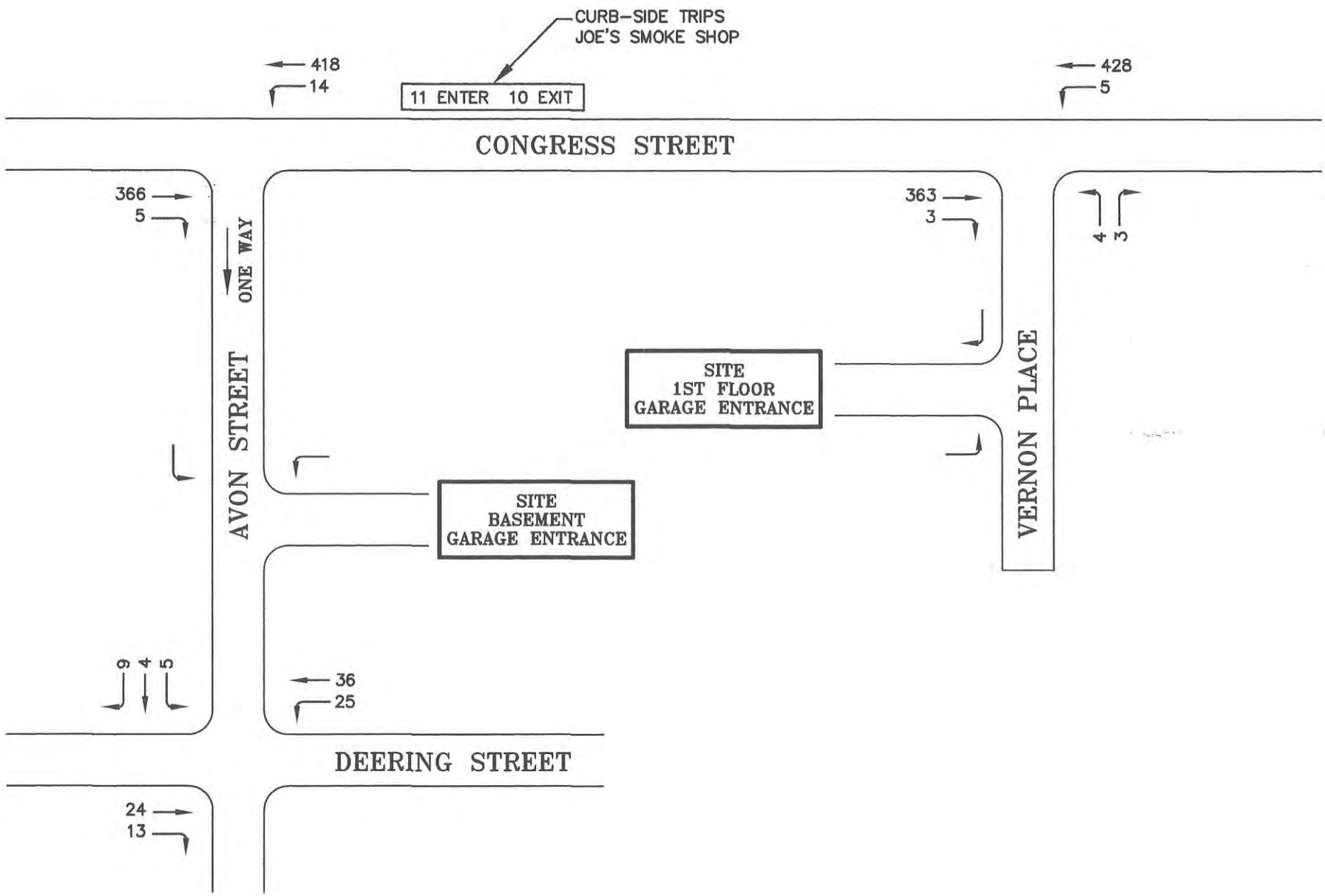
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section Length	U/R	Total Crashes	K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF
19060	19082	3122302	0 - 0.02	0560160 - 1.58	0.02	2	1	0	0	0	0	1	0.0	0.00087	385.20	695.12	0.00
Int of AVON ST, CONGRESS ST				RD INV 05 60160											Statewide Crash Rate: 190.29		
16818	19082	3121769	0 - 0.03	0560160 - 1.60	0.03	2	0	0	0	0	0	0	0.0	0.00140	0.00	619.93	0.00
Int of CONGRESS ST, STATE ST				RD INV 05 60160											Statewide Crash Rate: 190.29		
19082	19083	194796	0 - 0.05	0560755 - 0	0.05	2	0	0	0	0	0	0	0.0	0.00007	0.00	1370.57	0.00
Int of CONGRESS ST	VERNON PL			RD INV 05 60755											Statewide Crash Rate: 359.82		
19060	19061	194773	0 - 0.08	0560030 - 0.07	0.08	2	1	0	0	0	0	1	0.0	0.00013	2492.47	1553.10	1.60
Int of AVON ST, CONGRESS ST				RD INV 05 60030											Statewide Crash Rate: 359.82		
Study Years:	3.00			**Section Totals:**	0.18		2	0	0	0	0	2	0.0	0.00247	270.14	564.95	0.48
				Grand Totals:	0.18		36	0	0	3	5	28	22.2	0.00247	4862.56	760.90	6.39



2015 DESIGN HOUR TRAFFIC
AM PEAK HOUR
FIGURE 1

E:\LAND PROJECTS\34000\344389 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

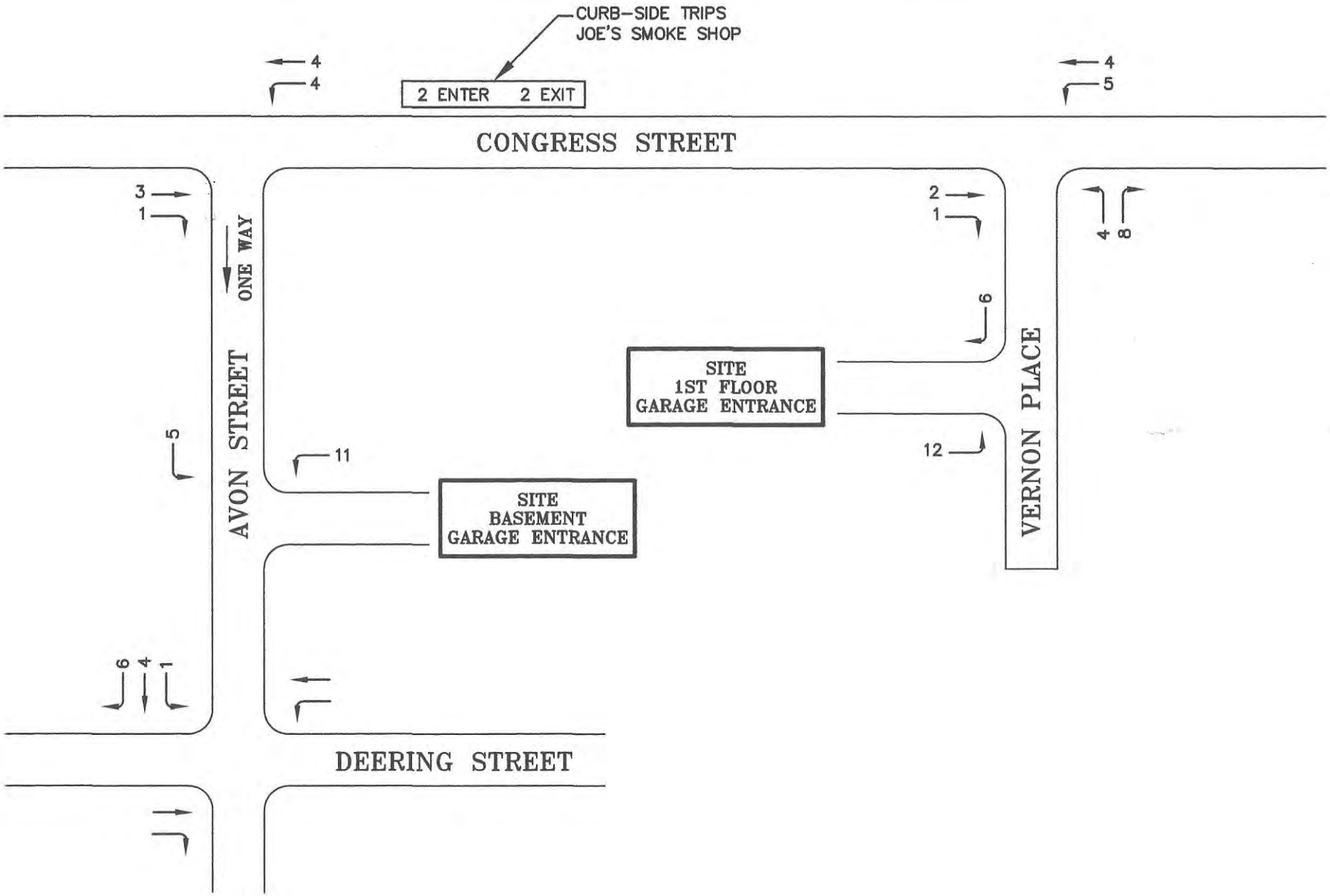
Project Name and Location		
667 CONGRESS STREET APARTMENT BLDG PORTLAND, MAINE		TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015	FIGURE: 1	



2015 DESIGN HOUR TRAFFIC
PM PEAK HOUR
FIGURE 2

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

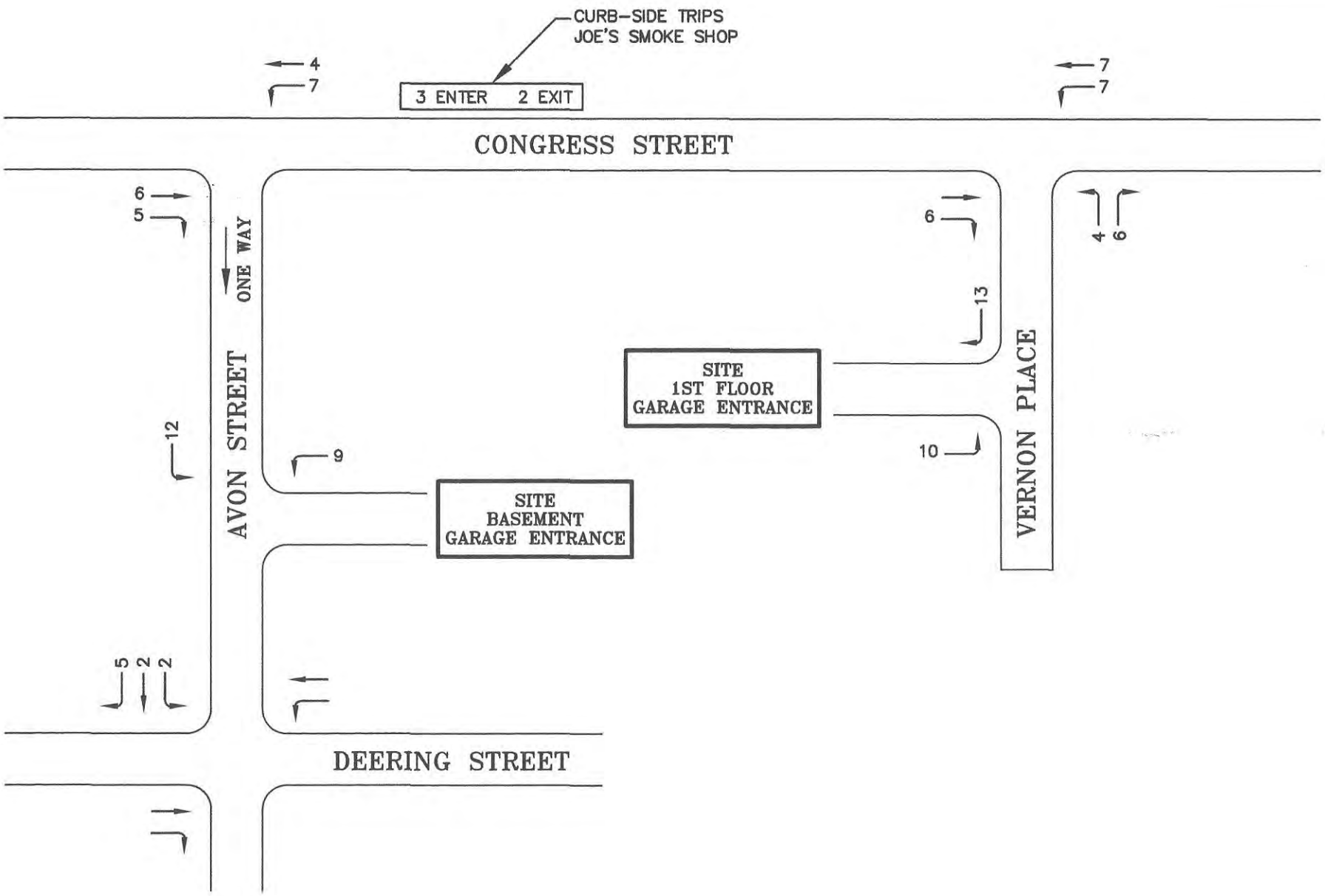
Project Name and Location: 667 CONGRESS STREET APARTMENT BLDG PORTLAND, MAINE	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015 — FIGURE: 2	



SITE TRAFFIC ASSIGNMENT
AM PEAK HOUR
FIGURE 3

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

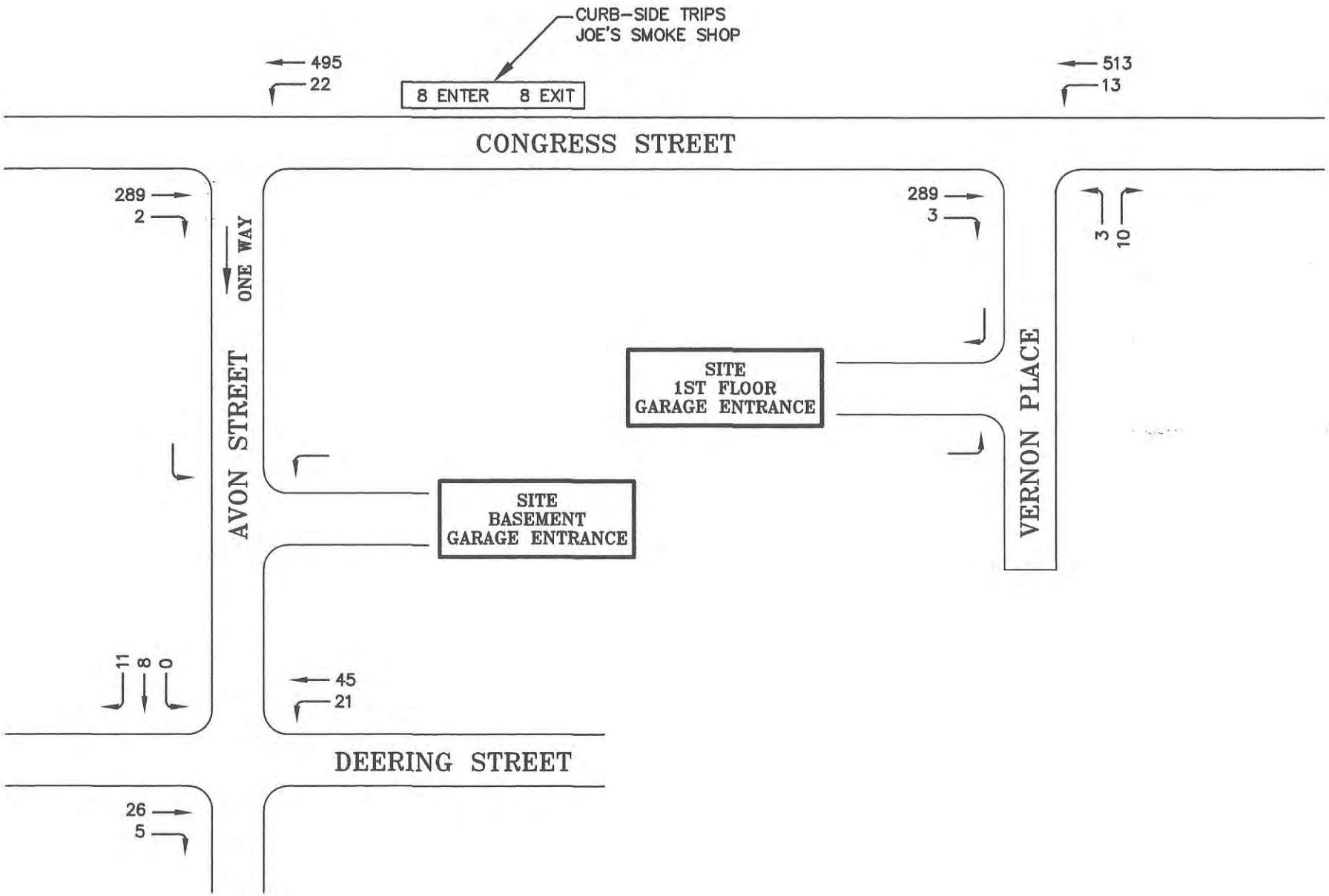
Project Name and Location: 667 CONGRESS STREET APARTMENT BLDG PORTLAND, MAINE	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015 FIGURE: 3	



SITE TRAFFIC ASSIGNMENT
PM PEAK HOUR
FIGURE 4

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

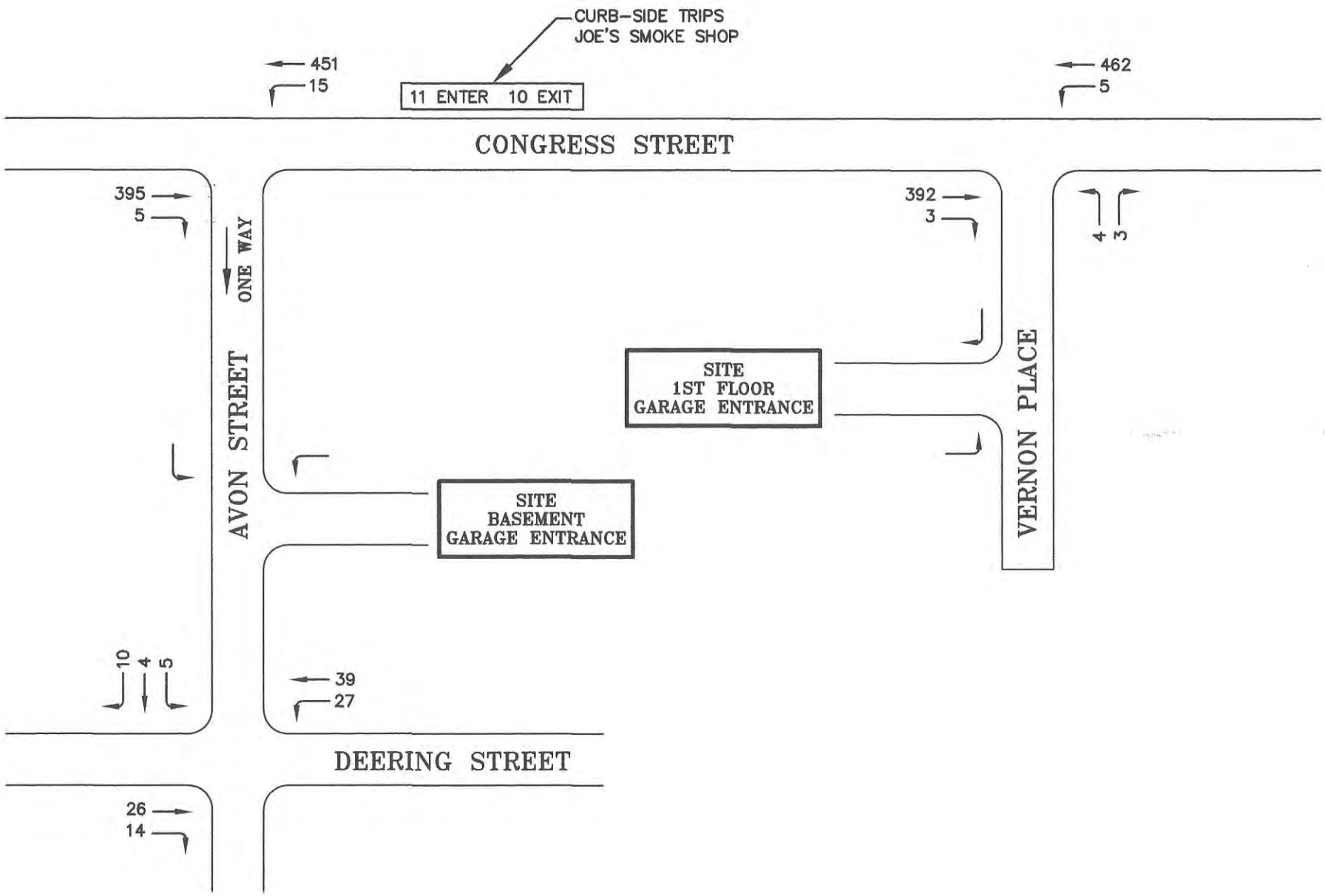
Project Name and Location 667 CONGRESS STREET APARTMENT BLDG PORTLAND, MAINE	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015 — FIGURE: 4	



2017 PRE-DEVELOPMENT TRAFFIC
AM PEAK HOUR
FIGURE 5

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

Project Name and Location		
667 CONGRESS STREET APARTMENT BLDG PORTLAND, MAINE		TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015	FIGURE: 5	



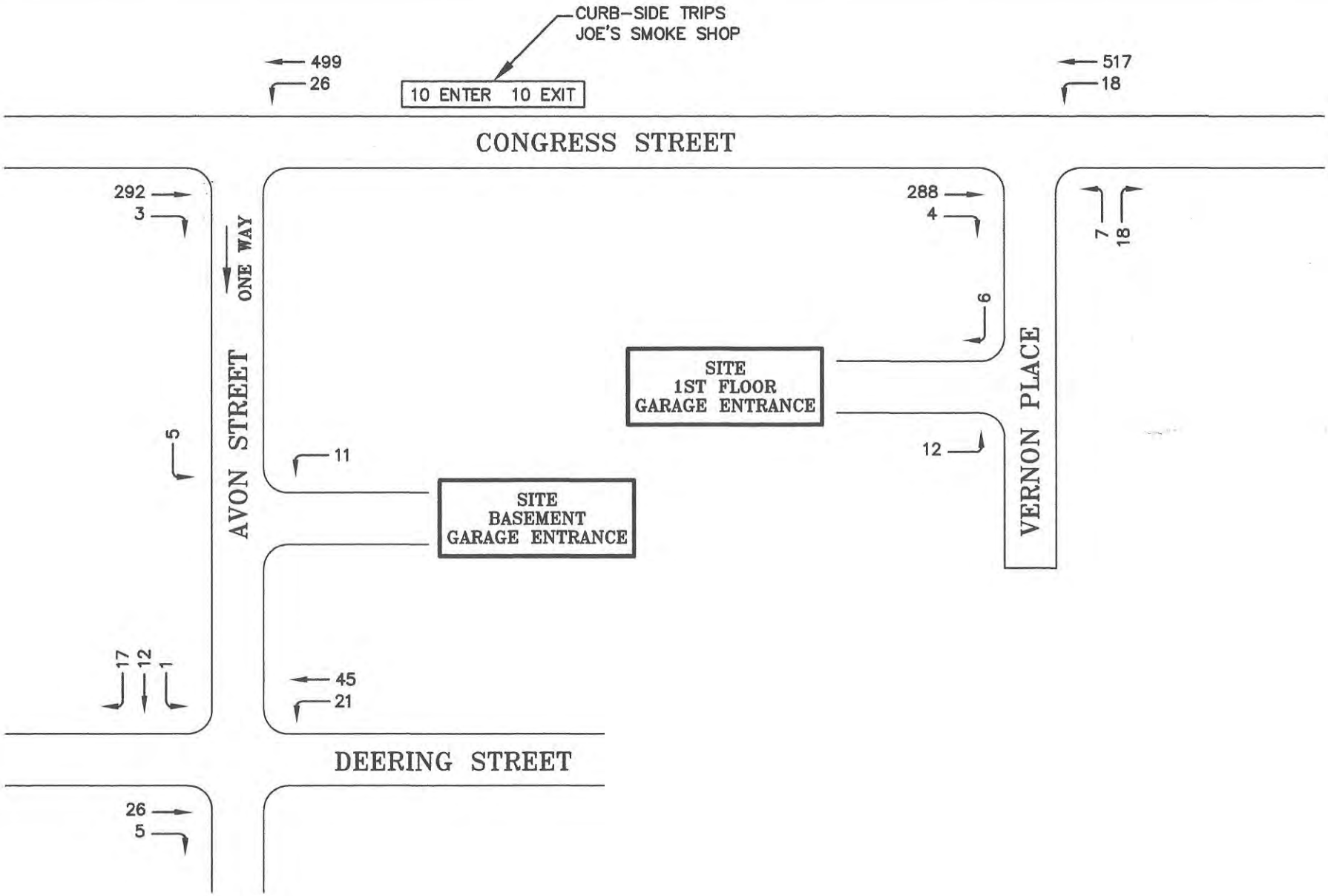
2017 PRE-DEVELOPMENT TRAFFIC
PM PEAK HOUR
FIGURE 6

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

Project Name and Location
667 CONGRESS STREET APARTMENT BLDG
PORTLAND, MAINE

DATE: AUGUST 12, 2015 | FIGURE: 6

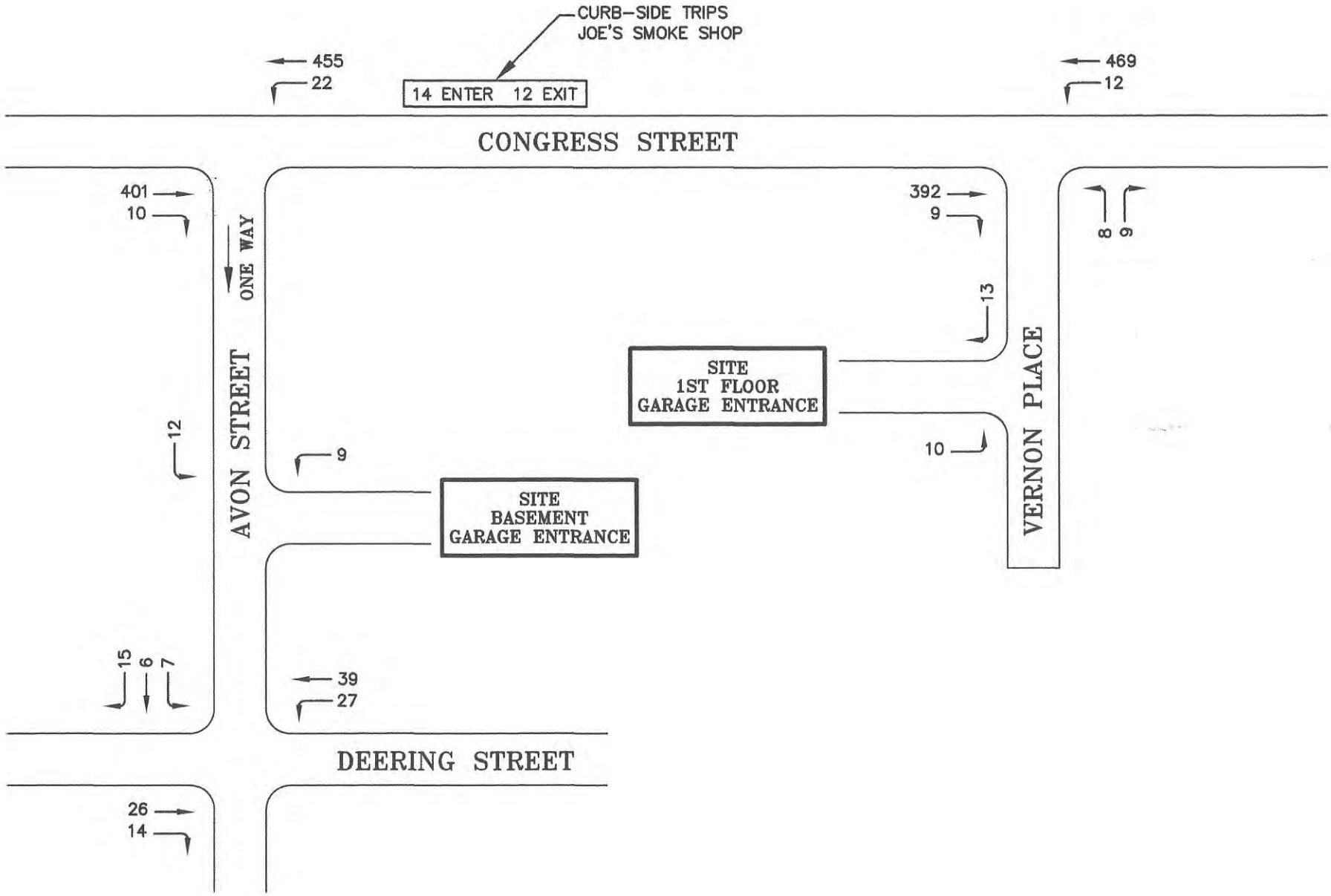
TRAFFIC SOLUTIONS
235 BANCROFT STREET, PORTLAND, MAINE 04102-1730



2017 POST-DEVELOPMENT TRAFFIC
AM PEAK HOUR
FIGURE 7

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

Project Name and Location: 667 CONGRESS STREET APARTMENT BLDG, PORTLAND, MAINE	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015 — FIGURE: 7	



2017 POST-DEVELOPMENT TRAFFIC
PM PEAK HOUR
FIGURE 8

E:\LAND PROJECTS\34000\344399 TRAFFIC SOLUTIONS\667 CONGRESS ST\PLANSET\667CONGRESS ST.DWG

Project Name and Location: 667 CONGRESS STREET APARTMENT BLDG, PORTLAND, MAINE	TRAFFIC SOLUTIONS 235 BANCROFT STREET, PORTLAND, MAINE 04102-1730
DATE: AUGUST 12, 2015 — FIGURE: 8	

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:25	7:25	7:25	7:25	7:25	7:25
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	905	930	907	884	898	904
Vehs Exited	902	929	911	883	895	904
Starting Vehs	3	2	5	6	5	3
Ending Vehs	6	3	1	7	8	4
Travel Distance (mi)	135	140	136	132	135	136
Travel Time (hr)	4.9	5.1	5.0	4.8	5.0	5.0
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	36	39	48	32	47	39
Fuel Used (gal)	4.3	4.5	4.3	4.2	4.4	4.4

Interval #0 Information Seeding

Start Time	7:25
End Time	7:30
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	905	930	907	884	898	904
Vehs Exited	902	929	911	883	895	904
Starting Vehs	3	2	5	6	5	3
Ending Vehs	6	3	1	7	8	4
Travel Distance (mi)	135	140	136	132	135	136
Travel Time (hr)	4.9	5.1	5.0	4.8	5.0	5.0
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	36	39	48	32	47	39
Fuel Used (gal)	4.3	4.5	4.3	4.2	4.4	4.4

3: Congress & Avon Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.1
Total Del/Veh (s)	0.3	0.2	0.3

4: Avon & Deering Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	0.7	0.1	3.2	1.0

7: Congress & Vernon Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.1	0.3
Total Del/Veh (s)	0.5	0.1	5.3	0.4

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	0.9

Intersection: 3: Congress & Avon

Movement	EB
Directions Served	LT
Maximum Queue (ft)	70
Average Queue (ft)	7
95th Queue (ft)	36
Link Distance (ft)	80
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Avon & Deering

Movement	EB	NB
Directions Served	LT	LTR
Maximum Queue (ft)	13	32
Average Queue (ft)	1	14
95th Queue (ft)	5	39
Link Distance (ft)	294	424
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Congress & Vernon

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	57	36
Average Queue (ft)	3	9
95th Queue (ft)	24	32
Link Distance (ft)	387	126
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:25	7:25	7:25	7:25	7:25	7:25
End Time	8:30	8:30	8:30	8:30	8:30	8:30
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	973	955	918	928	885	931
Vehs Exited	970	953	921	925	887	929
Starting Vehs	3	4	8	3	7	3
Ending Vehs	6	6	5	6	5	4
Travel Distance (mi)	146	143	138	138	131	139
Travel Time (hr)	5.5	5.4	5.1	5.2	5.0	5.2
Total Delay (hr)	0.4	0.4	0.4	0.4	0.4	0.4
Total Stops	80	69	63	68	73	70
Fuel Used (gal)	5.0	4.7	4.6	4.6	4.4	4.6

Interval #0 Information Seeding

Start Time	7:25
End Time	7:30
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	973	955	918	928	885	931
Vehs Exited	970	953	921	925	887	929
Starting Vehs	3	4	8	3	7	3
Ending Vehs	6	6	5	6	5	4
Travel Distance (mi)	146	143	138	138	131	139
Travel Time (hr)	5.5	5.4	5.1	5.2	5.0	5.2
Total Delay (hr)	0.4	0.4	0.4	0.4	0.4	0.4
Total Stops	80	69	63	68	73	70
Fuel Used (gal)	5.0	4.7	4.6	4.6	4.4	4.6

3: Congress & Avon Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.1
Total Del/Veh (s)	0.4	0.2	0.3

4: Avon & Deering Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	0.7	0.0	3.8	1.3

7: Congress & Vernon Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.1	0.3
Total Del/Veh (s)	0.6	0.1	5.1	0.6

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	1.2

Intersection: 3: Congress & Avon

Movement	EB
Directions Served	LT
Maximum Queue (ft)	52
Average Queue (ft)	7
95th Queue (ft)	33
Link Distance (ft)	80
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Avon & Deering

Movement	EB	NB
Directions Served	LT	LTR
Maximum Queue (ft)	10	31
Average Queue (ft)	1	19
95th Queue (ft)	6	43
Link Distance (ft)	294	424
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Congress & Vernon

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	54	53
Average Queue (ft)	5	19
95th Queue (ft)	27	46
Link Distance (ft)	387	126
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:25	4:25	4:25	4:25	4:25	4:25
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	905	930	907	884	898	904
Vehs Exited	902	929	911	883	895	904
Starting Vehs	3	2	5	6	5	3
Ending Vehs	6	3	1	7	8	4
Travel Distance (mi)	135	140	136	132	135	136
Travel Time (hr)	4.9	5.1	5.0	4.8	5.0	5.0
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	36	39	48	32	47	39
Fuel Used (gal)	4.3	4.5	4.3	4.2	4.4	4.4

Interval #0 Information Seeding

Start Time	4:25
End Time	4:30
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	905	930	907	884	898	904
Vehs Exited	902	929	911	883	895	904
Starting Vehs	3	2	5	6	5	3
Ending Vehs	6	3	1	7	8	4
Travel Distance (mi)	135	140	136	132	135	136
Travel Time (hr)	4.9	5.1	5.0	4.8	5.0	5.0
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	36	39	48	32	47	39
Fuel Used (gal)	4.3	4.5	4.3	4.2	4.4	4.4

3: Congress & Avon Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.1
Total Del/Veh (s)	0.3	0.2	0.3

4: Avon & Deering Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	0.7	0.1	3.2	1.0

7: Congress & Vernon Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.1	0.3
Total Del/Veh (s)	0.5	0.1	5.3	0.4

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	0.9

Intersection: 3: Congress & Avon

Movement	EB
Directions Served	LT
Maximum Queue (ft)	70
Average Queue (ft)	7
95th Queue (ft)	36
Link Distance (ft)	80
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Avon & Deering

Movement	EB	NB
Directions Served	LT	LTR
Maximum Queue (ft)	13	32
Average Queue (ft)	1	14
95th Queue (ft)	5	39
Link Distance (ft)	294	424
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Congress & Vernon

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	57	36
Average Queue (ft)	3	9
95th Queue (ft)	24	32
Link Distance (ft)	387	126
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:25	4:25	4:25	4:25	4:25	4:25
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1013	1058	1049	1001	1005	1025
Vehs Exited	1011	1062	1044	1005	1000	1024
Starting Vehs	3	6	2	7	5	4
Ending Vehs	5	2	7	3	10	5
Travel Distance (mi)	151	158	158	151	150	154
Travel Time (hr)	5.7	6.0	6.0	5.7	5.6	5.8
Total Delay (hr)	0.4	0.5	0.5	0.4	0.4	0.4
Total Stops	64	67	83	62	52	64
Fuel Used (gal)	5.0	5.3	5.3	5.0	4.9	5.1

Interval #0 Information Seeding

Start Time	4:25
End Time	4:30
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1013	1058	1049	1001	1005	1025
Vehs Exited	1011	1062	1044	1005	1000	1024
Starting Vehs	3	6	2	7	5	4
Ending Vehs	5	2	7	3	10	5
Travel Distance (mi)	151	158	158	151	150	154
Travel Time (hr)	5.7	6.0	6.0	5.7	5.6	5.8
Total Delay (hr)	0.4	0.5	0.5	0.4	0.4	0.4
Total Stops	64	67	83	62	52	64
Fuel Used (gal)	5.0	5.3	5.3	5.0	4.9	5.1

3: Congress & Avon Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.4	0.2
Total Del/Veh (s)	0.4	0.3	0.4

4: Avon & Deering Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.1
Total Del/Veh (s)	0.8	0.1	3.4	1.3

7: Congress & Vernon Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.1	0.2
Total Del/Veh (s)	0.6	0.1	6.5	0.5

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	1.2

Intersection: 3: Congress & Avon

Movement	EB	WB
Directions Served	LT	TR
Maximum Queue (ft)	72	8
Average Queue (ft)	10	0
95th Queue (ft)	43	6
Link Distance (ft)	80	235
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Avon & Deering

Movement	EB	NB
Directions Served	LT	LTR
Maximum Queue (ft)	13	36
Average Queue (ft)	1	20
95th Queue (ft)	6	45
Link Distance (ft)	294	424
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Congress & Vernon

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	60	36
Average Queue (ft)	6	13
95th Queue (ft)	35	38
Link Distance (ft)	387	126
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1

on the safety of this intersection due to its low trip generation and the majority of the traffic will park off site.

Parking Assessment

The City ordinance suggests one parking space per housing unit which would result in the Applicant needing to provide a total of 18 spaces. Providing more parking than needed results in loss of open space and increases stormwater impacts, and underutilization of valuable urban land. At the same time, providing too little parking would have adverse impacts on residents and the surrounding neighborhood. The applicant's goal through the parking demand analysis process is to find the appropriate ratio of parking spaces. Our office has data suggesting actual parking demand will be well below one space per unit for affordable housing. To estimate the parking demand for the proposed project, Gorrill-Palmer Consulting Engineers, Inc. reviewed our files for relevant parking studies we have completed and determined that two were relevant to this project and are summarized below:

- Island View Apartments in Portland- This inventory was performed on July 12, 2004 from 6:00 to 9:00 PM. Island View Apartments is a 70-unit apartment building on the corner of Walnut and North Streets in Portland. It contains a total of 84 parking spaces, 29 of which are designated visitor parking only, and 2 of which are handicap. In the peak half-hour period, a maximum of 49 parking spaces were occupied. This translates to a demand of 0.70 parking spaces per dwelling unit.

- As part of studies for similar projects in the past, our office examined the parking occupancy of apartment buildings in downtown Portland with dedicated parking lots, either behind or within the building as part of another application. Our office completed parking occupancy counts from 10-11 PM (within the peak period, based on ITE and ULI data) at 53 Danforth Street, 645 Congress Street, and Walker Terrace (at the corner of Congress and Walker Street) on Tuesday, October 26, 2010. See summary below.

- In addition, we referenced the parking supply for Franklin Towers and Oak Street Lofts. Franklin Towers has 200 units, and based upon aerial data, a parking supply of 56 spaces. Oak Street Lofts has 37 units, and 16 parking spaces, although it should be noted that half of these spaces (eight) are for motorcycles. For the purposes of this letter, it is assumed that peak demand at both of these facilities is at 100 percent occupancy.

Based on the occupancy counts, the following parking demand was determined:

53 Danforth:	43 units, 29 spaces occupied	=	0.67 spaces/unit
645 Congress:	56 units, 28 spaces occupied	=	0.50 spaces/unit
Walker Terrace:	40 units, 20 spaces occupied	=	0.50 spaces/unit
Oak Street Lofts:	37 units, 16 spaces occupied*	=	0.43 spaces/unit
Franklin Towers:	200 units, 58 spaces occupied**	=	0.29 spaces/unit
	AVERAGE:		0.48spaces/unit

*Assumes 100% occupancy at Oak Street.

** Assumes 58 spaces based upon aerial imagery, and 100% occupancy at Franklin Towers.

This information indicates an average need for 0.48 spaces per apartment within the Portland Peninsula.

Based on the level of demand at the above referenced studies, it is the opinion of Gorrill Palmer that appropriate parking demand for the proposed 134 Washington Avenue Efficiencies is 0.70 spaces per unit, translating to a demand for 13 spaces. Of these 13 spaces, 2 would be provided on site and 11 off site through the City's in lieu fee process.

Our office completed an on street parking assessment within a 360 foot radius of the project on Monday March 24, 2014 at 11:30 PM. This radius is within a 2 minute walk to the site. This information showed there are 73 spaces available and 24 were occupied at that time, presumably by residents.

Closing

Please contact this office with any questions.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

Thomas L Gorrill, PE, PTOE
Principal

tlgU:\2884\Metcalf 04-1-14.doc

Traffic Solutions
William J. Bray, P.E.
235 Bancroft Street
Portland, ME 04102
(207) 774-3603
(207) 400-6890 mobile
trafficsolutions@maine.rr.com

MEMORAMDUM

TO: Will Savage, Acorn Engineering, Inc.

FROM: Bill Bray, P.E., Traffic Consultant

DATE: July 30, 2015

SUBJECT: 667 Congress Street – Traffic and Parking Assessment Requirements

---

Based upon my understanding, the proposed 667 Congress Street project is a 139-unit infill development located near Longfellow Square in Portland. The current site proposal calls for an eight-story building with first floor commercial retail space (Joe's Smoke Shop) and the remaining floors reserved for the proposed residential apartment units. There are two-levels of underground parking contemplated with approximately 81 spaces dedicated to building tenants. The first floor of the proposed parking will outlet onto Vernon Place and the second floor will outlet onto Avon Street. The proposed project will rebuild the existing sidewalk along the Congress Street frontage of the project and will construct a wider sidewalk along the full length of Avon Street.

An informal meeting was held with Thomas Errico, P.E., the City's Traffic Peer Review Consultant, to determine the scope of effort required to permit the proposed project. Mr. Errico advised the need for a detailed traffic impact study that measures the post-development traffic impact of the proposed project on the following roadway intersections:

1. Congress Street @ Avon Street
2. Avon Street @ Deering Street
3. Congress Street @ Vernon Place

Manual traffic counts have been collected at the noted intersections during both the morning and afternoon "peak" commuter hours and the data summarized to reflect existing "peak" travel conditions. Trip generation estimates and the assignment of those trips to the roadway network will be prepared for the proposed project based upon national data; current roadway safety trends will be reviewed and evaluated for the study area intersections; intersection operations and level of service measurements will be determined for each study intersection for both a pre and post-development travel condition. This effort will be summarized in the preparation of a detailed traffic impact study for the proposed project. A separate parking demand assessment will be conducted at multiple existing residential properties in the City of Portland to determine an appropriate parking space requirement per residential unit for the proposed project. Finally, in accordance with the City Ordinance, a detailed Transportation Demand Management plan will be prepared for the proposed project that details what efforts will be employed by the apartment complex in reducing vehicle miles traveled and parking demand of the proposed project.

667 Congress Street
Neighborhood Meeting Certification

I, Jonathan Culley, of Redfern Properties LLC hereby certify that a neighborhood meeting was held on August 26, 2015 at our office at Reiche School Community Room, 166 Brackett Street, Portland at 6:00pm.

I also certify that on August 11, 2015, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division which includes property owners within 500 feet of the proposed development or within 1000 feet of a proposed industrial subdivision or industrial zone change.

2. Residents on the "interested parties" list.

3. A digital copy of the notice was also provided to the Planning Division at jmy@portlandmaine.gov and Shukria Wiar shukriaw@portlandmaine.gov the assigned planner, to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed,

_____ 8/27/2015

Attached to this certification are:

1. Copy of the invitation sent
2. Sign-in sheet
3. Meeting minutes

redfern properties

P.O. Box 8816
Portland, ME 04104
Office: 207-221-5746
Fax: 207-221-2822
www.redfernproperties.com

August 11, 2015

Dear Neighbor:

Please join us for a neighborhood meeting to discuss our plans for a new development at 667 Congress St. in Portland, the site of Joe's Super Variety. The project consists of ground floor commercial space, which will be the new home of Joe's Super Variety and 139 residential rental apartments on Floors 2-8. This meeting pertains to our Level III Site Plan Application.

Meeting Location:	Reiche School Community Room, 166 Brackett St., Portland
Meeting Date:	Wednesday, August 26th
Meeting Time:	6:00pm

The City Code requires that property owners within 500 feet of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.

If you have any questions, please contact me at 207-776-9715 or jonathan@redfernproperties.com. I hope to see you at the meeting.

Sincerely,

Jonathan Culley
Redfern Properties LLC

SIGN-IN SHEET

667 Congress Street Apartment Project

Neighborhood Meeting related to Level III Site Plan Application

August 26, 2015, 6pm **Reiche School Community Room**

Name	Address	Email (Optional)
Pat O'Donnell	442 Cumberland	Patodonnell6@gmail.com
PHYLLIS ROGERS	160 PINE ST.	
Michelle Souliere	The Green Hand Bookshop 1661 Congress St.	michelle.souliere@gmail.com
Loren Coleman	Int'l Cryptozoology Museum 11 Avon Street	Lcoleman@maine.rr.com
Ed Resnisky	115 CLARK ST, PHd, ME	Edward Resnisky@yahoo.com
Kenn Guimond	660 Congress ST	Guimondgroup@aol.com
Michael Kiley		MKiley@WABOSTON.COM
Judith West	18 Pine Street	westj1@maine.org
Steven Schmitt	15 Salem St	SCS Media@aol.com
FRANK ROBBINS	11 DEERING ST	FRobbins@Casco Bay Eye.com

667 Congress Street

Neighborhood Meeting – Level III Site Plan Application

Meeting held August 26, 2015, 6pm at Reiche School Community Room (166 Brackett St.), Portland

Meeting Minutes:

Please note that minutes are not verbatim, but we have made our best efforts to reflect meaning and intent.

The meeting began at 6:03pm. Jonathan Culley, principal of Redfern Properties introduced himself and the design team consisting of Ryan Senatore of Ryan Senatore Architecture, Civil Engineer Will Savage of Acorn Engineering.

Culley explained the City of Portland's approval process, that this evening's meeting is related to the Level III Site Plan Application, which focuses on the more technical aspects of the project such as traffic, parking, stormwater, architectural design, landscaping, etc. He noted separate Historic Preservation Board approval process and the upcoming meeting with the Historic Board on September 2nd. Culley noted that a Planning Board workshop has been scheduled for September 29th, 2015.

Culley described the project in general and then turned the floor over to Ryan Senatore. Ryan showed a series of building plans, elevations, and renderings and discussed architectural themes and elements.

Will Savage of Acorn Engineering discussed site improvements including grading, storm water plans, utilities plans, and parking lot configuration.

Culley then turned the discussion to parking, acknowledging that there were some parking concerns amongst neighbors. Culley talked about the most progressive urban planning models and how smart-growth planning focuses on less parking in urban neighbors, emphasizing walkability and transit. He discussed what the City of Minneapolis is doing to reduce parking and thus reduce the cost of housing. He referenced a University of Connecticut study that concluded that the most vibrant urban areas are characterized by less parking and not more.

Culley then described three approaches that the project would take to minimize parking demand amongst tenants:

1. Public <u>and</u> private car share - tenants in building have 1 shared electric car. The private car share would be the first of its kind in Portland.
2. Unbundling rent from parking fees -separate costs for parking; encourages individual cost-benefit analysis
3. Subsidize monthly metro cards for tenants who opt out of parking

The floor was then opened for questions.

Q: Is there a plan for restaurant parking? Have there been any conversations with the local owners who currently lease the lot yet?

A: Traffic analysis team is looking into existing long term leases for the current owners; there are also continued conversations with these owners and research on leasing opportunities

Q: (Continued emphasis that redevelopment will put strain on on-street parking demand especially for restaurant patrons)

Q: Landlord -owns multiple properties in the surrounding area and primary concern is parking and explained that it is hard to rent apartments without offering parking.

Q: Are there any plans to go deeper or higher with parking garage? (adding another floor of parking)

A: No this is cost prohibitive and not feasible given the size of the lot.

Will Savage referenced a Gorrill Palmer study which determined that one-bedroom apartments on average consumed 0.48 parking spaces.

Q: Comment by Property Manager with the opposite experience. Never had a problem renting units without parking spaces and often had tenants without cars.

Q: Will there be an active entrance off of Avon?
A: Yes, there is both the basement parking level entrance and a side tenant entrance with a façade, attempting to engage Avon Street.

Q: Is there a possibility of installing a heated sidewalk along Avon?
A: It is not currently in the plans but there could be continued research (all heat in the building is provided by air sourceheat pumps)

Q: Will the transportation committee have to approve project?
A: The Department of Public Services (DPS) reviews our plans as part of the Site Plan Review. The City also hires a traffic engineer to review our plans. So transportation issues are part of the Site Plan Review process by the Planning Board.

Q: What will be used as a vendor drop-off location for Joe's?
A: It is planned that there will be continued use of Congress Street for vendors; the street is wider than either Vernon and Avon and will better accommodate the drop-offs. However, there are dropdowns along Vernon for vendors if need be.

Q: Will the tenants be paying for heat?
A: Yes (electricity). Heat is provided by electric mini-split heat pumps.

Q: What is the definition of market rent and what will be the cost of these units?
ANS: Market rent is defined by the supply and demand of the area, but we foresee studios at around $1100/month and 1bedrooms at $1400/month.

Q: Will you be addressing sidewalks on Avon St.? Will there be continued access to businesses on Avon Street during construction?
A: We are considering options for Avon St. Currently Avon St. is less than 15' wide and this is not optimal. We will be considering the idea of a Woonerf or Complete Street with integrated sidewalks. We will certainly work with business owners and the City to maintain access to businesses.

Q: What is the security planned for the building?
A: Has not been finalized yet but tentatively there will be key fobs at each of the pedestrian entrances as well as key entrances for the garages. There will also be new lighting along both Avon and Vernon, as well as security cameras both inside and outside the building.

Q: **1. What is the predicted construction schedule?**
2. What is the noise impact ordinance requirements for the area?
A: We are aiming to have PC construction break ground by December 2015 and complete the project within a 15 month construction program (completion in spring 2017). We will also be complying with city ordinances including quiet hours between 5pm -7am for B-3 zones (Will)

Q: Is Joe's planning on changing their store at all?
A: Yes, we believe that Joe's will be altering their product offerings slightly to appeal to the changing neighborhood.

The meeting was adjourned at 6:46pm.

FIRE RISK MANAGEMENT, INC
1 Front St., Bath, ME 04530
207/442-7200 [221-1295 (fax)]
www.fireriskmgt.com

Att. 14

Date: 11 September, 2015

Memo Report

From: W. Mark Cummings, P.E.

To: Mr. Will Savage; Acorn Engineering
Mr. Ryan Senator; Ryan Senator Architecture

Subject: Response to City of Portland Plan Review Comments; ICW 667 Congress St.

As requested, Fire Risk Management, Inc. (FRM) has reviewed the set of comments received from the City of Portland regarding the plans for the building to be constructed at 667 Congress St. The focus for this specific response are two of the comments provided by Chief Keith Gautreau of the Fire Prevention Bureau; specifically dealing with the fire water flow requirements and some concern over the width of Avon St.; which runs adjacent to the east side of the building

Background

The proposed design for the new construction at 667 Congress St. consists of a high rise (8-story) building that will primarily consist of apartments (Residential, R2 occupancy); albeit some office and retail spaces are to be located on the lower floor levels, along with an open parking garage. The building will be constructed to meet the requirements for classification as Type IB (per IBC) construction; or Type II (222), per NFPA.

In his comments, Chief Gautreau requests verification that the City's water supply system, along with the installed hydrant locations will be sufficient to support the fire water flow requirements of this new building. Additionally, he points out the fact that Avon St., which runs parallel to the east side of the building is only about 14 ft. in width; smaller than minimum width allowed by NFPA 1, the *Fire Code*®, for a fire access lane or that which is allowed by the City's Technical Manual [20 ft. minimum for NFPA and 16 ft. minimum per the City's Technical Manual].

Discussion

Chapter 18 of NFPA 1 is used to determine the required fire flow that will be needed to support manual firefighting efforts within a building; based on the building's size and construction type. The base requirement for this building's size (area of all floors) and construction type, a fire flow of 2500 gpm for a minimum duration of 2 hours would be required. Due to its construction type, only the area of the three (3) largest contiguous floors are used to determine the total fire flow requirement. However, since the building is to be protected throughout, this requirement can be further reduced to only 1000 gpm for 2 hours. If quick response (QR) sprinklers are to be specified, the minimum flow requirement can then be further reduced to 650 gpm. Although an existing fire hydrant is located immediately adjacent to the building, at the corner of Avon and Congress Streets, due to its close proximity, within the minimum of 40 ft. that is typically allowed by NFPA 1, it was not specifically considered for use in supporting manual firefighting operations involving this building. However, a number of other hydrants are located nearby, which appear to be within 250 ft. of the proposed building location. These include hydrants at the corners of Congress and Park Streets, Congress and State Streets, and Deering and Avon Streets. This, coupled with the hydraulic data regarding the City's water supply system for this area, it is felt that the existing water supply system, including hydrant locations, should be more than adequate to provide sufficient water to meet the required fire flow demands of this building.

Chief Gautreau is correct in his concern regarding the width of Avon St. and its potential use as a fire access lane. However, based on a review of the site plan, coupled with the requirements contained in NFPA 1 for Fire Department access, Avon St. would not be required for use as a fire access lane for this building to be in compliance with all NFPA 1 requirements. The primary access requirements outlined within NFPA 1 that impact the locations and proximity of fire access lanes to a building include the maximum distance to an exterior door and the maximum distance from any portion of the building's exterior wall. A fire access lane must be within 50 ft. of an exterior door and, due to the fact that the building is fully protected by an automatic fire sprinkler system, can be no more than 450 ft. from any portion of the building's exterior walls. Both these metrics can be accommodated by access along Congress St. alone. Equally, the corner of Deering and Avon Streets is within 450 ft. of much of the building as well; at least its north, east, and south sides. As such, it is not necessary to designate Avon St. as a fire access lane for this building to be in compliance with the NFPA 1 requirements for Fire Department access.

Summary and Recommendations

Based on my review, the City's water supply system, including existing hydrant locations, should be more than adequate to support the fire flow requirements for the new building. Equally, the Fire Department access requirements of NFPA 1 can readily be accommodated for this building through the use of only Congress St. as the fire access lane; albeit use of Deering St. to support access to some portions of the building would also be within these requirements. However, depending on the other requirements for the building, if it is possible to increase the width of Avon St. to at least 16 ft., it is certainly something that should be strongly considered. Anytime Fire Department access to a structure can be improved, this does nothing more than improve the overall fire safety of the building and that of the life safety for the building's occupants. Increasing the width of this street would not be "required" to comply with code requirements, but is encouraged for consideration.

If you have any questions regarding what has been outlined above, please don't hesitate to contact me.

W. Mark Cummings, P.E.
Principal Fire Protection Engineer

Att. 15

Traffic Solutions
William J. Bray, P.E.
235 Bancroft Street
Portland, ME 04102
(207) 774-3603
(207) 400-6890 mobile
trafficsolutions@maine.rr.com

September 14, 2015

Parking Assessment
Proposed
667 Congress Street Apartments
Portland, Maine

INTRODUCTION

Redfern Properties, LLC is proposing construction of an eight-story apartment building at 667 Congress Street on a parcel of property bordered by Congress Street, Avon Street, and Vernon Place. The subject property is located on the peninsular within the Downtown Business Zone (B-3). Joe's Smoke Shop, a 3,673 square foot neighborhood variety store, presently occupies the Congress Street/Avon Street corner of the proposed site and the remainder of the site is a paved parking lot with a total of 63 spaces.

The proposed project will provide a total of 139 apartment units that will include 34 efficiency units, 97 one-bedroom units, and 8 two-bedroom units. The proposed building design provides a total of 81 parking spaces with 37 of the spaces located in the basement level of the building and the remaining 44 spaces on the first floor of the building. Three of the 81 total spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces reserved for tenants of the building. In addition, secured covered space is reserved for bicycle parking (total space for 56 bicycles), a U-Share vehicle parking space, and two to four motorcycle parking spaces.

The City's Zoning Ordinance presently requires one parking space for each proposed residential unit on the peninsula (Sec. 14-332.1 (k). This requirement conflicts with if a development resides within the B-3 Zone then there is no off-street parking requirement for changes of use (14-332.1(e). A number of recent parking assessments and evaluations completed for similar Portland Peninsular development projects have concluded that parking demand rates significantly less are far more appropriate. As defined in Section 14-332 of the City's ordinance, "*the planning board may establish a parking requirement that is less than the normally required number of spaces upon a finding of unique conditions that result in a lesser parking demand*".

This document provides a summary review of recent parking utilization information assimilated for other recent peninsular development projects and augments that information with current peak parking data gathered at two apartment complexes on the Portland Peninsular. The data sources are summarized and a per unit parking demand rate is recommended for the proposed 139-unit apartment project.

PARKING DEMAND

A January 16, 2015 memorandum from Planning Staff to Members of the Planning Board proposing text amendments to the R-6 Residential Zone cites information presented in a housing study conducted by the Greater Portland Council of Governments that the percentage of households on the peninsular with 0 to 1 vehicle is 77% greater than the national average of 44%. The documents further states that, "*current trends can be found in several recent assessments for specific development proposals which have assessed the average need of the peninsular to be 0.48 spaces per apartment unit. Though parking space demand will vary across households, this assessment has been affirmed, and peer reviewed, in several recent studies that have accompanied development proposals to the Planning board*".

One study referenced in the noted memorandum is a March 26, 2014 study conducted by Gorrill-Palmer Consulting Engineers for the proposed 134 Washington Avenue Efficiencies project, where the study concluded based upon the collection of detailed parking occupancy counts, the appropriateness of a 0.48 parking space per apartment unit. The data presented in the report is repeated as follows:

53 Danforth Street: 43 total units ÷ 29 spaces occupied		= 0.67 spaces/unit
645 Congress Street: 56 units ÷ 28 spaces occupied		= 0.50 spaces/unit
Walker Terrace: 40 units ÷ 20 spaces occupied		= 0.50 spaces/unit
Oak Street Lofts: 37 units ÷ 16 spaces occupied		= 0.43 spaces/unit
Franklin Towers: 200 units ÷ 58 spaces occupied		= 0.29 spaces/unit
	AVERAGE:	= 0.48 spaces/unit

A second study dated June 2013 completed by Gorrill-Palmer, Inc. (GPI) for the 409 Cumberland Avenue Avesta Housing apartment project presented the results of their prior study findings as highlighted above and included additional parking occupancy data collected at the Island View Apartments, a 70-unit apartment complex located at the intersection of North and Walnut Streets. The apartment site contains a total of 84 parking spaces, with 29 of those spaces designated visitor parking. The supplemental parking information presented in the GPI study showed an average parking demand at this facility of 0.70 spaces/unit.

The combined findings of both parking study assessments would suggest the appropriateness of an average parking demand rate of 0.52 spaces [0.67 + 0.50 + 0.50 + 0.43 + 0.29 + 0.70 ÷ 6] = **0.52 spaces/unit.**

Parking occupancy data was recently collected at two Portland Peninsular apartment complexes, with one of the sites previously included in the GPI studies, to both validate and augment the earlier parking data. Parking occupancy counts were collected during both the early evening and early morning hours of the week of September 6, 2015 for time periods spanning three days. The two properties surveyed included: 1) 53 Danforth Street and 2) 409 Cumberland Avenue. Specific information related to the number and mix of apartment units are presented for each property as follows:

- 53 Danforth Street, located on Danforth Street near the intersection of High Street, is a 43 single and two-bedroom apartment complex that provides both covered and open parking lot spaces for the tenants of the building.
- 409 Cumberland Avenue, located on the corner of Cumberland Avenue and Forest Avenue, is a 57 unit apartment complex with a mix of efficiency, one, and two-bedroom units serviced with a limited number of both covered and open lot parking spaces for building tenants.

The following table 1 presents the results of the parking occupancy study:

Table 1
Parking Occupancy Study Summary

Apartment Site Location	Number of Units	September 10 Occupancy Data	September 11 Occupancy Data		September 12 Occupancy Data	Average Hourly Vehicles Parked	Average Parking Demand Rate
		7:00 PM to 8:00 PM	3:00 AM to 4:00 AM	7:00 PM to 8:00 PM	4:00 AM to 5:00 AM		
409 Cumberland Avenue	57	13	15	11	15	13.5	0.24 spaces
53 Danforth Street	43	17	22	27	21	21.75	0.51 spaces

The average parking occupancy rates (highlighted in red in the above table) determined from the results of the most recent parking study were combined with the data previously collected by GPI and a revised parking rate was calculated based upon the expanded data. The expanded parking data results in a slightly lower average parking demand rate of 0.48 spaces per unit or the same parking rate calculated by GPI in their March 26, 2014 parking assessment report.

The majority of the local parking survey data was collected generally during time periods that are considered representative of peak parking demand time periods. However, to conservatively estimate the peak parking demand requirements of the proposed 667 Congress Apartment project, the calculated average parking demand rate 0.48 spaces per unit was increased by an additional 20% to a peak parking rate of 0.58 spaces per unit.

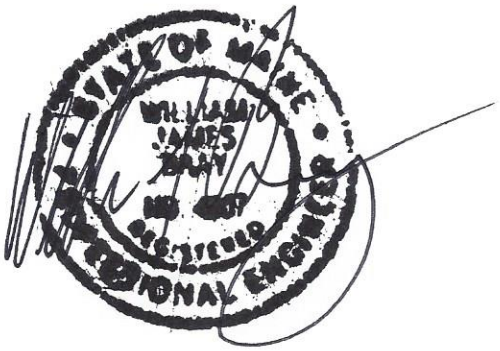
Accordingly, the proposed 667 Congress Street project generates a peak parking demand of **81** parking spaces [0.58 x 139 = 81 spaces].

SUMMARY

- The City in a January 2015 report to the Planning Board suggested the appropriateness of a reduced parking demand rate for peninsular apartment projects. The report references a recent study completed by the Greater Portland Council of Governments, which cites that United States census data shows that a very high percentage (approximately 77%) of households on the Portland Peninsular with 0-1 automobiles is considerably greater than the national average of 44%. Further, the report references several recent development parking assessments that determined the average parking demand requirement is likely near 0.48 spaces per unit.
- Gorrill-Palmer, Inc. prepared detailed parking assessment and evaluation reports for two recent apartment projects on the peninsular with the results showing a peak parking demand of 0.52 spaces per unit.
- Parking data recently collected at two apartment buildings on the Portland Peninsular during the month of September, when combined with the earlier GPI data, shows an average parking rate per unit of 0.48 spaces is reasonable for apartment projects located on the Portland Peninsular. The earlier parking studies conducted by GPI generally apartment projects that have a much greater number of 1 and 2 bedroom units than the proposed 667 Congress Street project. Approximately 20% (34 units) of the total number of units

proposed are efficiency units and it is fully anticipated that tenants in these units will likely use public transportation and/or other modes of transportation.

- The referenced PARKING GENERTATION publication concludes that, generally, peak parking demand for a high rise apartment building occurs between midnight and 5:00 AM. The majority of the parking survey data was collected during time periods prior to the early morning hours; therefore, to conservatively estimate the peak parking requirements of the proposed 139 unit apartment building the calculated per unit parking rate of 0.48 spaces was increased by roughly 20% to 0.58 spaces.
- Accordingly, the peak parking demand of the proposed apartment project is estimated at 81 spaces. A total of 78 parking spaces are provided on-site or three spaces less than the calculated parking demand of the project. The proposed apartment building design includes a U-Share parking space on the first floor of the proposed parking garage, which based upon Section 14.332 Parking paragraph a.3.b.a of the City's Zoning Ordinance grants a parking space credit equal to eight parking spaces. As a result, the proposed on-site parking supply exceeds the calculated parking demand of the 139 unit apartment project.
- The existing private leases within the existing parking lot will be discontinued with the sale of the property. The Project Team is not aware of any existing parking lease agreements required as a condition for a development or business permit with the City.



Att. 16

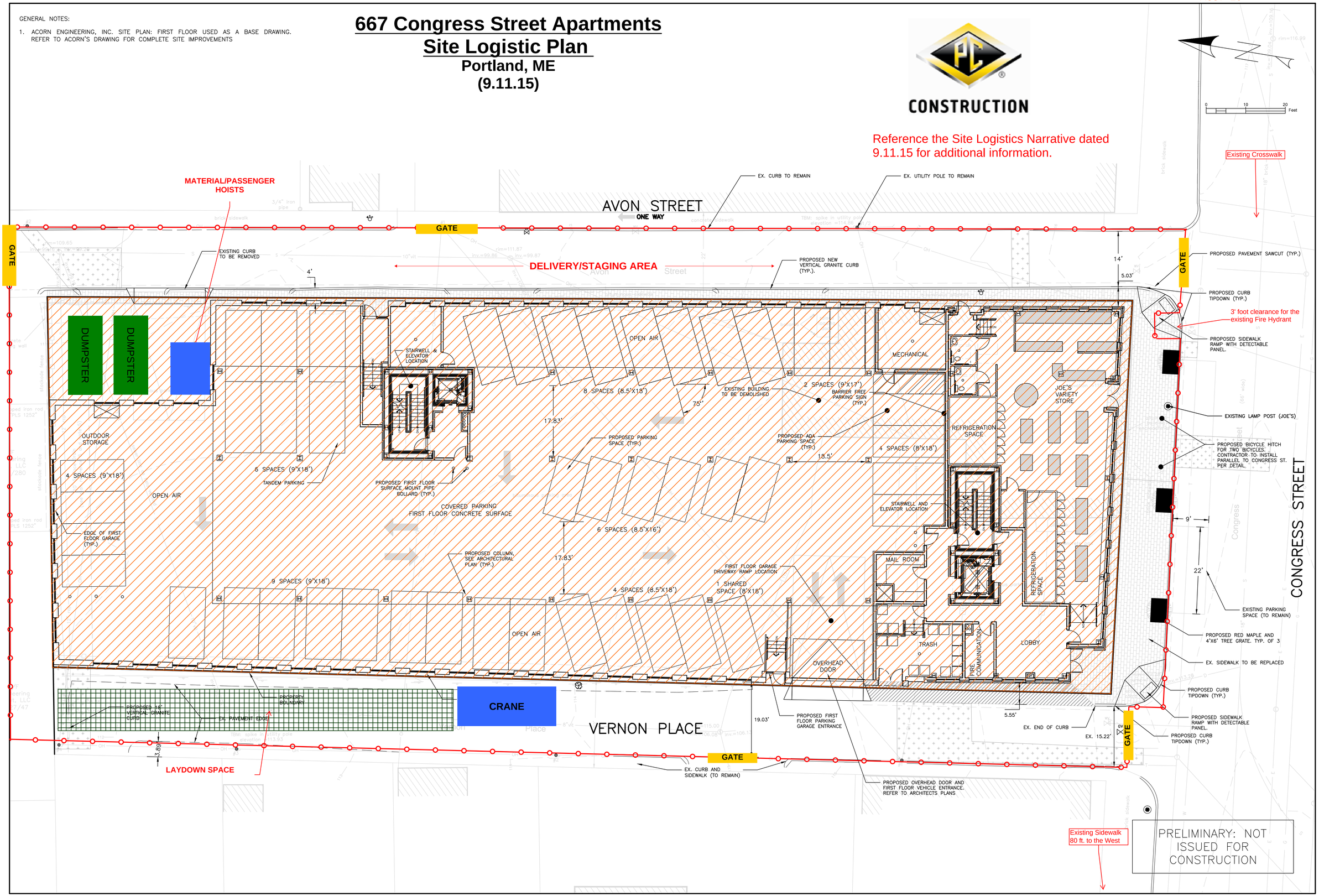
GENERAL NOTES:

1. ACORN ENGINEERING, INC. SITE PLAN: FIRST FLOOR USED AS A BASE DRAWING. REFER TO ACORN'S DRAWING FOR COMPLETE SITE IMPROVEMENTS

667 Congress Street Apartments
Site Logistic Plan
Portland, ME
(9.11.15)

PC CONSTRUCTION

Reference the Site Logistics Narrative dated 9.11.15 for additional information.



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
REVISION	REV. DATE

DRAWING NAME: CONSTRUCTION MANAGEMENT PLAN

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

PC CONSTRUCTION

FILE:	1060_CONGRESS
DATE:	4/6/2015
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	

DRAWING NO.

CMP

CONSTRUCTION | AT PC WE GO ABOVE AND BEYOND ON EVERY JOB, PERIOD.

9.11.15

667 Congress Street Apartments
Site Logistic Narrative
Portland, ME

Reference the attached 667 Congress Site Logistic Plan dated 9/11/15 for an overview of the 667 Congress Street project.

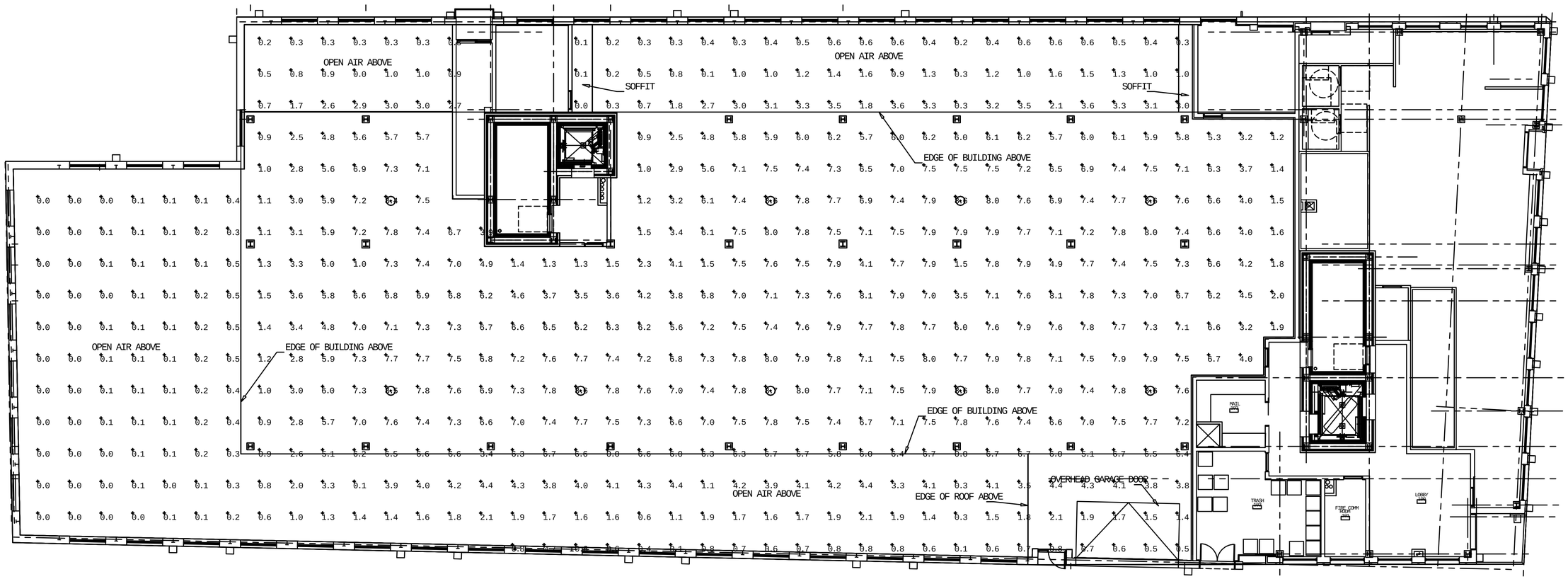
The construction approach for the 667 Congress Street project will be to start work on south end of the site along Congress St. and move north towards Deering St. The construction fence will extend to close both lanes of Avon Street and Vernon Place, the sidewalk along Congress Street, and north of the property line along the north end of the site. Temporary lane closures on Congress St will be required for utility tie-ins. Flagging and traffic control will be provided during all temporary lane closures. Safety and directional signage will be provided as necessary for pedestrian traffic. The gates shown at Avon St and Vernon Place are not intended to be secure, if so a Portland Fire Department Knox padlock will be used to allow access for the Fire Department. A Hot Work Permit from the Fire Department will be obtained for all cutting and welding operations.

The construction trailers will be located in a nearby off-site location and all PC Construction emergency contact information will be posted on-site. The closed lanes along Avon Street will be used as a staging area and delivery lane for materials and equipment. The project dumpsters will be located on the northeast corner of the project to allow for easy access to the delivery lane and the material and passenger hoists. The crane will be located in Vernon Place and the closed lanes will be used as laydown and staging space. All construction will comply 2009 NFPA 1 Chapter 16 Safeguards during Building Construction, Alteration, and Demolition Operations. There will be no on-site parking available for subcontractors, all subcontractors will be expected to use carpools/vans to the site and/or park in legal street parking spaces.

Key issues to be addressed include:

- Public Safety
- Coordination with City of Portland, Neighbors, and Utilities
- Coordination with FAA Requirements
- Ground Water Control/Treatment
- Waste Management and Site Clean-up
- Traffic and Pedestrian Management
- Coordination of Material Deliveries
- Laydown of Material Storage and Office Trailers
- Dust Control
- Clean Streets Surrounding the Project

Att. 18



JOB NAME: 667 CONGRESS STREET
APEX LIGHTING SOLUTIONS
REFLECTANCES:N/A
WORKPLANE/CALC PLANE: @ FLOOR
CEILING HEIGHT:10FT

Luminaire Schedule

Qty	Label	LLF	Description	Lumens/Lamp
9	SL1	0.850	Kenall TekDek TD17-xx-5S-TA-GW-75L-50K7-DCC	N.A.

Calculation Summary

Label	Avg	Max	Min	Avg/Min	Max/Min
GARAGE CALC @ FLOOR	4.04	8.7	0.0	N.A.	N.A.

GENERAL DISCLAIMER:

Calculations have been performed according to IES standards and good practice Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

* LLF Determined Using Current Published Lamp Data

NOTE TO REVIEWER:

Total Light Loss Factor (LLF) applied at time of design is determined by applying the Lamp Lumen Depreciation (LLD) from current lamp manufacturer's catalog, a Luminaire Dirt Depreciation Factor (LDD) based on IES recommended values and a Ballast Factor (BF) from current ballast specification sheets. Application of an incorrect Light Loss Factor (LLF) will result in forecasts of performance that will not accurately depict actual results.

For proper comparison of photometric layouts, it is essential that you insist all designers use correct Light Loss Factors.

APEX LIGHTING SOLUTIONS
THE POINT WHERE ALL ASCENDING LINES CONVERGE
446 SMITH STREET
MIDDLETOWN, CT 06457
TELEPHONE 860.632.8766
FACSIMILIE 860.632.8236
WWW.APEXLTG.COM

PROJECT TITLE:

667 CONGRESS STREET

DRAWING TITLE:

GARAGE LIGHTING
PHOTOMETRIC CALCULATIONS

FILE NAME: 667 Garage Calc 9-9-15.dwg

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

DATE: 9/10/15

DRAWN BY: CHV

SHEET:

GL-1

TEKDEK™ BASE
Luminaires for Parking Garages
TD17B SERIES

PROJECT INFORMATION

Job Name _____

Fixture Type _____

Catalog Number _____

Approved by _____

PRODUCT FEATURES:

- » Textured tertiary lens for glare reduction and up-light feature to eliminate "cave-effect"
- » Optical patterns designed for covered parking structures
- » Outputs ranging from 4,394 lm to 10,258 lm
- » Compatible with TekLink™ lighting control technology
- » Patented thermal management, and Optical Patents pending
- » 10 Year limited product warranty

SPECIFICATIONS

HOUSING: Marine-grade die-cast aluminum and UV-stabilized polycarbonate construction. Standard TGIC polyester power coat finish on aluminum components with five-step pre-treatment to withstand 1,000 hour salt spray test per ASTM B117. See Ordering Information for available finishes. Closed-cell silicone gasketing seals all housing component interfaces. Die-cut closed-cell neoprene self-adhesive gasket seals housing to mounting surface (DTS).

MOUNTING: Direct-to-surface (DTS) mounting over recessed junction box, Trunnion Mount (TK) or pendant-mounted (PM) via ¾" rigid sealed conduit. See Ordering Information for selection. Housing access secured via tamper-resistant Torx™ fasteners.

OPTICAL: Type II, V-Narrow and V-Square roadway distributions available. UV-stabilized, high-impact resistant injection-molded clear textured 100% DR acrylic or polycarbonate tertiary lens.

ELECTRICAL: Serviceable high-brightness LED array. See Ordering Information for color temperature and CRI options. 70 CRI minimum. 120-277 VAC, 347VAC and 480VAC 50/60Hz single-phase input; constant-current dimming driver; <20% THD, >0.90 PF. Minimum 90% electrical efficiency. 0-10V dimming protocol with 10-100% range, 2mA source current. Replaceable surge suppressor rated to 20kA/kV per IEEE/ANSI C62.41 Cat. A. EMC compliant with FCC 47 CFR Part 15, Class B.

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

WARRANTY: Limited ten (10) year warranty. Peace of Mind Guarantee™ when ordered and installed with direct-to-surface (DTS) mounting and polycarbonate lens (TP).

LISTINGS: Luminaire is certified to UL Standards by Intertek Testing Laboratory for Wet Location. IP65 rating per IEC 60598. Suitable for installation into -30°C to 40°C ambient environments, unless otherwise noted. Product listed on DesignLights Consortium® Qualified Product List. Check the latest version here for listed configuration details.

LED

PEACE OF MIND Guarantee®
POLYCARBONATE LENS & DIRECT SURFACE MOUNT ONLY

IP65

ORDERING INFORMATION (Ex: TD17B-PM-5N-TP-DB-52L-40K8-DCC-DV)

Model	Mounting	Dist. Type	Lens Type	Finish	Lamp Power	Lamp Color	Driver Type	Voltage	Options	Accessories	TekLink	Controls Kit
TD17B							**DCC**					< >

Mounting
- **DTS*** Direct-to-Surface
- **PM** Pendant Mount
- **TK** Trunnion Kit
- **QM** Quick Mount System

Distribution Type
- **2** Type II
- **2HSS** Type II, House-side shield
- **5N** Type V – Narrow Round
- **5S** Type V – Wide Square

Lens Type
- **TP*** Textured Polycarbonate
- **TA** Textured Acrylic

Finish
- **DB** Dark Bronze
- **FG** Forest Green
- **GW** Reflectance White
- **LG** Light Gray
- **MB** Matte Black
- **MW** Matte White
- **SL** Silver
- **CC** Custom Color (Consult factory)

Lamp Power
- **52L** 52W LED
- **79L** 79W LED
- **112L** 112W LED

Lamp Color
- **30K8** 3000K/80CRI min
- **35K8** 3500K/80CRI min
- **40K8** 4000K/80CRI min
- **40K7** 4000K/70CRI min
- **50K7** 5000K/70CRI min
- **57K7** 5700K/70CRI min

Driver Type
- **DCC** 0-10V Dimming Constant Current

Voltage
- **DV** 120-277 Volts (50/60Hz)
- **347** 347 Volts (60Hz)
- **480•** 480 Volts (60Hz)

Options
- **LEL‡•†** Emergency Battery Pack (0°C minimum ambient)
- **GTD•** Generator Transfer Device
- **BG** Bird Guard (click here for details)
- **FS** Single Fuse & Holder
- **PH** Phillips Fasteners
- **A1•▪** A1 Construction Override

Accessories
- **DS** Debris Shield

TekLink
- **TL50§†** TL50 Control System
- **TL1000▾** TL1000 Wired Control System
- **TL2000▾** TL2000 Wireless Control System

Please consult Kenall Applications when ordering Controls

Controls Kit
- < > Factory Assigned Internal Code

- * Required for Peace of Mind Guarantee®
- ‡ Available only with 52L lamp
- • A1 Construction (See page 3)
- ▾ A2 Construction (see page 3)
- § A3 Construction (see page 3)
- † A2 Construction when LEL option and TL50 ordered together (see page 3)
- ▪ For surface conduit option or matching other fixtures on schedule that have options with A1 construction

www.kenall.com **P: 800-4-Kenall** **F: 262-891-9701** **10200 55th Street Kenosha, Wisconsin 53144**

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TEKDEK™ BASE
Luminaires for Parking Garages

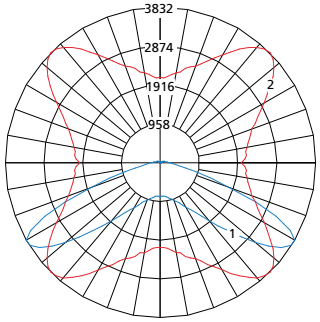
TD17B SERIEs

PERFORMANCE

Lamp Code	Initial Delivered Lumens, By Optic Type (lm)						Efficacy (lm/W)	Input Power (W)	Estd. L_{70} LED Life (Hrs)
	2-TA	2-TP	5S-TA	5S-TP	5N-TA	5N-TP			
52L-57K7	5,196	5,088	5,810	5,690	6,261	6,132	86 - 106	59	90,000
52L-50K7	5,196	5,088	5,810	5,690	6,261	6,132	86 - 106	59	90,000
52L-40K7	5,196	5,088	5,810	5,690	6,261	6,132	86 - 106	59	90,000
52L-40K8	4,724	4,625	5,282	5,172	5,691	5,574	78 - 96	59	90,000
52L-35K8	4,487	4,394	5,018	4,914	5,407	5,296	74 - 92	59	90,000
52L-30K8	4,487	4,394	5,018	4,914	5,407	5,296	74 - 92	59	90,000
79L-57K7	7,371	7,218	8,311	8,139	8,956	8,772	80 - 100	90	75,000
79L-50K7	7,371	7,218	8,311	8,139	8,956	8,772	80 - 100	90	75,000
79L-40K7	7,371	7,218	8,311	8,139	8,956	8,772	80 - 100	90	75,000
79L-40K8	6,701	6,562	7,556	7,399	8,142	7,975	73 - 90	90	75,000
79L-35K8	6,366	6,234	7,178	7,029	7,735	7,576	69 - 86	90	75,000
79L-30K8	6,366	6,234	7,178	7,029	7,735	7,576	69 - 86	90	75,000
112L-57K7	8,396	8,223	9,519	9,322	10,258	10,047	67 - 84	122	60,000
112L-50K7	8,396	8,223	9,519	9,322	10,258	10,047	67 - 84	122	60,000
112L-40K7	8,396	8,223	9,519	9,322	10,258	10,047	67 - 84	122	60,000
112L-40K8	7,633	7,476	8,654	8,475	9,325	9,133	61 - 76	122	60,000
112L-35K8	7,252	7,102	8,221	8,051	8,859	8,677	58 - 73	122	60,000
112L-30K8	7,252	7,102	8,221	8,051	8,859	8,677	58 - 73	122	60,000

Displayed information is for selected luminaires only. Information subject to change without notice. Visit www.kenall.com for .ies files and additional information.

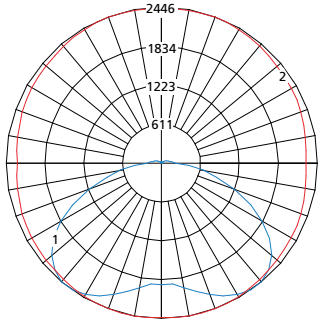
Model: TD17B-XX-5S-TA-GW-112L-40K7-DCC-DV



Max Candela = 3832 Located At Horizontal Angle = 45, Vertical Angle = 60

1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (60) (Through Max. Cd.)

Model: TD17B-XX-5N-TA-GW-112L-40K7-DCC-DV



Max Candela = 2446 Located At Horizontal Angle = 70, Vertical Angle = 40

1 - Vertical Plane Through Horizontal Angles (70 - 250) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)

LUMEN AMBIENT TEMPERATURE (LAT) FACTORS

Avg. Ambient Temperature	10°C	15°C	20°C	25°C	30°C	35°C	40°C
Lumen Output Factor	1.03	1.02	1.01	1	0.99	0.98	0.97

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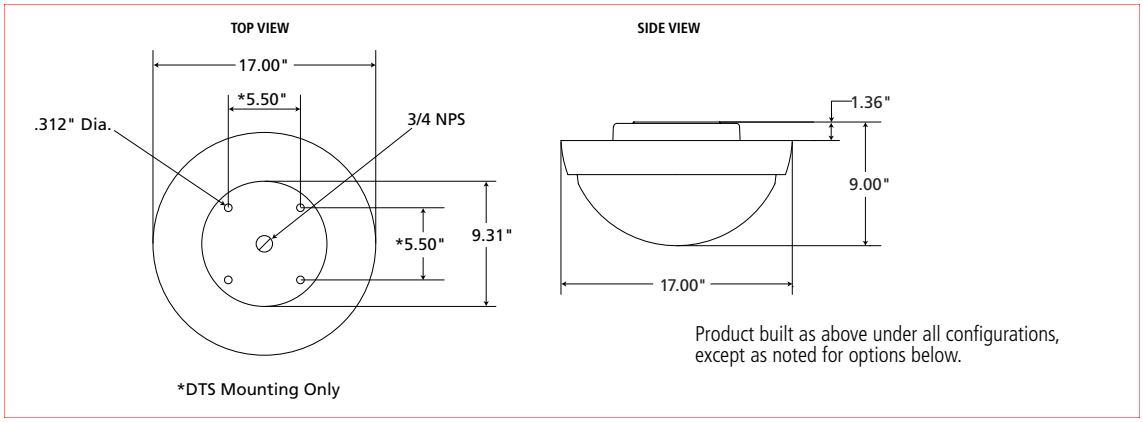
TEKDEK™ BASE
Luminaires for Parking Garages

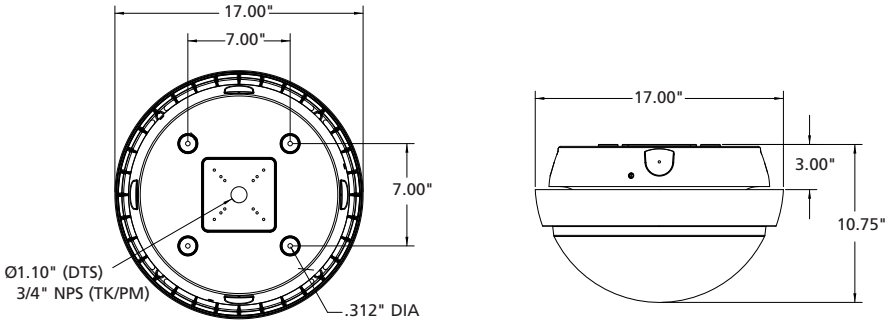
DIMENSIONAL DATA

FIXTURE DIMENSIONS



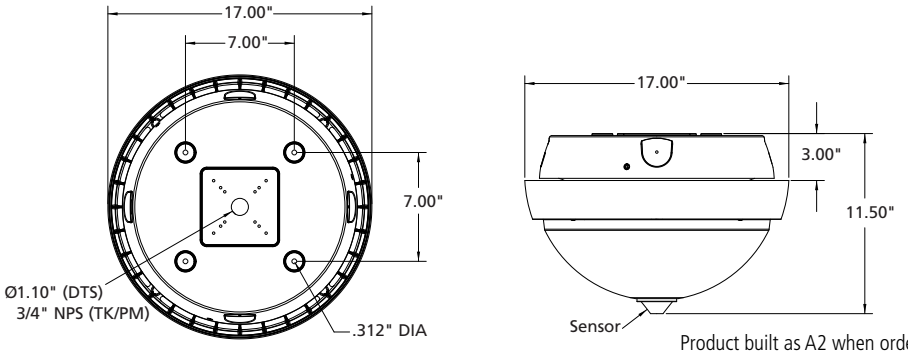
Product built as above under all configurations, except as noted for options below.

CONSTRUCTION 'A1' DIMENSIONS



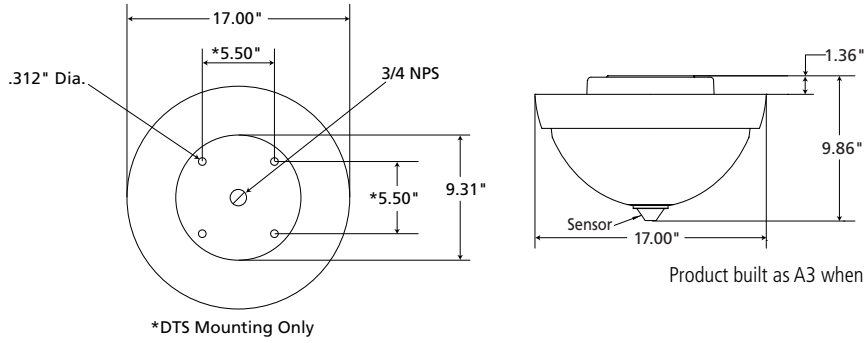
Product built as A1 when ordered with '480V', 'LEL', 'GTD', 'A1', 'TL1000' (w/o sensor) or 'TL2000' (w/o sensor) option

CONSTRUCTION 'A2' DIMENSIONS



Product built as A2 when ordered with 'TL1000' (w/ sensor), or 'TL2000' (w/ sensor) option

CONSTRUCTION 'A3' DIMENSIONS



Product built as A3 when ordered with 'TL50' option

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Att. 19

Lightology

Urban Outdoor Wall Sconce

Shown in: Bronze

List Price: $311.25
Our Price: $249.00

Shade Color: N/A
Body Finish: ~~Bronze~~
Lamp: 1 x LED/16W/120V
Wattage: 16W
Dimmer: Low Voltage Electronic
Dimensions: ~~16"H x 7"W x 2"D~~

Description:
Urban Outdoor Wall Sconce is available in a Black, White, Graphite or ~~Bronze finish~~. Available as a ~~small, medium or~~ large. 12/16/20 watt, 120 volt, 3000K LED lamp is included. ~~Small: 7 inch width x 10 inch height x 2 inch depth. Medium: 7 inch width x 16 inch height x 2 inch depth.~~ Large: 8 inch width x 22 inch height x 2 inch depth. ADA compliant, low profile design. Wet location listed and Dark Sky friendly.

Product Number: **MFR202088**					
Company:		Fixture Type:		Date:	Jul 22, 2015
Project:		Approved By:			

#1343WC-URBAN-007L1-BZDS

Fax: (773) 883-6131
Phone: 866-954-4489
Address: 1718 W. Fullerton Ave. Chicago IL 60614
www.Lightology.com

Att. 20

Written Request for Waivers

The existing commercial building and parking lot on 667 Congress St (Map, Book, Lot 46 C020 and C019) are to be redeveloped into a 139-unit residential and single unit commercial building with covered parking on the basement and first floors (81 total parking spaces). The existing business, Joe's Variety Store, will remain on the first floor with the upper seven floors consisting of studio, single bedroom, and double bedroom apartments for rent.

The following is a list of known project related waivers.

1. **City Standard Parking Size** – The applicant is requesting a waiver to increase the number of Compact Parking Spaces per Standard Parking Spaces (9' X 18'). Of the proposed 81 spaces, 64% are Standard spaces (52 spaces) and 36% may be defined as Compact Parking (29 spaces). According to the Technical Standards the maximum allowable Compact spaces for this space is 16. However, in order to adhere to the required parking spaces for residential units, there must be more compact parking within the covered lots.

   Circulation of vehicles within the site has been performed using AutoTurn, a vehicle circulation CAD accessory. The produced simulations show circulation to be possible; refer to the attached drawings of the simulations for additional information.

2. **City Minimum Driveway Width** – The applicant is requesting a waiver for the required 20' wide driveway; the proposed driveway is 18' wide at the overhead door but is otherwise 20' wide after entering the building.

3. **Parking Lot Landscaping** – The applicant is requesting a waiver to the parking lot landscaping requirements to not include the suggested 33 trees for the 81 parking spaces; due to the covered nature of the parking lots in both the basement and first floor (too limited of open air on first floor for tree or shrub growth), it is not feasible to landscape these features. However, after onsite discussions with Jeff Tarling, City Arborist, green walls are proposed along the exterior walls of the parking garage on Avon Street and Vernon Place.

A C O R N Engineering, Inc. • PO Box 3372 • Portland • Maine • 04104
Voice: 207-775-2655 • Fax: 207-358-7979 • www.acorn-engineering.com

After continued discussions with Jeff Tarling, the applicant is prepared to contribute an amount proportionate to the cost of required parking lot trees minus that already spent on green spaces to the City of Portland Tree Fund.

4. **Street Trees** – The applicant is seeking a waiver to the street trees requirements for multi-family residential properties. Due to the large proposed building footprint and limited sidewalk space along the Avon Street and Vernon Place street fronts, it is not feasible to place the required 139 trees for every residential unit on-site. Instead, there will be three trees spaced approximately thirty feet apart along the Congress Street frontage (refer to site plans); this represents the maximum amount of trees able to fit on the property. In all, the design decreases the total required street trees from 139 to 3. However, this is an increase in total trees on the property from the original one.

   Like abovementioned, there is additional proposed landscaping including shrubs along Vernon Place and the rear property line, plantings along Avon Street, and raised urban planters along Congress Street in addition to the parking garage green walls. The exact location of landscaped areas is outlined in the attached Landscaping Plan.

5. **Minimum Requirements for Street Improvements** – The applicant is seeking a waiver for the required curb and sidewalk improvements along Vernon Place and Avon Street; the city requires new sidewalk with granite curbing for the entirety of the existing unimproved street.

   Along Vernon Place, the current plans propose sidewalk improvements such as construction of a brick sidewalk with granite curbing that tips down to a flush, stamped pavement sidewalk continuing to the first floor garage entrance allowing for an alternative to Congress Street for Joe's vendor drop-offs. The remaining building edge along Vernon Place will be landscaped in most areas of existing grass. Although a sidewalk will be not be constructed along its entirety, Vernon Place is a dead-end street with limited foot traffic and, under the proposed plans, will be improved significantly given the current conditions.

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It is proposed that Avon Street be widened from the existing 14' to 16' per request (Captain Gauteau 8/21/15) in place of an improved sidewalk along both sides of the street; the remaining space between the building edge and new/reset granite curb will be replaced with assorted plantings. The existing sidewalk along the Trelawny building is planned to remain.

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Att. 21

TRANSPORTATION DEMAND MANAGEMENT PLAN

FOR

PROPOSED

"667 Congress Street Apartments"

Prepared For: Redfern Properties, LLC
Prepared By: William J. Bray, P.E.

September, 2015

TRANSPORTATION DEMAND MANAGEMENT (TDM) PLAN

Project Description
Redfern Properties, LLC is proposing construction of an eight-story apartment building at 667 Congress Street on a parcel of property bordered by Congress Street, Avon Street, and Vernon Place. The subject property is located on the peninsular within the Downtown Business Zone (B-3). Joe's Smoke Shop, a 3,673 square foot neighborhood variety store, presently occupies the Congress Street/Avon Street corner of the proposed site and the remainder of the site is a paved parking lot with a total of 63 spaces.

The proposed project will provide a total of 139 apartment units that will include 34 efficiency units, 97 one-bedroom units, and 8 two-bedroom units. The proposed building design provides a total of 81 parking spaces with 37 of the spaces located in the basement level of the building and the remaining 44 spaces on the first floor of the building. Three of the 81 total spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces for tenants of the building. In addition, secured covered space is reserved for bicycle parking (total space for 52 bicycles), 4 exterior bicycle parking along Congress Street, and a private auto share service, and three motorcycle parking spaces.

Transportation Narrative
The proposed project's location on Congress Street between both Congress and Longfellow Squares provides numerous multi-modal transportation opportunities for tenants of the proposed apartment building. From the perspective of automobile transportation, the Project's location is well suited with easy and direct access to Commercial Street and the Casco Bay Bridge to the south, other destinations along the Congress Street corridor both east and west of the proposed site, and direct roadway interchange connections to Interstate 295 (I-295) both north and south. An extensive and well maintained sidewalk system provides building tenants with both convenient and safe walking routes to virtually all points of destination on the Portland Peninsular, including: employment opportunities, recreational facilities, daytime and evening entertainment venues, Maine Medical Center and Mercy Hospital campuses, parks, cultural centers, restaurants, public library, and other amenities.

The project location is only a few City blocks from the Casco Bay Ferry Terminal and METRO Bus provides their highest frequency of service to the Congress Street corridor via: 1) Route 1 - Congress Street; 2) Route 8 - Peninsular Loop and; 3) Routes 9A/9B – Crosstown Loop. Refer to the attached METRO routing information as an appendix to the report.

A combination of rental incentives: proposed group rate METRO ticket program, the extensive sidewalk network along the Congress Street corridor, and the encouraged and promoted use of other modal transportation opportunities will ensure successful compliance with the City's transportation and sustainability goals.

Transportation Coordinator
The Building Management Company retained by Redfern Properties will serve as the TDM coordinator for the property. The management team will be fully versed in the transportation services available to perspective tenants of the building. Each new building tenant, in a pre-lease interview with the property management team, will receive a packet containing information on the availability of transportation (all modes) services.

Parking Demand Calculation
The City's Zoning Ordinance presently requires one parking space for each proposed residential unit on the peninsula (Sec. 14-332.1 (k)). This requirement conflicts with if a development resides within the B-3 Zone then there is no off-street parking requirement for changes of use (14-332.1(e)). A number of recent parking assessments and evaluations completed for similar Portland Peninsular development projects have concluded that parking demand rates significantly less are far more appropriate. As defined in Section 14-332 of the City's ordinance, "*the planning board may establish a parking requirement that is less than the normally required number of spaces upon a finding of unique conditions that result in a lesser parking demand*".

A detailed parking study completed in support of the proposed project and submitted under separate cover, clearly documents that the peak parking demand rate for an apartment building with a "high" percentage of efficiency and 1-bedroom units is considerably less than the one space requirement. The detailed parking study concluded that a per unit parking demand rate of 0.58 spaces per unit was appropriate.
Accordingly, the peak parking demand of the proposed apartment project is estimated at 81 spaces. A total of 78 parking spaces are provided on-site or three spaces less than the calculated parking demand of the project. The proposed apartment building design includes a private auto share service with a preferred parking space location close to the elevator on the first floor of the proposed parking garage; Section 14.332 Parking paragraph a.3.b.a of the City's Zoning Ordinance grants a parking space credit equal to eight parking spaces for an on-site shared vehicle program. As a result, the calculated peak parking demand of the proposed 667 Congress Street Apartments is met and exceeded by a total of five parking spaces.

Parking Description
The proposed building design provides a total of 81 parking spaces with 37 of the spaces located in the basement level of the building and the remaining 44 spaces on the first floor of the building. Three of the 81 total spaces are reserved for Joe's Smoke Shop resulting in a total of 78 spaces reserved for tenants of the building. In addition, secured covered space is reserved for bicycle parking (total space for 52 bicycles), 4 exterior bicycle parking along Congress Street, a private auto share service, and a minimum of three scooter/motorcycle parking spaces. A total of (22) 2-hour metered parking spaces exist on Congress Street between Longfellow and Congress Squares with operational hours of 9AM to 6:00PM, additionally, (10) 30-miniute commercial loading zone spaces and (4) 15-minute loading parking spaces are found curbside within the same designated section of Congress Street.

Parking and Trip Reduction Strategies
Unbundling Rent and Parking Fees: Studies have shown that simply charging tenants separately for rent and parking significantly reduces parking demand. When presented with the cost/benefit decision, tenants often choose not to buy parking, opting for less convenient and less costly parking options or choosing to go carless.

Bicycle Facilities: A total of 56 bicycle spaces are provided in the building design conforming to the City's Site Plan requirements. The 52 enclosed bicycle racks will be located on the basement level within a secure room. The bicycle racks will be wall or floor mounted and be manufactured by Dero (or approved equivalent). Four (4) additional bicycle spaces will be provided along Congress Street for residents and the general public. Local and regional bicycle route and facility information will be available to tenants at the proposed building transportation services "kiosk" located in the building entry area.

METRO Bus Service: Each building tenant will receive, in their tenant packet, a ten-ride METRO bus pass and a copy of METRO's bus route schedule information. METRO bus service information will be strategically posted throughout the building and located on the transportation service "kiosk" in the building entry areas. Redfern Properties is currently working with METRO to develop a bulk purchasing transit pass program for tenants of the building.

Private Auto Share Service: The proposed 667 Congress Street Apartments site will provide a private auto share service on the first floor of the proposed parking garage. This will be a preferred parking space near the elevator, pedestrian and vehicular entrance. Redfern Properties will purchase an electric car for the shared use of tenants. This program will follow the model of other apartment communities and should be self-sustaining.

Scooter/Motorcycle Parking: At least three spaces are provided within the proposed parking garage for designated scooter and motorcycle parking. Additional space opportunities are possible if needed based upon tenant use.

Pedestrian Facilities: The TDM Coordinator will work with building tenants in promoting walkability to "key" places of significance including: Casco Bay Transit, Cross Insurance Arena, Portland Public Library, Public

Museum, Hadlock Field, Expo Recreational Facilities, Hospitals, local restaurants, and other cultural facilities etc. To aid in this endeavor, a detailed map of the Portland Peninsular will be strategically located in the building entry area that identifies "key' destination points and the approximate distances in reaching them on foot.

Recreational Trails: The destination map located on the transportation "kiosk" will identify the extensive network of public trails on the peninsular with the goal of encouraging greater use.

Tenant Information Packet (Transportation Related Services): Each building tenant will receive a welcoming package that includes the following transportation services information:

- METRO Bus - Routes and Schedules
- South Portland Bus – Routes and Schedules
- Casco Bay Transit – Boat Schedules
- RTP Service Availability with contact information
- Bicycle Short and Long Distance Routing Information
- Rideshare Information on existing programs including contact information
- Portland Trails System Map
- Private auto share service (program information)

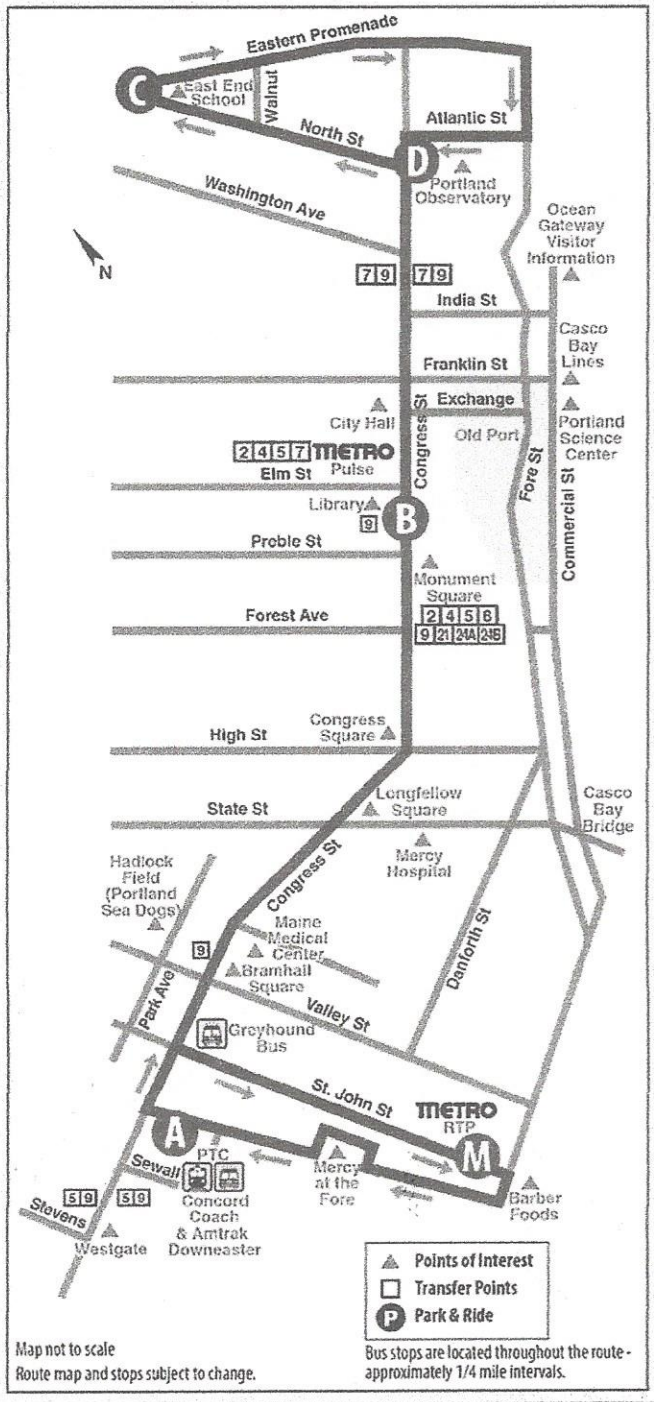
The building transportation "kiosk", located in the entry area of the proposed building, will have copies of all transportation services information including tri-fold brochures from all major transportation service providers.

Tenant Survey/Monitoring

The Building Management Company serving as the TDM Coordinator for the property will conduct an annual survey with all building tenants that identifies and quantifies transportation practices of building tenants including the frequency and utilization rates of other modes of transportation; tenant concerns, issues, and transportation services needs. The survey and tenant questionnaire format and information search will be developed in concert with the City's TDM Manager and modified as directed. The survey results will be summarized with the results shared with each building tenant. A copy of the survey results will be posted on the transportation "*kiosk*" located in the entry area of the proposed building.

Further, the building management team will also measure, during a "typical" day of the year, both parking space occupancy and turnover rates of the 78 designated parking spaces in the proposed building parking areas. A summary of the data will provide critical information in determining the adequacy of the property parking supply and whether the level of tenant parking is adequate to meet the needs of the tenants. The property management team will consider whether adjustments to the TDM plan are required; such as, providing additional or increased incentives to tenants to use other modes of transportation, conduct more frequent tenant meetings where special emphasis is placed on other modal travel opportunities, modification to building parking space allocation increasing the number of scooter or motorcycle and/or bicycle parking opportunities, etc.

METRO ROUTE 1 Congress Street

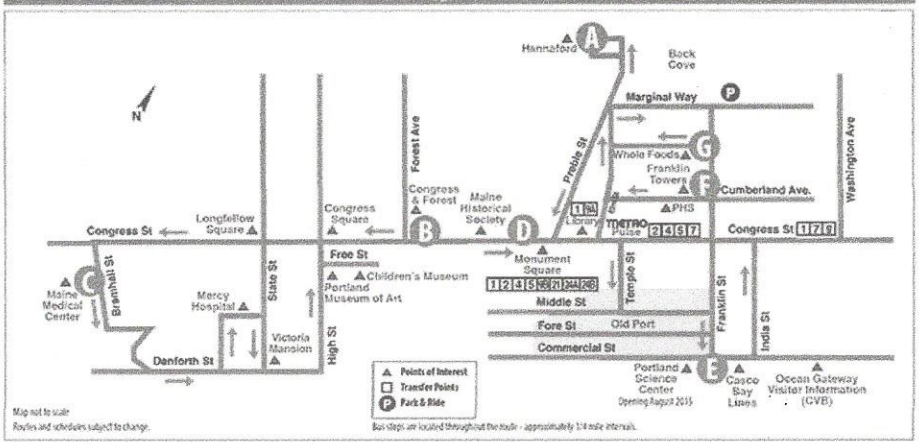


Map not to scale

Route map and stops subject to change.

Bus stops are located throughout the route - approximately 1/4 mile intervals.

METRO ROUTE 8 Peninsula Loop



MONDAY THROUGH FRIDAY
PENINSULA LOOP TO CASCO BAY LINES

Hannaford Plaza (A)	Congress & Forest (B)	Maine Medical (C)	Monument Square (D)	Casco Bay Lines (E)	Franklin Towers (F)	Whole Foods (G)	Hannaford Plaza (A)
				6:40			
					6:47	6:55	7:05
	6:44	6:50	7:02	7:10	7:17	7:25	7:35
7:05	7:10	7:20	7:32	7:40	7:47	7:55	8:05
7:35	7:40	7:50	8:02	8:10	8:17	8:25	8:35
8:05	8:10	8:20	8:32	8:40	8:47	8:55	9:05
8:35	8:40	8:50	9:02	9:10	9:17	9:25	9:35
9:05	9:10	9:20	9:32	9:40	9:47	9:55	10:05
9:35	9:40	9:50	10:02	10:10	10:17	10:25	10:35
10:05	10:10	10:20	10:32	10:40	10:47	10:55	11:05
10:35	10:40	10:50	11:02	11:10	11:17	11:25	11:35
11:05	11:10	11:20	11:32	11:40	11:47	11:55	12:05
11:35	11:40	11:50	12:05	12:14	12:22	12:30	12:40
12:05	12:10	12:20	12:35	12:44	12:52	1:00	1:10
12:40	12:45	12:55	1:10	1:19	1:27	1:35	1:45
1:10	1:15	1:25	1:40	1:49	1:57	2:05	2:15
1:45	1:50	2:00	2:15	2:24	2:32	2:40	2:50
2:15	2:20	2:30	2:45	2:54	3:02	3:10	3:20
2:50	2:55	3:05	3:20	3:29	3:37	3:45	3:55
3:20	3:25	3:35	3:50	3:59	4:07	4:15	4:25
3:55	4:00	4:10	4:25	4:34	4:42	4:50	5:00
4:25	4:30	4:40	4:55	5:04	5:12	5:20	5:30
5:00	5:05	5:15	5:30	5:39	5:47	5:55	6:00
5:30	5:35	5:45	6:00	6:09	6:15		
6:00	6:05						

SATURDAY
PENINSULA LOOP TO CASCO BAY LINES

Hannaford Plaza (A)	Congress & Forest (B)	Maine Medical (C)	Monument Square (D)	Casco Bay Lines (E)	Franklin Towers (F)	Whole Foods (G)	Hannaford Plaza (A)
		7:50	8:02	8:10	8:17	8:25	8:35
8:35	8:40	8:50	9:02	9:10	9:17	9:25	9:35
9:35	9:40	9:50	10:02	10:10	10:17	10:25	10:35
10:35	10:40	10:50	11:02	11:10	11:17	11:25	11:35
11:35	11:40	11:50	12:02	12:10	12:17	12:25	12:35
12:35	12:40	12:50	1:02	1:10	1:17	1:25	1:35
1:35	1:40	1:50	2:02	2:10	2:17	2:25	2:35
2:35	2:40	2:50	3:02	3:10	3:17	3:25	3:35
3:35	3:40	3:50	4:02	4:10	4:17	4:25	4:35
4:35	4:40	4:50	5:02	5:10	5:17	5:25	5:35
5:35	5:40	5:50	6:02	6:10	6:17		

SUNDAY
PENINSULA LOOP TO CASCO BAY LINES

Hannaford Plaza (A)	Congress & Forest (B)	Maine Medical (C)	Monument Square (D)	Casco Bay Lines (E)	Franklin Towers (F)	Whole Foods (G)	Hannaford Plaza (A)
				9:10	9:17	9:25	9:35
9:35	9:40	9:50	10:02	10:10	10:17	10:25	10:35
10:35	10:40	10:50	11:02	11:10	11:17	11:25	11:35
11:35	11:40	11:50	12:02	12:10	12:17	12:25	12:35
12:35	12:40	12:50	1:02	1:10	1:17	1:25	1:35
1:35	1:40	1:50	2:02	2:10	2:17	2:25	2:35
2:35	2:40	2:50	3:02	3:10	3:17	3:25	3:35
3:35	3:40	3:50	4:02	4:10	4:17	4:25	4:35
4:35	4:40	4:50					

Visiting Portland?

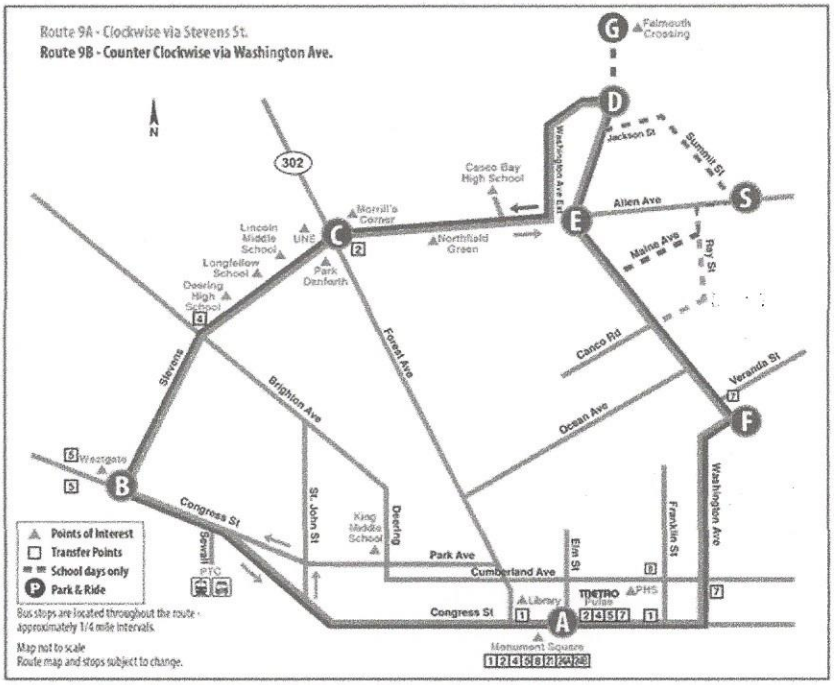
Hop on METRO Route #8 for an affordable, accessible and scenic ride throughout downtown Portland. Travel from Ocean Gateway and the waterfront.

See the Longfellow Statue and Victoria Mansion along Portland's historic West End.

Travel through the Old Port to Casco Bay Lines Ferry Terminal to attractions, shopping and dining along Portland's waterfront.

METRO ROUTE 9A

METRO ROUTE 9B



MONDAY THROUGH FRIDAY
CROSSTOWN LOOP VIA STEVENS AVENUE

Library (A)	Westgate (B)	Morrill's Corner (C)	Washington Auburn (D)	Summit St./ Allen Ave (S)	Allen's Corner (E)	Washington Veranda (F)	Library (A)
5:35	5:50	6:00	6:10		6:13	6:23	6:35
6:05	6:20	6:30	6:40		6:43	6:53	7:05
6:15*	6:30*	6:40*	6:50*	6:55*		7:05*	7:25*
6:35	6:50	7:00	7:10		7:13	7:23	7:35
6:45*	7:00*	7:10*	7:20*	7:25*		7:43*	7:55*
7:05	7:20	7:30	7:40		7:43	7:53	8:05
7:25*	7:40*	7:50*	8:00*		8:03*	8:13*	8:35*
7:35	7:50	8:00	8:10		8:13	8:23	8:35
8:05	8:20	8:30	8:40		8:43	8:53	9:05
8:35	8:50	9:00	9:10		9:13	9:23	9:35
9:35	9:50	10:00	10:10		10:13	10:23	10:35
10:35	10:50	11:00	11:10		11:13	11:23	11:35
11:35	11:50	12:00	12:10		12:13	12:23	12:35
12:35	12:50	1:00	1:10		1:13	1:23	1:35
1:35	1:50	2:00	2:10		2:13	2:23	2:35
2:05	2:20	2:30	2:40		2:43	2:53	3:05
2:20*	2:35*	2:45*	2:55*	3:10*		3:25*	3:35*
2:35	2:50	3:00	3:10		3:13	3:23	3:35
2:45*	3:00*	3:10*	3:20*	3:30*		3:45*	3:55*
3:05	3:20	3:30	3:40		3:43	3:53	4:05
3:35	3:50	4:00	4:10		4:13	4:23	4:35
4:05	4:20	4:30	4:40		4:43	4:53	5:05
4:35	4:50	5:00	5:10		5:13	5:23	5:35
5:05	5:20	5:30	5:40		5:43	5:53	6:05
5:35	5:50	6:00	6:10		6:13	6:23	6:35
6:35	6:50	7:00	7:10		7:13	7:23	7:35
7:35	7:50	8:00	8:10		8:13	8:23	8:35
8:35	8:50	9:00	9:10		9:13	9:23	9:35
9:35	9:50	10:00	10:10		10:13	10:23	10:35

* Trips operate on school days only. On early release days, trips will operate one hour earlier.

SATURDAY
CROSSTOWN LOOP VIA STEVENS AVENUE

Library (A)	Westgate (B)	Morrill's Corner (C)	Washington Auburn (D)	Allen's Corner (S)	Washington Veranda (F)	Library (A)
7:35	7:50	8:00	8:10	8:13	8:23	8:35
8:35	8:50	9:00	9:10	9:13	9:23	9:35
9:35	9:50	10:00	10:10	10:13	10:23	10:35
10:35	10:50	11:00	11:10	11:13	11:23	11:35
11:35	11:50	12:00	12:10	12:13	12:23	12:35
12:35	12:50	1:00	1:10	1:13	1:23	1:35
1:35	1:50	2:00	2:10	2:13	2:23	2:35
2:35	2:50	3:00	3:10	3:13	3:23	3:35
3:35	3:50	4:00	4:10	4:13	4:23	4:35
4:35	4:50	5:00	5:10	5:13	5:23	5:35
5:35	5:50	6:00	6:10	6:13	6:23	6:35
6:35	6:50	7:00	7:10	7:13	7:23	7:35
7:35	7:50	8:00	8:10	8:13	8:23	8:35
8:35	8:50	9:00	9:10	9:13	9:23	9:35
9:35	9:50	10:00	10:10	10:13	10:23	10:35

□□□C□N□ □□SS S□□□□□ □□D□V□□□PM□N□

Plan 1

REDFERN PROPERTIES, LLC
PORTLAND, MAINE

LEGEND:

EXISTING		PROPOSED
REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION	STRIPING	
	BUILDING (SECOND FLOOR)	
	BRICK SIDEWALK	
	GREEN SPACE	
	EDGE OF PAVEMENT	
	SEDIMENTATION BARRIER	
	UNDERDRAIN	
	CURB	
	SIGN	
	LAMP OR LIGHT POLE	
	UTILITY POLE	
	GUY WIRE	
	WATER VALVE	
	FIRE HYDRANT	
	SEWER MANHOLE	
	CATCH BASIN	
	DRAIN MANHOLE	
	FIELD INLET	
	OVERHEAD UTILITY LINE	
	UNDERGROUND ELECTRIC LINE	
	UNDERGROUND WATER LINE	
	MINOR CONTOURS (1FT EX., 0.5FT PROP.)	121'
	MAJOR CONTOURS (5FT)	125'
	GAS LINE	AS
	STORM DRAIN LINE	
	SEWER LINE	S S
	EXISTING/PROPOSED BUILDING	
	PROPERTY LINE	
	FOUNDATION DRAIN	
	ROOF DRAIN	

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CALL BEFORE YOU DIG
1-888-DIG-SAFE
1-888-344-7233

UTILITIES

SEWER:

PUBLIC SERVICES ENGINEERING DEPARTMENT
55 PORTLAND STREET
PORTLAND, MAINE 04101
CONTACT: DAVID MARGOLIS-PINEO
(207) 874-8850

WATER:

PORTLAND WATER DISTRICT
225 DOUGLAS STREET
PO BOX 3553
PORTLAND, MAINE 04104
ATTN: GLISSEN HAVU
(207) 761-8310

ELECTRIC:

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: JAMIE COUGH
(207) 842-2367

TELEPHONE:

FAIRPOINT COMMUNICATIONS
45 FOREST AVE
PORTLAND MAINE 04101
CONTACT: JOHN CAPRIO
(207) 797-1842

CABLE:

TIME WARNER CABLE
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: MARK PELLETIER
(877) 546-0962

NATURAL GAS:

UNITIL SERVICE CORP
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: KELLY FOWLER
(207) 541-2536

PROJECT TEAM

DEVELOPER:

REDFERN PROPERTIES LLC
PORTLAND, MAINE
CONTACT: JONATHAN CULLEY
(207) 776-9715

OWNER'S REPRESENTATIVE:

CORDJIA CAPITAL PROJECTS GROUP
PORTLAND, MAINE
CONTACT: BLAINE M. BUCK, A.I.A., P.E.
(207) 236-9970

ARCHITECT:

RYAN SENATORE ARCHITECTURE
PORTLAND, MAINE
CONTACT: RYAN SENATORE
(207) 650-6414

SURVEYOR:

TITCOMB SURVEY
PORTLAND, MAINE
CONTACT: REX CROTEAU, PLS
(207) 878-7870

GEOTECHNICAL ENGINEER:

SUMMIT GEOENGINEERING SERVICES, INC.
LEWISTON, MAINE
CONTACT: BILL PETERLEIN, PE
(207) 576-3313

STRUCTURAL ENGINEER:

STRUCTURAL INTEGRITY CONSULTING ENGINEERS, INC.
PORTLAND, MAINE
CONTACT: AARON JONES, PE
(207) 774-4614

CONSTRUCTION MANAGEMENT CO.:

PC CONSTRUCTION COMPANY
PORTLAND, MAINE
CONTACT: TODD RIORDAN
(802) 651-1239

TRAFFIC ENGINEER:

TRAFFIC SOLUTIONS
PORTLAND, MAINE
CONTACT: BILL BRAY, PE
(207) 774-3603

M.E.P. ENGINEER:

ALLIED ENGINEEERING
PORTLAND, MAINE
CONTACT: IAN MACDONALD, P.E., LEED AP, HCDP
(207) 221-2260

FIRE ENGINEER:

FIRE RISK MANAGEMENT, INC.
BATH, MAINE
CONTACT: MARK CUMMINGS, P.E.
(207) 442-7200

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CM	CONSTRUCTION MANAGER
CONC.	CONCRETE
CUBIC YARD	CY
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: COVER SHEET
PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT
CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE WITHOUT SUCH PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2563

FILE:	1060_DETAILS
DATE:	4/16/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11418
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.
C-□1

Plan 2

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 4 DAYS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE, ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.

4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, THE CITY OF PORTLAND AND SERVICING UTILITY REQUIREMENTS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.

5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS STAMPED "AS–BUILT".

6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.

7. EXISTING CONDITIONS, BOUNDARY SURVEY AND TOPOGRAPHIC FROM THE PLAN TITLED EXSTING CONDITIONS SURVEY BY TITCOMB SURVEYING FOR REDFERN PROPERTIES, DATED **MOST RECENT.**

8. SUBSURFACE DATA HAVE BEEN OBTAINED BY SUMMIT GEOENGINEERING SERVICES, INC. AND SHALL BE INCLUDED IN THE CONTRACT DOCUMENTS.

9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AND ALL ADJACENT PROPERTIES AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.

10. CONSTRUCTION MANAGEMENT PLAN **(TBD)** BY THE PC CONSTRUCTION SHALL BE REFERRED TO FOR ANTICIPATED PROJECT SCHEDULE AND CLOSURES. TRAFFIC CONTROL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

11. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE CONTRACT DOCUMENTS.

2. ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR ENGINEER'S REVIEW. ANY UNCHECKED OR NON–STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.

5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.

6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.

8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.

9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.

10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED.

11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE.

12. THE ENGINEER BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.

SPECIAL INSPECTION NOTES:

1. ALL SITE SOILS–RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS, AS WELL AS SITE DRAINAGE, SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.

2. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT.

3. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.

4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.

5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

6. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

7. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.

8. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

9. SPECIAL INSPECTION FIRM SHALL BE EMPLOYED BY REDFERN AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, OR ELEVATION AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A REGISTERED LAND SURVEYOR.

2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

3. SIGNAGE, STRIPING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF PORTLAND, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE.

6. CONTRACTOR TO ENSURE THAT DRIVEWAYS AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND IN USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF SITE PLAN – LEVEL III AND SUBDIVISION PERMIT FROM THE CITY OF PORTLAND.

2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY LOAM WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.

2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. SEE BORING LOGS FOR ADDITIONAL INFORMATION.

3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE OWNER. PRIOR TO THE CONTRACTOR PRICING THE WORK THE CONTRACTOR SHALL REQUEST PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.

4. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.

5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.

6. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS.

7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.

8. A POST CONSTRUCTION – STORMWATER INSPECTION & MAINTENANCE PLAN IS FILED WITH THE CITY OF PORTLAND.

9. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

10. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.

EROSION CONTROL NOTES:

1. ALL ROUTINE MAINTENANCE ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.

2. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.

3. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.

4. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

5. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.

6. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE CIVIL ENGINEER FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.

2. CONTRACTOR TO BYPASS EXISTING SEWER FLOW CONTROL AT CONNECTION TO EXISTING SYSTEM AT NO ADDITIONAL COST.

3. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES.

4. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR–16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.

5. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.

6. CONTRACTOR TO PROVIDE 5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.

7. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. LIMITS FOR THRUST BLOCKS ARE SHOWN ON SHEET **C–XX**.

8. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT DOCUMENT "WATER AND SEWER CONSTRUCTION SPECIFICATIONS AND PROCEDURES", MOST RECENT REVISION.

9. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH CITY OF PORTLAND, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.

10. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION AND WATER MAIN SHUTDOWN WITH THE PORTLAND WATER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.

11. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE PORTLAND WATER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.

12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

13. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.

14. COORDINATE EXIT POINT FOR SECONDARY SERVICE WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN ENGINEERING WITHIN THE UTILITY PLAN.

15. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL MANUAL PRIOR TO ANY WORK.

16. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.

DEMOLITION NOTES:

1. THE EXISTING ASPHALT SHOULD BE STRIPPED AND EITHER PROCESSED ONSITE, REMOVED FROM THE SITE OR DISPOSED OF ONSITE.

2. REFER TO THE BORING LOGS OBTAINED BY SUMMIT GEOENGINEERING SERVICES FOR REDFERN PROPERTIES, LLC. FOR ADDITIONAL INFORMATION.

3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.

4. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
PRELIM. APPLICATION	WHS	7/30/15
PC DD SET	WHS	8/7/15
PC PROGRESS SET	WHS	8/21/15
COMMENT/RESPONSE	WHS	9/15/15

REVISION	REV. DATE

DRAWING NAME: NOTES SHEET

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8816 PORTLAND, ME 04104

A C O R N ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
ACORN ENGINEERING, INC.
(207) 775-2653

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE WITHOUT WRITTEN PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1060_DETAILS
DATE:	4/16/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAG
CHECKED BY:	WHS

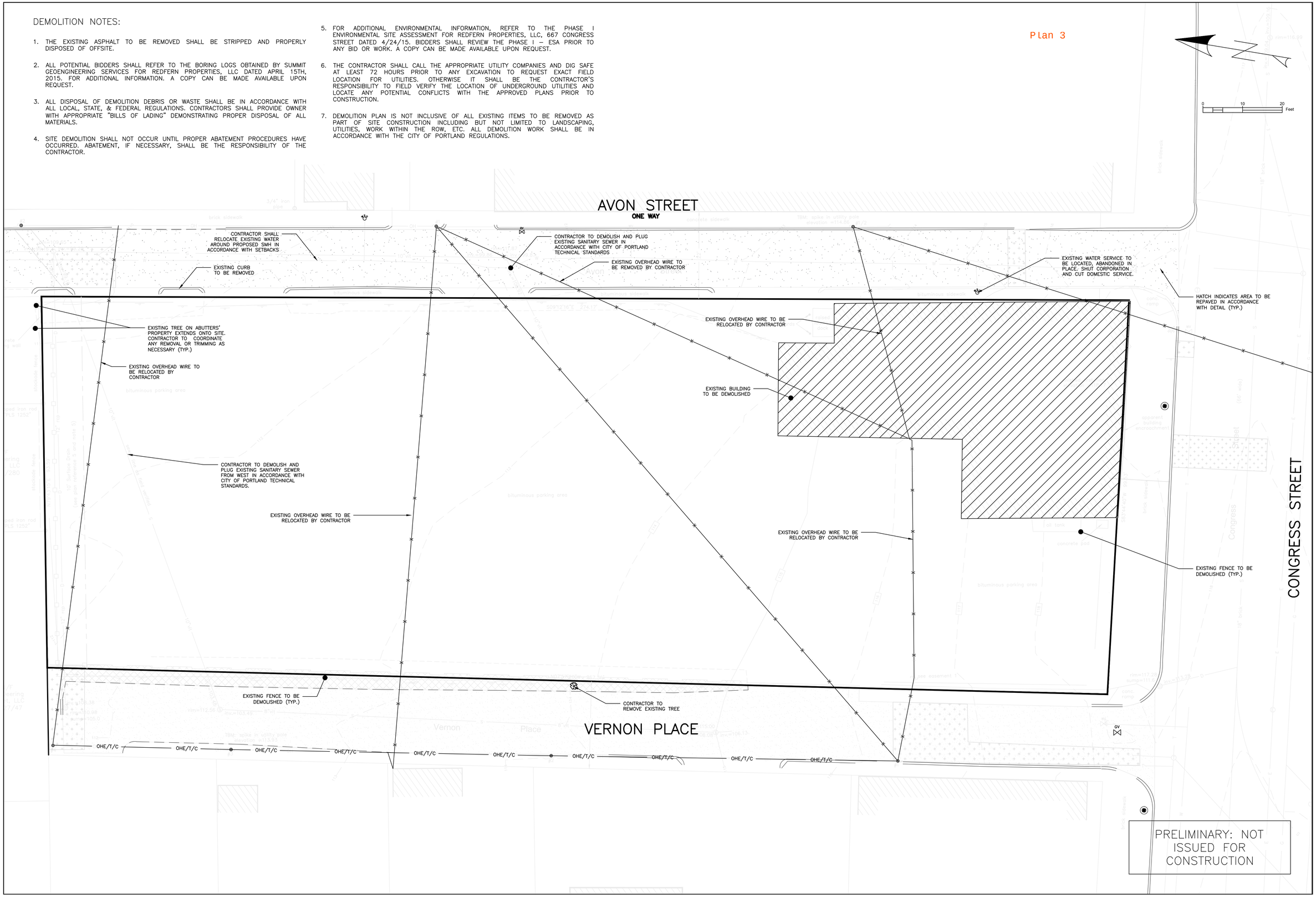
STATE OF MAINE
WILLIAM H. SAVAGE
No. 11412
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.
C-□□

DEMOLITION NOTES:

1. THE EXISTING ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
2. ALL POTENTIAL BIDDERS SHALL REFER TO THE BORING LOGS OBTAINED BY SUMMIT GEOENGINEERING SERVICES FOR REDFERN PROPERTIES, LLC DATED APRIL 15TH, 2015. FOR ADDITIONAL INFORMATION. A COPY CAN BE MADE AVAILABLE UPON REQUEST.
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
4. SITE DEMOLITION SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED. ABATEMENT, IF NECESSARY, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. FOR ADDITIONAL ENVIRONMENTAL INFORMATION, REFER TO THE PHASE I ENVIRONMENTAL SITE ASSESSMENT FOR REDFERN PROPERTIES, LLC, 667 CONGRESS STREET DATED 4/24/15. BIDDERS SHALL REVIEW THE PHASE I – ESA PRIOR TO ANY BID OR WORK. A COPY CAN BE MADE AVAILABLE UPON REQUEST.
6. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
7. DEMOLITION PLAN IS NOT INCLUSIVE OF ALL EXISTING ITEMS TO BE REMOVED AS PART OF SITE CONSTRUCTION INCLUDING BUT NOT LIMITED TO LANDSCAPING, UTILITIES, WORK WITHIN THE ROW, ETC. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF PORTLAND REGULATIONS.

Plan 3



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: DEMOLITION PLAN

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2005

FILE:	1060_CONGRESS
DATE:	8/28/15
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	OJD
DRAWN BY:	OJD
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H SAVAGE
No. 11418
9-15-15
LICENSED
PROFESSIONAL ENGINEER

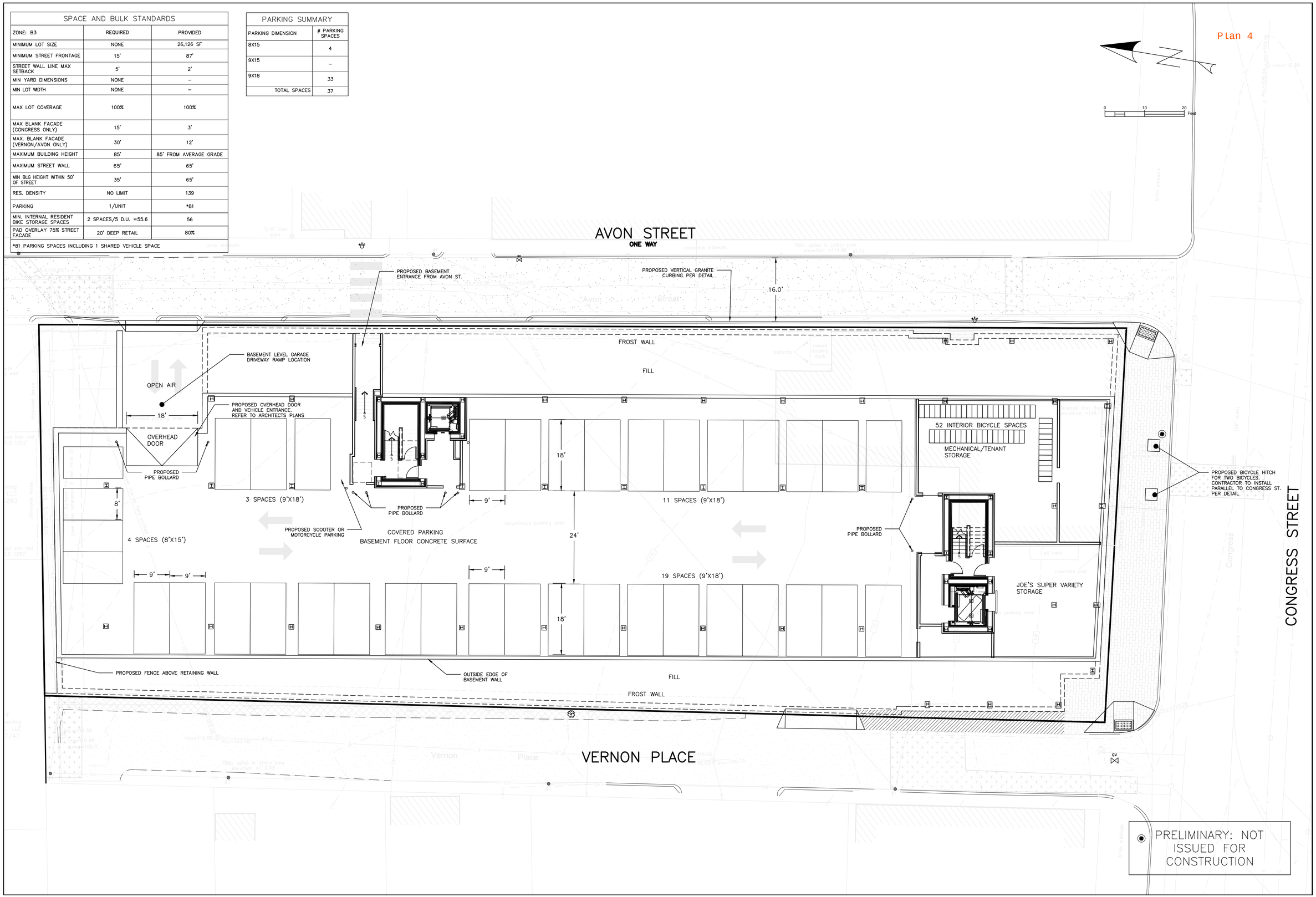
DRAWING NO.
C-

SPACE AND BULK STANDARDS		
ZONE: B3	REQUIRED	PROVIDED
MINIMUM LOT SIZE	NONE	26,126 SF
MINIMUM STREET FRONTAGE	15'	87'
STREET WALL LINE MAX SETBACK	5'	2'
MIN YARD DIMENSIONS	NONE	–
MIN LOT WIDTH	NONE	–
MAX LOT COVERAGE	100%	100%
MAX BLANK FACADE (CONGRESS ONLY)	15'	3'
MAX. BLANK FACADE (VERNON/AVON ONLY)	30'	12'
MAXIMUM BUILDING HEIGHT	85'	85' FROM AVERAGE GRADE
MAXIMUM STREET WALL	65'	65'
MIN BLG HEIGHT WITHIN 50' OF STREET	35'	65'
RES. DENSITY	NO LIMIT	139
PARKING	1/UNIT	*81
MIN. INTERNAL RESIDENT BIKE STORAGE SPACES	2 SPACES/5 D.U. =55.6	56
PAD OVERLAY 75% STREET FACADE	20' DEEP RETAIL	80%

*81 PARKING SPACES INCLUDING 1 SHARED VEHICLE SPACE

PARKING SUMMARY	
PARKING DIMENSION	# PARKING SPACES
8X15	4
9X15	–
9X18	33
TOTAL SPACES	37

Plan 4



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: SITE PLAN: BASEMENT

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE ADOPTED WITHOUT WRITTEN AUTHORIZATION. ANY ADDITIONS OR ALTERATIONS, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 772-2893

FILE:	1060_CONGRESS
DATE:	4/6/2015
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	MAG
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11415 9-15-15 LICENSED PROFESSIONAL ENGINEER

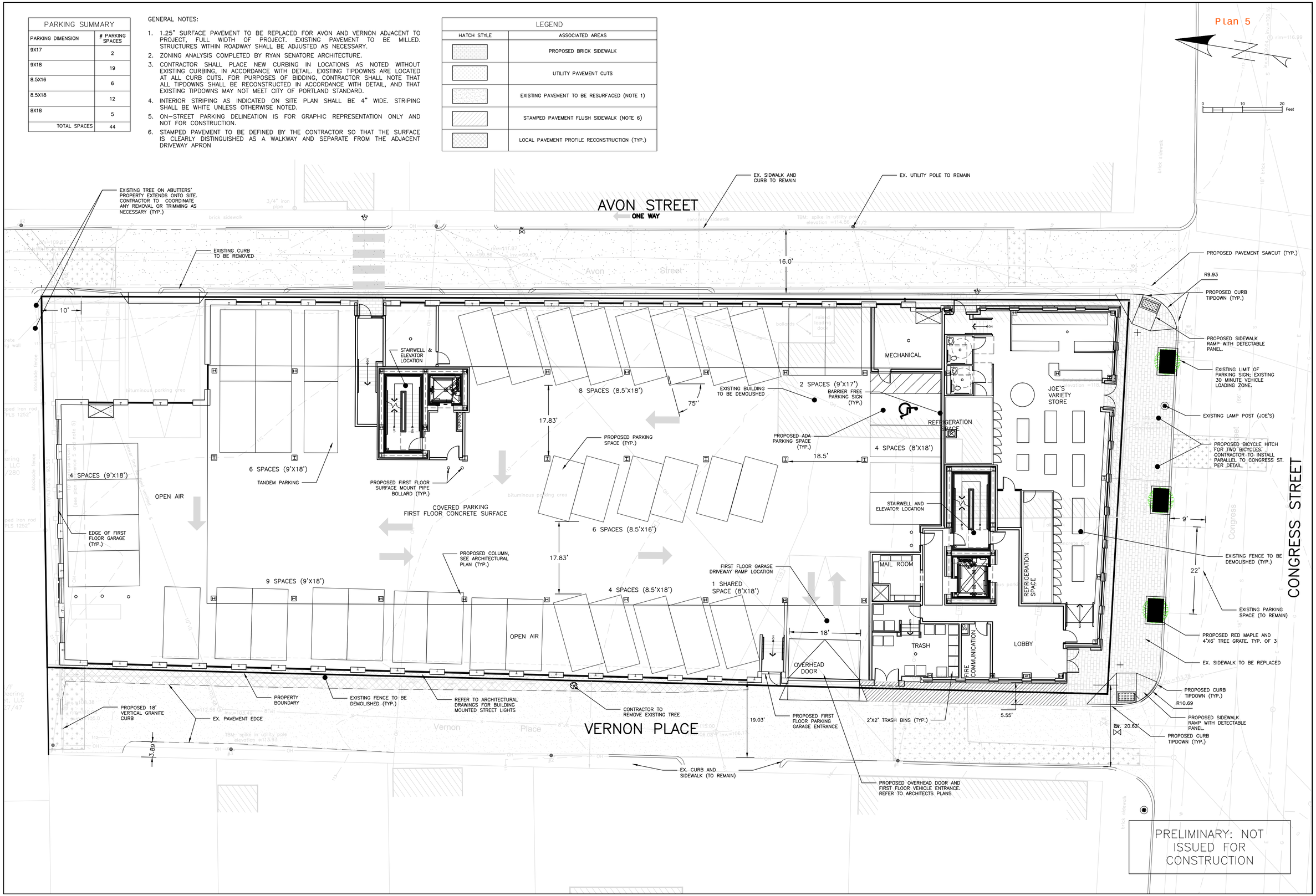
DRAWING NO.
C-1

PARKING SUMMARY	
PARKING DIMENSION	# PARKING SPACES
9X17	2
9X18	19
8.5X16	6
8.5X18	12
8X18	5
TOTAL SPACES	44

GENERAL NOTES:

1. 1.25" SURFACE PAVEMENT TO BE REPLACED FOR AVON AND VERNON ADJACENT TO PROJECT, FULL WIDTH OF PROJECT. EXISTING PAVEMENT TO BE MILLED. STRUCTURES WITHIN ROADWAY SHALL BE ADJUSTED AS NECESSARY.
2. ZONING ANALYSIS COMPLETED BY RYAN SENATORE ARCHITECTURE.
3. CONTRACTOR SHALL PLACE NEW CURBING IN LOCATIONS AS NOTED WITHOUT EXISTING CURBING, IN ACCORDANCE WITH DETAIL. EXISTING TIPDOWNS ARE LOCATED AT ALL CURB CUTS. FOR PURPOSES OF BIDDING, CONTRACTOR SHALL NOTE THAT ALL TIPDOWNS SHALL BE RECONSTRUCTED IN ACCORDANCE WITH DETAIL, AND THAT EXISTING TIPDOWNS MAY NOT MEET CITY OF PORTLAND STANDARD.
4. INTERIOR STRIPING AS INDICATED ON SITE PLAN SHALL BE 4" WIDE. STRIPING SHALL BE WHITE UNLESS OTHERWISE NOTED.
5. ON-STREET PARKING DELINEATION IS FOR GRAPHIC REPRESENTATION ONLY AND NOT FOR CONSTRUCTION.
6. STAMPED PAVEMENT TO BE DEFINED BY THE CONTRACTOR SO THAT THE SURFACE IS CLEARLY DISTINGUISHED AS A WALKWAY AND SEPARATE FROM THE ADJACENT DRIVEWAY APRON

LEGEND	
HATCH STYLE	ASSOCIATED AREAS
	PROPOSED BRICK SIDEWALK
	UTILITY PAVEMENT CUTS
	EXISTING PAVEMENT TO BE RESURFACED (NOTE 1)
	STAMPED PAVEMENT FLUSH SIDEWALK (NOTE 6)
	LOCAL PAVEMENT PROFILE RECONSTRUCTION (TYP.)



ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: SITE PLAN: FIRST FLOOR

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE ADOPTED WITHOUT WRITTEN PERMISSION OF ACORN ENGINEERING, INC. ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2635

FILE:	1060_CONGRESS
DATE:	4/6/2015
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	MAG
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

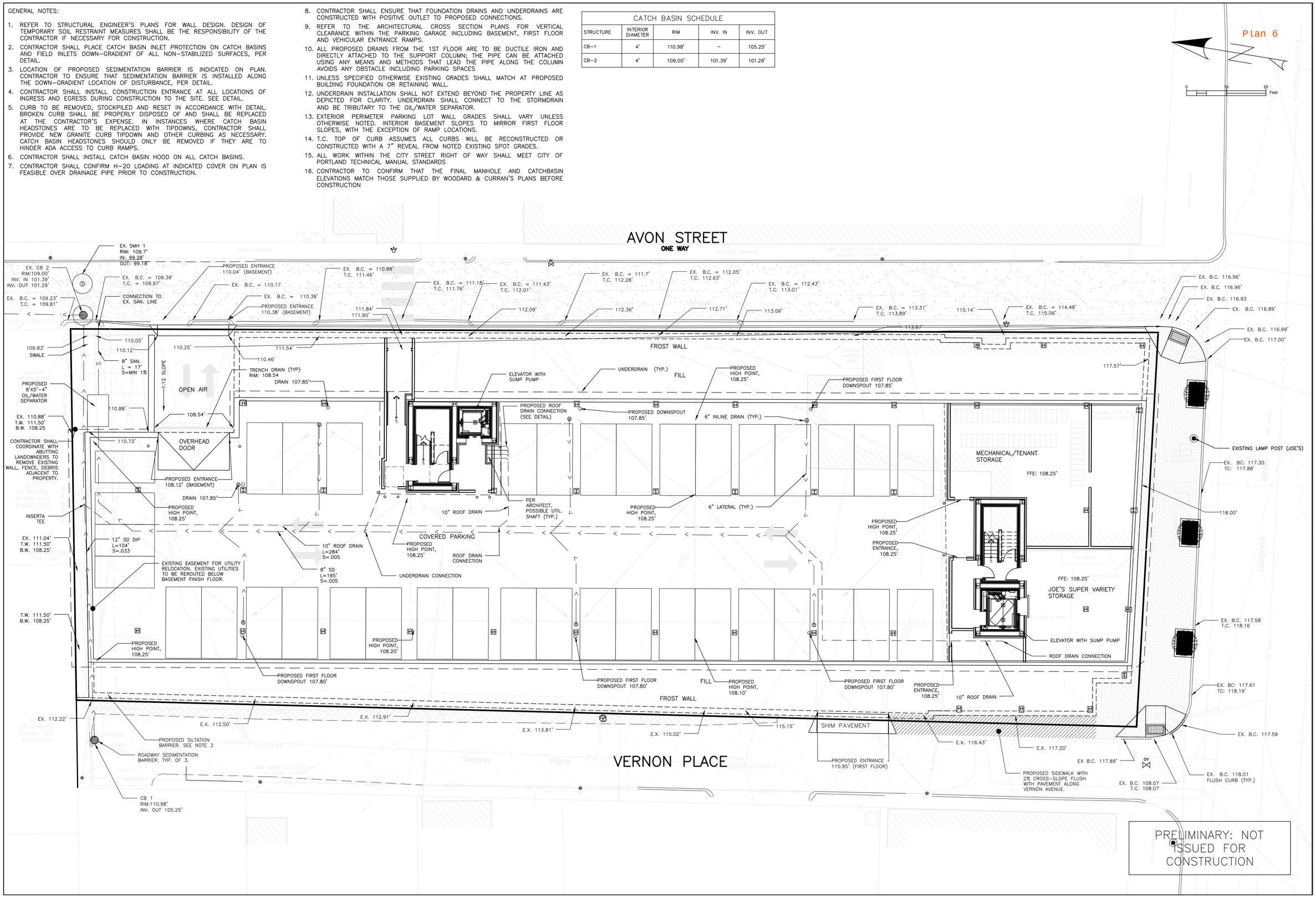
C-11

GENERAL NOTES:

1. REFER TO STRUCTURAL ENGINEER'S PLANS FOR WALL DESIGN. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
2. CONTRACTOR SHALL PLACE CATCH BASIN INLET PROTECTION ON CATCH BASINS AND FIELD INLETS DOWN–GRADIENT OF ALL NON–STABILIZED SURFACES, PER DETAIL.
3. LOCATION OF PROPOSED SEDIMENTATION BARRIER IS INDICATED ON PLAN. CONTRACTOR TO ENSURE THAT SEDIMENTATION BARRIER IS INSTALLED ALONG THE DOWN–GRADIENT LOCATION OF DISTURBANCE, PER DETAIL.
4. CONTRACTOR SHALL INSTALL CONSTRUCTION ENTRANCE AT ALL LOCATIONS OF INGRESS AND EGRESS DURING CONSTRUCTION TO THE SITE. SEE DETAIL.
5. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. IN INSTANCES WHERE CATCH BASIN HEADSTONES ARE TO BE REPLACED WITH TIPDOWNS, CONTRACTOR SHALL PROVIDE NEW GRANITE CURB TIPDOWN AND OTHER CURBING AS NECESSARY. CATCH BASIN HEADSTONES SHOULD ONLY BE REMOVED IF THEY ARE TO HINDER ADA ACCESS TO CURB RAMPS.
6. CONTRACTOR SHALL INSTALL CATCH BASIN HOOD ON ALL CATCH BASINS.
7. CONTRACTOR SHALL CONFIRM H–20 LOADING AT INDICATED COVER ON PLAN IS FEASIBLE OVER DRAINAGE PIPE PRIOR TO CONSTRUCTION.
8. CONTRACTOR SHALL ENSURE THAT FOUNDATION DRAINS AND UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
9. REFER TO THE ARCHITECTURAL CROSS SECTION PLANS FOR VERTICAL CLEARANCE WITHIN THE PARKING GARAGE INCLUDING BASEMENT, FIRST FLOOR AND VEHICULAR ENTRANCE RAMPS.
10. ALL PROPOSED DRAINS FROM THE 1ST FLOOR ARE TO BE DUCTILE IRON AND DIRECTLY ATTACHED TO THE SUPPORT COLUMN; THE PIPE CAN BE ATTACHED USING ANY MEANS AND METHODS THAT LEAD THE PIPE ALONG THE COLUMN AVOIDS ANY OBSTACLE INCLUDING PARKING SPACES
11. UNLESS SPECIFIED OTHERWISE EXISTING GRADES SHALL MATCH AT PROPOSED BUILDING FOUNDATION OR RETAINING WALL.
12. UNDERDRAIN INSTALLATION SHALL NOT EXTEND BEYOND THE PROPERTY LINE AS DEPICTED FOR CLARITY. UNDERDRAIN SHALL CONNECT TO THE STORMDRAIN AND BE TRIBUTARY TO THE OIL/WATER SEPARATOR.
13. EXTERIOR PERIMETER PARKING LOT WALL GRADES SHALL VARY UNLESS OTHERWISE NOTED. INTERIOR BASEMENT SLOPES TO MIRROR FIRST FLOOR SLOPES, WITH THE EXCEPTION OF RAMP LOCATIONS.
14. T.C. TOP OF CURB ASSUMES ALL CURBS WILL BE RECONSTRUCTED OR CONSTRUCTED WITH A 7" REVEAL FROM NOTED EXISTING SPOT GRADES.
15. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS
16. CONTRACTOR TO CONFIRM THAT THE FINAL MANHOLE AND CATCHBASIN ELEVATIONS MATCH THOSE SUPPLIED BY WOODARD & CURRAN'S PLANS BEFORE CONSTRUCTION

CATCH BASIN SCHEDULE

STRUCTURE	INTERIOR DIAMETER	RIM	INV. IN	INV. OUT
CB–1	4'	110.98'	–	105.25'
CB–2	4'	109.00'	101.39'	101.29'



ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. DATE

DRAWING NAME: GRADING & DRAINAGE PLAN: BASEMENT

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN AUTHORIZATION FROM ACORN ENGINEERING, INC. ALL MODIFICATIONS, ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775–2635

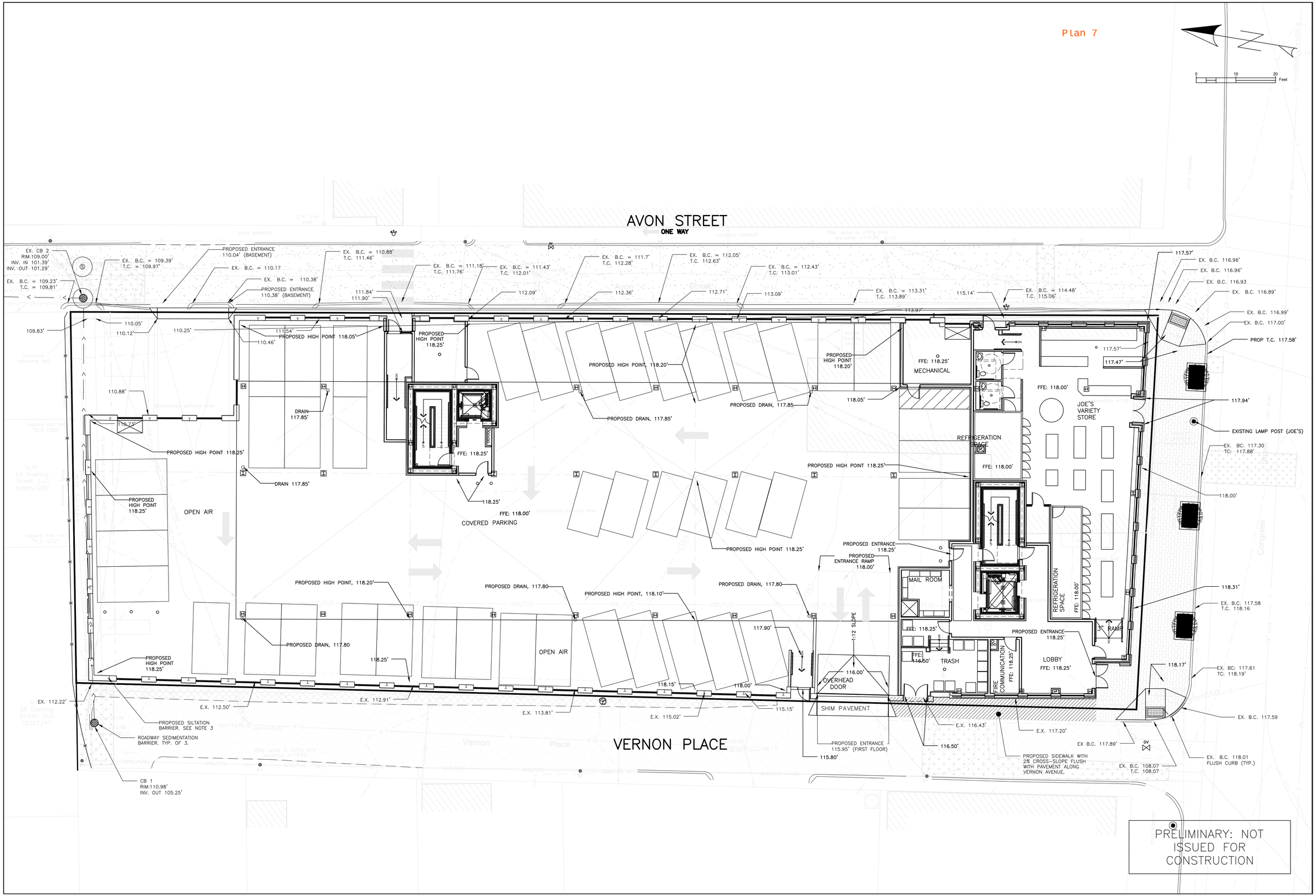
FILE:	1060_CONGRESS
DATE:	4/6/2015
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	MAG
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11418
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.

C-□□

Plan 7



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: GRADING & DRAINAGE PLAN: FIRST FLOOR

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

ACORN ENGINEERING, INC.

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ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2635

FILE:	1060_CONGRESS
DATE:	4/6/2015
JN:	1060
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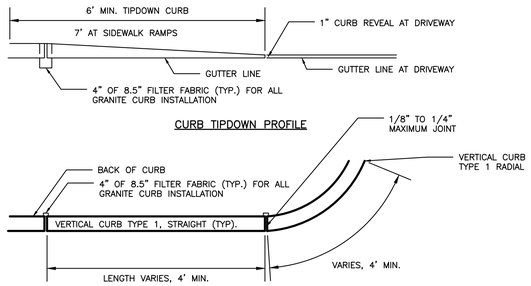
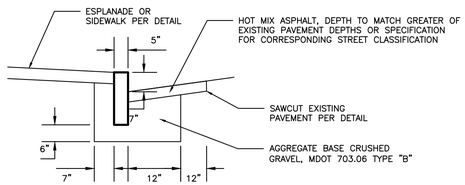
DESIGNED BY:	MAG
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

C-1





VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL

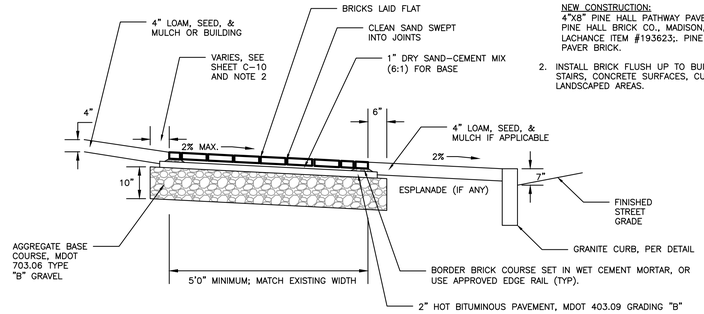
NOT TO SCALE

NOTES:

1. BRICKS TO BE USED:

   NEW CONSTRUCTION:
   4"X8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM #193623;. PINE HALL PATHWAY PAVER BRICK.

2. INSTALL BRICK FLUSH UP TO BUILDING, PAVEMENT, STAIRS, CONCRETE SURFACES, CURB OR LANDSCAPED AREAS.



BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL

NOT TO SCALE

NOTES:

1. COMPOSITE WET SET (REPLACEABLE) DETECTABLE WARNING PANELS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, INC. (WWW.ADATILE.COM) OR APPROVED EQUAL.

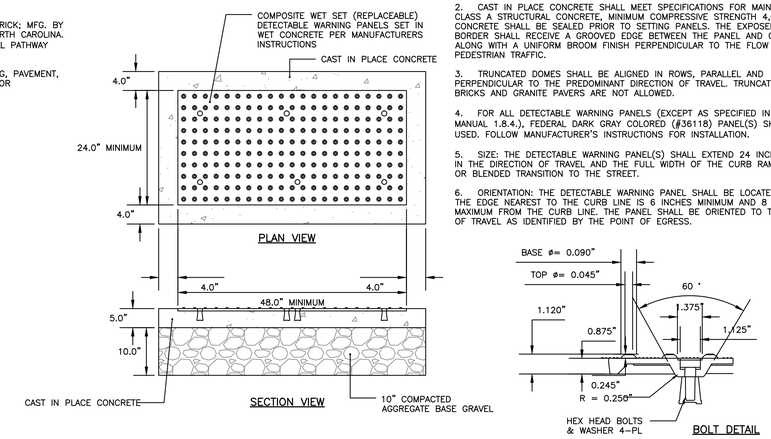
2. CAST IN PLACE CONCRETE SHALL MEET SPECIFICATIONS FOR MAINE D.O.T. CLASS A STRUCTURAL CONCRETE, MINIMUM COMPRESSIVE STRENGTH 4,000 PSI. THE CONCRETE SHALL BE SEALED PRIOR TO SETTING PANELS. THE EXPOSED CONCRETE BORDER SHALL RECEIVE A GROOVED EDGE BETWEEN THE PANEL AND CONCRETE, ALONG WITH A UNIFORM BROOM FINISH PERPENDICULAR TO THE FLOW OF PEDESTRIAN TRAFFIC.

3. TRUNCATED DOMES SHALL BE ALIGNED IN ROWS, PARALLEL AND PERPENDICULAR TO THE PREDOMINANT DIRECTION OF TRAVEL. TRUNCATED DOME BRICKS AND GRANITE PAVERS ARE NOT ALLOWED.

4. FOR ALL DETECTABLE WARNING PANELS (EXCEPT AS SPECIFIED IN TECHNICAL MANUAL 1.8.4.), FEDERAL DARK GRAY COLORED (#36118) PANEL(S) SHALL BE USED. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.

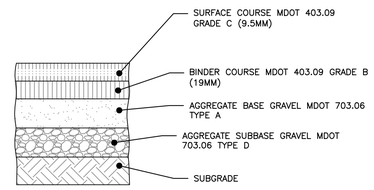
5. SIZE: THE DETECTABLE WARNING PANEL(S) SHALL EXTEND 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION TO THE STREET.

6. ORIENTATION: THE DETECTABLE WARNING PANEL SHALL BE LOCATED SO THAT THE EDGE NEAREST TO THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE. THE PANEL SHALL BE ORIENTED TO THE DIRECTION OF TRAVEL AS IDENTIFIED BY THE POINT OF EGRESS.



SIDEWALK RAMP DETECTABLE WARNING PANEL

NOT TO SCALE



NOTE:
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. ARTERIAL BITUMINOUS PAVEMENT PROFILE APPLIES ONLY WITHIN CONGRESS STREET R.O.W.

THICKNESS OF LAYERS	
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
3"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
6"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

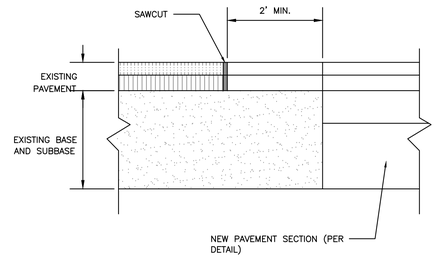
CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE

NOT TO SCALE

NOTES:

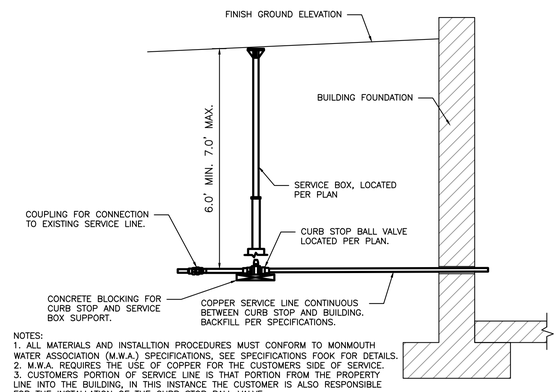
1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. APPLY BITUMINOUS TACK COAT PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.

2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE



NOTES:
1. ALL MATERIALS AND INSTALLTION PROCEDURES MUST CONFORM TO MONMOUTH WATER ASSOCIATION (M.W.A.) SPECIFICATIONS, SEE SPECIFICATIONS FOOK FOR DETAILS.
2. M.W.A. REQUIRES THE USE OF COPPER FOR THE CUSTOMERS SIDE OF SERVICE.
3. CUSTOMERS PORTION OF SERVICE LINE IS THAT PORTION FROM THE PROPERTY LINE INTO THE BUILDING, IN THIS INSTANCE THE CUSTOMER IS ALSO RESPONSIBLE FOR THE INSTALLATION OF THE CURB STOP BALL VALVE.
4. FOR THE INTERIOR BUILDING PLUMBING REFER TO THE PLUMPING PLAN BY MECHANICAL SYSTEMS ENGINEERS.

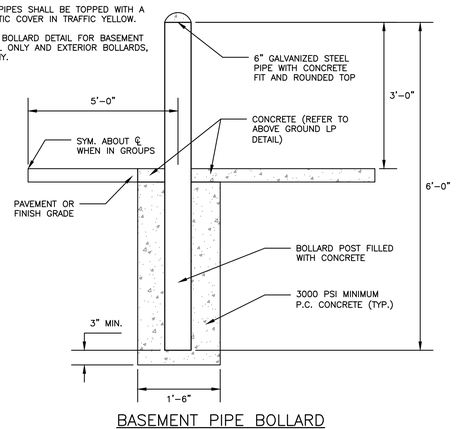
SERVICE INSTALLATION DETAIL

NOT TO SCALE

DESIGN NOTE:

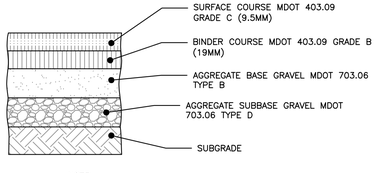
1. ALL PIPES SHALL BE TOPPED WITH A PLASTIC COVER IN TRAFFIC YELLOW.

2. PIPE BOLLARD DETAIL FOR BASEMENT LEVEL ONLY AND EXTERIOR BOLLARDS, IF ANY.



BASEMENT PIPE BOLLARD

NOT TO SCALE

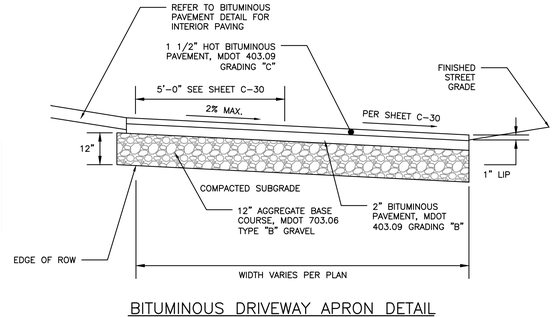


NOTE:
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. LOCAL BITUMINOUS PAVEMENT PROFILE APPLIES TO LOCATIONS NOT INCLUDED WITHIN CONGRESS STREET R.O.W.

THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.09 GRADE C (9.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

LOCAL BITUMINOUS PAVEMENT PROFILE

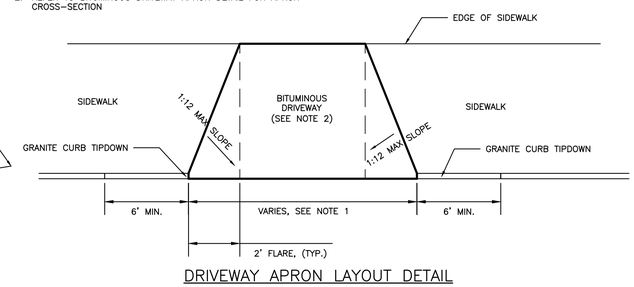
NOT TO SCALE



BITUMINOUS DRIVEWAY APRON DETAIL

NOT TO SCALE

NOTES:
1. REFER TO GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR SITE GRADING
2. REFER TO BITUMINOUS DRIVEWAY APRON DETAIL FOR APRON CROSS-SECTION



DRIVEWAY APRON LAYOUT DETAIL

NOT TO SCALE

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: SITE DETAILS 1

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2005

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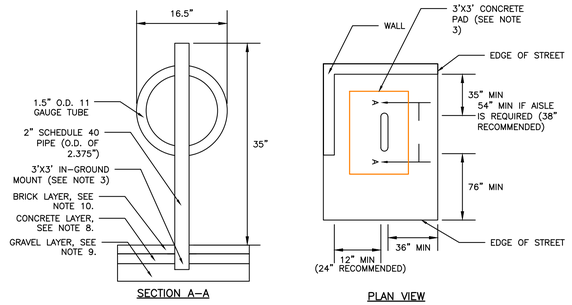
FILE:	1060_DETAILS
DATE:	4/20/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAC
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-□□

NOTES:

1. BICYCLE RACK SHALL HAVE CAPACITY FOR TWO BICYCLES.
2. BICYCLE RACK PARTS SHALL BE OF UNIFORM COLOR AND SHALL BE FINISHED IN ACCORDANCE WITH PRODUCT SPECIFICATION.
3. BICYCLE RACK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S MOST RECENT INSTALLATION RECOMMENDATIONS, AND SHALL BE INSTALLED WITH AN IN-GROUND MOUNT UNLESS OTHERWISE APPROVED BY ENGINEER.
4. BICYCLE RACK SHALL BE "DERO BIKE HITCH", AS MANUFACTURED BY DERO BIKE RACKS.
5. MINIMUM OFFSETS SHOWN. MANUFACTURER'S RECOMMENDED OFFSETS SHALL BE ENFORCED WHERE POSSIBLE.
6. MINIMUM DISTANCE BETWEEN BICYCLE RACKS SHALL BE 24". RECOMMENDED DISTANCE BETWEEN BICYCLE RACKS SHALL BE 38".
7. ALL OFFSETS ARE FROM OUTSIDE EDGES OF ITEMS.
8. CONCRETE SHALL BE 4000 PSI @28 DAYS. BOTTOM OF CONCRETE SHALL BE AT TOP OF SIDEWALK GRAVEL ELEVATION. DEPTH VARIES APRROX. 4"-7".
9. GRAVEL LAYER SHALL BE INSTALLED IN ACCORDANCE WITH BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL, AND SHALL BE MAINEDOT 703.06 TYPE B.
10. TOP OF BRICK LAYER SHALL BE AT SAME ELEVATION IN ACCORDANCE WITH BRICK SIDEWALK DETAIL.

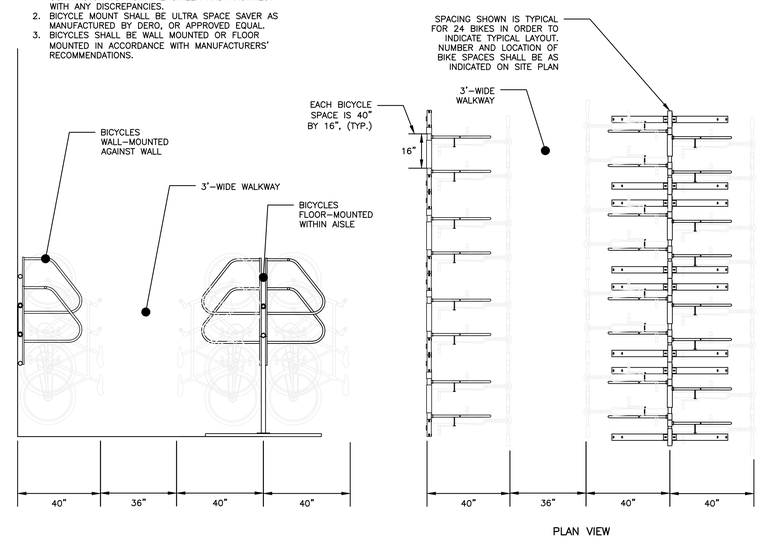


BICYCLE HITCH DETAIL

NOT TO SCALE

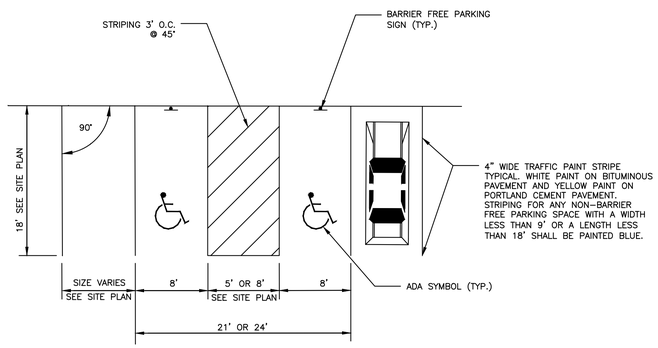
NOTES:

1. FINAL LOCATION OF INTERIOR BICYCLE RACKS SHALL CONFORM TO ALL ARCHITECTURAL DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER AND ARCHITECT WITH ANY DISCREPANCIES.
2. BICYCLE MOUNT SHALL BE ULTRA SPACE SAVER AS MANUFACTURED BY DERO, OR APPROVED EQUAL.
3. BICYCLES SHALL BE WALL MOUNTED OR FLOOR MOUNTED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.



INTERIOR BICYCLE SPACE LAYOUT

NOT TO SCALE



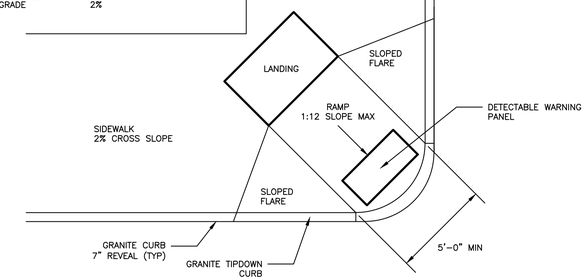
PARKING SPACE DIMENSIONS

NOT TO SCALE

NOTES:

1. ALL RAMPS SHALL COMPLY WITH ADA STANDARDS
2. LANDING AREA MAY BE REQUIRED BASED ON SIDEWALK DIMENSIONS
3. GRANITE CURB ADJACENT TO RAMP SHALL BE FLUSH WITH STREET
4. SIDEWALK MATERIAL SHALL BE PER CITY SIDEWALK MATERNAL POLICY
5. FLARED SECTIONS SHOULD MATCH SURFACE MATERIAL USED FOR SIDEWALK CONSTRUCTION
6. 7'-0" FLARE MINIMUM

DESIGN ELEMENT	SLOPE IN DIRECTION OF TRAVEL	CROSS SLOPE
APPROACH	MAX 8.33%	2%
LANDING	2%	2%
RAMP	MAX 8.33%	MATCH STREET GRADE
FLARE	MAX 10% AT CURB FACE	–
SIDEWALK	MATCH STREET GRADE	2%



SIDEWALK RAMP WITH DETECTABLE PANEL

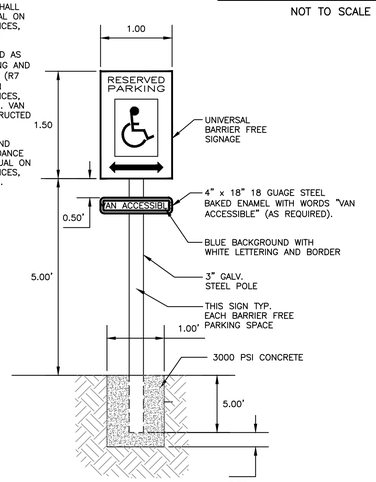
NOT TO SCALE

NOTES:

1. ALL ASPECTS OF RESERVED PARKING SIGN CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION

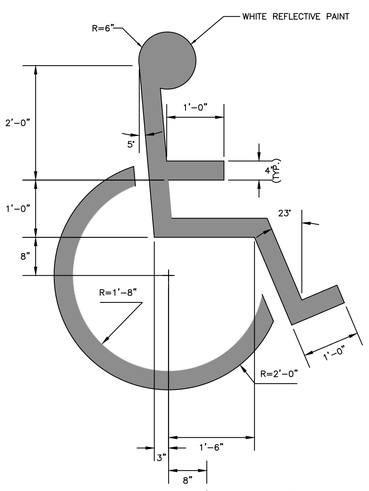
2. SIGN SHALL BE CONSTRUCTED AS SIGN R7-8 UNDER THE "PARKING AND STANDING SIGNS AND PLAQUES" (R7 SERIES) WITHIN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION. VAN ACCESSIBILITY SHALL BE CONSTRUCTED AS SIGN R7-8a OR R7-8b.

3. SIGN POST CONSTRUCTION AND MOUNTING SHALL BE IN ACCORDANCE WITH CHAPTER 2A OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 OR MOST RECENT EDITION.



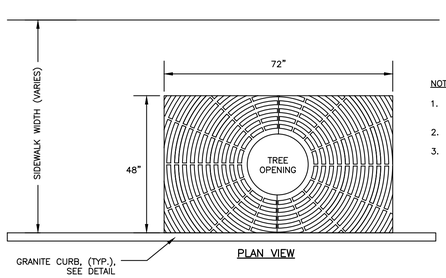
BARRIER FREE PARKING SIGN

NOT TO SCALE



INTERNATIONAL BARRIER FREE SYMBOL

NOT TO SCALE

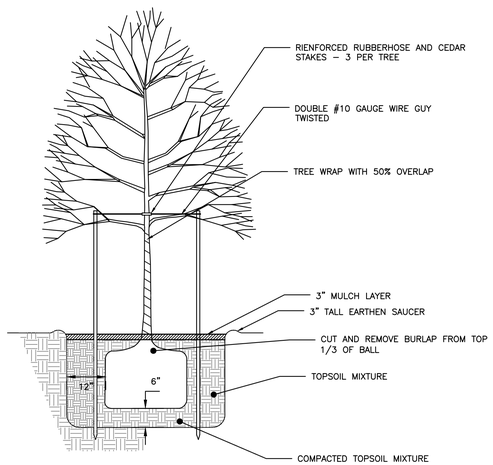


NOTES:

1. 16" EXPANDABLE TREE OPENING; .375" SLOT OPENINGS.
2. SIDEWALK MATERIAL PER PLAN.
3. WHEN INSTALLED IN A BRICK SIDEWALK, GRATE REQUIRES A FRAME TO BE INSTALLED TO HOLD GRATE IN PLACE. CONTRACTOR TO INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTALLATION PROCEDURES FOR PAVERS. CONTRACTOR TO SUBMIT INSTALLATION PROCEDURES FOR REVIEW FROM ENGINEER PRIOR TO CONSTRUCTION.

EXPANDABLE TREE GRATE NEENAH MODEL R-8811

NOT TO SCALE



TREE PLANTING DETAIL

NOT TO SCALE

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: SITE DETAILS 2

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE WITHOUT WRITTEN PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

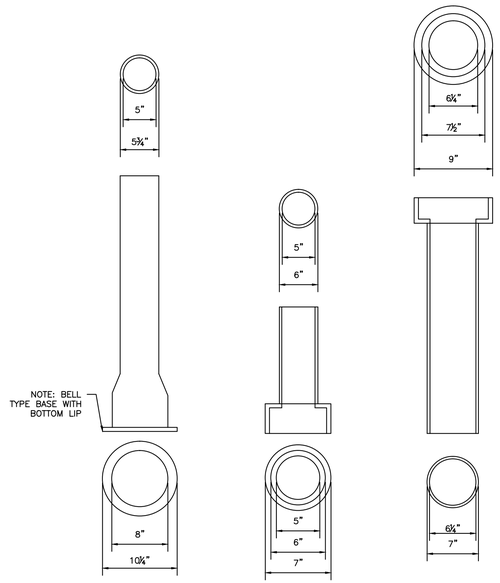
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 772-2893

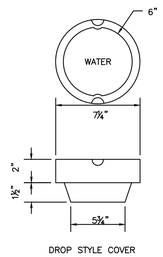
FILE:	1060_DETAILS
DATE:	4/20/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

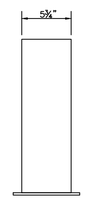
DRAWING NO.

C-□1





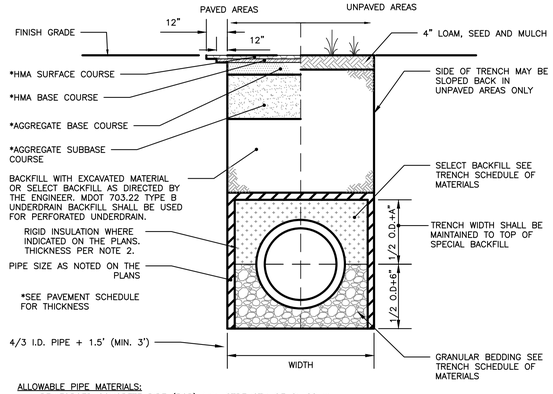
DROP STYLE COVER



(NUMBERS ARE FOR 5 ¾" BUFFALO VALVE BOXES) (BASE SECTION MAY BE USED AS INTERMEDIATE SECTION)

VALVE BOX & COVER

N.T.S.



ALLOWABLE PIPE MATERIALS:

- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTE:

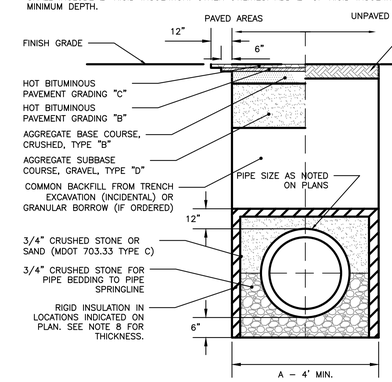
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
   4.1. 2'-0" – STORM DRAIN
   4.2. 5'-0" – SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF PORTLAND ROW.

STORM DRAIN AND SEWER TYPICAL TRENCH SECTION

NOT TO SCALE

DESIGN NOTES:

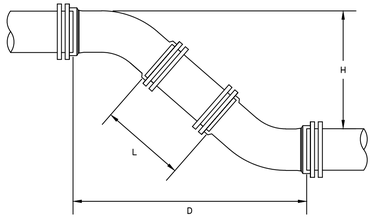
1) ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2) ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II-2.
3) BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4) WHERE APPLICABLE, PERFORATIONS IN STORM DRAIN (PERF.SD) SHALL BE ORIENTED UP.
5) ALL STORM DRAINS SHALL BE PVC SDR 35 MIN PS-46 RATING OR OR IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL , SECTION 2 – SANITARY SEWER AND STORM DRAIN – PART 2.5.2
6) IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
7) THIS DETAIL SHALL BE APPLIED ONLY TO PIPE TRENCHES WITHIN OF THE CITY OF PORTLAND ROW. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.



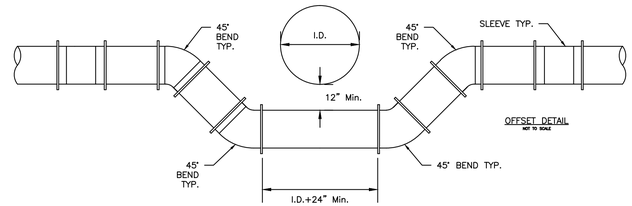
TRENCH WIDTH	
PIPE DIAMETER (IN)	MAX. TRENCH WIDTH, A (FT)
4	4
6	4
8	4
10	4
12	5
15	5
18	5
24	6
36	6
48	7

CITY OF PORTLAND TYPICAL PIPE TRENCH DETAIL

NOT TO SCALE



	6" PIPE		8" PIPE		12" PIPE	
H	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-5/16"	1' 9-1/2"	1' 0-5/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-11/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 9-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-1/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-9/16"
18"	2' 0-1/2"	1' 6-15/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2"	2' 6-1/2"	2' 1"	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	3' 0-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 9-1/8"	2' 11-1/2"	2' 8-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	3' 0-1/2"	2' 9-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-15/16"	3' 1-1/2"	2' 10-15/16"	3' 5-1/2"	2' 6-15/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 7"	3' 6-1/2"	3' 6"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-7/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 6-1/4"
39"	3' 9-1/2"	4' 0-11/16"	3' 10-1/2"	3' 11-11/16"	4' 2-1/2"	3' 7-11/16"
40"	3' 10-1/2"	4' 2-1/16"	3' 11-1/2"	4' 1-1/16"	4' 3-1/2"	3' 9-1/16"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 6-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 6-5/16"	4' 2-1/2"	4' 5-5/16"	4' 6-1/2"	4' 1-5/16"
44"	4' 2-1/2"	4' 7-3/4"	4' 3-1/2"	4' 6-3/4"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
50"	4' 8-1/2"	5' 4-3/16"	4' 9-1/2"	5' 3-3/16"	5' 1-1/2"	4' 11-3/16"
51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"

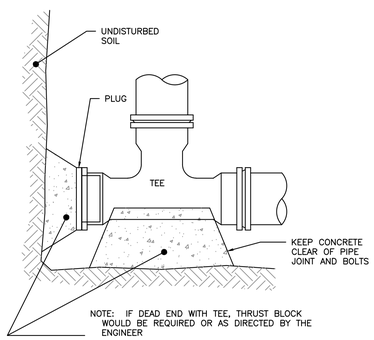


OFFSET DETAIL
NOT TO SCALE

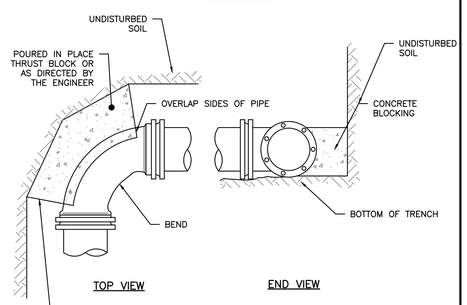
NOTE: DIMENSIONS APPLICABLE FOR SIGMA COMPACT BENDS. FOR TYLER COMPACT BENDS, ADD 1/2" TO "D" DIMENSION AND SUBTRACT 1/2" FROM "L" DIMENSION. FOR OTHER FITTINGS REFER TO MANUFACTURER'S RECOMMENDATIONS.

TYPICAL MAIN OFFSET

NOT TO SCALE



END SECTION



TOP VIEW

END VIEW

REGULAR BEND

THRUST BLOCKING

NOT TO SCALE

CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2–5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2–4"	SCHEDULE 40 PVC	COMMUNICATION	–
C	2–4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2–4"	SCHEDULE 40 PVC	CABLE	–

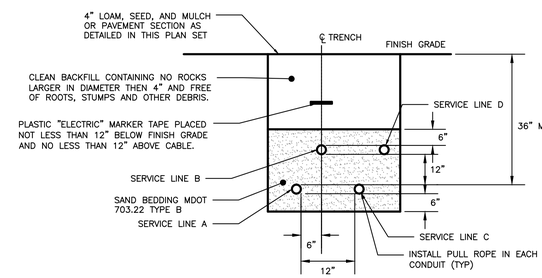
NOTE:

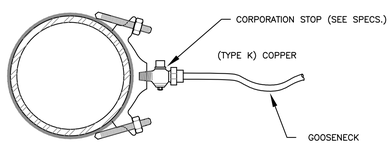
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.

2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

UTILITY TRENCH – PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE

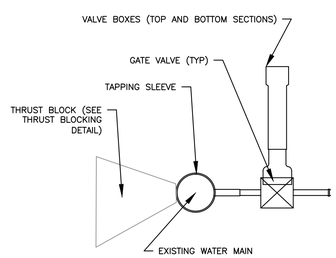
NOT TO SCALE





SERVICE SADDLE

(1-1/2" AND 2" C.C. THREAD)

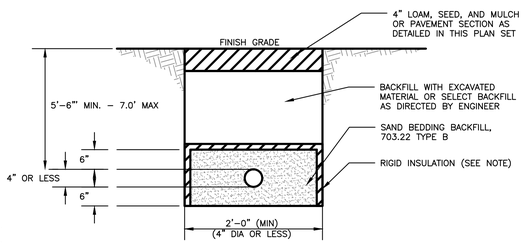


SIDE VIEW

TAPPING SLEEVE AND VALVE

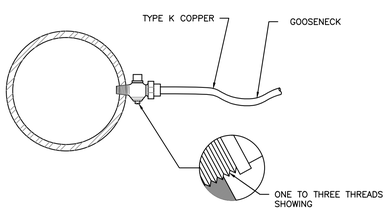
NOT TO SCALE

NOTE:
1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PORTLAND WATER DISTRICT STANDARD DETAILS & SPECIFICATIONS.
2. IF LESS THAN 5'-6" OF COVER IS POSSIBLE ADD 1 INCH OF "BLUE DOW" RIGID INSULATION FOR EVERY 12" LESS COVER.



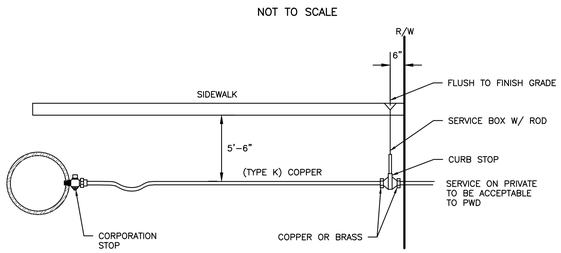
WATER SERVICE TRENCH SECTION DETAIL

NOT TO SCALE



SERVICE TAP

(3/4" AND 1" C.C. THREAD)
NOT TO SCALE



TYPICAL SERVICE CONNECTION

NOT TO SCALE

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: UTILITY DETAILS

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102 (207) 775-2635

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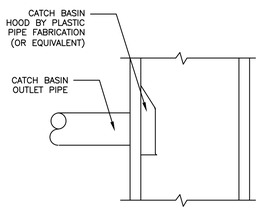
STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-□□



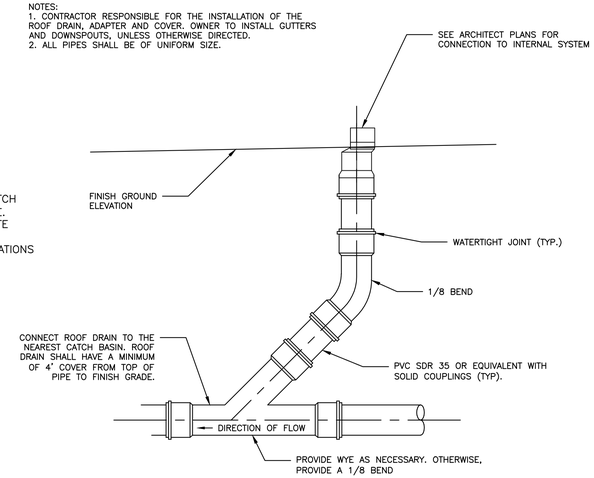
NOTES:

1. INSTALL CATCH BASIN HOODS IN ALL CATCH BASINS WITH A 12" OR 15" OUTLET PIPE.
2. PREFERRED STYLE DESIGNED TO ELIMINATE CEMENTING OF THE TRAP.
3. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION REQUIREMENTS

CATCH BASIN HOOD DETAIL

NOT TO SCALE

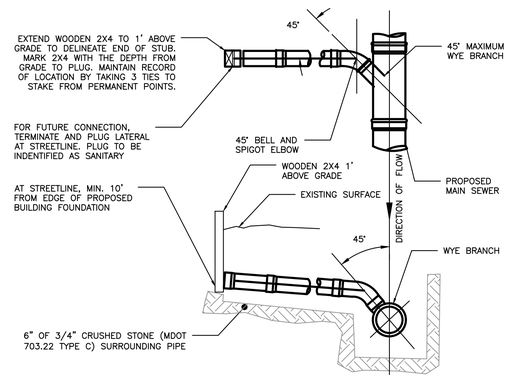
NOTES:
1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER. OWNER TO INSTALL GUTTERS AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



ROOF DRAIN DETAIL

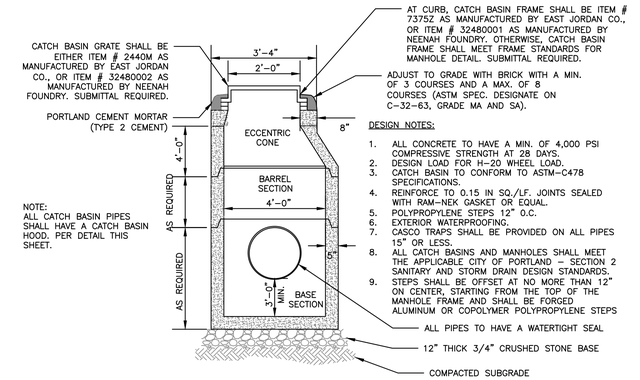
NOT TO SCALE

NOTES:
1) LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2) SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3) CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.



SEWER TEE/WYE CONNECTION DETAIL

NOT TO SCALE

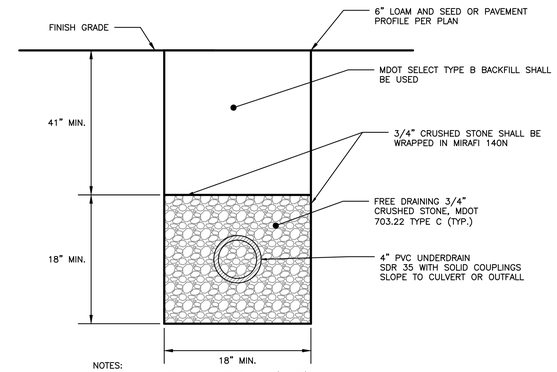


DESIGN NOTES:

1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM-NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 15" OR LESS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF PORTLAND – SECTION 2 SANITARY AND STORM DRAIN DESIGN STANDARDS.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

4'-0" DIAMETER PRECAST CATCH BASIN

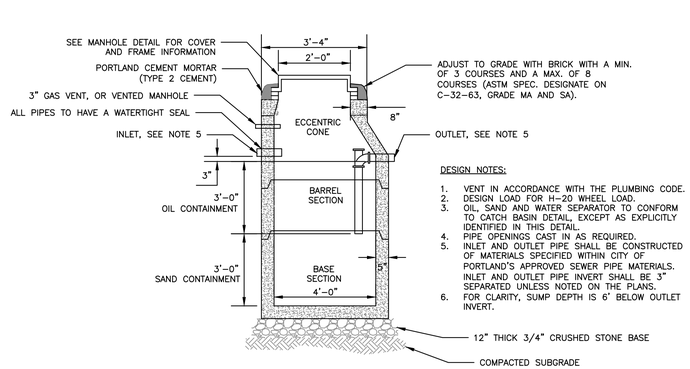
NOT TO SCALE



NOTES:
1. MINIMUM UNDERDRAIN SLOPE 0.0025 (0.25%)
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

UNDERDRAIN DETAIL

NOT TO SCALE

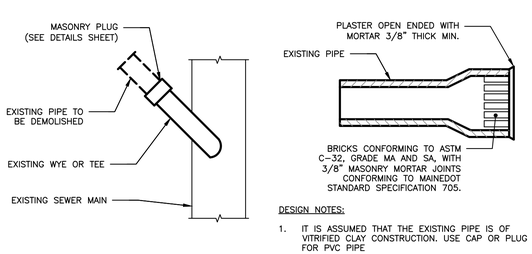


DESIGN NOTES:

1. VENT IN ACCORDANCE WITH THE PLUMBING CODE.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. OIL, SAND AND WATER SEPARATOR TO CONFORM TO CATCH BASIN DETAIL, EXCEPT AS EXPLICITLY IDENTIFIED IN THIS DETAIL.
4. PIPE OPENINGS CAST IN AS REQUIRED.
5. INLET AND OUTLET PIPE SHALL BE CONSTRUCTED OF MATERIALS SPECIFIED WITHIN CITY OF PORTLAND'S APPROVED SEWER PIPE MATERIALS. INLET AND OUTLET PIPE INVERT SHALL BE 3" SEPARATED UNLESS NOTED ON THE PLANS.
6. FOR CLARITY, SUMP DEPTH IS 6' BELOW OUTLET INVERT.

4'-0" DIAMETER PRECAST OIL AND WATER SEPARATOR

NOT TO SCALE



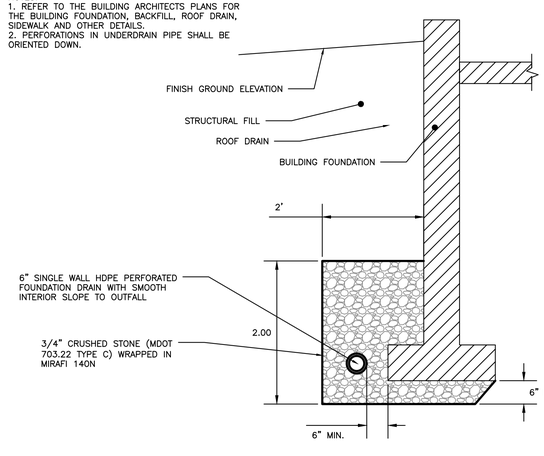
DESIGN NOTES:

1. IT IS ASSUMED THAT THE EXISTING PIPE IS OF VITRIFIED CLAY CONSTRUCTION. USE CAP OR PLUG FOR PVC PIPE

MASONRY PLUG DETAIL

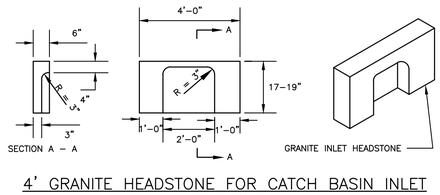
NOT TO SCALE

NOTES:
1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.



FOUNDATION DRAIN DETAIL

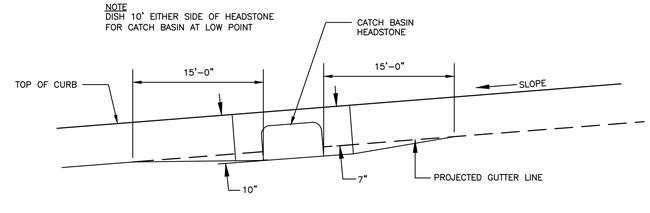
NOT TO SCALE



4' GRANITE HEADSTONE FOR CATCH BASIN INLET

NOT TO SCALE

NOTE
DISH 10' EITHER SIDE OF HEADSTONE FOR CATCH BASIN AT LOW POINT



PAVEMENT GRADING ON SLOPES FOR CATCH BASIN AND INLET

NOT TO SCALE

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: DRAINAGE DETAILS 1

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.

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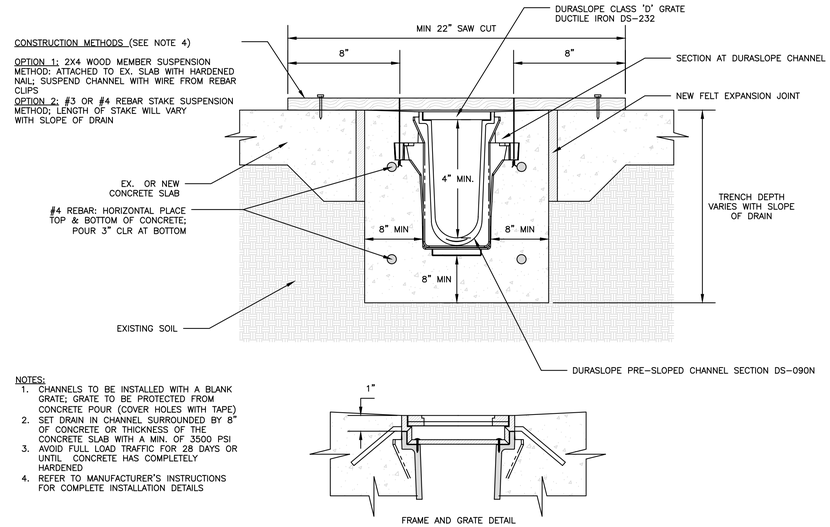
ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2563

FILE:	1060_DETAILS
DATE:	4/20/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-□□

Plan 11a

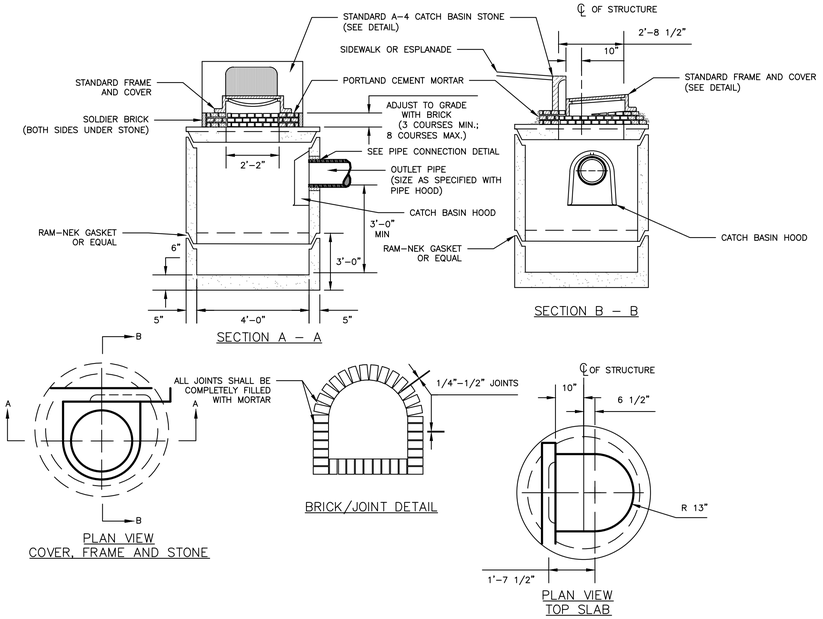


NOTES:
1. CHANNELS TO BE INSTALLED WITH A BLANK GRATE; GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE)
2. SET DRAIN IN CHANNEL SURROUNDED BY 8" OF CONCRETE OR THICKNESS OF THE CONCRETE SLAB WITH A MIN. OF 3500 PSI
3. AVOID FULL LOAD TRAFFIC FOR 28 DAYS OR UNTIL CONCRETE HAS COMPLETELY HARDENED
4. REFER TO MANUFACTURER'S INSTRUCTIONS FOR COMPLETE INSTALLATION DETAILS

FRAME AND GRATE DETAIL

DURASLOPE CLASS D TRENCH DRAIN INSTALLATION

NOT TO SCALE

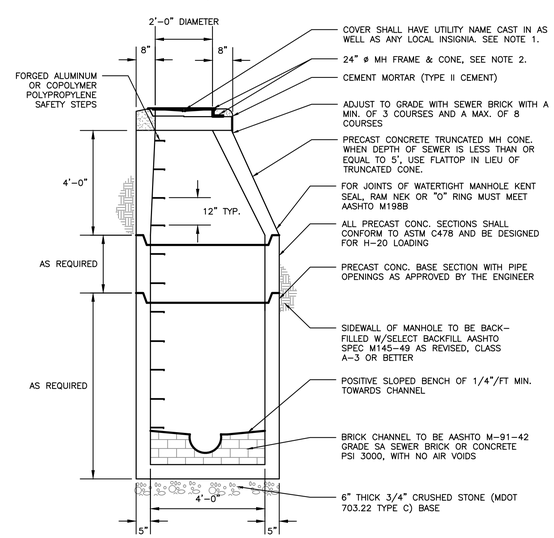


CITY OF PORTLAND PRECAST CONCRETE CATCH BASIN

NOT TO SCALE

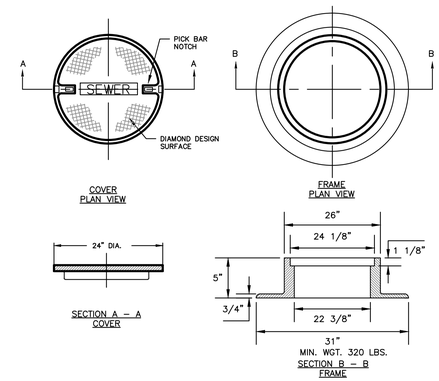
NOTES:

1. MANHOLE COVER FOR SEWER MANHOLE SHALL BE ENGRAVED "SEWER", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960002 AS MANUFACTURED BY NEENAH FOUNDRY. MANHOLE COVER FOR STORM SEWER SHALL BE ENGRAVED "DRAIN", AND SHALL BE EITHER ITEM # 2160A AS MANUFACTURED BY EAST JORDAN CO. OR ITEM # 14960003 AS MANUFACTURED BY NEENAH FOUNDRY.
2. MANHOLE FRAME SHALL BE EITHER ITEM # 14960001, AS MANUFACTURED BY NEENAH FOUNDRY, OR ITEM # 1960Z, AS MANUFACTURED BY EAST JORDAN CO.
3. WITHIN CITY OF PORTLAND ROW, STORM DRAIN MANHOLE SHALL CONFORM WITH "STANDARD PRECAST SEWER MANHOLE DETAIL", WITH THE EXCEPTION THAT THE COVER SHALL BE MARKED AS "DRAIN". REFER TO CITY OF PORTLAND TECHNICAL MANUAL, SECTION 2 – SANITARY SEWER AND STORM DRAIN, FIGURE II-1
4. SUBMITTAL REQUIRED FOR MANHOLES, MANHOLE FRAMES & MANHOLE COVERS



STANDARD PRECAST SEWER MANHOLE

NOT TO SCALE



NOTES:
1. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
2. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
3. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
4. APPROVED MANHOLE FRAMES:
4.1. EAST JORDAN = 1690Z
4.2. NEENAH = R-1496
4.3. OR APPROVED EQUAL
5. APPROVED MANHOLE COVERS
5.1. EAST JORDAN = 2160A
5.2. NEENAH = R-1496
5.3. OR APPROVED EQUAL

CAST IRON MANHOLE COVER AND FRAME

NOT TO SCALE

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: DRAINAGE DETAILS 2

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.

158 DANFORTH STREET, PORTLAND MAINE 04102 (207) 772-2893

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STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

C-□□

Plan 12

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:

- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 VERNON PLACE, AVON STREET, AND CONGRESS STREET SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM, LIMED, AND MULCHED. EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.1 OF THIS REPORT.

1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.

1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.
- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% F THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.
- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

- MAINE PROFESSIONAL ENGINEERING LICENSE #11419
- MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT #14
- CERTIFIED EROSION, SEDIMENT AND STORM WATER INSPECTOR (CESSWI) CERT #0293
- CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #4620

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL RETAINING AND FOUNDATION WALLS TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN AVON.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 CONCLUSION

THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

TEMPORARY SEEDING PLAN

SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P2O5–K2O) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

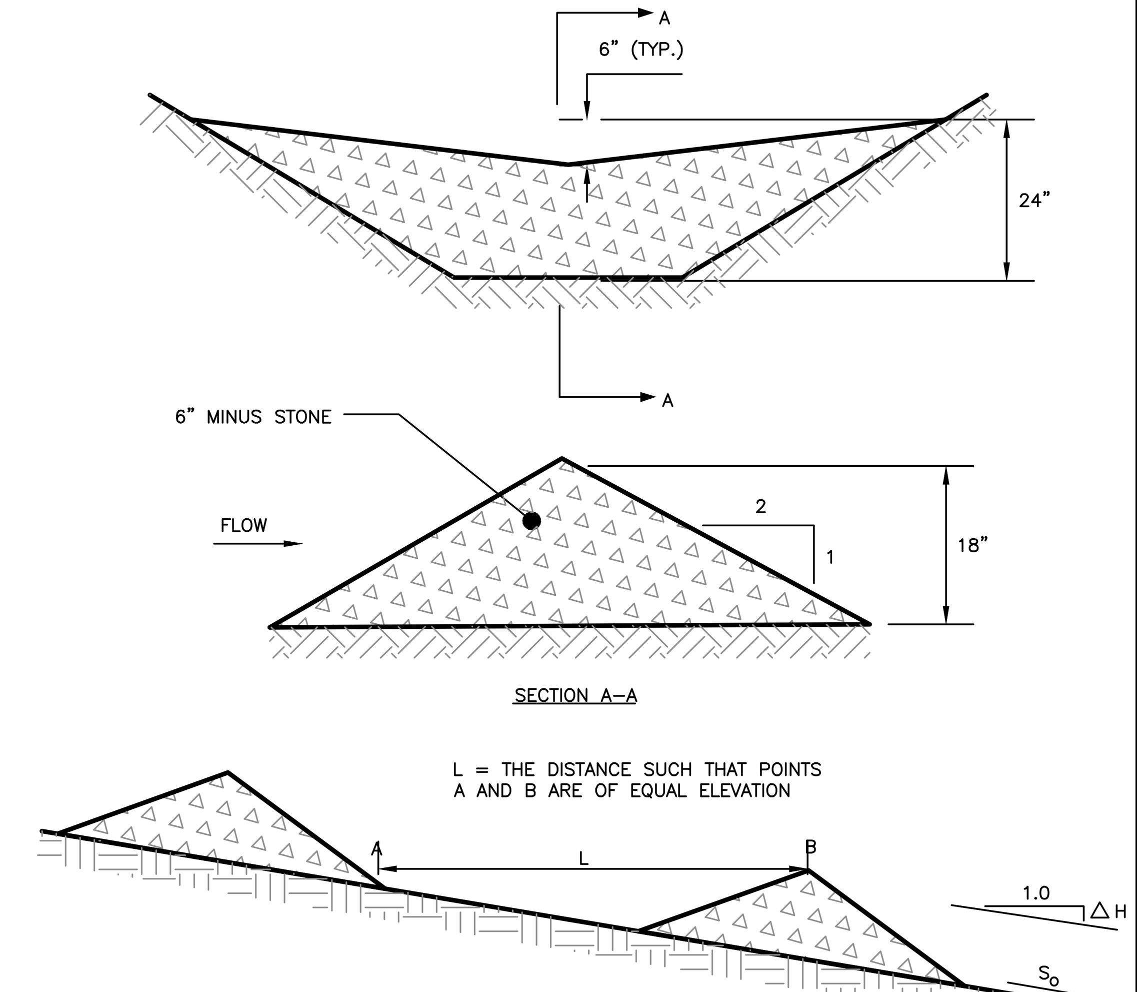
MULCHING

MULCH SHALL BE APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT.

CONCLUSION

PLEASE REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION PERTAINING TO TEMPORARY SEEDING AND MULCHING.

PRELIMINARY: NOT ISSUED FOR CONSTRUCTION



SPACING BETWEEN CHECK DAMS

S_o (FT./FT.)	L (FT.)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

STONE CHECK DAM

NOT TO SCALE

NOTES:

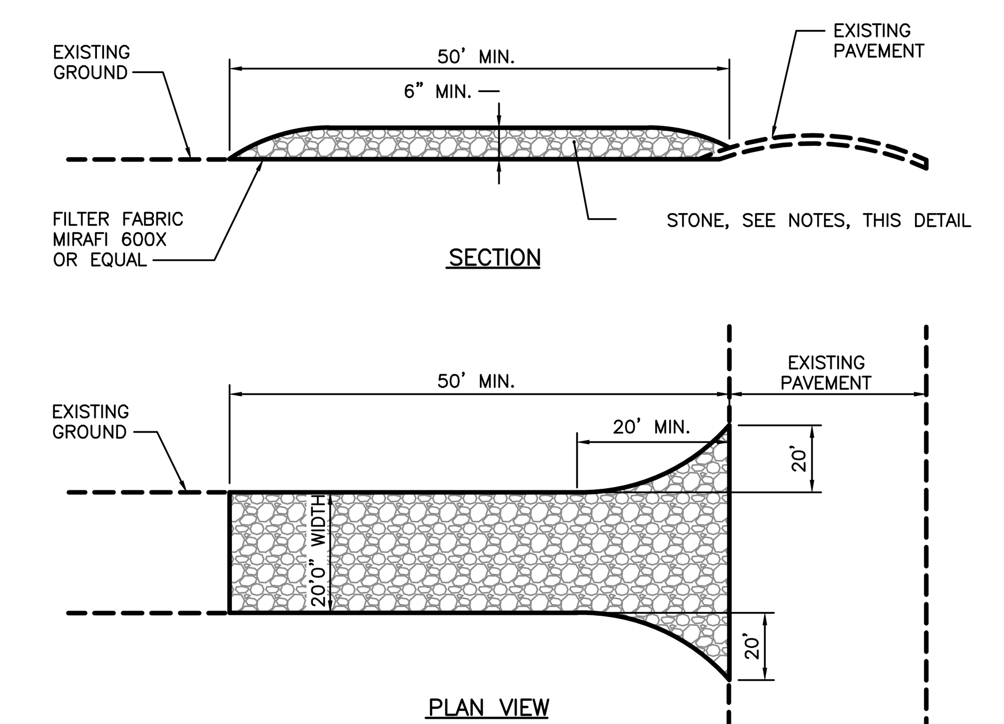
1) CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES

2) STONE SHALL BE 2"–3" COARSE AGGREGATE

3) CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.

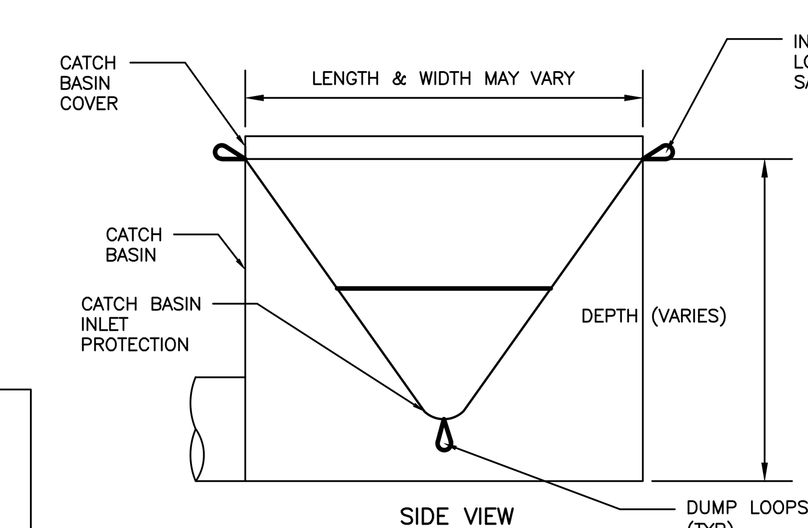
4) WHEN NECESSARY, ON–SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.

5) CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



NOTES:

1) CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

2) CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.

3) SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION

NOT TO SCALE

ISSUED FOR	BY / DATE
PRELIM. APPLICATION	WHS 7/30/15
PC DD SET	WHS 8/7/15
PC PROGRESS SET	WHS 8/21/15
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: EROSION & SEDIMENT CONTROL DETAILS

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8816 PORTLAND, ME 04104

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775–2655

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FILE:	1060_DETAILS
DATE:	4/20/2015
JN:	1060
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	MAG
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H SAVAGE
No. 11419
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.

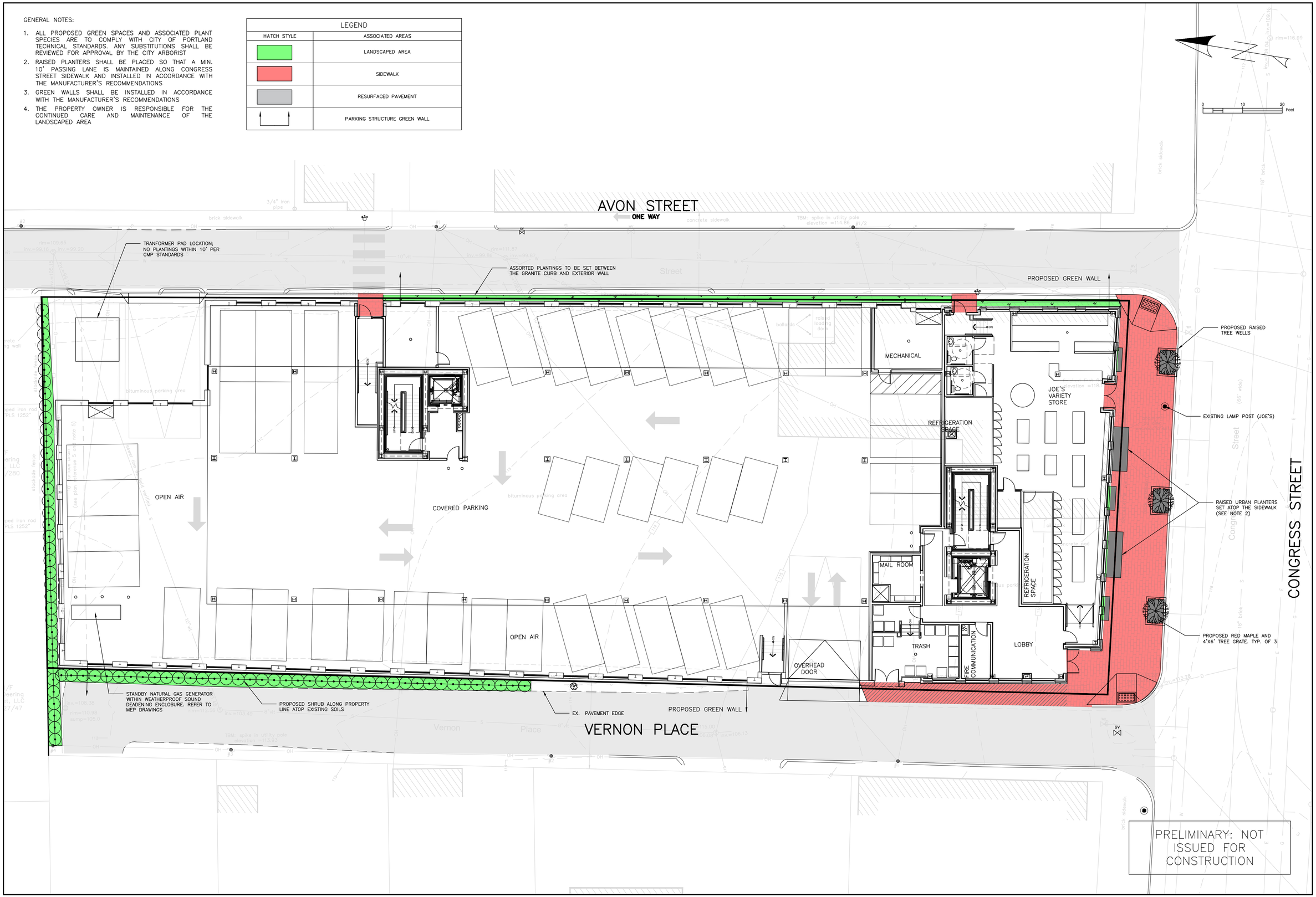
C-

GENERAL NOTES:

1. ALL PROPOSED GREEN SPACES AND ASSOCIATED PLANT SPECIES ARE TO COMPLY WITH CITY OF PORTLAND TECHNICAL STANDARDS. ANY SUBSTITUTIONS SHALL BE REVIEWED FOR APPROVAL BY THE CITY ARBORIST
2. RAISED PLANTERS SHALL BE PLACED SO THAT A MIN. 10' PASSING LANE IS MAINTAINED ALONG CONGRESS STREET SIDEWALK AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
3. GREEN WALLS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
4. THE PROPERTY OWNER IS RESPONSIBLE FOR THE CONTINUED CARE AND MAINTENANCE OF THE LANDSCAPED AREA

LEGEND

HATCH STYLE	ASSOCIATED AREAS
	LANDSCAPED AREA
	SIDEWALK
	RESURFACED PAVEMENT
	PARKING STRUCTURE GREEN WALL



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. / DATE

DRAWING NAME: LANDSCAPE PLAN

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC. P.O. BOX 8616 PORTLAND, MAINE, 04104

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ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2635

FILE:	1060_CONGRESS
DATE:	9/11/15
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	OJD
DRAWN BY:	OJD
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11418 9-15-15 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.

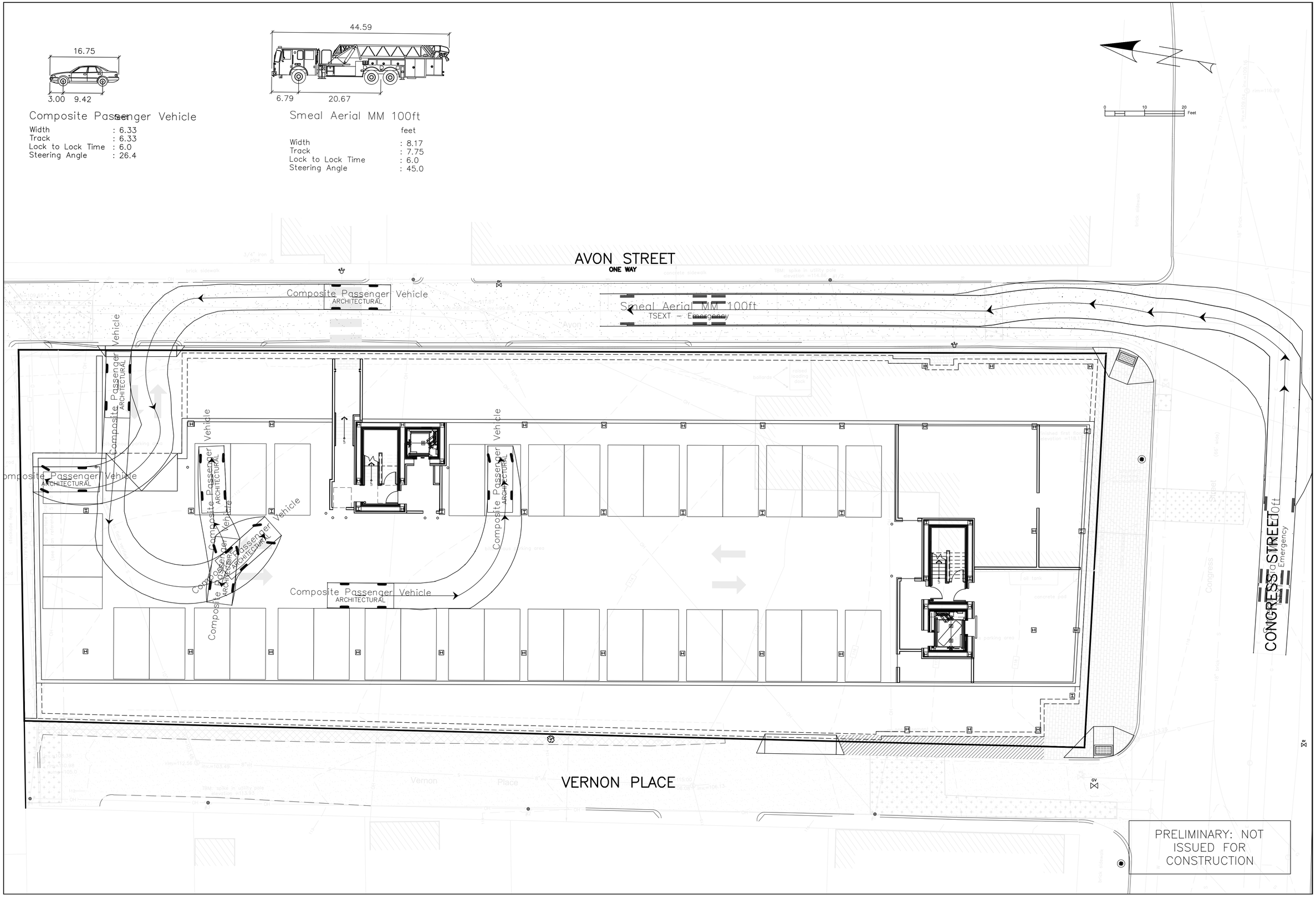
L-1

Composite Passenger Vehicle

	feet
Width	: 6.33
Track	: 6.33
Lock to Lock Time	: 6.0
Steering Angle	: 26.4

Smeal Aerial MM 100ft

	feet
Width	: 8.17
Track	: 7.75
Lock to Lock Time	: 6.0
Steering Angle	: 45.0



PRELIMINARY: NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. DATE

DRAWING NAME: CIRCULATION PLAN: BASEMENT

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

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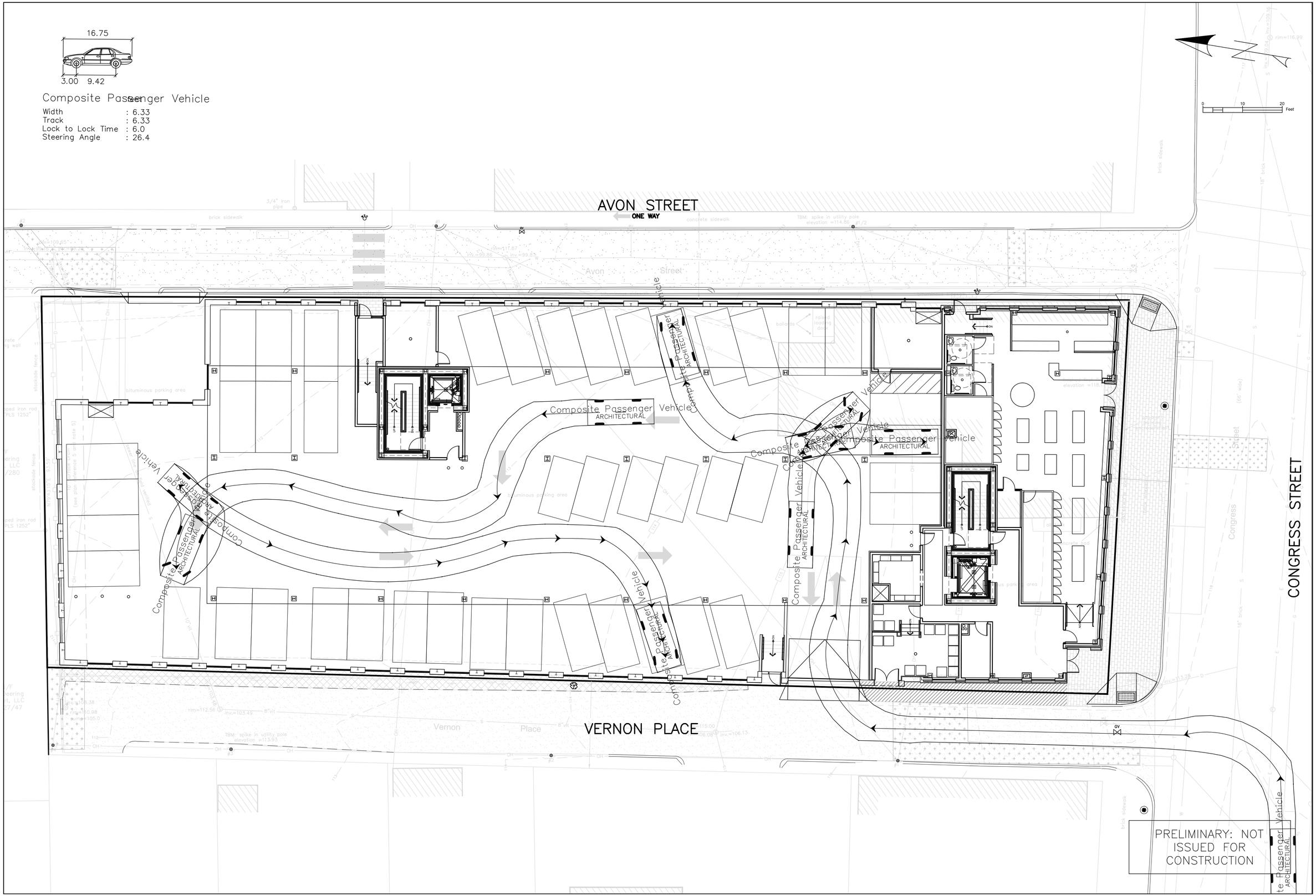
ACORN ENGINEERING, INC.
158 DANFORTH STREET, PORTLAND MAINE 04102
(207) 775-2005

FILE:	1060_CONGRESS
DATE:	9/15/15
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	WHS
DRAWN BY:	WHS
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11418
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.



ISSUED FOR	BY DATE
COMMENT/RESPONSE	WHS 9/15/15

REVISION	REV. DATE

DRAWING NAME: CIRCULATION PLAN: FIRST FLOOR

PROJECT NAME: 667 CONGRESS STREET REDEVELOPMENT

CLIENT: REDFERN PROPERTIES, LLC.
P.O. BOX 8616 PORTLAND, MAINE, 04104

A C O R N
ENGINEERING, INC.
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158 DANFORTH STREET, PORTLAND MAINE 04102
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DATE:	9/15/15
JN:	1060
SCALE:	1"=10'
DESIGNED BY:	WHS
DRAWN BY:	WHS
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11418
9-15-15
LICENSED
PROFESSIONAL ENGINEER

DRAWING NO.

PLANNING BOARD REPORT
PORTLAND, MAINE

Encourage and Ensure Housing Amendments
Text Amendments to the Land Use Code
City of Portland, Applicant

Submitted to: Portland Planning Board: Public Hearing Date: September 29, 2015	Prepared by: Tyler Norod, Housing Planner and Jeff Levine, Director, Department of Planning and Urban Development Date: September 24, 2015

I. INTRODUCTION

On September 15, 2015, the Department of Planning and Urban Development brought before the Planning Board a set of four amendments to Article 14 for consideration and recommendation to the City Council. Collectively, along with the R-6 and B-2 zoning changes recently enacted by the City Council, these constitute what are referred to as the "Encourage and Ensure" package of amendments. That name is because they are designed to "encourage" additional housing development through thoughtful zoning changes to modernize our ordinance and allow for additional housing development; and further that changes proposed to Division 30 are designed to "ensure" that a reasonable percentage of the housing developed in Portland is affordable to those making the area median income.

Due to schedule overruns of earlier agenda items at the September 15, 2015 Planning Board hearing, the housing incentives package was not taken up until 10:15 PM. Unfortunately, the timing was too close to the last ferry for Peaks Island residents to participate in the hearing. Due to these time constraints the Board tabled their vote on the IR-1 and IR-2 island zoning amendments to allow Peaks Island residents to present their comments at the available Board hearing.

The tabled text amendment ordinances were part of a package of amendments as follows:

1. Changes to the Downtown Height Overlay Map to increase allowed heights in some areas from 45' to 65';
2. Changes to the Accessory Dwelling Unit (ADU) language for the IR-1 and IR-2 island residential zones to allow ADU's on more parcels, provided certain conditions are met;
3. Changes to the Accessory Dwelling Unit language for the R-5 zoning district to allow more use of existing building space for ADU's; and
4. Changes to Division 30 that:

a. Clarify terminology related to affordable housing;
b. Expand density bonuses for developments providing affordable housing; and
c. Require that new developments of 10 units or more restrict at least 10% of the units to be affordable to those making 100-120% of the area median income or below (currently about $77,500-96,875 for a family of four) or contribute a fee-in-lieu of $100,000 per unit to the Housing Trust. These developments would also be eligible for a 25% density bonus, and consideration for an Affordable Housing Tax Increment Finance District.

This package of amendments, in addition to the R-6 and B-2 changes, will allow production of additional housing in Portland by reducing the per-unit cost of housing, while at the same time making sure that some portion of that additional housing remain affordable to the workers Portland needs to attract, such as entry level professionals and career blue collar workers. For context, a unit affordable to a median income family of four would rent for about $1,900 a month, or have a mortgage of about $350,000. These numbers seem attainable now without much market intervention. However, the need for deed-restricted units at this level stems from the fact that the gap between what is affordable to such a family and what the market produces is likely to continue to grow.

Median Income	**FY 2015 Income Limit s**	**Persons in Family**							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
$77,100	**80% Income Limits**	$ 43,200	$ 49,400	$ 55,550	$ 61,700	$ 66,650	$ 71,600	$ 76,550	$ 81,450
	Housing Expense at 30% of Income	$ 1,080	$ 1,235	$ 1,389	$ 1,543	$ 1,666	$ 1,790	$ 1,914	$ 2,036
	100% Income Limits	$ 53,970	$ 61,680	$ 69,390	$ 77,100	$ 83,268	$ 89,436	$ 95,604	$ 101,772
	Housing Expense at 30% of Income	$ 1,349	$ 1,542	$ 1,735	$ 1,928	$ 2,082	$ 2,236	$ 2,390	$ 2,544
	120% Income Limits	$ 64,932	$ 74,208	$ 83,484	$ 92,760	$ 100,181	$ 107,602	$ 115,022	$ 122,443
	Housing Expense at 30% of Income	$ 1,623	$ 1,855	$ 2,087	$ 2,319	$ 2,505	$ 2,690	$ 2,876	$ 3,061

II. PUBLIC COMMENT

A Planning Board workshop was held on May 19, 2015. The legal ad for hearing to consider the amendments appeared in the Portland Press Herald on September 7 and 8, 2015. Four comment letters were received related to the proposed IR-1 and IR-2 text amendments. The comments expressed concerns related to density, parking, and public process. The letters have been attached to this memo for reference.

III. BACKGROUND

These submissions were developed over the course of several months of meetings between City staff, the public and the Housing and Community Development Committee (HCDC). In February, HCDC convened a Housing Forum in City Hall, where city staff could present city goals and possible tools to address them, and answer questions or concerns raised by the public. Public testimony was also taken at several HCDC meetings on this issue. After reviewing a long list of possible ordinance changes, and refining staff language proposed for inclusionary zoning as well as other changes to Division 30, the submission was refined to the set of ordinance changes before you.

In 2002, the City approved an amendment to its Comprehensive Plan entitled "Housing: Sustaining Portland's Future."

In 2014, the City Council set a goal to "Promote Housing Availability [and p]rovide increased availability in all segments of the housing market while insuring that there is a suitable balance of housing opportunities among those sectors." HCDC put this issue in its workplan for calendar year 2014.

In late 2014 and early 2015, following from this goal and the interests of the Housing and Community Development Committee to address this goal, the City commissioned the Greater Portland Council of Governments to complete a study of the housing market in Portland. That study (Attachment C) was designed to answer the following questions:

1. What is the state of the housing production market in Portland?
2. What kinds of housing are being produced?
3. How does that production compare to City goals and plans with respect to affordability, such as "Housing Portland"?
4. How does that production result in the need for additional housing at different income levels through economic multiplier effects?

The key findings of this study were as follows:

- Our current housing production is not producing enough units for those making below median income
- Our existing housing rental stock appears to generally be reasonably affordable, but in part because the renters may be "sizing down" to a unit they can afford.
- Family sized rentals appear to be less affordable
- Our existing owner-occupied units appear to be primarily affordable to those making above the median income.
- There is a gap between the City's housing policy goals and what is being produced by the market.
- Every unit of high end housing that is produced in the City brings with it the need for housing for those with lower incomes – for example, to provide services for those high end housing residents

On January 15, 2015, HCDC heard the findings from the Housing Study, along with a universe of possible policy responses to these findings. Following that presentation they instructed staff to come back to their meeting on January 28th with some refined recommendations for actions to take in response.

On February 25, 2015, in lieu of their regular meeting, HCDC held a housing forum to present some possible actions and hear from the public. That forum was recorded and is available for viewing from the City web site. The slideshow from that presentation is Attachment D.

On March 11, 2015, the HCDC met to debrief from the forum and hear staff recommendations for policy actions. Staff proposed a laundry list of 17 actions that could be taken, including a proposed inclusionary zoning ordinance. Staff noted that best practices in New England and nationally involved an inclusionary component to permitting housing of a certain scale, and recommended the ordinance be kept fairly simple for implementation reasons. That list of actions was as follows:

1. Revisions to the B-2 zoning district for 500 acres in key commercial corridors/nodes
2. Revisions to the R-6 zoning district for 530 acres of residential land on the Peninsula
3. Rezoning 10 acres of land along the eastern waterfront to B-6 to allow for multifamily housing development
4. Eliminate Parking Requirements for Residential Uses in B3, B5, B6, and B7
5. Eliminate Residential Density Limits in B1 and B2
6. Harmonize off-peninsula residential parking requirements with those of the peninsula
7. Allow the use of the fee in lieu of parking in all off-peninsula (citywide) business zones
8. Update definitions & dimensional standards to promote the viability of lodging houses
9. Amend Downtown Height Overlay Map where to increase 45’ heights
10. Allow 1 ADU per owner-occupied single-family homes in all IR zones if leased annually
11. Begin R5 rewrite to reflect current patterns & legalize most nonconforming structures
12. Begin R3 rewrite to reflect current patterns & legalize most nonconforming structures
13. Consider rewriting R7 zone & consider applying it to the zoning map in downtown R6s
14. Limit the removal of dwelling units from the rental market in favor of vacation rentals
15. Limit the conversion of rental housing into condominiums
16. Look at Housing Trust Fund ordinance for revisions to reflect its role in these efforts
17. Changes to Division 30 (Affordable Housing) to provide more useful density bonuses, and to add an inclusionary zoning requirement.

HCDC recommended eight, unimplemented policies in this list be explored in more detail:

1. Rezoning 10 acres of land along the eastern waterfront to B-6 to allow for multifamily housing development
2. Eliminate Parking Requirements for Residential Uses in B3, B5, B6, and B7
3. Eliminate Residential Density Limits in B1 and B2
4. Allow the use of the fee in lieu of parking in all off-peninsula (citywide) business zones
5. Amend Downtown Height Overlay Map where to increase 45' heights
6. Look at Accessory Dwelling Units in Island Residential Zones
7. Look at R5 Zone Accessory Dwelling Unit Requirements & Reuse of Existing Structures
8. Amend Division 30 (Affordable Housing) to (1) Provide Additional Density through Incentives and (2) Add Workforce Housing Requirement (Inclusionary Zoning)

On April 8, 2015, HCDC took up this issue again. The staff memo from that meeting is Attachment E. They refined the list down to seven options to "encourage" further housing and a more specific recommendation for an Inclusionary Zoning Ordinance. They voted 3-1 to forward the Inclusionary Zoning Ordinance to the Planning Board for formal review, and asked that staff prioritize the seven options at their next meeting.

On April 22, 2015, HCDC took up those seven options and recommended the items recently before the Board for further study in conjunction with the Inclusionary Zoning Ordinance. The other items may be forwarded at a future dates but the HCDC did not recommend they move forward at this time.

On May 19, 2015 the Planning Board held a workshop to consider this Housing Incentives package. A hearing was held by the Board on September 15, 2019. All items aside from the proposed IR-1 and IR-2 text amendments were discussed and voted on. The island text amendments were tabled until a later date for reasons described above.

IV. PROPOSED AMENDMENTS

<u>Changes to the Accessory Dwelling Unit (ADU) language for the IR-1 and IR-2 island residential zones to allow ADU's on more parcels, provided certain conditions are met</u>

A Peaks Island organization called HomeStart has been seeking changes to the ADU language on Peaks Island to allow for year-round, affordable dwelling units in a context sensitive way. The goal is to allow residents the option of creating units that would not be rented on a seasonal basis but instead be available to workers who live year round on Peaks. That organization suggested a model from Wellfleet, MA, a similar community to Peaks Island. Staff adopted this model to the language before you in Attachment A.

Currently, ADU's are limited to lots of 70,000 and 30,000 square feet or more for IR-1 and IR-2 zones respectively. These changes would allow ADU's on smaller lots as long as certain

conditions are met:

- ✓ The unit must be rented year-round
- ✓ The unit must be affordable

This seems to be a reasonable way to develop additional workforce housing in an island context. Specific revisions to the text are detailed in Attachment A.

V. Consistency with Comprehensive Plan

The proposed text amendments have been designed to allow the the IR-1 and IR-2 better accomplish the City's goals particularly as they relate to the creation of housing with a focus on housing that is affordable to a diverse range of households. In this, the amendments align with the city's Comprehensive Plan.

The Comprehensive Plan, adopted in November 2002, updated in 2005, provides a policy framework for managing growth in the city, and clearly advocates dense commercial and mixed-use development that both serves and suits the neighborhood context. Housing: Sustaining Portland's Future includes policies to "[m]aintain and enhance the livability of Portland's neighborhoods as the city grows and evolves through careful land use regulation, design and public participation that respects neighborhood integrity" and "encourage sustainable development patterns and opportunities within the city by promoting efficient land use, conservation of natural resources, and easy access to public transportation, services, and public amenities." In order to do so, the plan suggests "encourag[ing] increased residential densities and mixed uses" and "promot[ing] through city policies a mix of housing types, retail and service businesses, community services, and open space/recreation opportunities of appropriate size, scale, and type within neighborhoods."

VI. STAFF RECOMMENDATION

The staff recommends that the Planning Board find the proposed text amendments to the ADU standards of the IR-1 and IR-2 ordinances be consistent with the Comprehensive Plan and recommend to the City Council adoption of the proposed text amendments.

VI. PROPOSED MOTION

On the basis of the material provided in this report, public testimony, a review of applicable policies, Portland's Comprehensive Plan, the information provided in a workshop on May 19, 2015 for the Housing Incentives package and/or other information as follows:

> **Text Amendments to Definitions, IR-1 and IR-2**
> The Planning Board finds that the proposed text amendments to IR-1 and IR-2 island residential zones accessory dwelling unit language as presented in Attachments A1 and A2 **[are or are not]** consistent with the Comprehensive Plan for the City of Portland; and

Therefore, the Planning Board **[recommends or does not recommend]** to the City Council approval of the zoning text amendments to IR-1and IR-2.

VIII ATTACHMENTS

Attachment A: Proposed Ordinance Amendments

A1 – IR-1 ADU Language (clean version followed by markup version)
A2 – IR-2 ADU Language (clean version followed by markup version)

Attachment C: City Workforce Housing Study – 2015

Attachment D: Slideshow from February Housing Forum

Public Comment:

PC1 – Henry Barbaro 9.15.2015
PC2 – Timmi Sellers 9.22.2015
PC3 – Ann Karlsen 9.15.2015
PC4 – Ann Karlseon 9.24.2015

ATTACHMENT A: PROPOSED ORDINANCE AMENDMENTS

A1: IR-1 ADU LANGUAGE

(a) *Residential:*

1. One additional accessory dwelling unit clearly subordinate to a principal single-family or on Peaks Island a legal multi-family dwelling provided that:

    a. The accessory unit shall be no more than thirty-five (35) percent of the gross floor area of the largest unit in the principal building and shall have a minimum floor area of four hundred (400) square feet;

    b. Lot shall be seventy thousand (70,000) square feet in area, or on Peaks Island be an existing lawfully non-conforming lot as of May 1, 2015;

    c. There shall be no open outside stairways or fire escapes above the ground floor;

    d. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the single-family appearance of the building. The exterior design of new construction including facade materials, building form, roof pitch and exterior doors shall have a single-family appearance;

    e. A lower level dwelling unit shall have a minimum two-thirds of its floor-to-ceiling height above the average adjoining ground level;

    f. Either the accessory unit or the principal dwelling shall be occupied by the owner of the lot on which the principal building is located, except for bona fide temporary absences;

    g. Accessory units on Peaks Island on lots of less than 70,000 square feet must remain under common ownership with the primary unit on the lot;

h. Any units created under this section on Peaks Island may not be sold as condominium units or otherwise separated from the ownership of the pre-existing unit on the site;

i. Any units created under this section on Peaks Island on lots of less than 70,000 square feet must be rented as “workforce housing unit for rent” as per Division 30 and are subject to income verification as further outlined in implementing regulations;

j. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system or other method in compliance with state and local regulations.

k. The accessory unit on Peaks Island must be rented on an annual basis and may not be used for seasonal or weekly rentals.

(a) *Residential:*

1. One additional accessory dwelling unit ~~within and~~ clearly subordinate to a principal single-family ~~detached~~ or on Peaks Island a legal multi-family dwelling provided that:

   a. The accessory unit shall be no more than thirty-five (35) percent of the gross floor area of the largest unit in the principal building and shall have a minimum floor area of four hundred (400) square feet;

   b. Lot shall be seventy thousand (70,000) square feet in area, or on Peaks Island be an existing lawfully non-conforming lot as of May 1, 2015;

   c. There shall be no open outside stairways or fire escapes above the ground floor;

   d. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the single-family appearance of the building. The exterior design of new construction including facade materials, building form, roof pitch and exterior doors shall have a single-family appearance;

   e. A lower level dwelling unit shall have a minimum two-thirds of its floor-to-ceiling height above the average adjoining ground level;

   f. Either the accessory unit or the principal dwelling shall be occupied by the owner of the lot on which the principal building is located, except for bona fide temporary absences;~~and~~

   g. Accessory units on Peaks Island on lots of less than 70,000 square feet must remain under common ownership with the primary unit on the lot;

h. Any units created under this section on Peaks Island may not be sold as condominium units or otherwise separated from the ownership of the pre-existing unit on the site;

i. Any units created under this section on Peaks Island on lots of less than 70,000 square feet must be rented as “workforce housing unit for rent” as per Division 30 and are subject to income verification as further outlined in implementing regulations;

j. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system or other method in compliance with state and local regulations.

k. The accessory unit on Peaks Island must be rented on an annual basis and may not be used for seasonal or weekly rentals.

A2: IR-2 ADU LANGUAGE

(a) *Residential:*

1. One additional accessory dwelling unit clearly subordinate to a principal single-family or legal multi-family dwelling provided that:

    a. The accessory unit shall be no more than thirty-five (35) percent of the gross floor area of the largest unit in the principal building and shall have a minimum floor area of four hundred (400) square feet;

    b. Lot shall be thirty thousand (30,000) square feet in area, or be an existing lawfully non-conforming lot as of May 1, 2015;

    c. There shall be no open outside stairways or fire escapes above the ground floor;

    d. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the single-family appearance of the building. The exterior design of new construction including facade materials, building form, roof pitch and exterior doors shall have a single-family appearance;

    e. A lower level dwelling unit shall have a minimum two-thirds of its floor-to-ceiling height above the average adjoining ground level;

    f. Either the accessory unit or the principal dwelling shall be occupied by the owner of the lot on which the principal building is located, except for bona fide temporary absences;

    g. Accessory units on lots of less than 30,000 square feet must remain under common ownership with the primary unit on the lot;

    h. Any units created under this section may not be sold as condominium units or otherwise

separated from the ownership of the pre-existing unit on the site;

i. Any units created under this section on lots of less than 30,000 square feet must be rented as “workforce housing unit for rent” as per Division 30 and are subject to income verification as further outlined in implementing regulations;

j. On lots of less than 30,000 square feet, the property must have City water and sewer. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system or other method in compliance with state and local regulations.

k. The accessory unit must be rented on an annual basis and may not be used for seasonal or weekly rentals.

(a) *Residential:*

1. ~~Accessory~~One additional accessory dwelling unit ~~within and~~ clearly subordinate to a principal single-family ~~detached~~or legal multi-family dwelling provided that:

   a. The accessory unit shall be no more than thirty-five (35) percent of the gross floor area of the largest unit in the principal building and shall have a minimum floor area of four hundred (400) square feet;

   b. Lot~~ area~~ shall be thirty thousand (30,000) square feet in area, or be an existing lawfully non-conforming lot as of May 1, 2015;

   c. There shall be no open outside stairways or fire escapes above the ground floor;

   d. Any additions or exterior alterations such as facade materials, building form, roof pitch, and exterior doors shall be designed to be compatible with the architectural style of the building and preserve the single-family appearance of the building. The exterior design of new construction including facade materials, building form, roof pitch and exterior doors shall have a single-family appearance;

   e. A lower level dwelling unit shall have a minimum two-thirds of its floor-to-ceiling height above the average adjoining ground level;

   f. Either the accessory unit or the principal dwelling shall be occupied by the owner of the lot on which the principal building is located, except for bona fide temporary absences; ~~and~~

   ~~g.~~

   g. Accessory units on lots of less than 30,000 square feet must remain under common ownership with the primary unit on the lot;

h. Any units created under this section may not be sold as condominium units or otherwise separated from the ownership of the pre-existing unit on the site;

i. Any units created under this section on lots of less than 30,000 square feet must be rented as "workforce housing unit for rent" as per Division 30 and are subject to income verification as further outlined in implementing regulations;

j. On lots of less than 30,000 square feet, the property must have City water and sewer. All sanitary waste shall be disposed of by a public sewer, subsurface sewerage system or other method in compliance with state and local regulations.

k. The accessory unit must be rented on an annual basis and may not be used for seasonal or weekly rentals.

ATTACHMENT B: CITY WORKFORCE HOUSING STUDY – 2015

Portland

2030 Workforce Housing Demand

GPCOG

Greater Portland Council of Governments
970 Baxter Boulevard, Suite 201
Portland, Maine 04103

ACKNOWLEDGEMENTS

This report was produced under a fee-for-service contract with the City of Portland. The substance and findings of the work are dedicated to the public. The publisher is solely responsible for the accuracy of the statements and interpretations contained in this publication. Such interpretations do not necessarily reflect the views of the City.

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EXECUTIVE SUMMARY

Purpose

In 2002, the City of Portland adopted a Housing Plan with a policy goal to ensure an adequate supply of housing to meet the needs, preferences, and financial capabilities of all Portland households. In order to reach this goal, the City established a target of maintaining Portland's current proportion of subsidized units at 20% of the housing stock. Since the plan's adoption, over 2,000 housing units have been permitted in the city for the construction of apartments, condominiums, and single-family homes. This study examines recent trends in the Portland housing market in order to help policymakers determine what gaps, if any, may exist between what is curently being provided in the market and the city's housing needs.

Methodology

In August of 2014, the City of Portland contacted the Greater Portland Council of Governments to discuss the design of a study to assess progress in meeting the city's housing production goals. Staff conducted a literature review of studies used in other states and presented these approaches to the city for consideration.

- *Massachusetts Approach:* This method, so named for its prevalence amongst cities and towns in the Commonwealth, is based on the goals articulated in a municipality's comprehensive plan. In the future, Portland will capture a certain percentage of the region's population growth. People form households, whose demand can be projected by the current distribution of housing units by tenure and affordability.

- *California Approach*: This technique has been piloted in cities throughout California by the consulting firm of Keyser Marston Associates, Inc. The underlying philosophy is that the construction of market-rate units attracts high income households. Through the purchase of goods and services, these households support low-paid service jobs, which in turn support lesser income households whose needs might best be met by living near where they work.

For purposes of this analysis, "affordable" and "workforce" are used interchangably to refer to housing units that a household earning 100% of the county's median income can afford, assuming they spend no more than 30% of their income for housing. The term "subsidized," which is also confused with "affordable," generally refers to public investment to make housing affordable to households earning up to 80% of the county's median income.

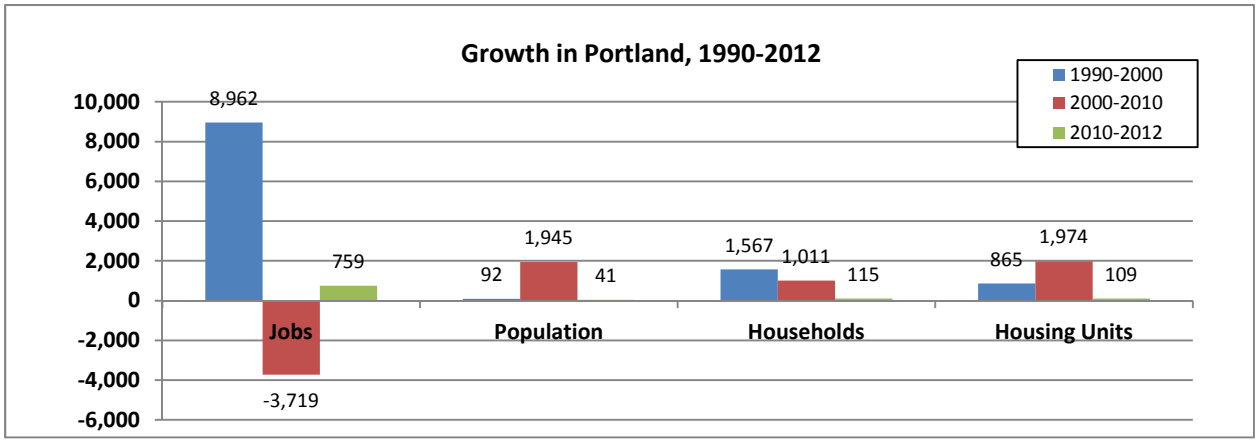
Findings

Sixty-two percent of Portland households earn less than the county's median income, including 38% of homeowners and 81% of renters. Over the last decade, the number of households earning less than median income has increased 10%. While rising incomes have narrowed the affordability of existing homes and apartments, new construction is well beyond the means of the middle class. From 2010 to 2014, 1,130 housing units were permitted and/or built in Portland, including apartments, condominiums and single-family homes. Just 29% were offered at a rent or sales price affordable to a household earning the median income. If robust growth continues, Portland will continue to lose the affordability of its housing stock.

Two approaches were deployed to help policymakers determine what percentage of new construction should be made affordable by policy to increase diversity in the city's housing stock.

- Under the Massachusetts approach, the gap between future demand for workforce housing units and potential supply is 33%.
- Under the California approach, the gap between future demand for workforce housing units and potential supply is 24%.

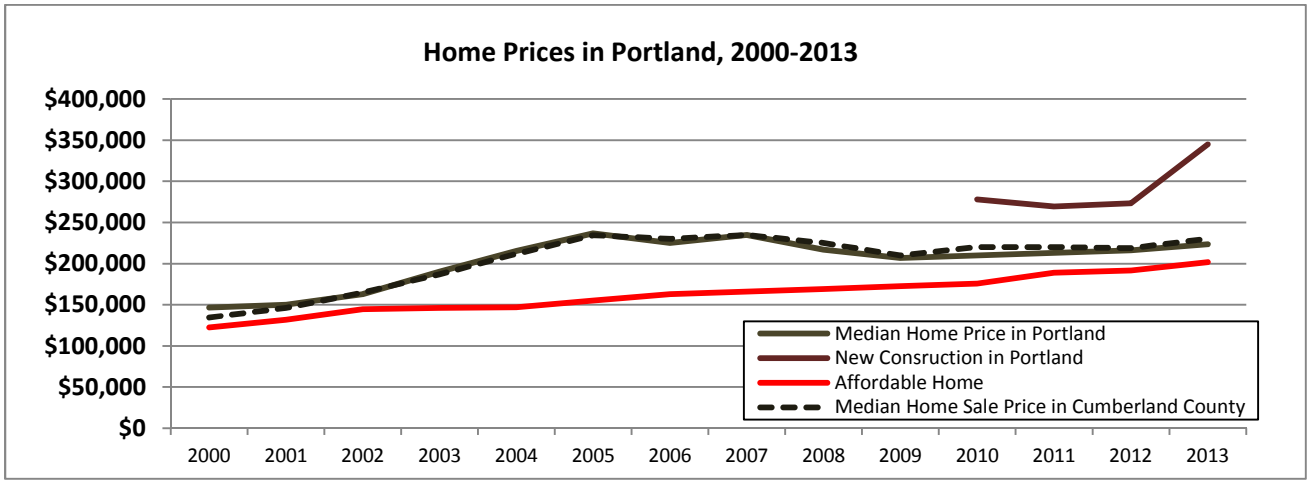
HOUSING MARKET TRENDS



Source: Maine Deparment of Labor, American Community Survey

The economic recession of 1991 ushered in an era of slow growth throughout the nation. In just twelve months, the unemployment rate in Cumberland County soared from 3.7% to a decade high of 7.4%. The sluggish economy led to a lag in home construction. Driven by the dramatic increase in single people living alone, the formation of new households in Portland outstripped the construction of housing units by almost a 2:1 margin. By the late 1990's, the economy rebounded with the "dot com" revolution. Job growth and rising incomes created a pent-up demand for housing that set the stage for the boom of the 2000's.

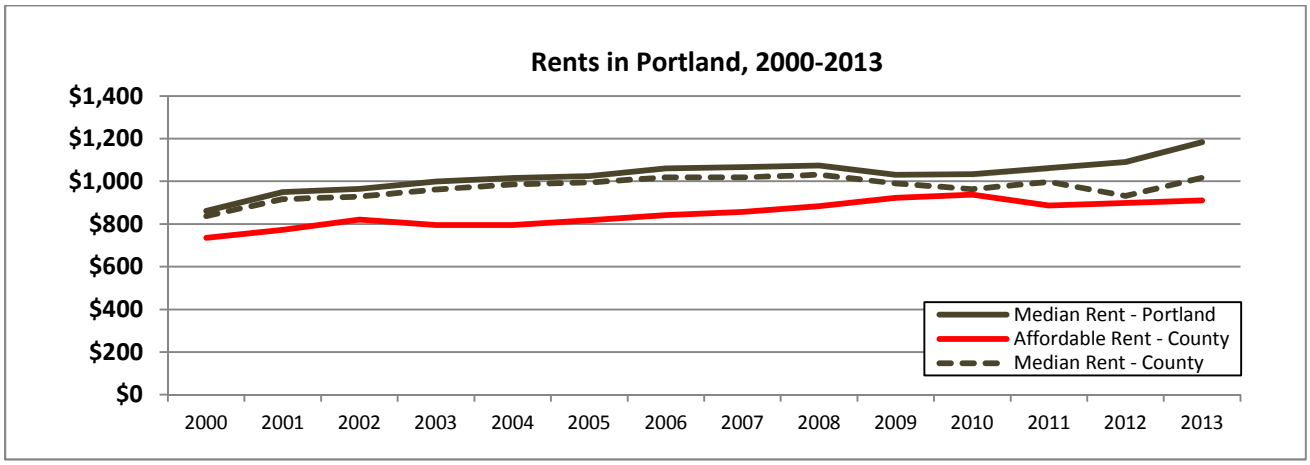
In 2000, the "dot com" bubble burst, triggering another economic downturn. With its relatively small technology sector, Greater Portland weathered the recession better than the rest of New England and the nation. Fueled by the lowest interest rates in 40 years, real estate proved to be a lucrative investment. In Portland, new housing construction outpaced the formation of new households by almost a 2:1 margin. Without real job growth, however, the boom could not be sustained. In 2008, the collapse of the credit market ushered in the greatest economic recession since the Great Depression.



Source: Maine Housing, Portland Assessing Office

Home prices in the region peaked at $235,000 before dropping 12% in 2009. Since then, rising incomes and low interest rates have improved affordability. In 2013, a household in Cumberland County earning the median income of $58,500 could afford a home price of $202,000, while the median home was $223,500. In 2005, the gap

between the median and affordable home price was $68,985. By 2013, the gap had narrowed to $21,500. New construction, however, remains out of reach for all but the wealthiest households. From 2000 to 2014, 282 new condominiums and single-family homes were sold in Portland posting a median price of $313,000, 55% over the affordable price. For example, in 2013, 85 condominiums at the Bay House in Portland's India Street neighborhood sold for a median of $366,350, 64% above the median home price and 81% above the affordable home price.



Source: Maine Housing, Portland Assessing Office

Rents in Portland continue to outpace incomes. In 2013, a household earning the median renter income of $36,438 could afford a rent of $911. The median rent in Portland, however, is $1,183, 30% more than what is affordable. Market rents associated with new construction are even higher. West End Place, a new 39-unit apartment complex at the corner of Brackett and Pine streets, is courting rents at $1,300 to $2,500, 43% to 170% higher than what is affordable.

MASSACHUSETTS APPROACH

Portland's Housing Plan established as a goal to maintain the city's 25% share of the county's population. In order to create enough affordable housing for the future, this share can be applied to the county's future growth projections. The following is a breakdown of the methodology.

1. Establish a long range population forecast at the county level

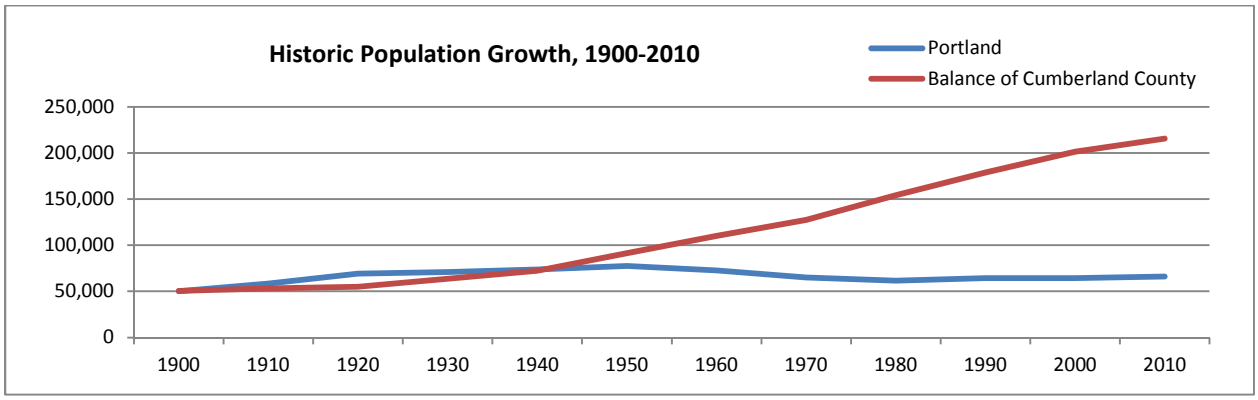
In Maine, there are two sources for population projections at the county level:

State Office of Policy and Management: In 2013, Maine's Economist released the State's 2030 Forecast. These projections assume that fertility of the current population is the primary driver of growth. Future growth is expected to be much slower than the past because Maine has a higher proportion of Baby Boomers, who are past their child-bearing years, along with a high proportion of non-Hispanic Whites, who have the lowest birth rates of any racial or ethnic group. From 2010 to 2030, the State projects that Cumberland County will grow by just 8,427 people, an increase of 1.5% per decade. This data comprises the "Low Growth" forecast.

Center for Business and Economic Research: In 2009, the University of Southern Maine's Muskie School of Public Service prepared a 2035 forecast for the Portland Area Comprehensive Transportation System (PACTS), the Metropolitan Planning Organization for the Portland, Maine Urbanized Area. This forecast, generated through Regional Economic Models, Inc. (REMI), assumes that the economy will drive population growth. From 2010 to 2030, Muskie projects that Cumberland County will grow by 79,924 people, an increase of 14% per decade. This data comprises the "High Growth" forecast.

The "Medium Growth" forecast is the average of the Low and High forecasts. Under this scenario, Cumberland County would grow by 44,176, people, an increase of 8% per decade.

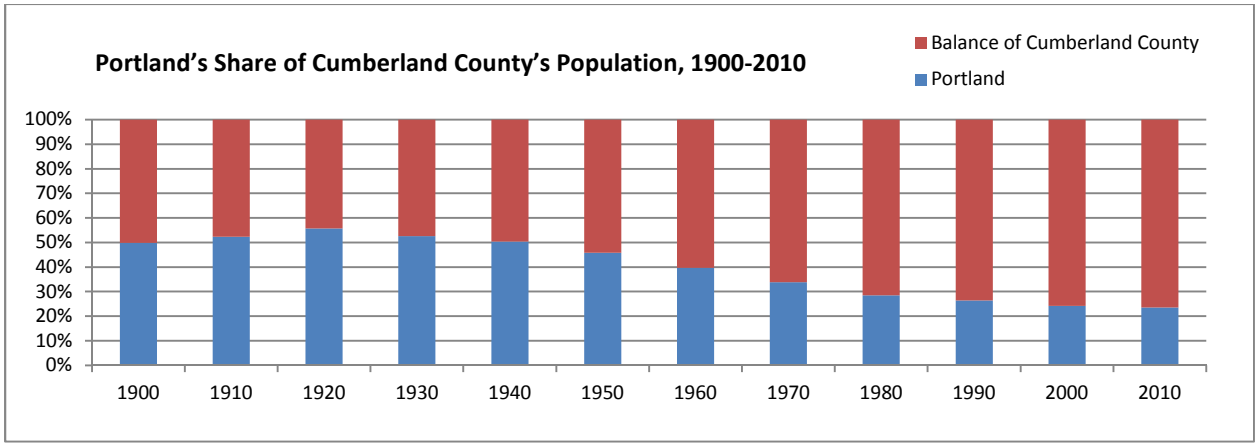
Over the last century, the county's decennial growth rate has ranged from a high of 16% during the 1940's to a low of 5% during the 1960's. Therefore, the Low forecast, at 3% growth, represents a rate lower than in any decade of the last century, while the High forecast, at 14%, is only slightly higher than the pattern of the 1990's. At 8%, the Medium forecast reflects the average growth rate per decade of the past century.



Source: U.S. Census Bureau

2. Assign Portland a 25% share of the county's 2030 population growth

Portland's goal of maintaining a 25% share of the county's population is paramount to its vitality and its influence over state and regional politics. As the largest city in one of the nation's smallest states, Portland exerts an extraordinary influence over Maine's economy out of proportion with its actual size. Indeed, the number of jobs in the city now outstrips population, making Portland the engine of the largest labor market in Northern New England. Over the last century, Portland's share of the county's population has declined from a peak of 56% in 1920 to 24% in 2010. While this share is on a definite downward trajectory, Portland did not yield any ground during the 2000's.



Source: U.S. Census Bureau

Low Growth: To claim a 25% share of the county's population, Portland would need to grow by 6,331 people, or 317 people per year, a growth rate of 4.8% per decade. In order to reach this 25% share, which in 2010 slipped to 24%, Portland would need to claim 75% of the county's future growth. Although this would represent a reversal of the sprawling choices made by residents during the 1970's, 80's and 90's, this trend has already begun in the 2000's. In order to accommodate new residents, Portland would need to build 4,188 housing units, or 210 units

per year over a 20-year period. This modest housing growth is in line with the development patterns of the 2000's, which resulted in the construction of approximately 1,974 units, or 198 units per year.

Medium Growth: To claim a 25% share of the county's population, Portland would need to grow by 15,268 people, or 764 people per year, a growth rate of 11.5% per decade.. This would bring Portland's population to 81,462 people, just past its 1950 peak. In order to reach this 25% share, Portland would need to claim 35% of the county's future growth. In order to accommodate new residents, Portland would need to build 8,636 housing units, or 432 units per year over a 20-year period. This robust growth would be double that witnessed in the 2000's and five times the growth of the 1990's.

High Growth: To claim a 25% share of the county's population, Portland would need to grow by 24,206 people, or 1,211 people per year, a growth rate of 18.3% per decade. In order to reach this 25% share, Portland would need to claim 30% of the county's future growth. In order to accommodate new residents, Portland would need to build 13,084 housing units, or 654 units per year over a 20-year period. In terms of new construction, this represents three times the growth of the 2000's and eight times the growth of the 1990's.

2030 Housing Forecast for Portland

	2010		2030					
			Low Growth		Medium Growth		High Growth	
	Total	Change	Total	Change	Total	Change	Total	Change
Population of Cumberland County	**281,674**	**24%**	**290,101**	**8,427**	**325,850**	**44,176**	**361,598**	**79,924**
Population of Portland	**66,194**	**100.0%**	**72,525**	**6,331**	**81,462**	**15,268**	**90,400**	**24,206**
Population in ownership units	30,317	45.8%	33,217	45.8%	37,310	45.8%	41,403	45.8%
Population in rental units	33,264	50.3%	36,446	50.3%	40,937	50.3%	45,428	50.3%
Population in group quarters	2,613	3.9%	2,863	3.9%	3,216	3.9%	3,569	3.9%
Households	**30,725**		**34,945**	**4,220**	**39,252**	**8,527**	**43,558**	**12,833**
Population in households	63,581	96.1%	69,662	96.1%	78,247	96.1%	86,831	96.1%
Average household size	2.07		1.99		1.99		1.99	
Ownership	2.31		2.23		2.23		2.23	
Rental	1.89		1.82		1.82		1.82	
Housing Units	**31,908**		**36,096**	**4,188**	**40,544**	**8,636**	**44,992**	**13,084**
Ownership	13,321	41.7%	15,077	1,756	16,935	3,614	18,792	5,472
Occupied	13,124	98.5%	14,927	99.0%	16,767	99.0%	18,606	99.0%
Vacant	197	1.5%	149	1.0%	168	1.0%	186	1.0%

Source: Prepared by the Greater Portland Council of Governments based on the 2010 Census and County Population Forecasts from the State Office of Policy and Management and the Center for Business and Economic Research

3. Breakout Portland Forecast by Household Income and Tenure

Owners: As of 2011, 38% of Portland's 13,845 homeowners earned less than the county's median income. This is unchanged from the 2000 Census. Approximately 28% of homeowners are considered to be of low to moderate income because they earn 80% or less of the county's median income. This is slightly lower than in 2000. The U.S. Department of Housing and Urban Development classifies households earning less than 80% as follows:

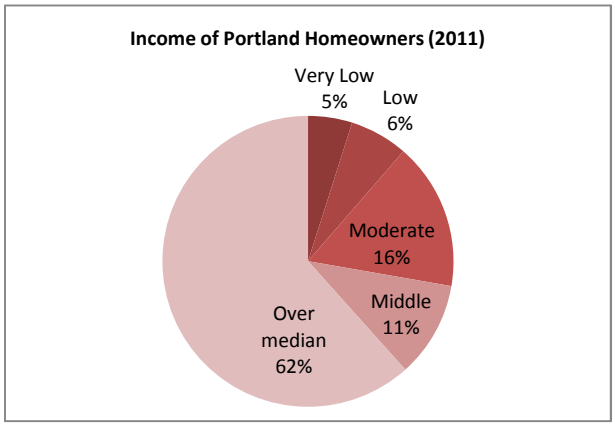
- Less than 30%: *Very low income*
- 30%-50%: *Low income*
- 50%-80%: *Moderate income*

For this analysis, middle income refers to those households earning from 80%-100% of median income. From 2000-2011, the greatest change was in the number of these middle income households, which increased by 52%.

Income of Owners in Portland, 2000-2011

	2000		2011			
	Households	%	Households	%	Net	%
Very Low	605	5%	680	5%	75	12%
Low	1,020	8%	895	6%	-125	-12%
Moderate	2,240	18%	2,265	16%	25	1%
Middle	970	8%	1,470	11%	500	52%
Over Median	7,865	62%	8,535	62%	670	9%
Total	**12,605**	**100%**	**13,845**	**100%**	**1,240**	10%
Low to Moderate	**3,865**	**31%**	**3,840**	**28%**	**-25**	-1%
Under Median	**4,835**	**38%**	**5,310**	**38%**	**475**	10%

Source: Special tabulation by the U.S. Department of Housing and Urban Development based on the 2007-2011 American Community Survey

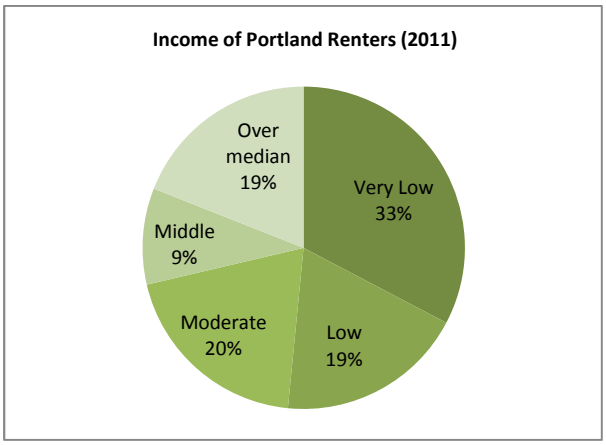


Renters: As of 2011, 81% of Portland's 17,260 renters earned less than the county's median income. Approximately 71% of renters are considered to be of low to moderate income. From 2000-2011, the greatest change was in the number of very low income households, which increased by 30%.

Income of Renters in Portland, 2000-2011

	2000		2011			
	Households	%	Households	%	Net	%
Very Low	4,330	26%	5,630	33%	1,300	30%
Low	2,755	17%	3,260	19%	505	18%
Moderate	4,165	25%	3,415	20%	-750	-18%
Middle	1,415	9%	1,665	10%	250	18%
Over Median	3,700	23%	3,290	19%	-410	-11%
Total	**16,365**	**100%**	**17,260**	**100%**	**895**	5%
Low to Moderate	**11,250**	**69%**	**12,305**	**71%**	**1,055**	9%
Under Median	**12,665**	**77%**	**13,970**	**81%**	**1,305**	10%

Source: Special tabulation by the U.S. Department of Housing and Urban Development based on the 2007-2011 American Community Survey

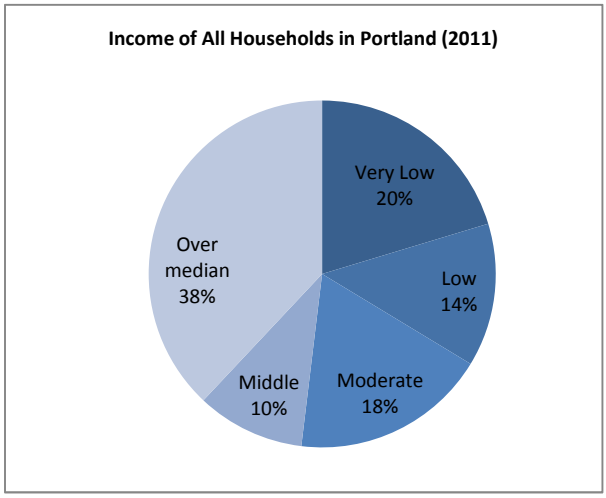


All households. As of 2011, 62% of Portland's 31,105 households earned less than the county's median income. Approximately 52% of all households are considered to be of low to moderate income. From 2000-2011, the greatest change was in the number of very low income households, which increased by 28%.

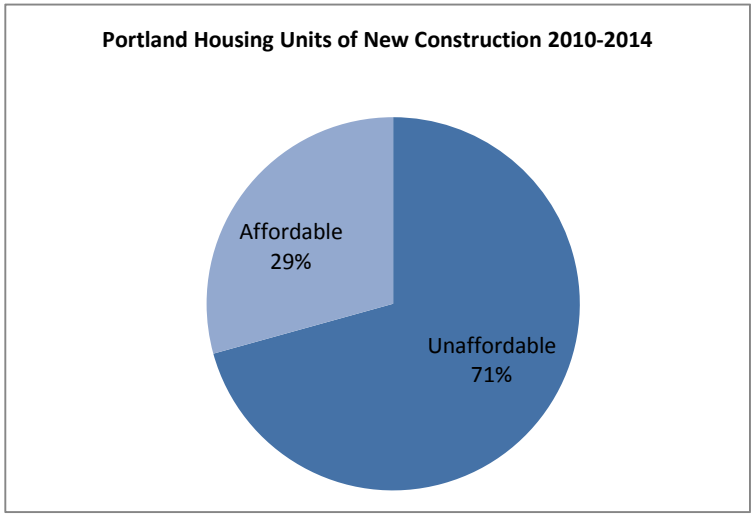
Income of All Households in Portland, 2000-2011

	2000		2011			
	Households	%	Households	%	Net	%
Very Low	4,935	17%	6,310	20%	1,375	28%
Low	3,775	13%	4,155	13%	380	10%
Moderate	6,405	22%	5,680	18%	-725	-11%
Middle	2,385	8%	3,135	10%	750	31%
Over Medium	11,565	40%	11,825	38%	260	2%
Total	**29,065**	**100%**	**31,105**	**100%**	**2,040**	7%
Low to Moderate	**15,115**	**52%**	**16,145**	**52%**	**1,030**	7%
Under median	**17,500**	**60%**	**19,280**	**62%**	**1,780**	10%

Source: Special tabulation by the U.S. Department of Housing and Urban Development based on the 2007-2011 American Community Survey



4. Calculate Gap between Current Production Trends and Future Demand



While the median price of new construction is beyond the reach of the middle class, some proportion of new homes is affordable. From 2010-2014, 384 new condominiums and single-family homes were permitted in Portland. The percentage of units sold or marketed for sale at an affordable price was 7%. During the same period, 746 new rental units were permitted. The percentage of units marketed for rent at an affordable price was 41%. Overall, 29% of new housing units permitted from 2010-2014 were offered to the market at a price affordable to a household earning 100% of median income.

Approximately 62% of Portland households earn less than the county's median income. If recent construction trends hold, the market, without compulsion, will build affordable units to meet 29% of demand. This leaves a gap between supply and demand of 33%.

Supply and Demand for Housing Affordable to Households at 100% of Median Income

		Low Growth	Medium Growth	High Growth
Housing Units	**Percent of Market**	**4,188**	**8,636**	**13,084**
Projected 2030 Demand	62%	2,597	5,354	8,112
Projected 2030 Supply	29%	1,215	2,504	3,794
Gap	**33%**	**1,382**	**2,850**	**4,318**

CALIFORNIA APPROACH

This method is based on the underlying theory that the construction of market-rate units attracts high income households. Through the purchase of goods and services, these households support low-paid service jobs, which in turn support lesser income households whose needs might best be met by living near where they work. The following is a breakdown of the methodology.

1. Calculate the income of market-rate households

A household must earn approximately $90,000 to afford the market price of a newly constructed home ($313,000) or rental unit ($2,500 per month), presuming it spends no more than 30% of its income for housing. This percentage is consistent with mortgage underwriting practice, traditional credit analysis, and housing policy.

2. Quantify the collective purchasing power of market-rate households

The National Consumer Expenditure Survey was used to calculate the disposable income of market rate households. A typical household in the Northeast spends the largest chunk of its income, 28%, on housing, including mortgage, insurance, and property taxes as well as home maintenance and furnishings. At 17%, the second largest category is transportation, including vehicle payments, registration, maintenance, and fuel. The third largest expenditure, 14%, is food, which includes meals eaten at restaurants as well as produce, meat, dairy, and other products purchased at supermarkets and eaten at home. Other categories include insurance, utilities,

health care, entertainment, education, and apparel. Once taxes and housing costs are eliminated, the market-rate household has $45,900 in disposable income accounting for 51% of gross household income. One hundred market-rate households would have a collective purchasing power of $4,590,000.

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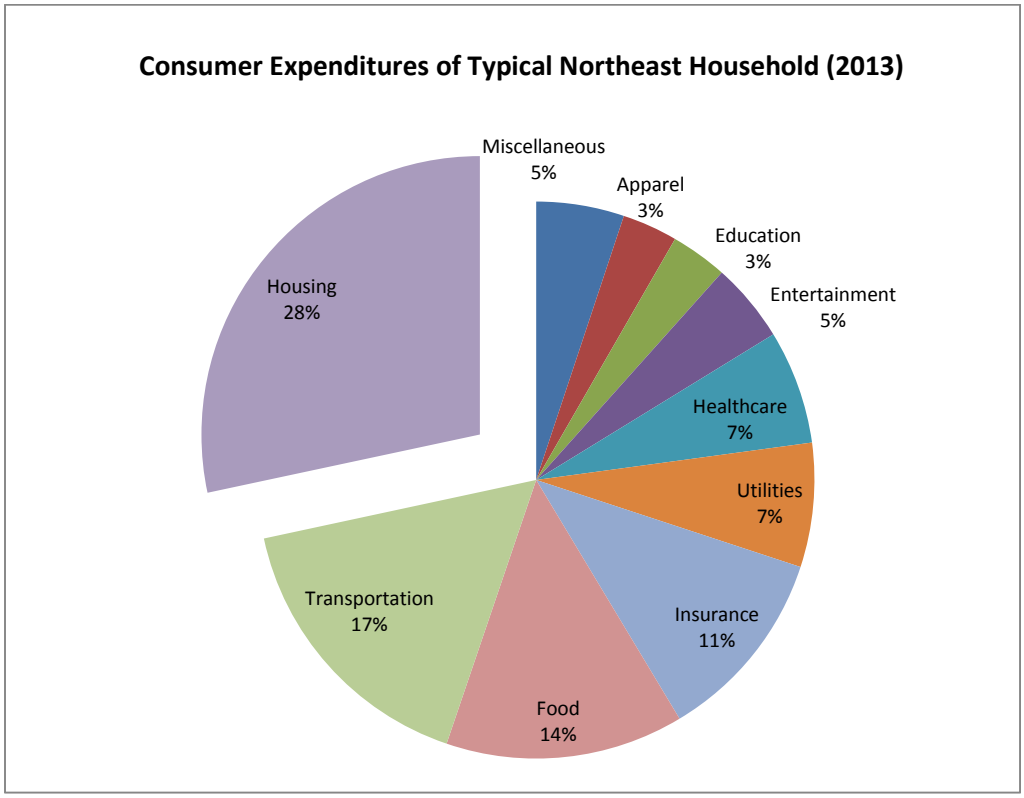
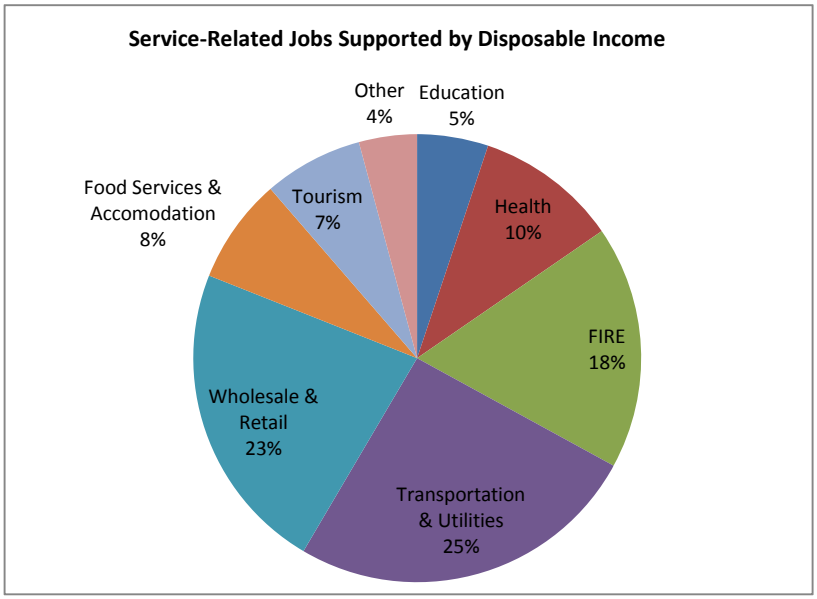


3. Translate collecting purchasing power to jobs



Estimates were made to correlate household spending by category with service jobs by industry sector. Jobs generated by mortgage and rent payments were excluded from analysis. The goods-producing sector, which includes jobs in agriculture, fisheries, forestry, mining, construction, and manufacturing, was also excluded. Thus, while food purchased at the supermarket may be grown in the field and processed in a factory, only the retail jobs supported by household spending are counted. Food eaten at home, for example, was assigned to the Wholesale and Retail sector, while meals eaten away from home were assigned to the Accommodation and Food Services sector. Similarly, income paid to utilities was assigned to Transportation and Utilities.

4. Calculate the economic impact of job creation

The disposable income of 100 households purchasing market-rate homes in Portland would generate an economic impact of 121 jobs, $4.8 million wages, $13.4 million in GDP, and $20.9 million in total output, which is broken down on the following chart. Each job has an average income of $40,020.

Economic Impact of 100 Households Purchasing Market Rate Ownership Units

	Employment	Earnings	GDP	Output
Direct	80	$3,336,816	$9,984,358	$15,617,667
Indirect + Induced	41	$1,505,576	$3,382,239	$5,309,542
Total	**121**	**$4,842,392**	**$13,366,597**	**$20,927,209**

Outputs were generated from the 2011 version of the *Connect Northern New England Economic Scenario Model* developed by Vital Economy and FairPoint Communications. Outputs were adjusted for inflation to 2014 dollars. The model is designed to provide order of magnitude estimates of economic impact resulting from the gain or loss of jobs, including the following:

- **Direct Employment**: Employment attributed to a particular business, activity or industry.
- **Indirect Employment**: Employment in down-stream industries that supply or provide services to the direct business, activity or industry.
- **Induced Employment**: Employment generated because of expenditures made by individuals employed directly or indirectly by the particular business, activity or industry.
- **Earnings**: Sum of wage and salary disbursements, supplements, and proprietors' income.
- **GDP**: Total market value of all final goods and services produced in the region.
- **Output**: Total economic output of a firm, industry, or economy without deducting intermediate inputs such as goods and services consumed by industries in the production of other final goods and services.

The Economic Scenario Model derives its data from the U.S. Bureau of Economic Analysis (BEA), which produces detailed data on economic activity by region and state. In order to calculate the indirect and induced effects on employment, earnings, output, and GDP, the Model uses BEA RIMS II multipliers, which are based on estimates of local area personal income and on the national input-output accounts.

5. Calculate the number of median households supported by new jobs

Cumberland County's labor force is comprised of 167,365 workers age 16 and over. In the 2010 Census, 117,339 households were recorded in the county. Thus, there are 1.43 households for every job in the region. The disposable income from 100 new market rate households generates 121 jobs in the local economy, which can support 85 workforce households. The number of workforce households is multiplied by 62%, which is the percentage of Portland households earning less than the county's median income. The result, 53%, is the percentage of workforce housing demand generated by these 100 market-rate units. If the market, in keeping with current production patterns, supplies 29 affordable units for every 100 built, there would still be an unmet gap for 24 affordable units.

Median Housing Demand Generated by Market Rate Households

Jobs per Household	1.43
Median income households in Portland	62%
Total jobs generated by 100 market-rate households	121
Households supported by jobs	85
Affordable housing demand generated per job	53%
Potential market supply of affordable units	29%
Gap	**24%**

AFFORDABILITY OF CURRENT HOUSING STOCK

Rental Units

While recent trends demonstrate that new construction is increasingly unaffordable, there are still thousands of existing housing units in Portland that are affordable due to condition, size, turnover and other factors. Thanks to a special Census tabulation prepared by HUD, the chart below outlines the income of households who were living in these affordable units in 2011. In 2011, the HUD Area Median Family Income (HAMFI) for the Portland area was $72,300. HUD's basic affordability assumption is that rent should consume no more than 30% of a household's gross income.

There are several important issues left answered by the data. Because respondents to the households are the renters themselves and not the landlords, it is impossible to determine the following: 1) which units are located in a housing project where rents are subsidized; 2) whether the rent reported is the actual rent charged to the tenant or the rent paid by a tenant minus a Section 8 voucher; and 3) what the rent would be if the unit were available to the marketplace. For example, certain housing units might be rented by family members of the landlord, who would charge a higher rent to the general public. Also, many landlords purposefully keep rents low for longtime tenants in order to avoid turnover. Turnover often commands higher rents, particularly if renovations occur during the vacancy.

Of the city's 17,585 rental units, 90%, or 15,800, are offered at rents affordable to households earning up to 80% of the region's median income. At first glance, these numbers seem to indicate that there is no affordable housing problem in the rental market. The reality, however, is that there is a mismatch between income and availability because renters do not seek to maximize their incomes on rent. While many households seek to buy "more house" than they need, renters tend to seek out the best bargain for their preferred location and/or the smallest unit that they can squeeze into. Some renters want to spend as little as possible so that they can save money for a home. Other renters may not compete well for housing in the private market against higher income renters with more stable jobs, incomes, and credit ratings. Another problem is size. Virtually half of the city's affordable rental units are studios, efficiencies, and one-bedroom apartments. Families are hard pressed to find large units at rents they can afford.

Rent Affordable to Very Low Income Households Earning <= 30% of Median Income - These are units with a gross rent affordable to households at or below 30% HAMFI. Of the 3,390 rental units offered at this rent level, 92% are occupied by households earning up to 100% HAMFI. Judging by the vacancy rate, competition is stiffest for units with three or more bedrooms.

Rent Affordable to Low Income Households Earning >30 to <=50% of Median Income - These are units with a gross rent affordable to households earning 30% to 50% of HAMFI. Of the 2,490 rental units offered at this level, 86% are occupied by households earning up to 100% HAMFI. Judging by the vacancy rate of 0%, competition is stiffest for units with three or more bedrooms.

Rent Affordable to Moderate Income Households Earning >50 to <=80% of Median Income - These are units with a gross rent affordable to households earning 50% to 80% of HAMFI. Of the 9,145 rental units offered at this price range, 74% are occupied by households earning up to 100% of HAMFI. Vacancy is tightest in this price range.

Rent Affordable to Households Earning >80% of Median Income - These are units with a gross rent affordable to households with incomes above 80% of HAMFI. Of the 1,790 units offered at this rent level, 47% are occupied by households earning up to 100% of HAMFI. At 12.1%, the vacancy rate is highest amongst 3-bedroom units.

Name of Jurisdiction: Portland, Maine	Source of Data: 2007-2011 CHAS databook			
	Rental Units by # of bedrooms			
Rental Units by Affordability	0-1	2	3+	Total
Units with gross rent affordable to a household earning 30% HAMFI				
Household income 30% or less	1,320	480	425	2,225
Household income 30.1%-50%	365	100	205	670
Household income 50.1%-80%	80	65	60	205
Household income 80.1%-100%	15	0	0	15
Household income over 100%	10	10	95	110
Total occupied units	1,790	655	785	3,225
Vacant for Rent	80	60	25	165
Vacancy Rate	4.3%	8.4%	3.1%	4.9%
Units with gross rent affordable to 50% HAMFI				
Household income 30% or less	470	155	75	700
Household income 30.1%-50%	350	385	150	885
Household income 50.1%-80%	300	305	80	680
Household income 80.1%-100%	165	55	0	225
Household income over 100%	85	170	45	295
Total occupied units	1,370	1,070	350	2,790
Vacant for Rent	90	25	0	115
Vacancy Rate	6.2%	2.3%	0.0%	4.0%
Units with gross rent affordable to 80% HAMFI				
Household income 30% or less	1,270	695	410	2,375
Household income 30.1%-50%	660	600	115	1,375
Household income 50.1%-80%	915	945	310	2,165
Household income 80.1%-100%	530	405	220	1,155
Household income over 100%	720	920	435	2,075
Total occupied units	4,095	3,565	1,490	9,145
Vacant for Rent	170	135	55	360
Vacancy Rate	4.0%	3.6%	3.6%	3.8%
Units with gross rent affordable to household earning over 80% HAMFI				
Household income 30% or less	85	120	25	230
Household income 30.1%-50%	50	45	70	170
Household income 50.1%-80%	75	140	50	265
Household income 80.1%-100%	80	70	35	185
Household income over 100%	190	280	330	800
Total occupied units	480	655	510	1,650
Vacant for Rent	25	50	70	140
Vacancy Rate	5.0%	7.1%	12.1%	7.8%
Total Occupied	**7,735**	**5,945**	**3,135**	**16,805**
Number vacant for rent	**365**	**270**	**150**	**780**
Vacancy Rate	**4.5%**	**4.3%**	**4.6%**	**4.4%**
Units affordable to households earning up to 80% of AMI	**7,595**	**5,510**	**2,705**	**15,800**
Percent of housing stock that is affordable	**94%**	**89%**	**82%**	**90%**

Home Ownership Units

In 2011, 66% of existing homes, or 6,895 units, were affordable to households earning 100% of the region's median household income. Thanks to a special tabulation of the American Community Survey, the chart on the next page illustrates the income of households who were living in these affordable units in 2011.

The data should be used with caution. Unlike rents which can rise and fall with the economy, most homeowners lock themselves into a 30-year mortgage with a fixed interest rate. Except for fluctuations in taxes and insurance, they make the same monthly mortgage for the life of the loan. The Census asks homeowners to estimate what they think their home is worth. Some homeowners may consult their tax bill while others find out the selling prices earned by neighbors. Still others simply make a guess. Because this value does not necessarily align with the price the home would sell for if it was listed on the market, it is substantially different from the market data used earlier in this report, which was provided by Maine Housing and the City Assessor based on actual sales of new and existing homes. While it may be unreliable, particularly in light of the boom and bust of the housing market, it is the best source of data for determining who lives in the region's affordable ownership stock, including condominiums, ranches, capes and bungalows. Mobile homes, boats, and recreational vehicles are not included in the data.

Another caution is that the data is not indicative of cost burden. For example, in 2011, there were 555 homes with a value affordable to households earning over 100% of median income that were occupied by households earning 50% or less of median income. This does not mean that the home is unaffordable to them. Certainly a large percentage of homeowners have owned their homes for a very long time: while initially the mortgage payment may have been more than 30% of their income, as wages rise, mortgage payments gradually decline as a percentage of household income. Some low income owners, such as senior citizens, have paid off their mortgage completely, leaving them "house-rich" but "cash-poor."

To determine the maximum home value affordable to households by income, HUD utilized a series of assumptions: a 31% monthly payment standard, a 4.5% down payment, a 5.5% interest rate, a 1.75% upfront insurance premium, a .55% annual insurance premium, and 2% for annual taxes and insurance. Based on these assumptions, HUD's estimated value to income ratio for an affordable home is 3.36, i.e., a household can afford a home costing no more than 3.36 times its income. In 2011, the HUD Area Median Family Income (HAMFI) for the Portland area was $72,300. A household earning this median income could afford a home price up to $242,928, which is 22% than Maine Housing's estimate for the same base year. The reason for this discrepancy is a different definition of median income. HAMFI, the reference point for the HUD data, is scaled to a family of four. Maine Housing's estimate, however, encompasses for all households, including single people living alone. Thus, while the HAMFI for the Portland area was $72,300, Maine Housing's estimate for the same year was $54,944, and for the American Community Survey, it was $57,267.

Value Affordable to Low Income Households Earning 50% of Median Income – The value of these homes are less than or equal to the maximum amount that would be affordable to a household earning 50% of median family income, or $36,150. Under HUD's financing assumptions, such a family could afford a home of no more than $122,000. There were 540 occupied units with a value in this range: 75% were occupied by households earning 100% or less of median income. There were 100 vacant homes at this value accounting for a vacancy rate of 15.6%. Such a high rate is indicative of foreclosure and/or deferred maintenance.

Value Affordable to Moderate Income Households 80% of Median Income - A household earning 50.1-80% HAMFI, or $36,151-$57,840, could afford a home of $122,000-$194,000. There were 3,080 occupied units with a value in this range: 54% were occupied by households earning up to 100% HAMFI. While homes in this price range might be small, suffer from deferred maintenance, and/or be located in high traffic areas, the tight vacancy rate of 0.5% indicates they are in high demand.

Value Affordable to Households Earning 100% of Median Income - A household earning 80.1%-100% of median income, or $57,841-$72,300, could afford a home of $194,000-$243,000. There were 3,125 occupied units with a

value in this range: 39% were occupied by households earning up to 100% HAMFI. These homes might in good condition and in desirable neighborhoods, but lack high value amenities, such as a water view, two-car garage, and/or historic character. Vacancy is lowest among homes with 0-2 bedrooms.

Value Affordable to Households Earning over 100% of Median Income – These homes, worth over $243,000, exceed affordability for a household earning 100% of HAMFI, or $72,300. There are 7,005 occupied units with a value in this range: 28% are occupied by households earning up to 100% HAMFI. At 3.9%, the vacancy rate is highest among homes with 0-1 bedrooms, which are probably condominiums.

Name of Jurisdiction: Portland, Maine			Source of Data: 2007-2011 CHAS databook						
	With a mortgage				Without a mortgage				
Homes by Affordability	Homes by # of bedrooms				Homes by # of bedrooms				
Occupancy by Income	0-1	2	3+	Total	0-1	2	3+	Total	Total
Units with a value less than $122,000 (affordable to a household earning 50% area median family income)									
Household income 30% or less	0	15	4	20	0	10	40	55	75
Household income 30.1%-50%	0	0	35	35	0	20	20	40	75
Household income 50.1%-80%	0	10	55	65	0	25	50	75	140
Household income 80.1%-100%	0	10	90	100	0	0	15	15	115
Household income over 100%	0	0	80	80	0	0	50	50	130
Total occupied units	0	35	264	305	0	55	175	235	540
Vacant for Sale	25	45	25	100					
Vacancy Rate	100.0%	33.3%	5.4%	15.6%					
Units worth $122,000-$194,000 (affordable to a household earning 50.1-80% of area median family income)									
Household income 30% or less	0	95	25	120	0	0	55	55	175
Household income 30.1%-50%	0	50	115	165	10	100	50	160	325
Household income 50.1%-80%	20	105	245	370	0	115	190	300	670
Household income 80.1%-100%	0	175	235	405	0	40	65	110	515
Household income over 100%	40	250	810	1,100	0	65	225	290	1,390
Total occupied units	60	675	1,430	2,165	10	320	585	915	3,080
Vacant for Sale	0	15	0	15					
Vacancy Rate	0.0%	1.5%	0.0%	0.5%					
Units worth $194,000-$243,000 (affordable to a household earning 80.1-100% of area median family income)									
Household income 30% or less	0	10	105	115	10	10	50	70	185
Household income 30.1%-50%	25	0	75	100	0	0	70	70	170
Household income 50.1%-80%	0	125	320	440	0	4	75	80	520
Household income 80.1%-100%	0	40	135	175	0	65	110	170	345
Household income over 100%	45	250	1,390	1,685	0	35	180	215	1,900
Total occupied units	70	425	2,025	2,520	10	114	485	605	3,125
Vacant for Sale	0	0	35	35					
Vacancy Rate	0.0%	0.0%	1.4%	1.1%					
Units worth over $243,000 (affordable to a household earning over 100% of area median family income)									
Household income 30% or less	30	70	25	130	30	60	25	115	245
Household income 30.1%-50%	60	20	75	155	0	70	85	155	310
Household income 50.1%-80%	115	295	215	620	15	90	170	280	900
Household income 80.1%-100%	30	125	190	350	0	50	90	140	490
Household income over 100%	125	1,100	2,730	3,960	85	335	680	1,100	5,060
Total occupied units	360	1,610	3,235	5,215	130	605	1,050	1,790	7,005
Vacant for Sale	20	0	35	55					
Vacancy Rate	3.9%	0.0%	0.8%	0.8%					
Total Occupied	**490**	**2,745**	**6,954**	**10,200**	**150**	**1,094**	**2,295**	**3,545**	**13,745**
Number vacant for sale	**45**	**60**	**95**	**205**					
Vacancy Rate	**6.6%**	**1.5%**	**1.0%**	**1.5%**					
Units affordable to households up to 100% of AMI	**175**	**1,684**	**5,024**	**6,895**					
Percent of housing stock that is affordable	**33%**	**60%**	**71%**	**66%**					

TOOLS TO INCREASE HOUSING AFFORDABILITY

The Great Recession of 2008 ushered in a market correction that has increased the affordability of Portland's existing housing stock. At the same time, however, the recovery, has generated a certain bullishness to create new housing at the high end of the market. Without incentive or control, new construction remains out of reach of the middle class. The following tools may inform the development of policy to balance access to the newest housing boom.

Density Bonus: This tool grants an increase in the number of units allowed by right in order to provide an incentive for the construction of affordable housing. While the incentive can work as a stand alone tool, it is typically incorporated into a contract zone, overlay district, or cluster subdivision. A model ordinance developed by the American Planning Association posits 20% as a reasonable target for affordable housing. The Town of Brunswick, Maine has incorporated a density bonus into their zoning ordinance, complemented by a provision for the reduction of fees, including building permits, stormwater, solid waste, recreation and traffic impacts.

https://www.planning.org/research/smartgrowth/pdf/section44.pdf
http://www.brunswickme.org/wp-content/uploads/2012/04/Web.Version.Zoning.Ordinance.pdf

Inclusionary Zoning: This tool requires that a certain percentage of units in a new development be set aside as affordable, with or without an increase in density. Inclusionary zoning is widely used by cities throughout the states of California, Massachusetts, New Jersey, Virginia, and Maryland. In Burlington, Vermont, the mandatory set-aside ranges from 15%-25%, depending on the market price of the rest of the units. The Town of Cape Elizabeth, Maine requires that 10% of the units in a subdivision be set aside for moderate income households, or 5% for low income.

http://www.nhc.org/media/documents/IZ_lessons_in_MA.pdf
http://www.burlingtonvt.gov/CEDO/Inclusionary-Zoning
http://www.capeelizabeth.com/government/rules_regs/ordinances/zoning/zoning.pdf

Reduction in Parking: This tool reduces the number of parking spaces that must be constructed to support each housing unit. Eliminating the typical suburban requirement of two spaces per unit can not only slash housing construction costs by 25%, but free up land that can be used to increase density. Concentrating homes, jobs, services, and stores increases the likelihood that people will walk, bike or take the bus to get from one place to another. On the Portland peninsula for example, 77% of households own just 0-1 vehicles, compared with 43% in the U.S. as a whole. The City of Portland, Oregon has reduced or eliminated parking requirements for new development based on the proximity of transit services.

http://www.vtpi.org/park-hou.pdf
http://www.portlandonline.com/shared/cfm/image.cfm?id=53320

Rent control: This tool establishes a ceiling on rent increases permitted in the public and private rental market. Los Angeles, San Francisco, New York City, and Cambridge, Massachusetts have previously adopted rent control policies. While rent control can act as a temporary "breather" from soaring prices, it has the potential to create housing shortages in the long run by discouraging new construction.

http://www.nycrgb.org/html/resources/faq/rentcontrol.html

Do Nothing: At first glance, the construction of luxury housing in any downtown would be considered a boon, not a burden. In the long run, however, neighboring property owners will follow suit, running up sales prices and rents unsustained by real growth in wages, incomes, jobs, or property improvements. For workers, the consequence is longer commutes from suburbs and rural areas. Others will establish themselves in less expensive urban markets, such as Biddeford, Lewiston, Gardiner, and Bath. Absent a correction by regulation or the market, these forces

could take shape, first as a collection of individual choices which then swell into an undeniable movement. And they did happen during the 2000's.

CONCLUSION

Portland's vitality depends on the availability of a diverse array of housing options, particularly apartments, which are often the first and only choice for working professionals, immigrants, and families. Over the last five years, a number of trends have solidified:

- 62% of Portland households earn less than the county's median income, including 38% of homeowners and 81% of renters. Over the last decade, the number of households earning less than median income has increased 10%.

- The Great Recession of 2008 was a market correction that increased the affordability of existing housing – by giving wages a chance to catch up while stalling home sales and rents.

- Current housing production is not meeting the needs of households earning 80%-100% of median income. If recent trends continue, there will be a gap between supply and demand of workforce housing units ranging from 24%-33%.

- While the Portland housing market contains units in a variety of price ranges, the reality is that those with higher incomes, stable jobs, and good credit ratings are in a better position to compete for affordable units that are subsidized and unsubsidized. This creates a glut of affordable units at the low end of the range that may be in rough condition, with deferred maintenance issues.

- The rental market is extremely tight for 3-bedroom units that can accommodate working families.

- Based on the vacancy rate, the inventory of one-bedroom condos targeting households earning over the median income is reaching a point of saturation.

Well into the recovery, the region is on the pathway to another boom marked by a rise in new construction, low vacancy rates, and increasing rents and home prices. But the recovery also represents an opportunity for balance. By increasing the diversity of housing through incentive and regulation, the region can forestall the possibility of another crash due to soaring prices unsustained by real job growth. Trend or choice? It is up to us.

ATTACHMENT C: SLIDESHOW FROM FEBRUARY HOUSING FORUM

City of Portland Public Forum on Housing Production and Affordability

Sponsored by the City Council's

Housing and Community Development Committee

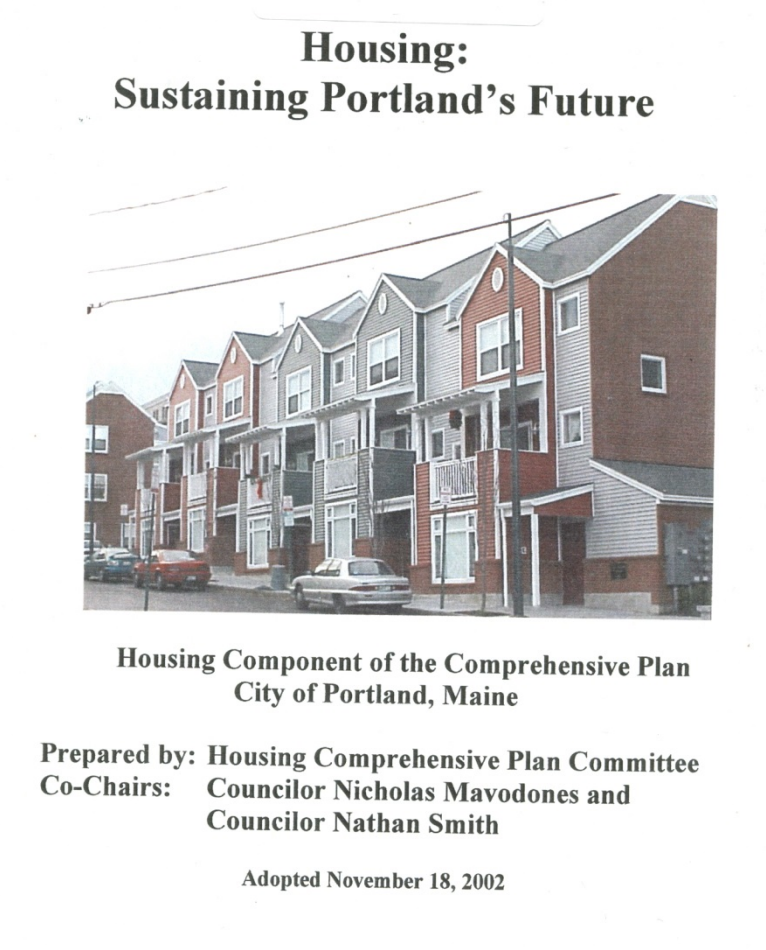
February 25, 2015

Terminology

- “Low Income Housing”: Housing, of any sort, for rent or to own, that is affordable to households at 80% of area median income or below (about $60,000 for a family of four.)
- “Workforce Housing”: Housing, of any sort, for rent or to own, that is affordable to households at 100% of area median income (about $75,000 for a family of four)
- “Affordable”: Paying 30% or less of your income on housing costs (rent or mortgage payments, insurance, taxes, etc.)
- “Deed Restricted”: The housing is not just affordable by chance, but by a written requirement that residents meet those restrictions. That restriction may last 20+ years or be in perpetuity.

2002 Housing Plan

- Approved by City Council in 2002 as part of the City's Comprehensive Plan
- Called for five key policies:
  1. *Adequate and diverse supply of housing for all*
  2. *Preserving a quality housing stock*
  3. *Building on neighborhood stability and integrity*
  4. *Housing as a regional issue*
  5. *Sustainable development*
  6. *Freedom of choice*
- Set goal of keeping Portland's population at 25% of County
- Called for Housing Replacement Ordinance
- Set goal of 20% of new units to be affordable at 80% AMI
- Set goal of 200 new affordable home-ownership units, most for families



Housing:
Sustaining Portland's Future

Housing Component of the Comprehensive Plan
City of Portland, Maine

Prepared by: Housing Comprehensive Plan Committee
Co-Chairs: Councilor Nicholas Mavodones and
Councilor Nathan Smith

Adopted November 18, 2002

India Street Process

- India Street Sustainable Neighborhood Plan process had a working group on housing and equity
- Initially was recommending a requirement that part of all new larger developments in the neighborhood be affordable
- Decided that the requirement should be City-wide so as to not discourage investment in the district
- Prepared a draft ordinance
- Housing affordability is a goal of the draft plan

2030 Workforce Housing Demand

- GPCOG Study completed January 2015
  - 62% of Portland households earn less than the county's median income (38% of homeowners and 81% of renters) which is a 10% increase over last decade
  - 2010-2014 – 1,130 housing units permitted and/or built; only 29% were affordable to household earning median income.
  - There is a predicted gap in affordable housing production of between 24-33%. In other words, the production rate should roughly double

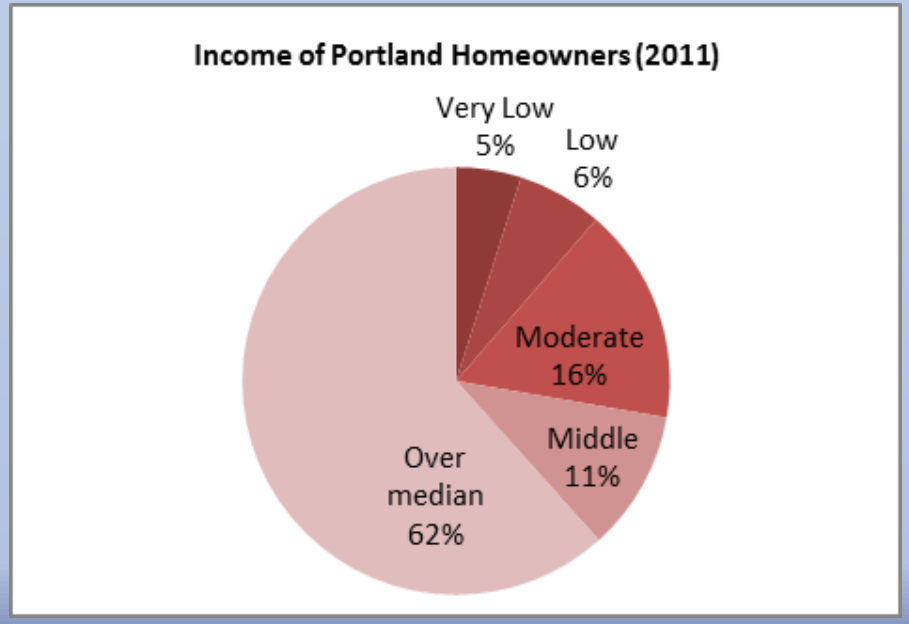
2030 Workforce Housing Demand

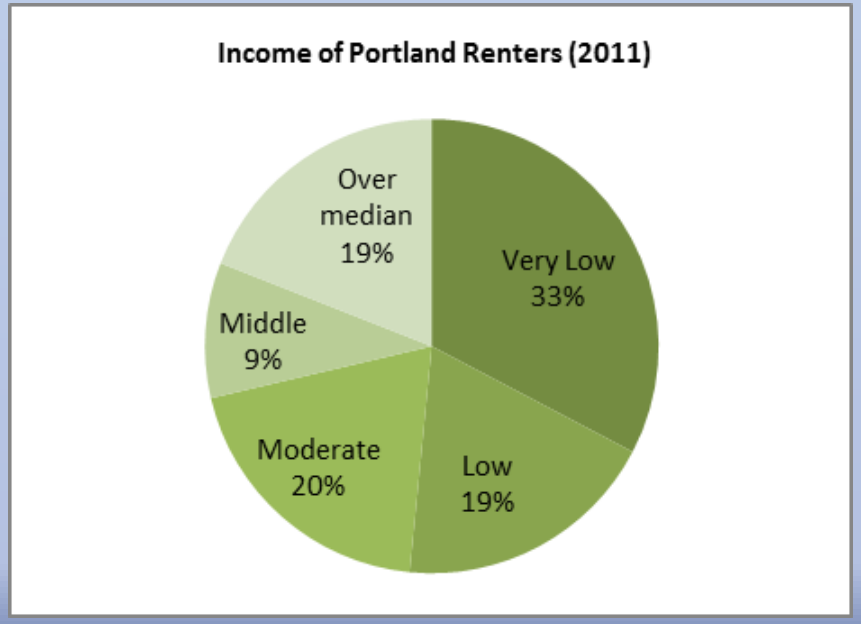
Prepared by Greater Portland Council of Governments January 2015

Less than 30% AMI = *Very low income*

30%-50% AMI = *Low income*

50%-80% AMI = *Moderate income*





2030 Workforce Housing Demand

Why do anything?

- 62% of Portland households earn less than the county's median income(38% of homeowners & 81% of renters). Over the last decade, the number of households earning less than median income has increased 10%.
- The Great Recession of 2008 was a market correction that increased the affordability of existing housing – by giving wages a chance to catch up while stalling home sales and rents.
- Current housing production is not meeting the needs of households earning 80%-100% of median income. If recent trends continue, there will be a gap between supply and demand of workforce housing units ranging from 24%-33%.

2030 Workforce Housing Demand

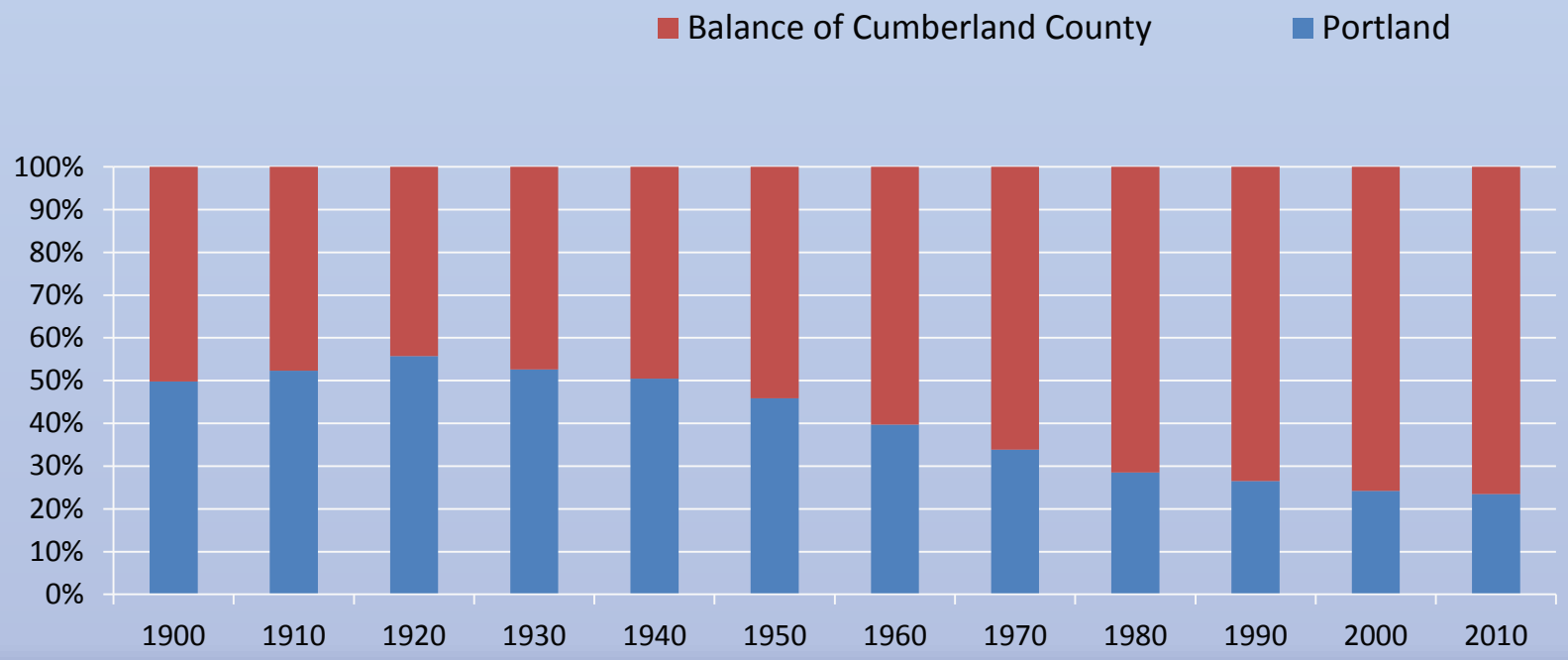
- While the Portland housing market contains units in a variety of price ranges, the reality is that those with higher incomes, stable jobs, and good credit ratings are in a better position to compete for affordable units that are subsidized and unsubsidized. This creates a glut of affordable units at the low end of the range that may be in rough condition, with deferred maintenance issues.
- The rental market is extremely tight for 3-bedroom units that can accommodate working families.
- Based on the vacancy rate, the inventory of one-bedroom condos targeting households earning over the median income is reaching a point of saturation.

MEREDA 2015 ANNUAL REAL ESTATE FORECAST CONFERECNCE

- "A higher end rental market expands and spurs investment"
- Rents up 8-12% this year, predicted another 5% next year
- Sales prices in Portland up 19% since 2009
- **Market Rate/mo**
  - ✓ Studio: $750 - $800 (Federal Fair Market: $739)
  - ✓ 1 Bd: $925 -$1,000 (Federal Fair Market: $880)
  - ✓ 2 Bd: $1,100 – 1,400 (Federal Fair Market: $1,087)
  - ✓ 3 Bd: $1,400 – 1,600 (Federal Fair Market: $1,405)

PORTLAND'S GROWTH

- 500 units of housing permitted in past two years
- Not quite meeting the 20% of county growth goal but doing OK



Source: U.S. Census Bureau – Included in GPCOG 2030 Portland Workforce Housing Demand Report

The housing production rate south of I-295 is higher than that north of I-295.

	Peninsula	Off-Peninsula	Island	Total
Affordable	320	16	0	336
Market Rate	675	108	11	794
Total	995	124	11	1130

Source: Greater Portland Council of Governments

WHAT ARE OUR EXISTING CITY ORDINANCES?

<u>Housing Replacement Ordinance</u>

Section 14-483 City Code of Ordinances

Primary source of capitalization for the Housing Trust Fund.

Currently at $64,700 per unit removed from the market and not replaced

<u>Density Bonus</u>

Section 14-484 City Code of Ordinances

Allows up to a 25% bonus in density for affordable housing developments.

WHAT ARE OUR EXISTING CITY PROGRAMS?

FINANCIAL SUPPORT:

U.S. Dept. of HUD- CDBG and HOME – affordable at or below 80% AMI

Since 2000 the City has invested $8.8 million of HUD funding to assist in the creation of over 800 units almost 700 of which are affordable at 50% to 80% of AMI

City's Housing Trust Fund – affordable at or below 120% AMI currently funded through the Housing Replacement Ordinance

Since 2002 the fund has received approximately $1 million and expended $455,585 (Avesta's Oak Street Lofts – 37 efficiency units; two pre-development grants to create Housing First units)

Current balance is approximately $640,000

How would increased density incentives and new requirements work together?

Changes to density of housing development allowed in key zoning districts. B-2 zone (approved by Council,) R-6 zone (before the Planning Board,) other business zones such as the B-6 zone.

Limited density bonus changes for workforce and affordable housing. The existing language amended to include all deed-restricted units at less than 120% of AMI. consider increasing the density bonuses - existing bonuses at (25%)

Inclusionary Zoning focused on 80-120% AMI Production. Increased densities alone will not address the need to increase development of low, moderate and average-income housing by 24-33%. If such a requirement had been in place over the past 10 years, 77 units of workforce housing would have been produced, in addition to $630,000 for the Housing Trust.

Examples of Inclusionary Zoning in other places

500 municipalities have requirements in more than half the states and DC

Sample Inclusionary Zoning Requirements from other Cities in the US

CITY	Year Enacted (est.)	Requirement	Units Produced	Target Incomes	Notes
Arlington, MA		15% of units			
Belmont, MA		10-15%, no minimum units			
Boulder, CO		20%, no minimum units		60% AMI	
Brookline, MA	1998	15% of 6 or more units and 15% of all bedrooms		80-100% AMI	Cash out up to 15 units
Burlington, VT		25% of 6 or more units			
Cambridge, MA	1998	15% of 10 or more units	450	65% AMI	30% density bonus
Cape Elizabeth, ME		5% (low)-10% (moderate income) of 5 or more units		Below 80% AMI	Also includes Accessory Dwelling Unit language
Carlsbad, CA	1994	15% of 7 units or more	1246	Below 80% AMI	
Emeryville, CA	1990	10-20% of 30 or more units			
Fairfax County, VA	1992	Over 20 Units	2448	"Affordable"	
Lincoln, RI	2006	20% of over 5 units		80% AMI	Given density bonus
Montgomery County, MD	1976	Over 50 Units	13000	"Moderate"	
Newton, MA		15% of units			
Petaluma, CA	1984	15% of 3 units or more	1157		
Pittsburg, CA	2004	6-20% of 5 units or more	11	Below 100% AMI	
Santa Fe, NM	2006	15% of 25 units or more		Up to 120% AMI	City provides up to $10,000 subsidy per unit
Tallahassee, FL	2004	10% of 50 or more units		70-100% AMI	
Waltham, MA		5% (if given to WHA) or 10%			
Washington, DC	2006	8-10%		50-80% AMI	
Watertown, MA		12.5% of 5 or more units		80% AMI	Rounds up to next full unit

Many of these requirements allow cash out (fee in lieu) as an option, although that option often only exists for smaller projects and/or fractional unit requirements

Some of these ordinances allow for off-site provision of affordable units

Inclusionary Zoning focused on 80-120% AMI Production.

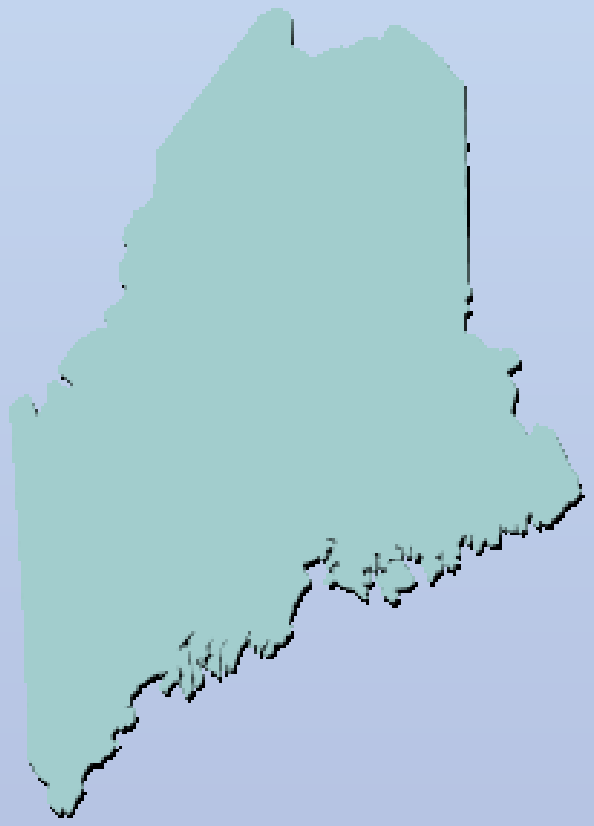
	OPTION 1	OPTION 2	
# of Units	Required Affordable Unit	In-Lieu Fees	Incremental Unit Fee %
10	1	100%	n/a
11	1 + Incremental Fee	100% + Incremental Fee	10%
12	1 + Incremental Fee	100% + Incremental Fee	20%
13	1 + Incremental Fee	100% + Incremental Fee	30%
14	1 + Incremental Fee	100% + Incremental Fee	40%
15	1 + Incremental Fee	100% + Incremental Fee	50%
16	1 + Incremental Fee	100% + Incremental Fee	60%
17	1 + Incremental Fee	100% + Incremental Fee	70%
18	1 + Incremental Fee	100% + Incremental Fee	80%
19	1 + Incremental Fee	100% + Incremental Fee	90%
20	2	n/a	n/a
21+	2 + Incremental Fee	n/a	10%
30	3	n/a	n/a
31+	3 + Incremental Fee	n/a	10%
40	4	n/a	n/a
41+	4 + Incremental Fee	n/a	10%

Fee in lieu of providing affordable housing of $100,000
Developments of twenty (20) units or greater, not eligible for the fee in lieu provision.
In-lieu fees shall be paid into the Housing Trust Fund as defined in Sec. 14-489.
Fee in lieu = number of required affordable units not provided multiplied by $100,000.

What are other communities in Maine doing?

- Cape Elizabeth is the only community in Maine with a mandatory inclusionary zoning requirement.

- Many communities have incentive based ordinances similar to those currently existing in Portland.



Effectiveness of Tools

- Density bonuses have some effectiveness in some circumstances. In Massachusetts and New Jersey, state level affordable housing requirements can trump local zoning.
- While economic arguments against inclusionary zoning suggest that it reduces housing production and/or increases market rate housing costs, most studies suggest there is either no such effect or that the effect is very modest

TWO PRONGED APPROACH RECOMMENDED

ENCORAGE HOUSING DEVELOPMENT BY REMOVING BARRIERS TO TRADITIONAL URBAN HOUSING TYPES

Under Way or Completed

- *R-6 Changes*
- *B-1 Changes*
- *B-2 Changes*

Additional Tasks

- *Looking at current accessory dwelling units and how we view "abandoned" residential space*
- *Density Bonuses*
- *Examining other zoning districts*
- *Remove regulatory barriers through ordinance streamlining*

ENSURE INCLUSION OF WORKFORCE HOUSING IN SIGNIFICANT PROJECTS

Inclusionary Zoning - "10/10/100"

- *Start a requirement at a development of 10 units or more*
- *Require that 10% of units be workforce or affordable housing*
- *The required portion would be affordable at 100% of median income, and possibly eligible for funding if below 80%*
- *Cash-out (to the Housing Trust) and off-site provisions (within the same neighborhood) for many developments*

QUESTIONS? COMMENTS?

PUBLIC COMMENT: PC1 – PC4

From: Henry Barbaro <hbarbaro1@yahoo.com>
To: <tnn@portlandmaine.gov>
Date: 9/15/2015 5:49 PM
Subject: Changes to the Accessory Dwelling Unit for IR-1 and IR-2

Henry L. Barbaro
23 Woodman Street
Boston, MA 02130

September 15, 2015

Re: Changes to the Accessory Dwelling Unit (ADU) language for IR-1 and IR-2

Dear Members of the Portland Planning Board:

My name is Henry Barbaro and I own a summer cottage on Peaks Island at 114 New Island Ave. My primary concern with the proposed zoning change (cited above) is that it could increase the potential for a house to be wedged into what once was open space between two existing houses, thereby creating a dwelling unit density that is not in character with neighborhood.

I understand the intent of this "inclusionary" zoning change. However, there can be unintended consequences with these changes, which includes new units not being rented for "workforce housing." Indeed, other parts of the proposed rules could prove to be unenforceable (e.g., rented on an annual basis).

Also, the existing language may be unclear (e.g., (a)1.f – the principal dwelling shall be occupied by the owner). Does this allow the principal unit to be occupied seasonally, or is someone expected to live there year-round.

In order to prevent a situation where a new occupant(s) encroaches on other properties, the new rules should include provisions for separate and distinct means of access from the frontage road (of the principal structure). The rules also should address parking, as well as a maximum number of occupants to the accessory dwelling.

It should be clearly stated that the main existing unit is the basis for the ADU, and not that the "new" unit can become the ADU. Otherwise, this could drastically change the character of the existing lot and adversely impact the neighbors' property.

This change to the ADU zoning rules has the potential to adversely affect the quality of life for certain neighbors on Peaks Island. Although inclusionary" zoning has beneficial elements, all-too-often allowing denser housing development, based on the premise of creating "affordable" units, can cause problems for the abutting homeowners.

Thank you for your consideration.

Sincerely,

Henry L. Barbaro
Hbarbaro1@yahoo.com

From: <timmi@thesellersplace.com>
To: <jlevine@portlandmaine.gov>
CC: <MSM@portlandmaine.gov>, <papouchemitchell@yahoo.com>, <remagehealey@gma...
Date: 9/22/2015 8:35 PM
Subject: ADU on Peaks

Dear Jeff,

I attended the Planning Board meeting last week and was able to stay until the end. I was happy to hear you say that you would be coming out to Peaks for a meeting with the residents; you suggested that might be a good time to discuss the ADU issue.

During the public comment period, I wanted to state that I felt there was not enough notification to the islanders (we potentially could all be abutters of an ADU), and that there seem to be concerns from many about enforcement of the potential ADU regulations. Other members of the community have brought additional questions to me as head of the Zoning Committee of Peaks Island Council. I appreciate Mike Murray's concern about further notification and that was done appropriately this week. However, the issue seems to be back on the calendar for the Planning Board meeting on the 29th.

I would like to propose that instead, we follow your suggestion to have it brought up again on the island at a general meeting, before it goes to the Planning Board, where you could be present to answer questions from the public on this particular issue and others. While there was one public meeting sponsored by Home Start during the winter, attended by only a few people, many questions remain unanswered.

We, the PIC, sponsored a very successful meeting with the Police Chief and our Safety Committee this past spring. The Zoning Committee would like to invite you to do something similar this fall. Of course, we would work with you on scheduling, timing, and format to meet your needs. In addition to the ADU issue, we have been studying the Paper Roads and Open Access situation on the island. It would be tremendously helpful to our special group that is doing research on this timely and important public benefit issue to have your input. The update of our neighborhood comprehensive plan, which we are beginning to address, would also be part of this agenda.

Please let me know if and when you might be available for such a public meeting on the island.

Thank you,

Timmi Sellers
PIC Member
Zoning Committee Chair

Tyler Norod - Fwd: LR 1 & LR2

From: Jeff Levine
To: Barbara Barhydt; Tyler Norod
Date: 9/15/2015 3:28 PM
Subject: Fwd: LR 1 & LR2

Can you forward this to the Board tonight?

>>> Ann Karlsen <annkarlsen3@gmail.com> 9/15/2015 3:04 PM >>>
Dear Mr. Levine,
My husband and I have lived on Peaks Island for approximately 40 years. 32 years as summer residents and the last 8 as year round. We are vehemently AGAINST the Proposal of the passage of LR1 & LR2.

Peaks Island and its roads and green spaces are already stressed to the max with summer residents and visitors. The roads are insufficient for the summer and even occasionally in winter. Increasing the population would increase the problems of traffic as well as law enforcement and emergency care to mention just a few of the problems. Building small undersized "cabins" on undersized lots will cause the population to swell and could create over use of both roads and other public systems on Peaks. Such over crowding could also cause a low budget appearance to the island, which even now in some area seems VERY CROWDED with cottages, summer and winter.

Unfortunately, we were not in town when this discussion came about last winter and received no notice of these changes taking place until recently. It seems that this decision is being railroad thru and that many summer AND year round residents have been taken by surprise by this recent motion.

We sincerely request that the Planning Committee and City Council NOT pass these changes on Peaks Island! There needs to be MUCH MORE input from the Islanders themselves on something like this which threatens our community.

Due to previous commitments we are unable to attend this meeting tonight but request that you take our opposition to these recent untimely changes and reconsider passage of LR1 & LR2. Please pass this along to the other members of the Planning Board BEFORE tonight's meeting.
Many thanks,

Sincerely,
Ann & Gus Karlsen

Sent from my iPad

Tyler Norod - Fwd: Re: IR1 & IR2 Revisions

From: Jeff Levine
To: Barbara Barhydt; Tyler Norod
Date: 9/25/2015 9:30 AM
Subject: Fwd: Re: IR1 & IR2 Revisions

Public comment for the IR1 and IR2 item.

>>> Ann Karlsen <annkarlsen3@gmail.com> 9/25/2015 9:12 AM >>>
Thank you, Jeff, for this info.

It is my feeling that this type of housing is inappropriate on Peaks Island until the City of Portland provides Peaks Island with better than sub-standard roads, adequate parking for more vehicles, adequate year round parking, adequate signage and a larger police force than one officer.

Peaks Island is already very overcrowded, especially during the summer months which now seems to cover June thru Sept. I feel further expansion of housing development is inappropriate at this time.

Also, please note that Peaks Island is NOT an inexpensive place to live and most who live here now make many sacrifices to do so. All food and fuel costs run about 20% more here than on the Maineland and the ferry commute is very expensive especially during the summer months. Not all places on Peaks are a convenient walk to the ferry so residents must also have an Island car to make the commute, especially during inclement weather.

Peaks Island is a lovely place to live but it is NOT inexpensive and should not really be considered end a good location for low income housing.

Also, in one of the previous iterations of the IR1 and IR2 zoning changes the rents were to be in the mid $800.00s per month for a single person house/cabin and mid $1,000.00s for a two person residence. These figures on top if the additional expenses, not to mention the City Taxes, does not make Peaks Island a suitable location for low income housing.

Thank you for you assistance.
Sincerely,
Ann Karlsen

Sent from my iPad

> On Sep 23, 2015, at 3:49 PM, Jeff Levine <JLEVINE@portlandmaine.gov> wrote:
>
> Recent versions of the language for both the IR-1 and IR-2 zones are attached. I also attach the report from the Planning Board meeting on the 15th to give this some context. The Peaks Island section is on page 6.
>
> best,
>
> Jeff
>

> >>> Ann Karlsen <annkarlsen3@gmail.com> 9/22/2015 6:04 PM >>>
> Dear Mike & Jeff,
>
> I would like to know how to get a copy of details of the proposed changes to the IR 1 & IR2 zones on Peaks Island, which allow for accessory dwelling units under certain conditions. I cannot retrieve the ones that were sent out for the Sept. 15 meeting of the Planning Board. I would greatly appreciate this information or how to get it ASAP.
> Many thanks,
> Ann Karlsen
>
> Sent from my iPhone
>
>
> <IR-2 ADU Markup v. 2.pdf>
> <IR-1 Markup Revised 9.21.2015.pdf>
> <PLANNING BOARD REPORT- Encourage Housing 9.14.2015.pdf>

PLANNING BOARD REPORT
PORTLAND, MAINE

U-Haul B-5 Zoning Amendments
415 and 425 Marginal Way
Proposed B-5 Zoning Amendments
#2015-090
U-Haul Moving and Storage Co. of Maine and N.H, Applicant

Submitted to: Portland Planning Board Public Hearing Date: Sept. 29, 2015	Prepared by: Richard Knowland, Senior Planner Report Prepared: September 25, 2015

I. INTRODUCTION

A public hearing has been scheduled to consider a proposal by U-Haul Moving and Storage Co. of New Hampshire and Maine to amend the B-5 zone text to allow self-storage facilities (on-peninsula) and moving equipment rental and outdoor storage (on-peninsula) as conditional uses.

In addition to a legal ad appearing in the September 21, 2015 and September 22, 2015 editions of the Portland Press Herald, notices were sent to the Interested Parties List.

II. APPLICANT PROPOSAL

Applicant is requesting a text amendment that would allow self-storage facilities (on-peninsula) and moving equipment rental and outdoor storage (on-peninsula) in the B-5 zone as a permitted use. The current B-5 zone does not allow self-storage uses. The closest use in the B-5 zone akin to self-storage facilities is warehousing which the Zoning Administrator has determined is not the same use.

Recently the applicant acquired a one story building at 425 Marginal Way (the old AAA building). U-Haul received staff site plan approval for a retail use and equipment storage on October 22, 2014 for this site. Upon further consideration, applicant would like to pursue a self-storage facility for this property, but presently zoning does not allow this use. U-Haul would also like to specifically amend the text by adding moving equipment rental and outdoor storage as a permitted use.

Initially U-Haul's application included a map change to I-Lb and a text amendment to the I-Lb allowing self-storage. The applicant has subsequently re-submitted the application and has requested only a B-5 text amendment.

U-Haul Properties – 425 Marginal Way on left and 411 Marginal Way on right

III. BACKGROUND

U-Haul has occupied their existing facility at 411 Marginal Way property for over 30 years. A review of City zoning maps reveals a previous I-2 Industrial designation for this site (zoning maps dated 1975 and February 1990). The parcel was rezoned along with other East Bayside properties from I-2 to B-5 when the B-5 zoning text was enacted in 1993. The B-5 was extended for all lots having frontage on Marginal Way while properties along Anderson Street (south of the rail corridor, now the Bayside Trail) remained an industrial designation (now I-Lb).

The earlier I-2 zoning text allowed the U-Haul use as a permitted use. City files indicate that U-Haul received a site plan approval in the 1980's and a site plan approval in 1992 for "three mini-self storage units" with zoning noted as I-2 zone. When the U-Haul site was later designated B-5, the U-Haul use evidently became non-conforming (at least for self-storage) on their main site.

The I-Lb that replaced the I-2 zone does not allow self-storage so extending the adjacent I-Lb district to the U-Haul site is not an option.

It appears the B-4 zone is the lone zoning district specifically allowing a self-storage use.

IV. Land Use Policy and Comprehensive Plan Considerations

Purpose Section

The purpose section (sec 14-230) of the B-5 Urban Commercial Mixed Use Zone is shown below.

> The purpose of the B-5 and B-5b zones is to provide zones in areas of the peninsula near the central business district where a mixture of uses, including marine, industrial, commercial and residential, is encouraged. The B-5 and B-5b zones are characterized by larger undeveloped lots with great potential for denser, clustered, urban mixed use development and more efficient reuse of existing land and buildings.

It is anticipated that such cleaner, mixed uses would rely on a shared

infrastructure system, including service alleys, parking lots, public transportation facilities,stormwater management, and driveways.

Existing B-5 and B-5b Zones

B-5 -- Aside from the existing East Bayside B-5 that runs along Marginal Way, there are several other areas of the city that have B-5 zones. At the corner of Marginal Way and Forest Avenue there is a small B-5 which includes a CMP sub-station and Enterprise Rental. This is a remnant of the old B-5 zone in West Bayside which was replaced by the B-7.

Thompsons Point is zoned B-5 as is the Waynflete School recreation parcel along the Fore River and several other nearby parcels including land on the southerly end of Powsland Street. The Waynflete parcel and Powsland Street parcels are questionable as a B-5 designation and merit consideration for a different zone.

B-5b – There are three B-5b zones on the peninsula. B-5b districts have been implemented in intown locations where a more urban and dense development pattern is desired in context to its neighboring area. Generally "b" designations in the zoning ordinance have been used to distinguish an urban application of a zone (such as B-1b, B-2b, B-5b) in contrast to a less urban location (in the case of B-5, a site such as Thompsons Point).

Two of the B-5b zones are located east and west of the Fore River Bridge along the northerly side of Commercial Street. One zone runs west of the bridge to near Cassidy Point. The second runs from Harbor View Park to the new Marriot Courtyard Hotel. The third zone includes several blocks by Fore Street and India Street.

Zoning Implications – The applicant's proposal limits the proposed text amendments to "on-peninsula locations". Given the context of Thompson's Point and the Waynflete parcels, this is an appropriate restriction as self-storage (and moving equipment rental and storage) would seem highly undesirable for these locations.

The three B-5b zones listed above are also inappropriate locations for self-storage (and moving equipment rental and storage). These districts are in urban areas in which dense development incorporating uses for housing and employment opportunities are far more appropriate than storage. Staff would therefore recommend that the proposed amendments be further refined to limit such uses to only the B-5 zone (excluding B-5b) in on-peninsula locations.

East Bayside Neighborhood Study

In 2009 the Muskie School of Public Service and the East Bayside Neighborhood Organization collaborated on a neighborhood study of East Bayside. The study is shown as Attachment 1. The study included a preliminary neighborhood asset review, business district survey and community forums to discuss neighborhood issues. The report's recommendations focused primarily on physical improvements such as pedestrian amenities, streetscapes, open space and trail linkages with very limited discussion on land use policy. This study was not formally adopted by the City.

The study did recommend that a neighborhood master vision and long term plan be initiated. One of the suggested issues to be explored in a vision plan was the following:

The industrial district north of Fox Street offered the greatest potential for redevelopment. A long-range vision should explore the potential of strategically modifying allowed uses, and envision the potential of future public and private development in this area to meet community needs.

East Bayside Brownfields Area Wide Plan

The Greater Portland Council of Governments and the City of Portland are cooperating with the US EPA in a brownfields planning project for East Bayside. The project will include brownfields soil testing, identification of neighborhood assets and liabilities, design charrettes, public forums, marketing study and a brownfields area wide plan. While the project will focus on particular brownfields sites, it provides the opportunity to engage the neighborhood in planning related issues. Unfortunately U-Haul and the brownfields project are on separate time lines. The brownfields project will start in September but has a two year project time line for completion.

V. DRAFT OF PROPOSED AMENDMENT

A draft of the proposed text amendment follows. The applicant's proposal and a staff version of the amendments has been presented.

Applicant's Original Proposal

Insert in Section 14-230.1 (b) (4) and (5) (Permitted Use) new text as follows:

(4) Self-storage facilities (on-peninsula)

(5) Moving equipment rental and outdoor storage (on-peninsula)

Staff Proposal

The Planning Board at their August 11, 2015 workshop requested a number of revisions/additions to the proposed amendments. At the direction of the Board, the text has been revised to restrict the self-storage facilities and outdoor storage of rental and moving equipment to on-peninsula locations as a conditional use. These uses are restricted to existing buildings. Design standards were added to prevent rental equipment from migrating onto a public sidewalk or within the city right-of-way as well as landscape buffer areas. Landscape standards are referenced in the text and a new façade standard was added to the B-5/B-5b standards of the Portland Design Manual to address visual interest for blank building facades.

Insert in Section 14-230.2 (a) (1) new text [Conditional Use] as follows:

1. Commercial

   (a) Self-storage facilities in B-5 zone (on-peninsula locations only) in buildings existing as of (enactment date)

(b) Outdoor storage of rental and moving equipment in B-5 zone (on-peninsula locations only) on sites with buildings existing of (enactment date)

i. Outdoor storage of rental and moving equipment shall be located on the site and not within a public right-of-way or sidewalk. A curb, guard rail or other barrier shall be provided to contain such equipment and storage on the site as well as out of landscape buffer areas.

ii. A landscape buffer shall be provided in accordance with the landscape and buffer requirements of the City of Portland Technical and Design Manual.

Amendment to City of Portland Design Manual

Add to B-5 and B-5b Urban Commercial Business Zones Standards the following paragraph

Façade Character: In the B-5 and B-5b zones, active and public portions of buildings (e.g. doors, windows, entries, retail displays) shall be oriented to and, where possible, be located adjacent to the public sidewalk to create an active presence along the sidewalk. Where building facades situated along a public way have no interactive use or function, such facades shall be designed to provide sufficient architectural articulation to provide visual interest along the street and relate the building, and its use, to passersby.

VI. SUMMARY

Applicant has submitted a text amendment proposal to the B-5 zone text to allow self-storage facilities and moving equipment rental and outdoor storage as a permitted use. At the direction of the Board, the text has been revised to more closely regulate these uses by restricting them to existing buildings in on-peninsula B-5 locations as conditional uses as well as incorporating design standards to address building façade and landscape buffer concerns. The practical effect of these text amendments is to limit the number of possible locations. Presently the U-Haul building and site features are more suburban than urban which is in contrast to the purpose section of the B-5 zone but the amendments are intended to help mitigate the visual impact of the uses.

East Bayside is clearly a neighborhood in transition with many changes over the past decade particularly the introduction of new uses in the B-5 and I-Lb zone. While the upcoming brownfields planning study could be a helpful forum to discuss land use policy issues and a future vision for East Bayside, the timing of that study and the applicant's present application do not mesh. Staff in reviewing the applicant's proposal has attempted to narrow the scope of the amendments since a self-storage use and outdoor storage of equipment is problematic for most of the other B-5/B-5b zones in the city.

VII. MOTIONS FOR THE BOARD TO CONSIDER

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on September 29, 2015 and on the basis of the testimony presented at the public hearing, the Planning Board finds that the proposed B-5 zoning text amendments **[Applicant Version or Planning Staff Version] [is or is not]** consistent with Portland's Comprehensive Plan and **[recommends or does not recommend]** adoption of the amendments to the City Council.

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on September 29, 2015 and on the basis of the testimony presented at the public hearing, the Planning Board finds that the proposed façade character amendment to the Portland Design Manual for the B-5and B-5b standards **[is or is not]** consistent with Portland's Comprehensive Plan and therefore **[approves or does not approve]** adoption of the amendment.

ATTACHMENTS

Staff Attachments

1. Vicinity Zoning Map
2. Proposed Staff Text Amendment
3. 425 Marginal Way Site Plan Administrative Review (2014)
4. East Bayside Neighborhood Study
5. Written Public Comment

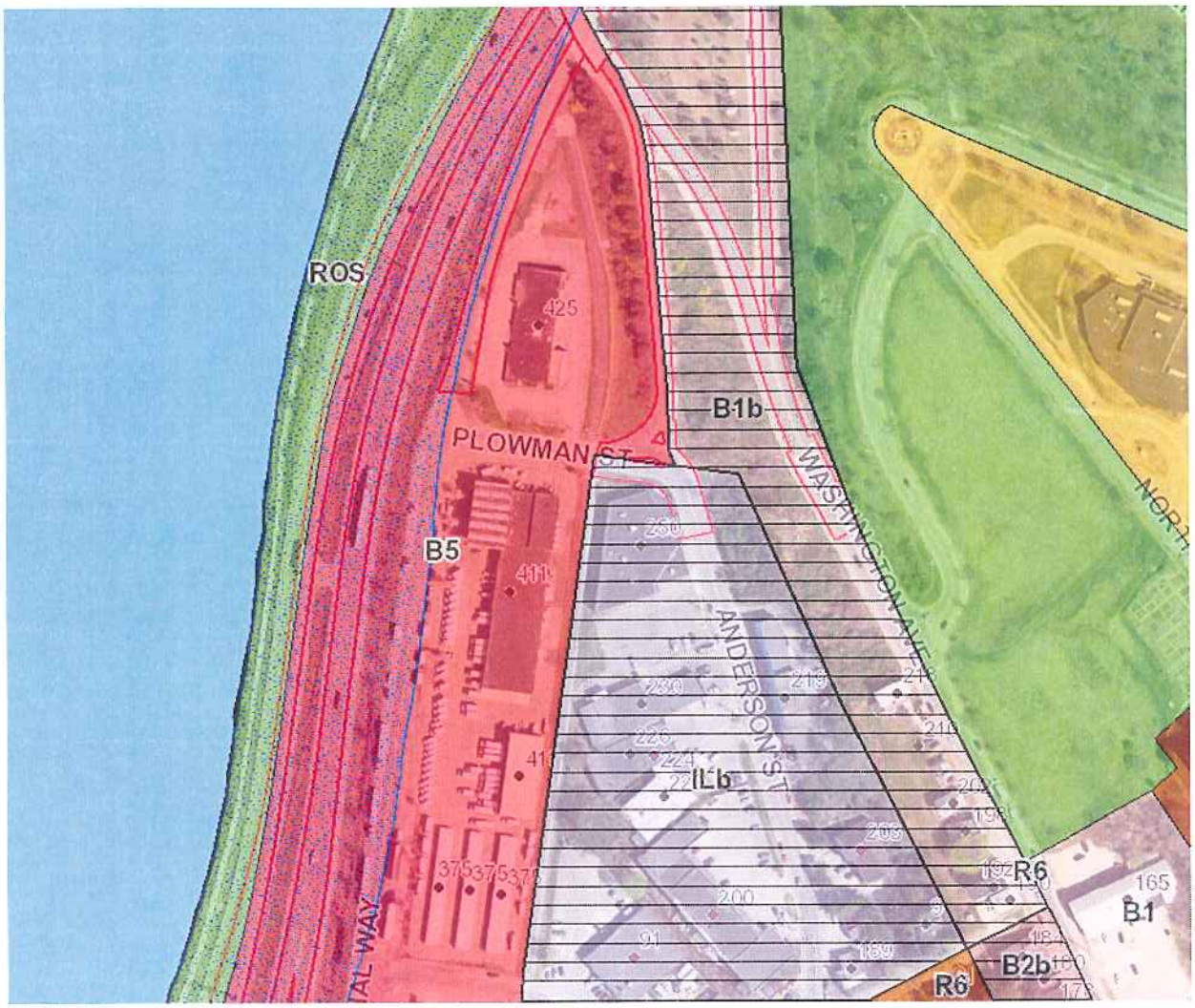
Applicant Submissions

A. U-Haul Application
B. Original Applicant Text Amendment

PROPOSED B-5 TEXT AMENDMENTS

ATT. 1

Zoning Districts in Vicinity of U-Haul Parcels



U-Haul Parcels at 425 Marginal Way and 411 Marginal Way

ATT. 2

PROPOSED B-5 TEXT AMENDMENTS

Staff Proposal

Insert in Section 14-230.2 (a) (1) [Conditional Use] new text as follows:

1. Commercial

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   (b) Outdoor storage of rental and moving equipment in B-5 zone (on-peninsula locations only) on sites with buildings existing of (enactment date)

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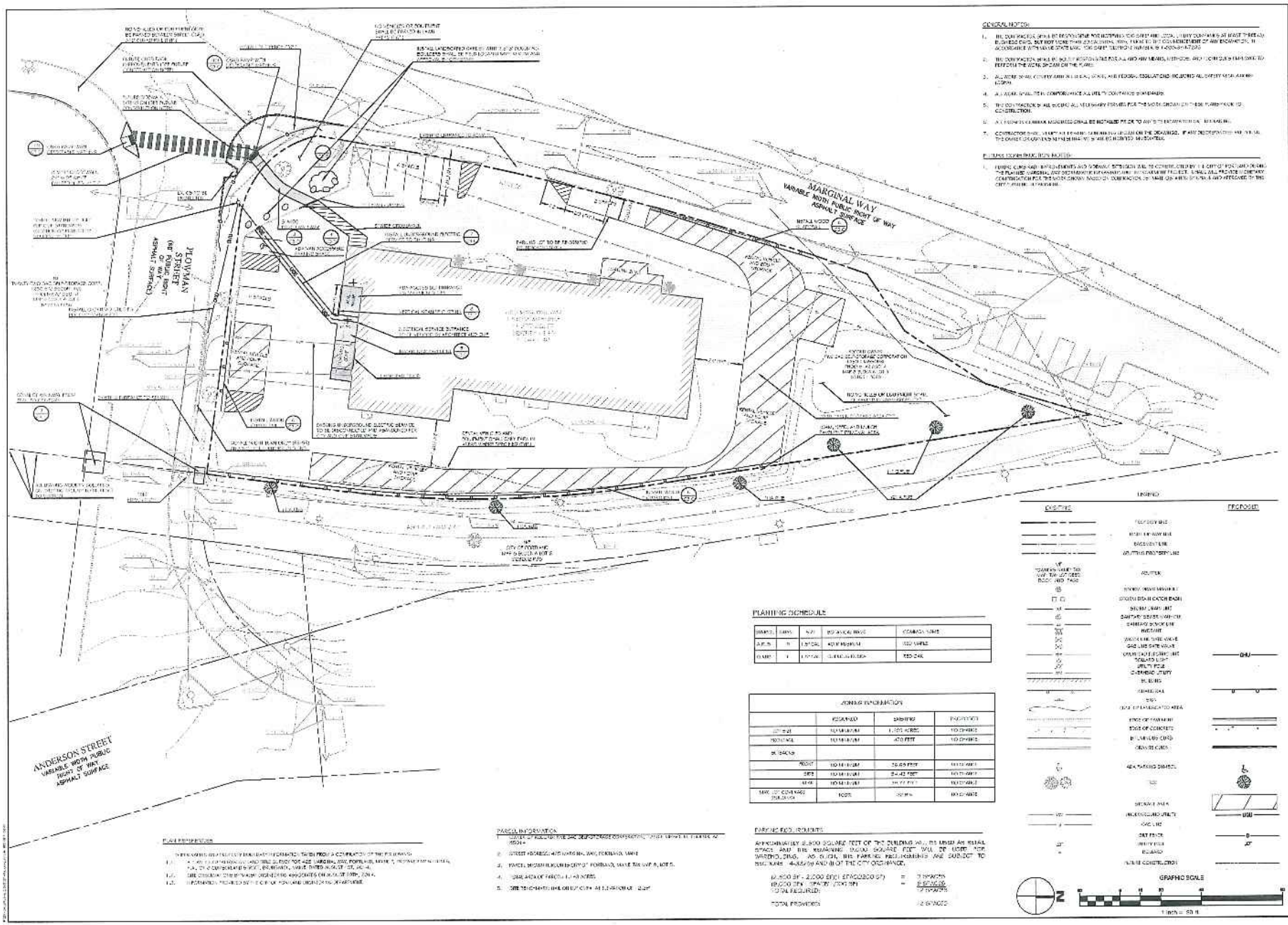
(5) Moving equipment rental and outdoor storage (on-peninsula)



GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "CALL BEFORE YOU DIG", UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN (30) CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH STATE STATUTES. "CALL BEFORE YOU DIG" SERVICE NUMBER IS 1-888-344-7233.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND PROCEDURES THAT CONFORM TO REQUIRED THE WORK SHOWN ON THE PLANS.
3. ALL WORK SHALL COMPLY AND ALL LOCAL, STATE AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS.
4. ALL WORK SHALL BE IN CONFORMANCE WITH UTILITY CONTRACTOR STANDARDS.
5. THE CONTRACTOR SHALL INCLUDE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
6. ALL PROPOSED CURBING DIMENSIONS SHALL BE INSTALLED PER OR TO ANY SITE DIMENSION DETAILS, REGARDING.
7. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER'S DESIGNATED REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.

FUTURE TOWN PUBLIC IMPROVEMENTS NOTES:

1. FUTURE CURB AND IMPROVEMENTS AND SIDEWALK EXTENSION WILL BE CONSTRUCTED BY THE CITY OF PORTLAND PER THE PLANNED MARGINAL WAY DESIGNATED IMPROVEMENTS. NO CONTRACTOR FACILITIES, SHALL ALL PRIVATE SITE WORK CONSTRUCTION FOR THE WORK SHOWN, MADE BY CONTRACTOR, OR TAKE OR WITH STATE, AND APPROVED BY THE CITY ENGINEER.

PLANTING SCHEDULE

SYMBOL	QUAN.	SIZE	BOTANICAL NAME	COMMON NAME
AR	5	1.5" CAL.	ACER RUBRUM	RED MAPLE
QURU	4	1.5" CAL.	QUERCUS RUBRA	RED OAK

ZONING INFORMATION

	REQUIRED	EXISTING	PROPOSED
LOT SIZE	10,000 SF MIN	1.1205 ACRES	NO CHANGE
FRONTAGE	100 FEET MIN	400 FEET	NO CHANGE
SETBACKS			
FRONT	100 FEET MIN	56.65 FEET	NO CHANGE
SIDE	100 FEET MIN	24.42 FEET	NO CHANGE
REAR	100 FEET MIN	34.77 FEET	NO CHANGE
MAX. LOT COVERAGE (BUILDING)	100%	30.9%	NO CHANGE

PLAN REFERENCES

THE EXISTING SITE FEATURES WERE DERIVED FROM A COMPILATION OF THE FOLLOWING:

1.1. A SURVEY PLAN ENTITLED "LAND TITLE SURVEY FOR 425 MARGINAL WAY, PORTLAND, MAINE", INCORPORATING INFORMATION FROM CITY OF PORTLAND GIS DATA, DATED AUGUST 1, 2014, BY WALSH ENGINEERING ASSOCIATES, INC.

1.2. SITE DESIGN BY CHRISTOPHER JOSEPH ENGINEERING ASSOCIATES ON AUGUST 8, 2014.

1.3. INFORMATION PROVIDED BY THE CITY OF PORTLAND ENGINEERING DEPARTMENT.

PARCEL INFORMATION

1. OWNER OF PARCEL: MARINE GAS DEPOT OF MAINE CORPORATION, 1000 MARINE ST, PORTLAND, ME 04104
2. STREET ADDRESS: 425 MARGINAL WAY, PORTLAND, MAINE
3. PARCEL INFORMATION IN CITY OF PORTLAND, MAINE TAX MAP 8, LOT 5.
4. TOTAL AREA OF PARCEL: 1.1205 ACRES
5. SITE DEVELOPMENT INCLUDES 1.07 ± ACRES AT 1.1205 ACRES = 0.94

PARKING REQUIREMENTS

APPROXIMATELY 12,800 SQUARE FEET OF THE BUILDING WILL BE USED AS RETAIL SPACE, AND THE REMAINING 19,000 SQUARE FEET WILL BE USED FOR WAREHOUSE. PER ARTICLE III, DIVISION 20, THE PARKING REQUIREMENTS ARE SUBJECT TO SECTIONS 14-332(a) AND (b) OF THE CITY ORDINANCE.

(12,800 SF / 2,000 SF)(1 SPACE/2,000 SF)	=	7 SPACES
(19,000 SF / 1,000 SF)(1 SPACE/1,000 SF)	=	19 SPACES
TOTAL REQUIRED:		26 SPACES
TOTAL PROVIDED:		32 SPACES

LEGEND

EXISTING		PROPOSED
	TOP OF BANK LINE	
	RIGHT OF WAY LINE	
	EASEMENT LINE	
	ABUTTING PROPERTY LINE	
18" TOMPKINS VALLEY TAX MAP 18, LOT 22, DEED BOOK AND PAGE	ABUTTER	
	STORM DRAIN MANHOLE	
	STORM DRAIN CATCH BASIN	
	SIGNS, WALL UNIT	
	SANITARY SEWER MANHOLE	
	SANITARY SEWER SITE	
	HYDRANT	
	WATER LINE SITE VALVE	
	GAS LINE SITE VALVE	
	UTILITY POLE	GHU
	OVERHEAD UTILITY	
	BUILDING	
	CHAIN LINK	
	EDGE OF PAVEMENT	
	EDGE OF PAVEMENT	
	EDGE OF CONCRETE	
	BITUMINOUS CURB	
	CONCRETE CURB	
	HANDICAPPED PARKING	
	SIDEWALK	
	UNDERGROUND UTILITY	USU
	GAS LINE	
20'	SET BACK	0
	UTILITY POLE	20'
	BOLLARD	
	FUTURE CONSTRUCTION	

GRAPHIC SCALE

1 inch = 50 ft.

WALSH ENGINEERING ASSOCIATES, INC.

One Essex Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9006 | www.walsheng.com

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STATE OF MAINE
WILLIAM R. WALSH, III
No. 6204
9/17/2014

U-Haul Moving & Storage at Rte 295

425 Marginal Way
Portland Maine 04101

Uhaul Co. of New Hampshire & Maine
915 South Willow Street
Manchester, NH 03103

Rev.	Date	Description	Drawn	Check
1	9/17/14	Full set of construction plans (Planning Board Review)	JHC	WRW
2	9/22/14	Revised per DRC Staff Review	JHC	WRW
3	9/29/14	Revised per DRC Staff Review	JHC	WRW

Sheet Title:
Site Layout and Materials Plan

Job No.: 994
Date: SEP. 17, 2014
Scale: 1" = 20'
Drawn: JHC
Checked: WRW
Sheet No.: C2.0

Att.4

East Bayside Neighborhood Study

Prepared by the **Planning Workshop, 2009**

Muskie School of Public Service

Community Planning & Development Program

East Bayside Neighborhood Study

Planning Workshop 2009

Community Planning & Development Program, Muskie School of Public Service

Community Client:

East Bayside Neighborhood Organization
Belinda Ray, president
Ward Willis, liaison to Planning Workshop

Community Partners:

Kevin Donoghue, Portland City Councilor (District 1)

Portland Housing Authority
Mark Adelson, Assistant Director

City of Portland Public Services
Mike Bobinsky, Director

Franklin Arterial Study Group
Marcos Miller, Co-Chair

Planning Workshop 2009:

Alan Holt, Adjunct Professor
Cotton Estes, Teaching Assistant
Jessa Berna, Paul Connair, Sophie DeMaio, Shelley Hodges,
Emily Reinholt, & William Walker, students.

UNIVERSITY OF
SOUTHERN MAINE

Muskie School of Public Service

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(207) 780-4480, FAX (207) 780-4549, TTY (207) 780-5646
www.muskie.usm.maine.edu

Spring 2009

Since its establishment in 2002, the Planning Workshop has been an annual course offering in the Muskie's Community Planning and Development program that provides students with an opportunity to work directly with a client on a community planning issue. The students essentially form a consulting group that works with a community client to identify issues and execute a work plan. The Workshop aims to provide students with an opportunity to apply their planning studies to a real world situation, as well as to offer a community service.

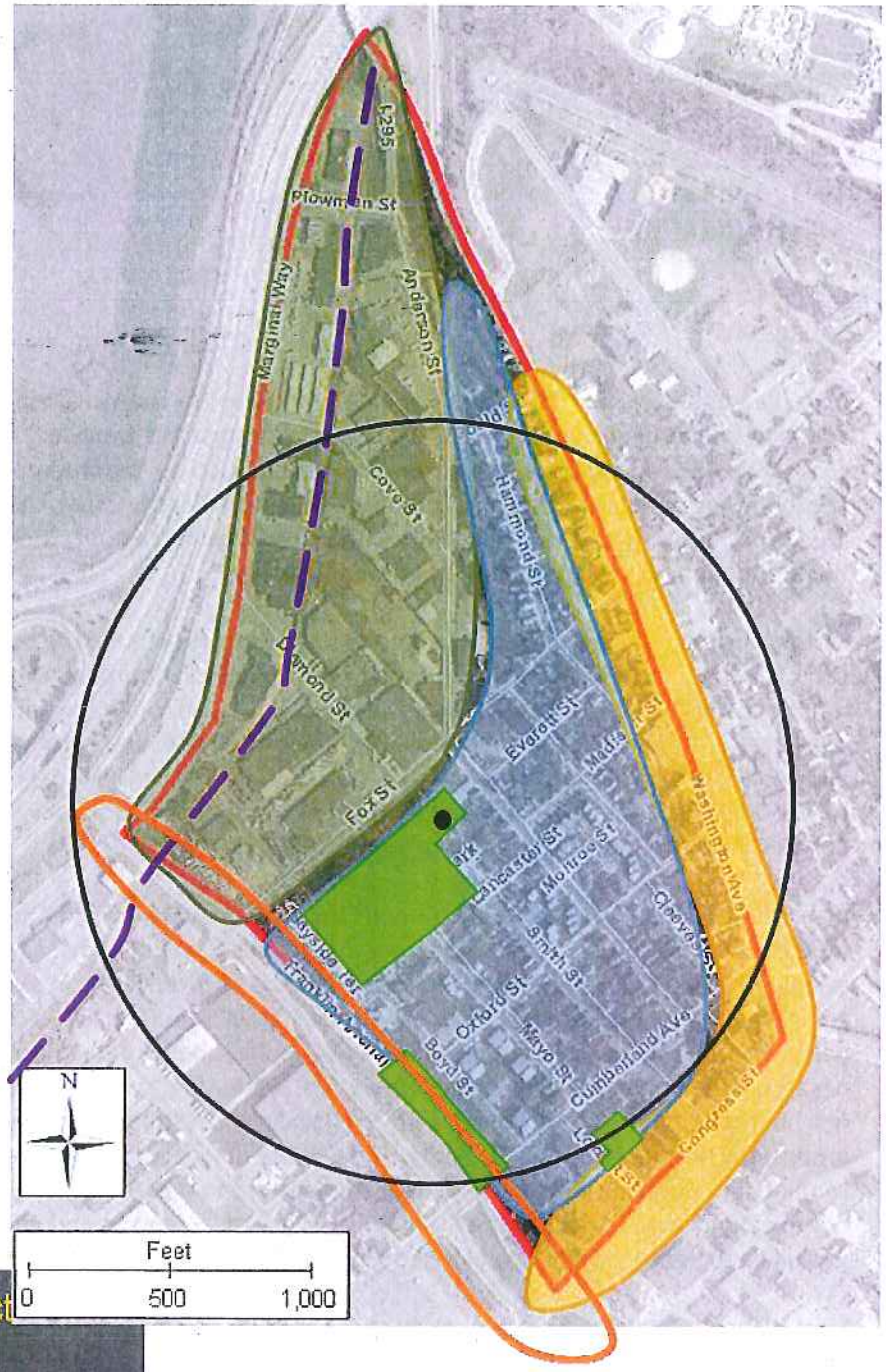
Last fall, just about the time that I needed to find a class project for the Workshop, I wound up in a carpool with Belinda Ray, president of the East Bayside Neighborhood Organization. As we were driving upstate to canvas for a presidential campaign, a sense of hope and expectation infused our conversation as we talked about the possibility for a better country and world. I was even more inspired though by the sense of mission and passion that Belinda conveyed in talking about her own neighborhood. If ever there were a champion of town planner/activist Patrick Geddes's injunction to "Think Global, Act Local," (Evolution of Cities; 1905), Belinda was it.

Soon after, the East Bayside Neighborhood Organization and Portland City Councilor Kevin Donoghue (and Planning Workshop alum '05) formally invited the Planning Workshop to assist EBNO in their on-going capacity building, and to help empower the neighborhood's voice with a number of on-going initiatives. East Bayside, the most diversely popultated census track in the State, proved a perfect laboratory for the class, providing a textbook example of the physical elements (positive and negative) that influence neighborhood functions. Better yet, the people we met through the neighborhood organization, the Kennedy Park tenants' association, area businesses, non-profit groups, the Portland Housing Authority, and the City of Portland Public Services were ever generous to the class. So many people helped that there's not room to name everyone, though I'd be remiss not to extend special thanks to EBNO member Ward Willis who attended so many classes that he should be getting a grade along with the students (A+).

Finally I want to extend my appreciation to the students of this year's Planning Workshop. Every student fully embraced the assignment and the neighborhood, and all went beyond the call of class duty. This year's Workshop convinced my once again that the future of the planning profession in Maine is in good hands.

Alan Holt

Alan Holt
Adjunct professor; Planning Workshop, Muskie CPD



Commercial District

Residential District

Lower Bayside District

Franklin Arterial

Bayside Trail

Parks

5-Minute Walk

East Bayside Neighborhood

East Bayside Neighborhood Study
Planning Workshop 2009

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C.	Commercial District Surveys	C. 23– 25
D.	Final Powerpoint Presentation	(electronic only)

I. Overview

Defined by I-295, Franklin Arterial, Congress Street and Washington Avenue, East Bayside constitutes a significant and very distinct neighborhood within Portland. This shape of this neighborhood has undergone tremendous physical change over the past 200 years through human intervention— with a series of filling project of Back Cove that has expanded the northern boundary periodically, nearly doubling the size of the neighborhood. The last major physical intervention came with the construction of the Franklin Arterial which effectively segregated this neighborhood from what is now referred to simply as Bayside, the area to the west of the arterial.

Besides its strong physical boundaries, East Bayside is also home to the most diverse population in the State. The Portland Housing Authority's properties in this neighborhood, comprising 197 dwellings, represent 21 countries of origin. Furthermore, East Bayside has perhaps the most diverse spectrum of land uses of any neighborhood in Portland; the neighborhood includes a range of residential property types; light industrial uses; open space and parks; and retail & commercial businesses.

The neighborhood is located within a short walk to downtown, and is a prime gateway neighborhood by virtue of its adjacency to Franklin Arterial. In short, East Bayside's location, physical parameters, diversity of people and land uses not only make the neighborhood unique in Portland, but presents unique opportunities for the future.

The East Bayside Neighborhood Organization (EBNO) was formed in 2007 to represent and promote the community's interests. In spring of 2009 the Muskie School's Planning Workshop assisted EBNO's efforts by analyzing the neighborhood from historical and planning perspectives, and assessing how future planning – locally and within the greater context of Portland-- can benefit East Bayside. The recommendations included in this report are products of the classes' analysis of East Bayside to date, and are accompanied by the hope for continued research and collaboration with EBNO in the future.

Section II of this report summarizes several background studies conducted by the Planning Workshop including historical, demographic and geographic information about East Bayside. This information was collected during the initial stages of the Planning Workshop in an effort to familiarize students with the character of East Bayside and establish a lens through which to assess and direct future research. Findings were supplemented by academic readings that focused on elements of functional neighborhoods. Readings included seminal works such as "The Image of the City" by Kevin Lynch, 1960, "The Death and Life of Great American Cities" by Jane Jacobs, 1961, "A Pattern Language" by Christopher Alexander, 1977, and "The Next American Metropolis" by Peter Calthorpe, 1993.

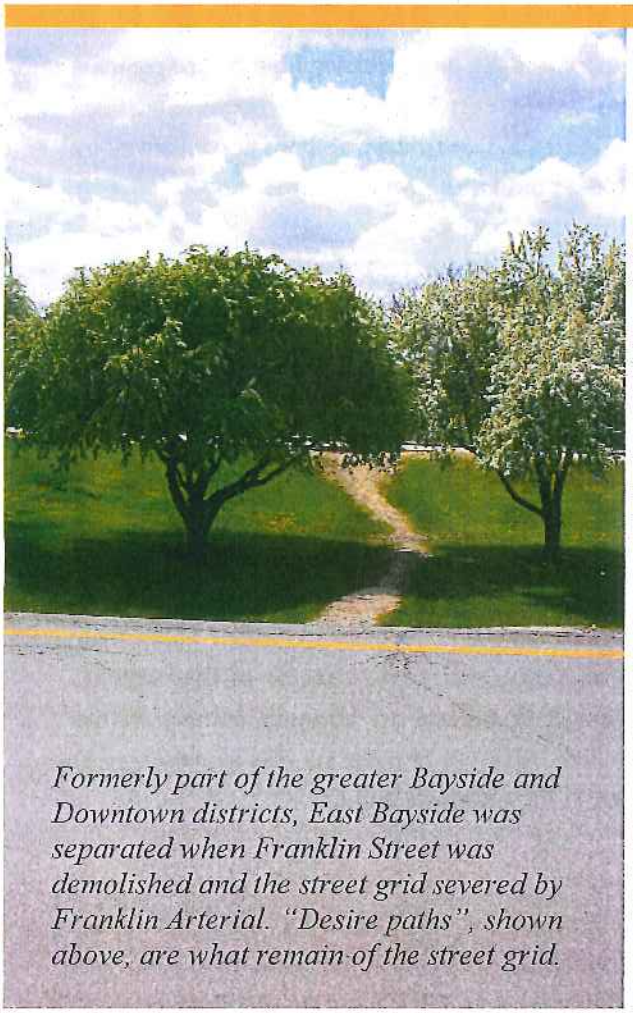
Section III, IV and V report on the classes' subsequent efforts to tap the community's opinions about their physical surroundings and ideas for improvement. In order to access the business sector of East Bayside, the Planning Workshop devised and administered 55 surveys in person, to business owners in the "Commercial" and "Lower East Bayside" districts of East Bayside. Analyses of these surveys is presented in Section III, followed by the raw data and details of the surveys in Appendices B and C.

Community outreach efforts also took form in two workshops in which East Bayside residents were invited to share their opinions and brainstorm improvements to the neighborhood. Each workshop catered to different audiences, focusing on specific issues within East Bayside. The first workshop was open to everyone in the neighborhood, and hosted in collaboration with EBNO and the Portland Housing Authority. The second forum was held at Portland High School and was directed toward East Bayside youth and focused on potential improvements for Fox Field. Sections IV and V report on the workshop process and findings, followed by the entire results in Appendix A.

Section VI presents the Planning Workshop's recommendations to the East Bayside Neighborhood Organization which are premised on the classes' research and valuable input from the community. East Bayside neighborhood requires both holistic design improvements as well as itemized material upgrades in order to preserve and enhance the quality of life here. The public concern over safety often relates to physical problems, like dead-end streets and a lack of amenities like sidewalks and lighting. The neighborhood is also in dire need of improved connectivity– both to the city, and within East Bayside. The issue of connections is especially pertinent today, in light of the Franklin Arterial redesign and Bayside Trail.

This report highlights many reasons why East Bayside neighborhood is an asset to Portland, yet also underscores many challenges facing its residents. The Planning Workshop hopes that this report can assist with the ongoing efforts of EBNO, the City of Portland, the Portland Housing Authority, and the Franklin Street Study in their ongoing efforts to improve the lives of neighborhood residents, and the beauty, safety and vitality of the neighborhood for the benefit of all of Portland.

II. Preliminary Neighborhood Studies

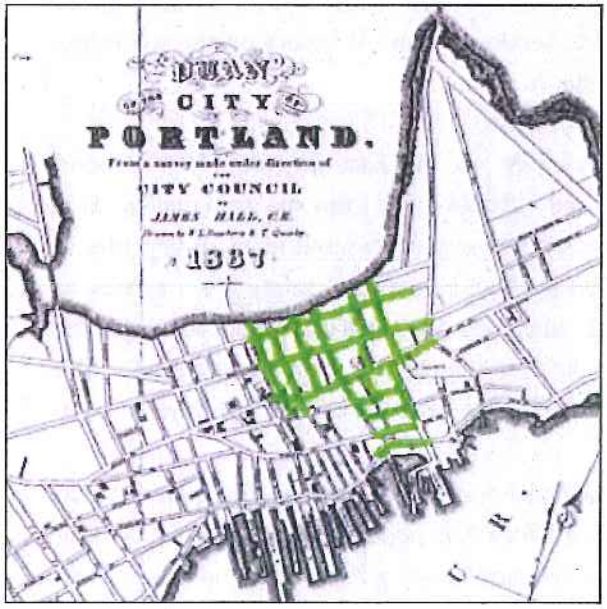


Formerly part of the greater Bayside and Downtown districts, East Bayside was separated when Franklin Street was demolished and the street grid severed by Franklin Arterial. "Desire paths", shown above, are what remain of the street grid.

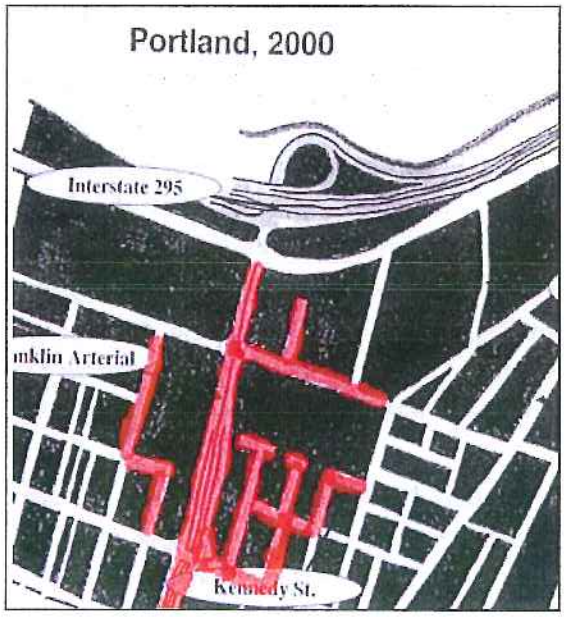
East Bayside is physically defined by major throughways like Congress Street and Rt. 295. Franklin Arterial also serves as a boundary, as well as a harsh edge to the neighborhood. The Arterial is the most identifiable culprit for the sense of isolation from the rest of the city that one experiences here.

Urbanists concur that human-scaled streets arranged in small street blocks with ample "connector streets" are critical to vital neighborhoods. Historically, the neighborhood was built on a grid of small, interconnected blocks that exemplify this principle of good neighborhood design. However, the building of the Franklin Arterial disrupted this block pattern. The resulting dead-end streets, superblocks, and broken pedestrian & vehicular connections present an ongoing challenge to the neighborhood.

The Planning Workshop observed and participated in the Franklin Street Reclamation Authority Study. More than any other Portland neighborhood, the outcome of this Study will affect East Bayside for generations.

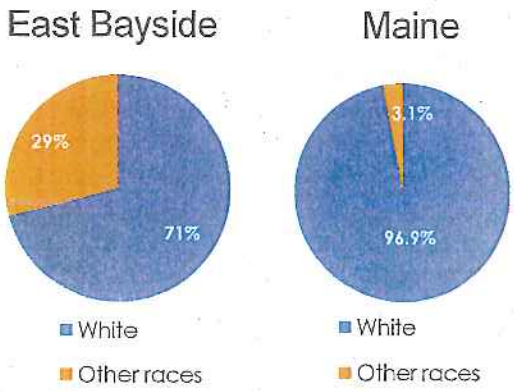


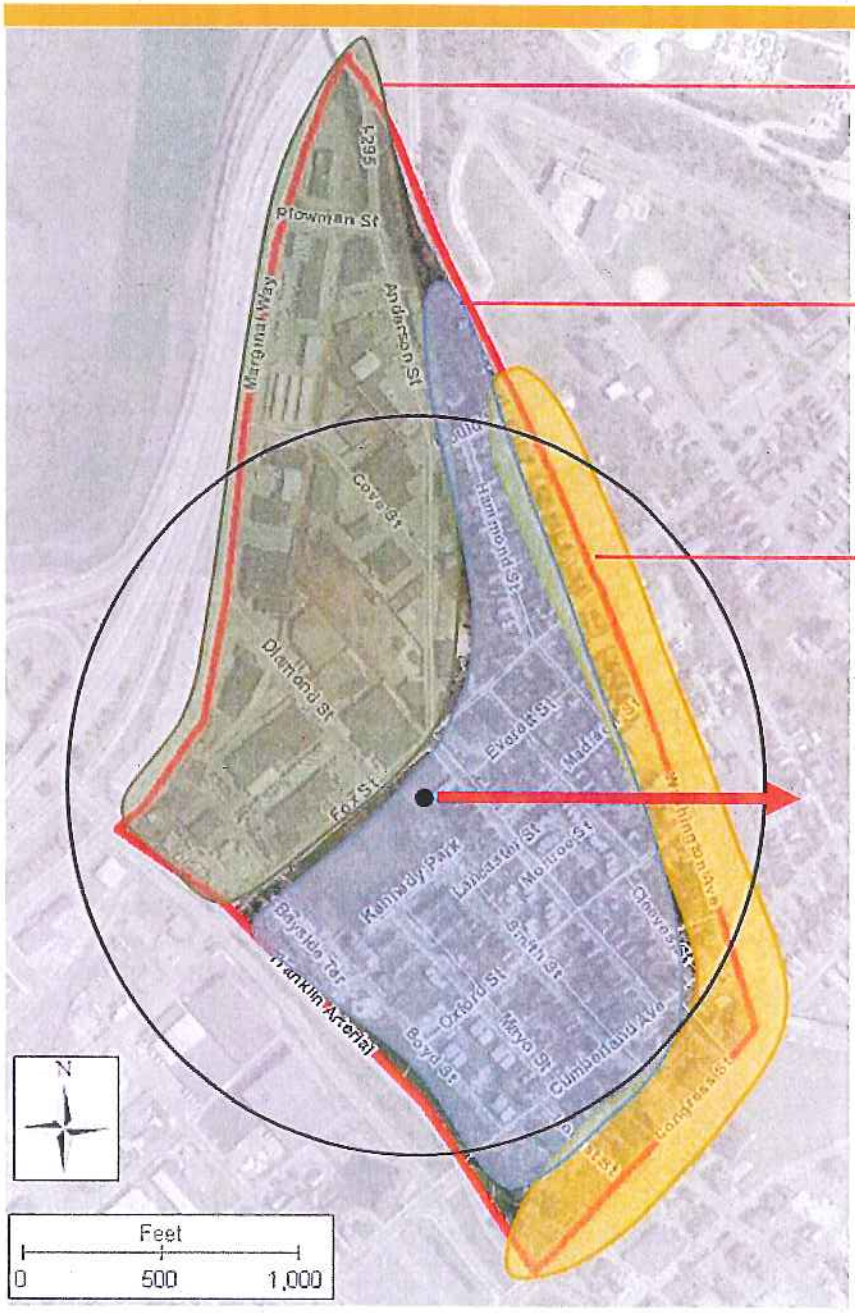
Historic street grid in Bayside



Reminisce of the street grid after the Arterial

East Bayside is also characterized by an impressive diversity of ethnicity, culture, land-use and commercial activity. Jane Jacobs, Kevin Lynch, and Peter Calthorpe all describe diversity of land uses and of populations as fundamental ingredients to a vibrant and self-sustaining neighborhood or city. East Bayside benefits from the proximity of residential, commercial and industrial districts, as well as having representation from many different ethnic influences, all within the perimeter of a 5-minute walk. Its diversity distinguishes East Bayside from the rest of Maine, making it an asset to the City of Portland.





Industrial District, zoned ILB and B5. Also referred to as "Lower East Bayside"

Residential District, representing 21 different countries of origin and nearly 200 Public Housing units

Commercial District, 30+ diverse, yet tight-knit business operations

The circle represents:

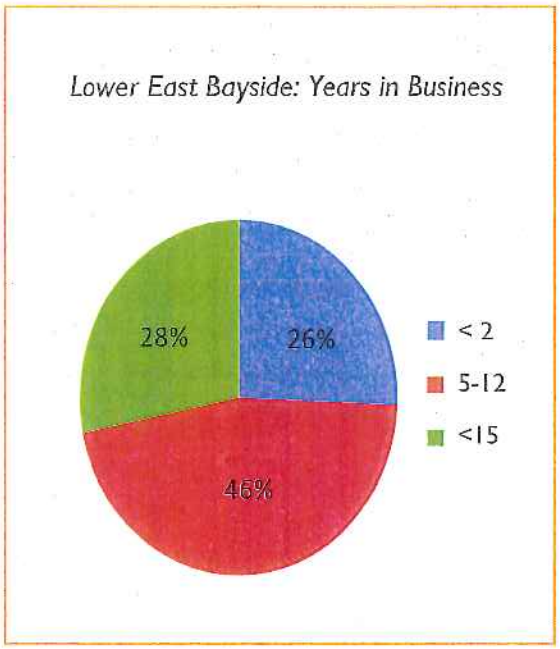
Everything within a 5 Minute Walk!

III. Business Districts Surveys

In April, 2009 the Planning Workshop conducted 55 surveys among businesses in the Lower East Bayside District and Washington/Congress Commercial Districts (see map to left) in an effort to better understand the nature of commercial activity in the area as well as the businesses' concerns and desires for the future of East Bayside.

Two surveys were designed, tailoring to the particularities of each district. Common questions included background information on the businesses, as well as subjective questions regarding the businesses' physical location and connection to the larger East Bayside community.

The surveys were conducted in person with business owners, (with few exceptions for telephone interviews due to limited business hours). The raw data and surveys samples for Lower East Bayside and Commercial districts can be found in Appendices B and C.



Lower East Bayside District

The 40 surveys from Lower East Bayside revealed an impressive amount and diversity of commercial activity. Businesses here range from retail, arts and crafts, non-profit, manufacturing, distribution, storage, and repair services, and more. Business size varies between one and 70 employees; the median employee count was eight. The range of business life spans also attests to the diverse commercial environment and healthy mix of new and old industry here. Roughly one-quarter of businesses are younger than two years (in their East Bayside location), and another quarter of the businesses are 15 years old or more.

The most popular reasons for locating in the district included inexpensive rent, availability of industrial-scale space, and proximity to Rt. 295 and Portland. Most customers here use vehicles, although there were several exceptions for charity services and arts related businesses that attract local pedestrians and bikers.

The majority of businesses in this area were content with current zoning, traffic and parking, and transportation in the area. The few noteworthy exceptions included: desire for permitted retail in the I-Lb (Low-Impact Industrial zone), safety concerns about overnight parking, road disrepair and traffic along Fox Street. Business owners were also discontented by inadequate or nonexistent sidewalks and lack of safety measures for bikers (particularly along Fox Street).

66% of businesses anticipate that the impending Bayside Trail will be a positive for the district. There is also considerable anxiety that the trail will diminish commercial properties by way of its physical construction, and by inviting vandalism and rent inflation. Although realty pricing was not formally addressed in the survey, many business owners in Lower East Bayside related a strong interest in maintaining affordable rent in light of future developments such as the Bayside Trail and re-design of Franklin Arterial.

65% of businesses also indicated strong interests in supporting community projects; particularly ones directed toward cleanup, youth, safety and public art.

Washington/Congress Commercial District

15 businesses were surveyed along Commercial Street, Cumberland Avenue and Washington Avenue. Compared to Lower East Bayside, these Commercial District businesses are younger (60% under five years old), and cater more frequently toward the immediate neighborhood including Munjoy Hill. Over 50% of the customer bases for the businesses surveyed are primarily pedestrians or bikers. This Commercial District is also unique because of the high concentration of arts-related businesses (40%), and ethnically oriented shops and restaurants.

The survey data indicated general consensus among business owners about their concerns related to the area and desires for improvement. Street litter is a major concern among business owners here. 80% of owners identified trash as one of the foremost issues, and several specifically identified the 7-11 gas station as the source point. Remedial suggestions included simply adding more trash cans on the streets, and potentially devising a trash removal system with help from the City of Portland. Several people also suggested neighborhood-based environmental education programs.

Trees were another popular priority for streetscape improvement (75% of votes). A few business owners suggested that trees are a good option for beautifying the street because window boxes tend to invite vandalism. General streetcaping and landscaping, especially adding bike racks, were also identified by roughly 60% of business owners as desirable means of district improvement. The idea of park benches, however, was unpopular for the same reason as window boxes. People expressed general skepticism about any amenity that may facilitate vandalism or loitering at night.

IV. The Neighborhood Forum: Process & Findings

Participants at the April forum huddle around a map to sketch potential connections between the neighborhood and the impending Bayside Trail.

Public outreach and engagement were major components of the Planning Workshop. To understand the community's likes, dislikes, hopes and fears about their local environment, students designed and conducted two planning forums. The first, outlined in the following section of this report, was open to the East Bayside public. Appendix A includes all the maps, notes and raw data produced in this forum.

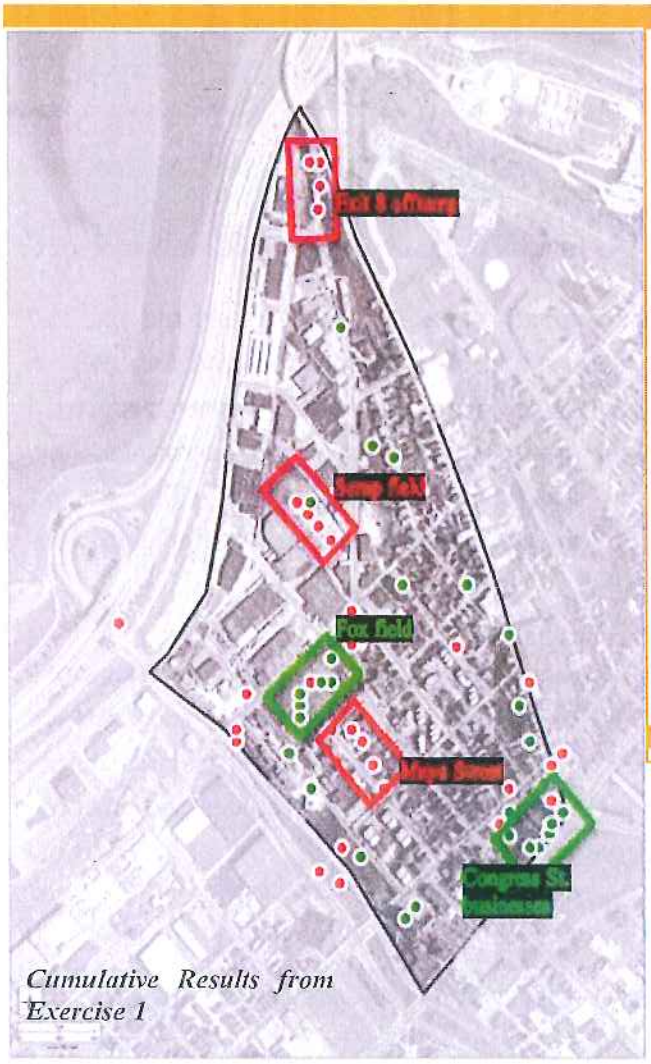
The first workshop took place on April 21st, in lieu of the monthly EBNO meeting. The Planning Workshop also coordinated with the Portland Housing Authority to plan this meeting, and used the community room of a PROP apartment building on Mayo Street to host the event. The workshop consisted of a brief introductory presentation by the Planning Workshop, followed by three brainstorming and mapping exercises. Participants were divided into three work groups and the students acted as facilitators and moderators for the forum. The data produced from the workshop is entirely a reflection of the participants' involvement. All participant's names are listed in Appendix A.1

Exercise 1: Asset and Liability Mapping

The purpose of this exercise was for community members to identify assets and liabilities within East Bayside. In three groups of six to seven people each, participants were shown a map, (below), and prompted to consider assets and liabilities within the neighborhood that could be attributed to a physical location. Participants placed two green dots each, representing places they enjoy spending time, views they like, landmarks, etcetera. Next, they placed two red dots each, which represent just the opposite; unsafe places, eyesores, etc.

The moderators then facilitated a follow-up discussion to clarify what each dot represented. The groups' maps and discussion notes are located in Appendix A.1– A.2.

Below is the map compiled from all three group, and summary list of the most commonly identified assets and liabilities.



Cumulative Results from Exercise 1

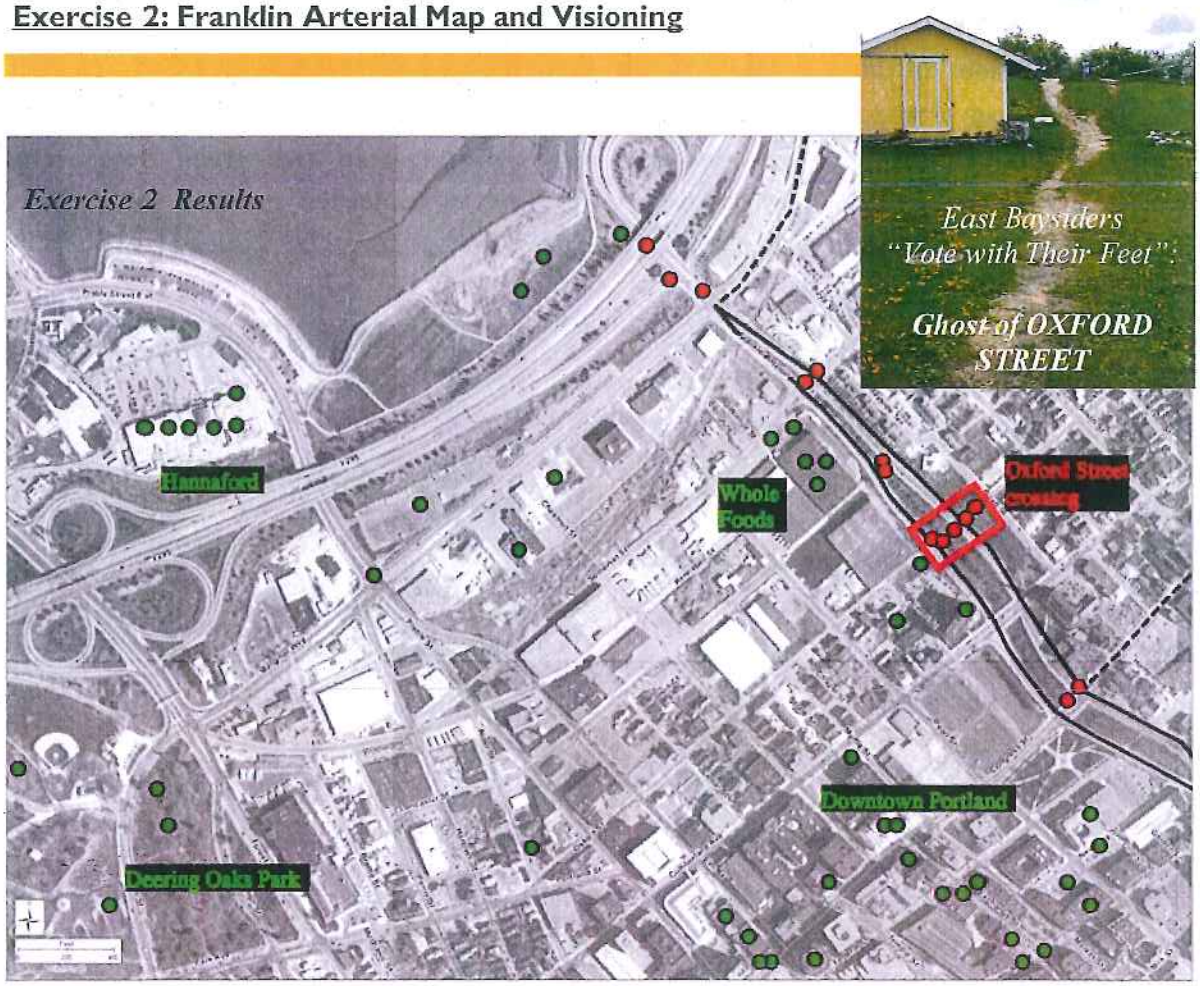
ASSETS

- Businesses along Congress Street, such as the Snug, The North Star Café, and Knit Wit, because they bring vitality and interface with the rest of Portland
- Fox Field, because it is open, green space and provides activities for the youth. However, improvements and repairs are desired here as well.

LIABILITIES

- The Exit 8 off ramp is considered very dangerous
- The scrap yard is an eye sore
- Mayo Street traffic and safety concerns, as well as complaints of unruly behavior around the area.

Exercise 2: Franklin Arterial Map and Visioning



Looking at a new map of Franklin Arterial, participants were given three green and one red dot each. The green dots in this exercise represent frequent destinations, via foot, across Franklin Arterial from East Bayside. The red dots were placed to indicate desired pedestrian crossings along the arterial, whether they be improvements to existing crossings, new pedestrian-only crossings or new roads that also accommodate walkers. The groups' individual maps and additional comments about Franklin Arterial are located in Appendix A.4–A.7.

The most common destinations among participants were Whole Foods and Hannaford supermarkets, and downtown. The spread between common destinations, and distance between these destination and East Bayside (up to approximately .75 miles), suggests that East Bayside residents travel further on foot than most people are willing to. (Studies indicate that most people will drive versus walk to destinations further than .5 miles)

A subsequent, more in depth study on walking and biking patterns in the Franklin vicinity would lend valuable insight to the most apt locations for future crossing development. Illustrated by the cluster of red dots, participants identified Oxford Street as the most desired route across Franklin Arterial. East Bayside has been "voting with its feet", as one resident explained, for a long time; the foot paths that extend between Oxford and Lancaster streets, between East and West Bayside, bear testimony. The safety benefits of reconnecting the street grid at Oxford Street were discussed at length. Participants voiced particular concern for children who currently frequent this shortcut to school. Many voiced support for the idea of a pedestrian bridge which could reconnect Oxford Street by foot.

There was also strong consensus about the need for more and improved sidewalks along Franklin Arterial. Existing crossings also need improvement, like the intersection between Franklin Arterial and Congress Street, as well as Marginal Way and Fox Street.

Left: One of the visions for Franklin Arterial generated by participants of a different public workshop, held by the Franklin Street Reclamation Authority in late April, 2009.

There is definitive desire among East Bayside residents and the broader Portland public alike to reconnect the street grid for pedestrian access.

Exercise 3: Fox Field and the Bayside Trail

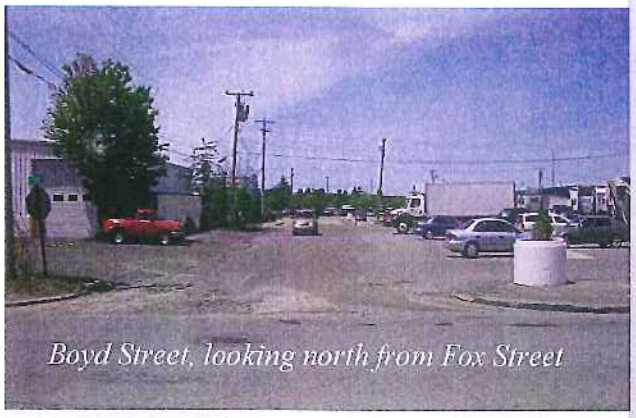
In the first part of this exercise, participants shared their opinions of Fox Field area and suggestions for its improvement. The ideas were thoroughly recorded and later compared, revealing common concerns about the safety and aesthetics of the area. The main ideas are presented below. The lists produced by each group and maps from the later portion of this exercise are located in Appendices A.8– A.11.

The lack of lighting was considered the foremost safety hazard at Fox Field. Currently the only light here at night comes from the street lights on Fox Street and in Kennedy Park, creating a dark pocket across the field, courts and playground. The vast majority of residents supported the idea of lights, especially along the paved walking path that separates the field from the basketball courts. Some participants also suggested that lights may aid the police, because there would be fewer dark hiding places at night.

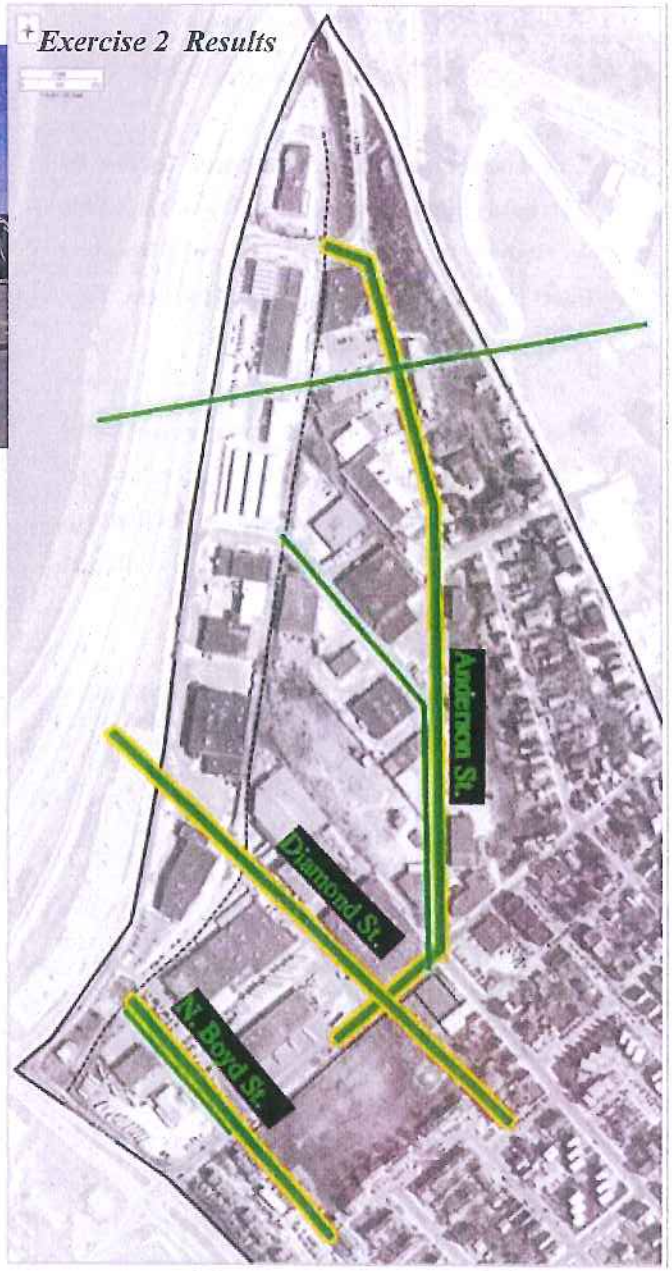
Fox Street was also considered a danger for pedestrians and drivers, particularly at the intersection with Anderson Street. Residents suggested adding more sidewalks along Fox Street. and crosswalks at intersections. They also discussed the merits of converting the three way stop sign at the Anderson/Fox intersection into a four way to slow traffic.

The aesthetic qualities of Fox Field were another main concern brought forth by East Bayside residents. Trash on the field is a major, yet easily remedied problem. One resident explained the cleaning procedures that are sometimes required before beginning a soccer game; the teams line up and sweep the field, collecting trash, needles, broken glass, etc. in trash bags to prevent injuries during the game. Participants felt that the addition of trash cans surrounding the field is the first and most important step in solving this problem.

Participants also expressed a common desire to beautify the park and increase its usage by developing more and diversified recreational opportunities. Additional seating areas, picnic tables, and bleachers around the field would make the field more attractive and conducive to various spontaneous recreation and "hanging out". Other beautification suggestions included youth-created murals and enhanced landscaping with more plantings.



Boyd Street, looking north from Fox Street



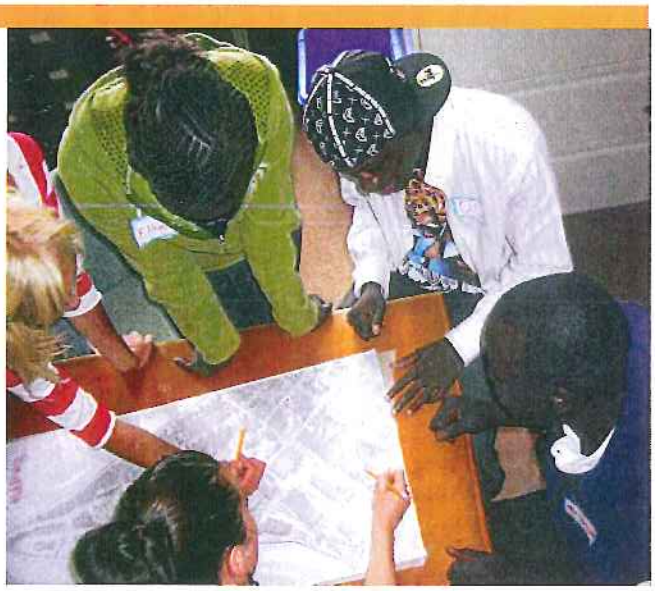
The later half of Exercise 3 focused on a future recreational amenity in the area, the Bayside Trail. The trail will be completed by fall of 2009, linking East Bayside to the East End Trail and West Bayside. For the trail to succeed as an amenity and viable transit route for East Bayside, it must be accessible to the neighborhood. Currently, there is no pedestrian-friendly infrastructure for residents to access the trail. Participants discussed and sketched possible locations for pedestrian connections between the neighborhood and the trail. Participants were especially interested in the potential connection of North Boyd Street (seen as a key connection between Fox Field & Kennedy Park. Improving access on Anderson Street was also seen as especially desirable.

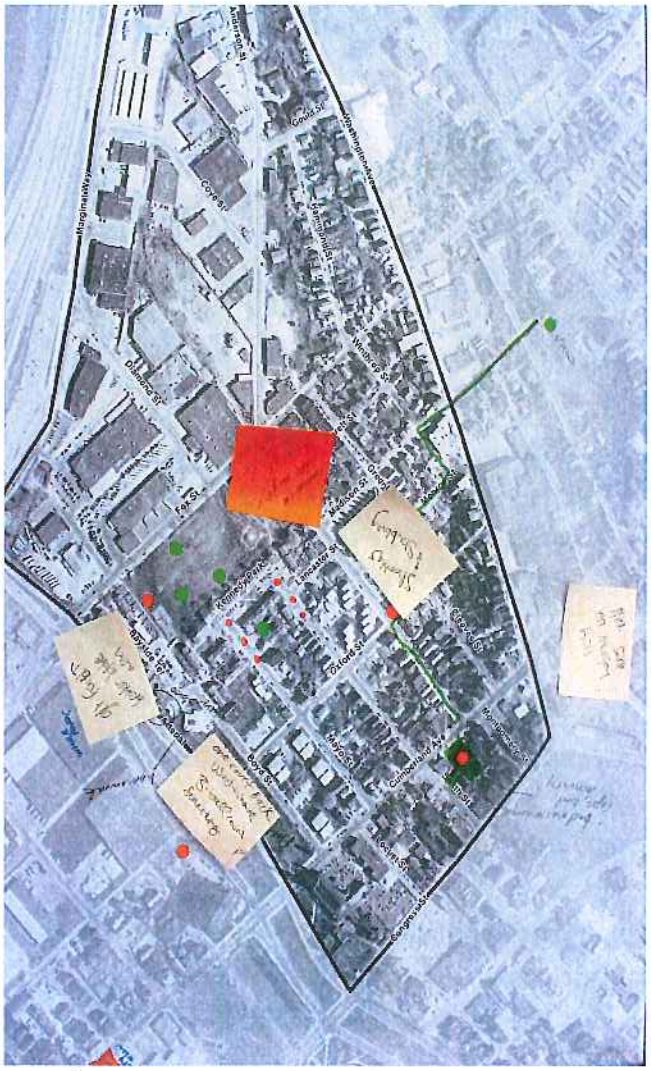
Participants were interested in developing an overall connection between Cumberland Street to the trail, via either Boyd, Mayo, or Smith Street. Linking the Washington Street commercial district through the residential district to the trail, would help "open" the neighborhood to the rest of the city. North Boyd and Diamond streets were suggested as the most useful connections to develop in the short-term. Developing these connections with sidewalks and streetscaping, would also serve to enhance the safety and attractiveness of the Fox Field area. Streetscaping along Anderson and Cove Streets was also suggested as a means to strengthen ties between Munjoy Hill and East Bayside.

V. The Youth Forum

The class conducted a second forum at Portland High School on May 8th. This workshop was specifically tailored toward East Bayside youth and focused on Fox Field and the surrounding area.

This workshop entailed one Asset and Liability Mapping Exercise, (similar to Exercise I of the April Workshop), followed by brainstorming about improvements to Fox Field.





Above: Muskie and Portland High School students orient themselves to a map of East Bayside.

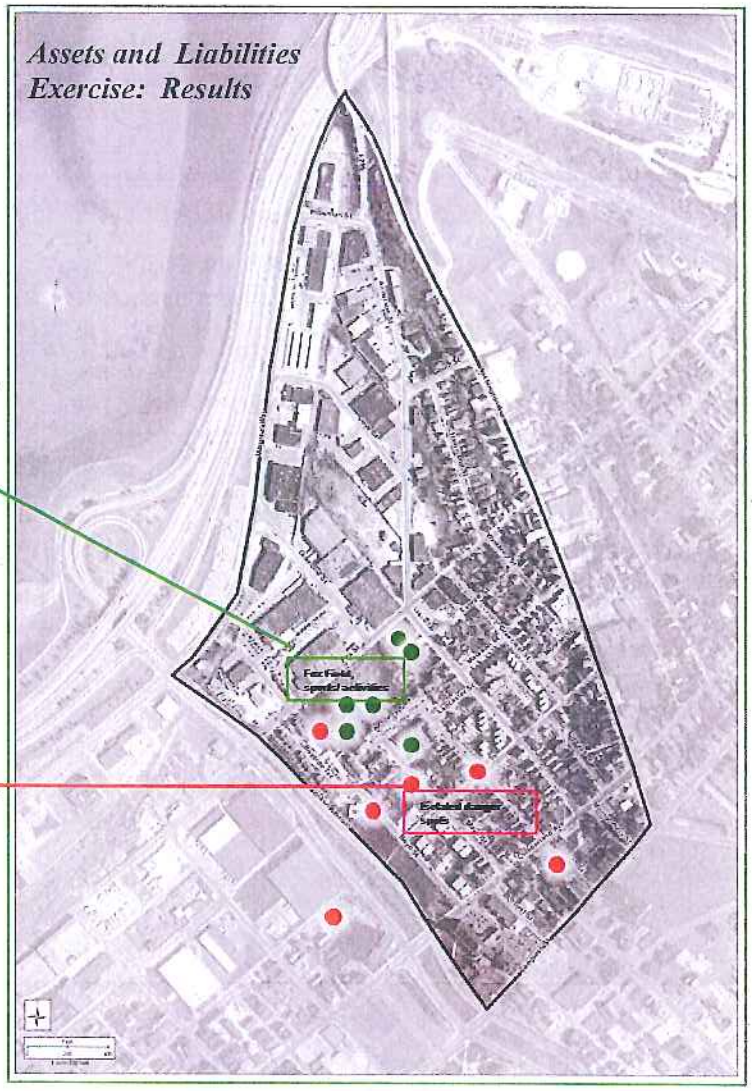
Left: Students' notes and diagrams relating to Fox Field area.

There was consensus among students that the current activities offered by Fox Field are great, but that there should be *more* recreational opportunities here. Ideas for these included a full basketball court, seating and picnic benches around the field, and some also vouched for a warm up field adjacent to the playground to maximize the existing open space.

Students' concern with present-day Fox Field revolved around safety. Ideas for addressing safety included nighttime lighting, taller fences bordering Fox Street and the field, and better sidewalk connections along Fox St., connecting north to the future Bayside Trail corridor.

Students were enthusiastic about the current soccer and basketball games , and want to see more space devoted to the courts/ fields, and comfortable space for spectators.

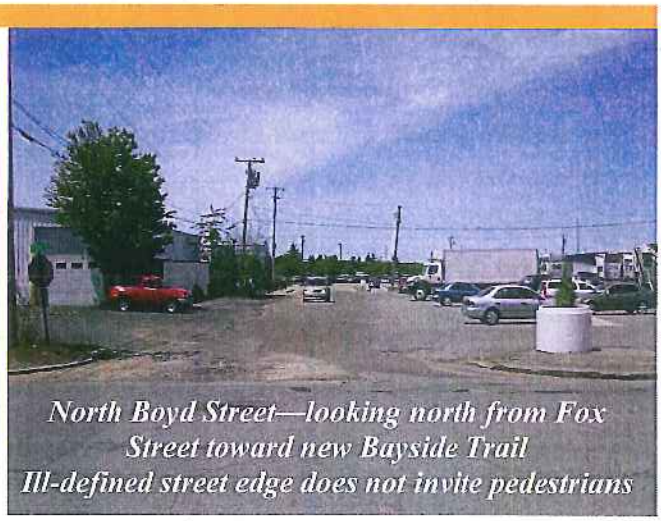
"Liabilities" here referred mostly to isolated incidents of crime. The dark alley between east and west Oxford Streets causes apprehension for pedestrians, and could be improved with lighting and landscaping. Better street connectivity in this area- would also help create more "eyes on the street" and encourage more legitimate activity on the street.



VI. Conclusions and Recommendations

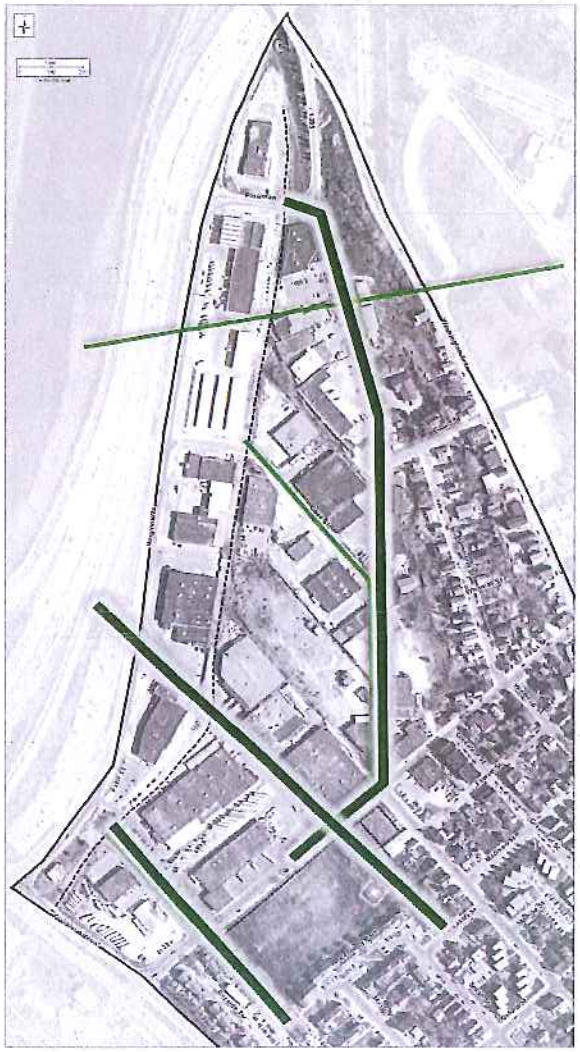
Issue: Bayside Trail Connections

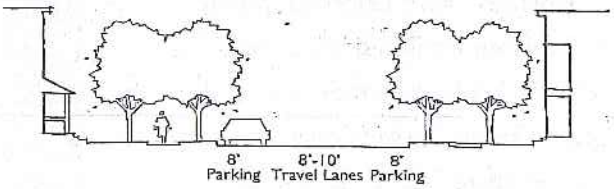
The new Bayside Trail will require improved connections to the residential district of East Bayside in order to become useful to residents. Fox Street is currently dangerous for pedestrian and drivers alike, and Lower East Bayside is unwelcoming to potential trail users.



North Boyd Street—looking north from Fox Street toward new Bayside Trail
Ill-defined street edge does not invite pedestrians

Right: Example of a successful streetscape, including buffers between road and buildings, on-street parking and ample pedestrian/bike routes.
(The Next American Metropolis, *Peter Calthorpe*)





Physical Improvements:

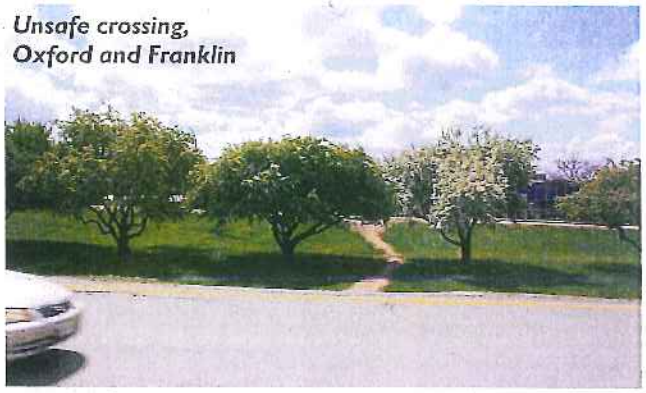
- Create stronger pedestrian streetscapes on Fox Street and north along Anderson Street, and North Boyd Street.
- Install sidewalks, lights, and street trees where none exist, and improve side walks elsewhere.
- Provide bike lanes where possible, and bike racks at key locations and near the trail.
- Install signage along links to encourage and direct pedestrians. Creative signage by local artists will lend identity to the pedestrian route and neighborhood at large.
- In order to create a stronger sense of place, encourage façade improvements to buildings near the trail, especially to buildings that directly abut the trail.

For Further Study:

- All recommendations will require design and development. EBNO should cooperate with City of Portland Public Services, the Planning Office, and the Portland Public Art Committee to create a master plan for physical improvements.

Issue: Franklin Arterial Divide

The arterial is a harsh barrier/edge to the neighborhood that disrupts the historic, fine-grained street block structure. Well-worn desire paths attest to the need for street reconstruction.



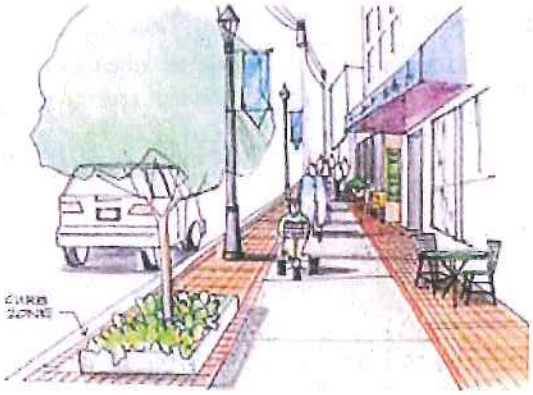
Unsafe crossing, Oxford and Franklin

Physical Improvements:

- Reconnect the historic street grid along Oxford Street (highest priority) and Lancaster Street. Establish safe pedestrian crossings at a minimum, and full intersections if feasible.
- Recapture territory on the western edge of East Bayside with the redesign of Franklin Arterial. Develop a green buffer for the neighborhood between Cumberland Avenue & Fox Street, and a mixed-use "gateway" for reclaimed land north of Fox Street.
- Incorporate sidewalks and bike trails bordering East Bayside in the Franklin Street redesign.

For Further Study:

- East Bayside residents identified the off-ramps of I-295 at Franklin Street as a major safety concern. As the City and MDOT undertake future studies for potential improvements for this exit, the concerns of the neighborhood should be expressed and considered.



Issue: Streetscape & Transit Amenities

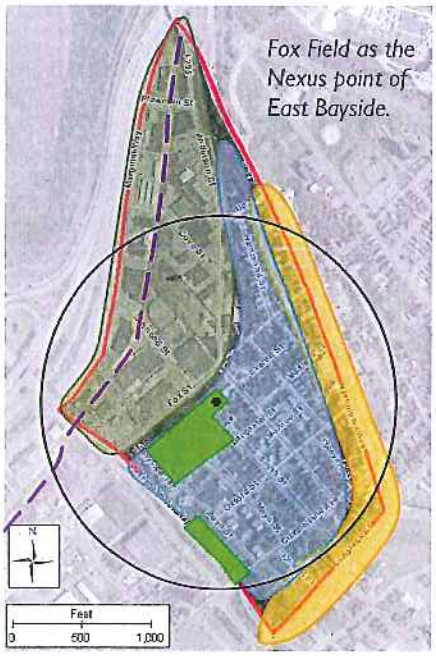
Businesses on Congress and Washington Streets identified litter, lack of trees and bicycle lanes and racks as primary problems. Lower East Bayside businesses as well as East Bayside Residents also indicated that, although there is public transportation in the neighborhood, it is difficult to navigate. and unpleasant to use.

Physical Improvements:

- Provide bike racks along Congress Street and Washington Avenue in the commercial district. Provide bicycle lanes where possible. Provide other streetscape amenities in the commercial district including additional tree wells and trash receptacles.
- Provide benches or transit shelters at bus stops where appropriate, and schedule displays at all bus stops.

For Further Study:

- Work cooperatively with the City of Portland, EBNO and businesses to create a streetscape improvement plan for the commercial district.
- Work with the City to explore ways of funding trash pick-up for commercial streetscape trash receptacles. Potential options might include methods such as a parking improvement district or a business improvement district.



Issue: Fox Field

Though Fox Field is widely considered an asset to the community due to the amenities it provides, the field itself and its relationship to the surroundings need improvement. The lack of lighting, seating, connections to surroundings and limited recreational uses undermine the field's potential as a nexus point and gateway to the neighborhood.

Physical Improvements:

- Construct a broader diversity of attractive recreational amenities, both active and passive. Install custom benches, water fountains, lighting, and attractive fencing where appropriate. Upgrade the basket-ball court to full-size and consider new uses for other underutilized areas around the field.
- The mural on the Park's Department building has not been "tagged" since its completion in 2004 which speaks to the success of a community-based approach to public art. Provide more opportunities for such community-based art projects at Fox Field and vicinity. Consider:
    - Public mural projects on buildings adjacent to Fox Field. Engage community-based artists to design site-specific benches, fences, and other site amenities.
    - Artist-designed signage for Fox Field and landscaping that will create a gateway identifier for the neighborhood.
    - Devise alternative, attractive and functional fencing devices for field perimeter that enhance connections to the neighborhood and Bayside Trail.

For Further Study:

- Initiate contact with building owners and the City's Public Art Committee (which provides grants) to explore opportunities for community-based art projects.
    - EBNO, PHA and Kennedy Park residents, the City of Portland (Public Services, Planning, Public Health) and non-profit organizations using Fox Field (e.g., Portland United Soccer League, etc.) should cooperate to develop a cohesive plan for Fox Field improvements.
    - Fox Field is bordered to the north by the Lower East Bayside district which is currently zoned for low-impact industrial uses (I-Lb). Surveys of business owners in the area revealed two strains of thought regarding the re-zoning of I-Lb to B-5, which would allow housing. Some business owners thought that housing would improve the area aesthetically and functionally. Others worried that housing would cause gentrification, squeezing out the existing industrial uses in Lower East Bayside. The debate on I-Lb versus B-5 zoning warrants further study with consideration of strategic locations that may be appropriate for a B-5 zoning. For instance, with mixed-use development, North Boyd Street could become a prime pedestrian link from Fox Field, the residential area, and the Bayside Trail.

The Next Phase: Master Vision and Long-Term Planning

The Recommendations in this report address issues associated with current planning initiatives, and respond to key ideas that surfaced from the community. The redevelopment of Franklin Arterial and the construction of Bayside Trail both pose critical opportunities for design improvements in East Bayside if EBNO can attach a clear community vision to the impetus that is underway. The issues raised by East Bayside citizens and business owners (like streetscape, transit amenities and Fox Field improvements) are also important, and are perhaps more immediate, tangible goals to address.

These topics warrant further study and can become the next steps for securing the future of the neighborhood. EBNO should also devote efforts to go beyond these immediate planning initiatives to develop a long-term, cohesive vision for the future of the neighborhood. A long-range vision should include a master plan for physical improvements (public and private) as well as implementation strategies. Besides the issues already highlighted in this report, a comprehensive long-range vision should address some of the more intractable physical issues in the neighborhood including:

- Reconnecting key components of the historic street grid, including but not necessarily limited to Oxford Street (east-west across Franklin Arterial) and Lancaster Street to the north-south. Reconnecting streets would require imagining how the PHA dwellings in this vicinity could be modified, rebuilt or potentially replaced.
- In conjunction with the above listed recommendation, a long-range vision should consider how other PHA housing development might be modified or reconstructed to be more responsive the street and better integrated with the historic development pattern. This revisioning of the PHA housing stock also provides an opportunity to image new sustainable design solutions and architectural forms that promote safer neighborhoods with "defensible space." PHA parking lots should be considered as potential redevelopment sites for more valuable community needs including additional housing.
- The industrial district north of Fox Street offered the greatest potential for redevelopment. A long-range vision should explore the potential of strategically modifying allowed uses, and envision the potential of future public and private development in this area to meet community needs. A vision for this area should embrace the City's Environmental Sustainability Goals, and provide a model for new urban redevelopment for the 21st century.

In creating a long-term vision, EBNO should work cooperatively with the City of Portland and the Portland Public Housing Authority, and should maximize community involvement by engaging residents, businesses, and non-profits in the neighborhood. EBNO should leverage additional community resources for this planning effort by soliciting continued involvement from the Muskie School of Public Service as well as other community partners.

VI. About The Community Partners:

Many Community Partners contributed to the efforts of the Planning Workshop. In particular, we are grateful to the members of the East Bayside Neighborhood Organization, staff at the Portland Housing Authority, City Councilor Kevin Donahue, and most importantly, the residents and citizens of the East Bayside neighborhood. More than those named above and below have made significant contribution to this work, however, and our appreciations go out to them as well.

East Bayside Neighborhood Organization (EBNO)

EBNO was incorporated in May of 2007. Its mission is to serve the Portland neighborhood of East Bayside, one of the most diverse neighborhoods in Maine. Among EBNO's primary goals are: the creation and maintenance of a safe neighborhood, the leveraging of funding opportunities for neighborhood revitalization, and the provision of assistance to low-income, elderly, and disadvantaged members of the community that they might thrive.

EBNO strives to improve the quality of life for all of its residents, to ensure that East Bayside has adequate representation in all city matters, and to promote a sense of community within the neighborhood while preserving and respecting the cultural and socioeconomic diversity of its population. More information, as well as a mailing list is available from its Yahoo Groups page at: **http://groups.yahoo.com/group/EBNO/**.

The Muskie School – USM's Public Service Program

The Edmund S. Muskie School of Public Service takes its name from one of Maine's most distinguished senators. The school has set its focus on three ways to meet its namesake's challenge of making "a real difference in the lives of the people of Maine and the nation." These three methods are: educating leaders through its graduate degree programs, informing policy and practice through applied research, and strengthening civic life through publication and involvement with the public. This report and its surrounding activities reside at the intersection of all three.

Through its Community Planning and Development master's degree program, the Muskie School offers a class called "CPD 603 - Planning Workshop." This class offers students the opportunity to take lessons learned in a classroom and apply them to real-world issues such as those faced by EBNO. You are reading the fruits of Spring 2009's Planning Workshop.

VII. The Planning Workshop - 2009:

Jessa Berna – Jessa is currently earning her master's in Community Planning and Development from The Muskie School. She holds a Bachelor's in Environmental Studies from Gettysburg College. As a volunteer on the Coeur d'Alene Reservation in Idaho, she surveyed the effectiveness of various fire treatments, and helped a local community prepare a Wildfire Protection Plan. Professionally she worked as a GIS Technician at an environmental consulting firm in Tempe, AZ.

Paul Connair – Paul is a first-year student in the Community Planning and Development program. He works as a full-time Employment Caseworker at the Preble Street Resource Center in Portland. Prior to that, he worked with youth in Boston; San Jose; Philadelphia; Chicago; Lima, Peru; and Portland over a period of eight years. He is a proud Northern New Englander and has resided in the Woodfords neighborhood in Portland for almost 6 years.

Sophia DeMaio – Sophie holds a Bachelor's Degree in Environmental Studies from Bates College and an M.S. in Forestry from the University of Maine. She has worked as a potato harvester, as an English teacher in Siberia, more recently as a community support specialist for elders, and a biological science technician for the National Park Service.

Cotton Estes (Teaching Assistant) – Cotton graduated from Bowdoin College in 2007 with degrees in Environmental Studies and Visual Arts. She continued on to Eastern Europe on a Thomas J. Watson Fellowship, to explore her interest in adaptive reuse of industrial buildings and urban regeneration strategies in post-Soviet cities. She currently writes for the Bollard Newspaper, and stays involved in local planning through opportunities such as the Planning Workshop. In fall of 2009, Cotton will head to Yale University to begin her masters in architecture.

Shelley Hodges – Shelley holds a degree in English with minors in Spanish and Speech Pathology from the University of New Hampshire. Originally from Durham, Maine, she has been working since 2004 at a law firm in Portland and also spent time working at a Butterfly Garden, an organic perma-culture farm in Costa Rica, and teaching pilates in Spain.

Alan Holt (Adjunct Professor) – Alan has focused his career as an architect & planner on creating healthy, vibrant communities through the power of urban design, and through the empowerment of students, citizens and decision-makers with an understanding of and influence on design decisions. A graduate of Columbia University's Master of Architecture program, he is founder and principal of the consulting firm *Community Design Studio* and since 2001 has been an adjunct professor in the Muskie CPD program where he teaches the Planning Workshop. He was the former Urban Designer for the City of Portland, and before that, served as Director of Design & Construction for the City of New Bedford, Massachusetts. He has been a visiting professor with Ball State University School of Architecture (1996) and the Norwich University School of Architecture (1997).

Emily Reinholt – Emily is a first year Community Planning and Development student at the Muskie School. She earned her bachelor's degree in Rehabilitation with a concentration in Mental Health at the University of Maine. Emily spent the past three years working as a case manager for adults with mental illness in Portland and is pursuing her Master's with the CPD program to further a career in public health.

William Walker III – William holds a Bachelor's Degree in Political Science from the University of Southern Maine. He is concluding his first year of the CPD program. He works for a recycling company, Corcoran Environmental Services of Kennebunk, as an education coordinator and has conducted research projects on recycling behavior and capture rates.

ATT. 5

>>> Peter Bass <pbass@maine.rr.com> 6/9/2015 10:05 AM >>>
Jeff,
I got notice of U-Haul's request to change zoning for 425 Marginal Way from B5 to I-LB. I certainly have no problem with this change and the proposed uses. I know how protective the City is of this in town I-LB zone. Just thinking out loud- I wonder if you would consider at the same time, a zone change for a property from I-LB to B5 that would result in no net change to the I-LB. 50 Cove St. is nearly adjacent to the B5 across Anderson and is in a location that would actually be me more appropriate as B5 than the U-Haul property. Let me know if there is a chance to pursue this. Thanks.

Peter
--
Peter Bass
Random Orbit, Inc.

17 Chestnut St.
Portland, Maine 04101

207-772-6005 office
207-712-0954 cell

http://www.randomorbitinc.com

ATT. A-1

WALSH
ENGINEERING ASSOCIATES, INC.

July 31, 2015

Barbara Barhydt
Development Review Manager
City of Portland Planning Division
389 Congress Street
Portland, Maine 04101

RE: Application for Zoning Text Change
425 Marginal Way
Portland, Maine

Dear Barbara,

On May 19, 2015 Walsh Engineering Associates, Inc. (WEA) submitted an application for Zoning Map Amendment and Text Change on behalf of the U-Haul Moving and Storage Co. of New Hampshire and Maine (Applicant). Based on our recent meetings and conversations, Walsh Engineering Associates, Inc. (WEA) is providing this revised application to request a text change to the City of Portland Zoning ordinance. The purpose of the proposed text change is to allow for the Applicant to operate a self-storage facility within the existing building at the property located at 425 Marginal Way (Tax Map 8, Block A, Lot 5) and make the existing facility at 411 Marginal Way a conforming use.

The Applicant proposes that Section 14-230.1 - Permitted Uses within the B-5 Urban Commercial and Mixed Use Zone be modified to include the following permitted uses "on-peninsula" within the B-5 zone only:

- Self Storage facilities (on peninsula)
- Moving equipment rental and outdoor storage (on peninsula)

The proposed text change is indicated on the enclosed excerpt from Section 14-230.1.

With this submission, we respectfully request to be placed on the next available Planning Board workshop agenda to discuss the project with the Planning Board. Please contact me if you have any questions or require any additional information.

Respectfully,

William R. Walsh III

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.

enc. Proposed Zoning Ordinance Text Change

cc. Jon Hynes, President, U-Haul Moving and Storage Co. of New Hampshire and Maine
John Loranger, U-Haul Moving and Storage Co. of New Hampshire and Maine

One Karen Drive, Suite 2A | Westbrook, Maine 04092
phone 207.553.9898 | www.walsh-eng.com

A-2

Zoning Map/Text Amendment/Contract or Conditional Rezoning Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the review of requests for zoning map amendments, zoning text amendments and contract or conditional re-zoning. The Division also coordinates site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Zone Change.

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

A-3

PROJECT NAME: Uhaul Facility

PROPOSED DEVELOPMENT ADDRESS:

425 Marginal Way, Portland, Maine

PROJECT DESCRIPTION:

The Applicant is proposing a Text Change such that self-storage is an allowed use on the subject property.

CHART/BLOCK/LOT: 8/A/5

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Jon Hynes, President U-Haul International, Inc. Business Name, if applicable: U-Haul Co. of N.H. & ME Address: 515 South Willow St City/State : Manchester, NH Zip Code: 03103	Applicant Contact Information Work # 603-627-9182 Home# Cell # 413-237-3048 Fax# e-mail: 790_EA@uhaul.com
Owner – (if different from Applicant) Name: Same as Applicant Address: City/State : Zip Code:	Owner Contact Information Work # Same as Applicant Home# Cell # Fax# e-mail:
Agent/ Representative Name: William Walsh, III, PE Walsh Engineering Associates, Inc. Address: 1 Karen Drive, Suite 2A City/State : Westbrook, ME Zip Code: 04092	Agent/Representative Contact Information Work # 207-553-9898 Cell # 207-650-8855 e-mail: bill@walsh-eng.com
Billing Information Name: Jon Hynes, President U-Haul Co. of N.H. & ME Address: 515 South Willow St City/State : Manchester, NH Zip Code:	Billing Information Work # 603-627-9182 Cell # 413-237-3048 Fax# e-mail: 790_EA@uhaul.com

A-4

Engineer	Engineer Contact Information
Name: William Walsh, III, PE Walsh Engineering Associates, Inc.	Work # 207-553-9898
Address: 1 Karen Drive, Suite 2A	Cell # 207-650-8855 Fax#
City/State : Westbrook, ME Zip Code:	e-mail: bill@walsh-eng.com
Surveyor	**Surveyor Contact Information**
Name: Bruce Martinson, PLS Sitelines, PA	Work # 207-725-1200
Address: 8 Cumberland Street	Cell # Fax# 207-725-1114
City/State : Brunswick, ME Zip Code:	e-mail: bmartinson@sitelinespa.com
Architect	**Architect Contact Information**
Name:	Work #
Address:	Cell # Fax#
City/State : Zip Code:	e-mail:
Attorney	**Attorney Contact Information**
Name:	Work #
Address:	Cell # Fax#
City/State : Zip Code:	e-mail:

Right, Title, or Interest: Please identify the status of the applicant's right, title, or interest in the subject property:

The property is currently owned by the Applicant. The deed is attached.

Provide documentary evidence, attached to this application, of applicant's right, title, or interest in the subject property. (For example, a deed, option or contract to purchase or lease the subject property.)

Vicinity Map: Attach a map showing the subject parcel and abutting parcels, labeled as to ownership and/or current use. (Applicant may utilize the City Zoning Map or Parcel Map as a source.)

Existing Use: Describe the existing use of the subject property:

The property and existing building is currently being used by the Applicant for warehousing and equipment storage. A site plan application (Project ID #2014-184) was approved by the City on October 24, 2015 for exterior site improvements not related to the proposed text change.

A-5

Current Zoning Designation(s): B-5 Urban Commercial Zone

Proposed Use of Property: Please describe the proposed use of the subject property. If construction or development is proposed, please describe any changes to the physical condition of the property.

The Applicant is proposing to use the site as a self-storage facility, warehousing, and outdoor storage of moving equipment rentals. The applicant proposes a text change to Section 14-230.1 to include "Self Storage Facilities" and "Moving equipment rental and outdoor storage" as allowed uses within the B-5 zone, on-peninsula only. No additional exterior site improvements are proposed other than what was approved per Project ID #2014-184.

Site Plan: On a separate sheet, please provide a site plan of the property showing existing and proposed improvements, including such features as buildings, parking, driveways, walkways, landscape and property boundaries. This may be a professionally drawn plan, or a carefully drawn plan, to scale, by the applicant. (Scale to suit, range from 1" = 10' to 1' = 50'.) Contract and conditional rezoning applications may require additional site plans and written material that address physical development and operation of the property to ensure that the rezoning and subsequent development are consistent with the comprehensive plan, meet applicable land use regulations, and compatible with the surrounding neighborhood.

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Zoning Map Amendment ___ $2,000.00 (from _____ zone to _____ zone) Zoning Text Amendment X $2,000.00 (to Section 14-230.1) (Fee paid with previous submission) Combination Zoning Text Amendment and Zoning Map Amendment ___ $3,000.00 Conditional or Contract Zone ___ $3,000.00 (A conditional or contract rezoning map be requested by an applicant in cases where limitations, conditions, or special assurances related to the physical development and operation of the property are needed to ensure that the rezoning and subsequent development are consistent with the comprehensive plan, meet applicable land use regulations, and compatible with the surrounding neighborhood. Please refer to Division 1.5, Sections 14-60 to 62.)	The City invoices separately for the following: • Notices ($.75 each) • Legal Ad (% of total Ad) • Planning Review ($40.00 hour) • Legal Review ($75.00 hour) • Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.

A-6

APPLICATION SUBMISSION:

1. All plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file names which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. **The submission shall include the following materials:**
   a. One (1) paper set of the zoning amendment application, concept plan and written narrative.
   b. Contract and conditional rezoning applications must include site plans and written material that address physical development and operation of the property to ensure that the rezoning and subsequent development are consistent with the comprehensive plan, meet applicable land use regulations and compatible with the surrounding neighborhood.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of Appli	Date:
William J. Kelsch III (Agent)	7/31/15

A-7

Date:

To Whom It May Concern,

By this letter, the undersigned authorizes Walsh Engineering Associates, Inc. to act as the agent for the undersigned in the preparation and submission of all Federal, State, and Local City permit applications and relevant documents and correspondence for all necessary permits for the site improvements at 425 Marginal Way, Portland, Maine; to attend meetings and site visits; to appear before all boards, commissions, and committees, and to provide such other services as are necessary and appropriate in furtherance of the aforementioned project.

Sincerely,

Client

John Loranger
U-Haul Company of NH + Maine
515 South Willow Street
Manchester N.H. 03103

A-8

MAINE REAL ESTATE TAX PAID

WARRANTY DEED
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS, that **AAA Northern New England**, a Maine nonprofit mutual benefit corporation, Grantor, whose mailing address is 68 Marginal Way, Portland, Maine 04101, for consideration paid, hereby **GRANTS** to Five SAC Self-Storage Corporation, a Nevada corporation, Grantee, whose mailing address is 1250 E. Missouri, Phoenix, Arizona 85014, with **WARRANTY COVENANTS**, the land with buildings thereon situated at 425 Marginal Way, City of Portland, County of Cumberland, State of Maine, described as follows:

See attached Exhibit A

This conveyance is made subject to easements, covenants, conditions and restrictions of record, if any.

IN WITNESS WHEREOF, said Grantor has caused this instrument to be signed in its company name by Eric J. Cyr, its President pursuant to due authority, this 24th day of September, 2013.

AAA Northern New England,
a Maine nonprofit mutual benefit corporation

X _____
Eric J. Cyr, President

STATE OF MAINE
COUNTY OF CUMBERLAND

Then personally appeared the above named Eric J. Cyr, President of AAA Northern New England and acknowledged the foregoing instrument to be his free act and deed in his capacity and the free act and deed of said corporation.

Before me:

_____
Notary Public
Printed Name: Patrick Moody

PATRICK MOODY
Notary Public, Maine
My Commission Expires June 04, 2018

SEAL

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Exhibit A
Legal Description

Real property in the City/Town of Portland, County of Cumberland, State of Maine, described as follows:

Parcel One:

A certain lot or parcel of land, situated in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning on the easterly side line of Marginal Way at the point of curve of the first curve in Marginal Way northerly of Plowman Street; thence southerly along the easterly side line of Marginal Way, a distance of seventy-six and seven tenths (76.7) feet to another point of curve, being the junction of the easterly side line of Marginal Way with the northerly side line of Plowman Street; thence southerly and easterly, along a curve in the northerly side line of Plowman Street, a distance of seventy-six and ninety-seven one-hundredths (76.97) feet, measured on the arc, to the point of tangent of the aforementioned curve; thence easterly along the northerly side line of Plowman Street, a distance of one hundred thirty (130) feet, more or less, to the westerly side line of land of the Portland Terminal Company, hereinafter called "Railroad Location;" thence northerly along the westerly side line of said Railroad Location, a distance of seventy-three (73) feet, more or less, to a point of curve in the westerly side line of said Railroad Location; thence northerly along the westerly side line of said Railroad Location, following a curve thereon, a distance of one hundred fifty-seven and eight one-hundredths (157.08) feet, more or less, to the point of tangent of the aforementioned curve; thence northerly along the westerly side line of said Railroad Location, a distance of two hundred nineteen and ninety-three one-hundredths (219.93) feet, more or less, to the easterly side line of land of the State of Maine; thence southwesterly, making an included angle of 25° 30' through the South with the southerly direction of the last described course and on the line of land of the State of Maine, a distance of seventy and four tenths (70.4) feet to a granite monument; thence southwesterly, making a deflection angle of 23° 06' to the right and along the line of land of the State of Maine, a distance of forty-six and nine tenths (46.9) feet to a point; thence westerly, making a deflection angle of 23° 51' to the right, a distance of sixty-one and thirty-eight one- hundredths (61.38) feet to the easterly side line of Marginal Way; thence southerly along the easterly side line of Marginal Way, a distance of one hundred sixty-two and eleven one- hundredths (162.11) feet to the point of beginning.

Parcel Two:

Also another parcel of land, bounded and described as follows:

Beginning at a point in a curve on the northerly side line of Plowman Street, distant twenty-eight and seventy-five one-hundrediths (28.75) feet, more or less, from the point of curve of said curve in the northerly side lien of Plowman Street nearest its junction with the westerly side line of Anderson Street; thence easterly along the curve in said northerly side line of Plowman Street to the westerly side line of Anderson Street; thence along the westerly side line of Anderson Street to land of the State of Maine; thence westerly by land of the State of Maine to a granite monument; thence westerly from said monument and on the same course to the easterly side line of land of the Portland Terminal Company; thence southerly by land of the Portland Terminal Company to the northerly side line of Plowman Street at the point of beginning.

Excepting from the above described premises such portion thereof as was conveyed by the Maine Automobile Association to the State of Maine by deed dated November 28, 1973, and recorded in said registry in Book 3488, Page 279.

Received
Recorded Register of Deeds
Sep 27,2013 08:55:56A
Cumberland County
Pamela E. Lovley

B-1

2. Low impact industrial uses with total floor area of less than ten thousand (10,000) square feet and which meet the performance standards of the I-L zone;

3. Breweries, including associated bottling activities.

(c) *Marine:*

INSERT: 4. Self Storage Facilities (on-peninsula)
5. Moving equipment rental and outdoor storage (on-peninsual)

3. Harbor and marine supplies and services and ship supply;

4. Reserved;

5. Shipbuilding and facilities for construction, maintenance and repair of vessels;

6. Marine museums and aquariums;

7. Reserved;

8. Boat repair yards;

9. Boat storage facilities;

10. Seafood processing for human consumption;

11. Seafood packing and packaging;

12. Seafood distribution;

(d) *Residential:*

1. Attached single-family, two-family and multifamily dwellings;

2. Handicapped family units;

3. Lodging houses;

4. Combined living/working spaces, including but not limited to artist residences with studio space.

PLANNING BOARD REPORT
PORTLAND, MAINE

Proposed Zoning Amendments
Surface Parking (B-7) and Commercial Kitchens (B-7, B-2 and B-2b)
City of Portland, Applicant

Submitted to: Portland Planning Board Public Hearing Date: Sept. 29, 2015	Prepared by: Richard Knowland, Senior Planner Report Prepared: September 25, 2015

I. INTRODUCTION

A public hearing has been scheduled to consider text amendments to the B-7 zone regarding regulation of surface parking. The amendments focus on how existing gravel surface areas should be treated in terms of parking setbacks from the street line. During the recent Bayside Bowl site plan review, staff indicated that amendments regarding the regulation of gravel surface lots in the B-7 would be forthcoming.

A minor amendment allowing commercial kitchens in the B-7 as a permitted use with accompanying retail space is also proposed. Commercial kitchens are presently a conditional use in the B-7 zone but do not allow a retail presence within the building. Staff is also proposing amendments to the B-2 and B-2b zone regarding community kitchens. The westerly section of Bayside has a B-2b zone adjacent to the B-7 zone which staff learned several weeks ago is the likely home of a new commercial kitchen.

In addition to a legal ad appearing in the September 21, 2015 and September 22, 2015 editions of the Portland Press Herald, notices were also sent to the Interested Parties List.

II. BACKGROUND – Bayside Vision and B-7 Surface Parking

A. Bayside Vision

Perhaps the most challenging issue in Bayside is the regulation of surface parking. The basic premise of the Bayside Plan is that the neighborhood should be a dense mixed use district. The Bayside Plan uses such phrases as an "attractive urban gateway and extension of the downtown", "mixed use and compact development", "compact blend of uses", and "emphasizes a quality pedestrian experience". A guiding principle of the plan is that parking structures are encouraged to "avoid extensive land consumption by

surface parking lots". The desired model for Bayside's future is a transit oriented development "free from the dependence upon the automobile" and "utilization of transportation, other than automobile is strongly encouraged".

Surface parking by its nature can take up a lot of land. For example, the surface parking of the DHS parking lot is 3 or 4 times greater than the actual footprint of the building. Surface parking is a poor substitute for a continuous street wall of buildings whose shoppers, workers and visitors support pedestrian activity and street life in contrast to the "dead zones" created by parking lots.

Ideally all vacant or underutilized sites in Bayside would instantly become redeveloped with new multi-story buildings and minimal surface parking. The reality is that it will take some time for market forces to absorb new development to justify larger scale development with accompanying structured parking. While Bayside has had an impressive number of larger scale projects such as the Intermed building, Pearl Place, Bayside Village student housing and Midtown, there have been a number of much smaller projects such as Bangor Savings, Gorham Savings, Bayside Bowl that have faced either land area constraints or market constraints in achieving a maximum build out of their property.

Realizing the incremental nature of achieving the Bayside Vision, in 2011 the Planning Board recommended and the City Council approved a series of amendments that provided more flexibility for surface parking. This provision basically grandfathered existing blacktop parking. The thought was this change would assist redevelopment or reuse of existing buildings on smaller lots in supporting the transition of Bayside from a warehouse/industrial district to a mixed use district. Under the previous ordinance a reuse proposal or minor change in a site could trigger site plan review resulting in the removal of all existing parking within 35 feet of the street line, effectively undermining suitable reuse proposals (such as the reuse of the mattress factory building to Portland Architectural Salvage).

B. Existing B-7 Surface Parking Regulations

The existing B-7 zoning text requires newly created surface parking spaces be setback a minimum of 35 feet from the street to discourage a parking dominated streetscape and to encourage building construction near the street line. Large expanses of parking spaces sited near the street line follows a suburban development model in contrast to the Bayside Plan which emphasizes building development near the street.

A presumption has been made under the present zoning ordinance that all **paved** areas (existing as of the B-7 zoning ordinance date) are grandfathered from the 35 foot parking setback. Left unsaid is the status of **gravel** areas that likely have a murky history in terms of qualifying for this grandfathered provision. Most of these gravel lots were originally part of the rail road land holdings in Bayside that were conveyed to private property owners or the city over a period of time in the 1980s and 1990s. Historically they were part of a rail road corridor and not used for vehicle parking.

Gravel areas do not have the grandfathered status of paved parking areas although there have been several recent redevelopment proposals involving the Schlotterbeck & Foss and Bayside Bowl properties that are reliant on the space presently occupied by gravel for parking. For property owners gravel areas in the short term may have value as stand alone parking lots. The long term view is these lots have value as (1) parking to

support a significant on-site redevelopment or (2) as a building lot for a stand alone building. Bayside has many gaps in the streetscape so redevelopment of these sites is important in filling these spaces. Appropriately scaled redevelopment proposals of these sites could be hindered if some flexibility for gravel (non-paved) areas is not provided.

C. Existing Gravel Areas in B-7

All gravel lots located in the B-7 zone are listed below with information on land area, use and other data.

Schlotterbeck & Foss...Gravel area 10,314 SF in size. Existing site includes 5 story building; 1 story building; black top parking lot; and gravel parking. Total parcel area: 1.07 acres. A mixed use development proposal for this light industrial building is expected to be submitted shortly. Note: Size of gravel area and height of building (5 stories) would qualify under the proposed amendments.

View of Schlotterbeck & Foss Building Corner of Preble Street and Kennebec Street

Bayside Bowl...Gravel area 14,280 SF in size. Bayside Bowl established a bowling alley in a former retail/warehouse building in 2009. Planning Board recently approved a multi-story building addition expanding the bowling alley and a community squash court facility. Total parcel area: 1.27 acres. Note: Size of gravel area and building floor area (48,857 SF) would qualify under the proposed amendments.

View of Bayside Bowl Corner of Alder Street and Kennebec Street

156-174 Kennebec Street DPS Parking Lot...Gravel area about 2,000 SF in size but part of a larger parking area (15,092 SF) for DPS trucks. Contiguous to large brick building at 82 Hanover Street owned by City. With the planned relocation of DPS, the brick building offers intriguing reuse possibilities. This parking area could help support the redevelopment of the brick building either as parking or as a building addition. Note: Size of gravel and brick building floor area (40,768 SF) would qualify under the proposed amendments assuming the brick building is redeveloped in the future

View of 156-174 Kennebec Street, Corner of Hanover Street and Kennebec Street

176-188 Kennebec Street DPS Parking Lot...Gravel area 9,659 SF in size (entire lot) next to New System Laundry building. Note: Size of gravel lot qualifies under the proposed amendments but a building meeting the minimum height requirement or a minimum 40,000 SF building would need to be built on this or a contiguous parcel.

View of 176-178 Kennebec Street , Corner of Kennebec Street and Parris Street

Other Gravel Parking Lots In Bayside:

Somerset-Pearl-Kennebec-Chestnut Block (Noyes/Oakhurst Dairy gravel parking lot)...Gravel area 2.0 acres in size. Site would not qualify under the proposed amendments since the gravel area exceeds 15,000 SF but may already have site plan approval for a parking lot. As a large scale site of 2 acres an appropriate redevelopment scheme for this property should have the ability to meet the normal 35 foot setback requirement.

E.Perry scrap yard 115 Lancaster Street...An unpaved surface covers most of the 1.65 acre area. Site would not qualify for the proposed amendments since gravel area exceeds 15,000 SF. An appropriate redevelopment scheme for this site should be able to meet the 35 foot parking setback.

Verizon Building at Somerset and Franklin Street...Gravel area 17,000 SF. Total site is 1.1 acres. There is an existing one story building on the site. Gravel area was created sometime after 2007 Whole Foods opened. Note: This site would not qualify for the proposed amendments for several reasons. Exceeds maximum gravel area size. Past use of gravel area included parking for a non-contiguous parcel (Whole Foods). Also total parking on the site presently exceeds the normal zoning requirement for the Verizon building a further disqualification. Present Verizon building doesn't meet minimum height requirement or minimum building size.

III. EXISTING B-7 SURFACE PARKING ZONING TEXT

The existing B-7 provisions for surface parking is shown below [Sec 14-295(a)(24) and (25)].

Sec. 14-295(a)(24): Note this section effectively grandfathers existing blacktop parking areas from the 35 foot building setback provision. As discussed in section II of this memo, section 24 was added in 2010 to provide more flexibility for existing parking in encouraging more reuse proposals in Bayside on smaller scale lots.

> 24. Surface parking existing as of March 9, 2005 and in continuous existence thereafter, including the reorganization of parking spaces and maneuvering aisles. This section shall apply to surface parking accessory to a principle use and a parking lot as a principle use. Existing surface parking that does not comply with the standards of sec. 14-299(f) may continue, provided that any modifications to the site layout, development constituting a site plan, or building renovations exceeding a value of thirty (30) percent of the assessed value of the building on file at the City of Portland Assessor's Office, shall require the parking to be upgraded to meet the standards of sec 14-299 (f) to the extent practicable.

Sec. 14-295 (a)(25): Note this section reflects the original B-7 zoning text intent (passed in 2006) that newly constructed parking spaces should be a minimum of 35 feet from the street to de-emphasize surface parking along the street edge and to reserve such space for building development. In 2010 it was amended to make new parking spaces a permitted use rather than a conditional use.

> 25. Surface parking created after March 9, 2005, provided that the spaces (and newly created maneuvering aisles) are thirty-five (35) feet or greater from a street and further that the standards below (a to c) are also met. This section shall apply to surface parking accessory to a principal use or a parking lot as principal use. The thirty-five (35) foot setback need not apply in the case of a property in which eighty (80%) of the property frontage has a building within ten (10) feet of the property frontage and or a driveway located perpendicular to the site. The parking area shall meet the standards of sec. 14-299(f).
> a. No surface parking shall be encumbered by lease or other use commitment to an off-site use exceeding twenty-four month term; and
> b. For surface parking areas of twenty-thousand (20,000) square feet or greater in area, lease or other use agreements for surface parking shall not preclude the relocation of such parking for more than twenty-four month terms; and
> c. Any such parking shall in its lease stipulate that developer/owner reserves the right to relocate said parking or convert surface parking to structured parking as long as the replacement parking is located a reasonable distance from the associated use.

IV. PROPOSED ZONING AMENDMENTS (SURFACE PARKING)

Proposed text amendments are intended to address the status of existing gravel areas posed by such sites as Bayside Bowl and Schlotterbeck & Foss that offer significant redevelopment opportunities. The amendments uses a carrot by allowing existing gravel areas to be converted to surface parking (within 35 feet of the street) if the developer

proposes a minimum but significant level of redevelopment activity on the site or a contiguous site. This incentive measure supports the Bayside policy of creating a denser urban neighborhood but not at the expense of allowing excessive surface parking without some linkage to building development. A model for this concept is the Bayside Bowl project. See Attachment 2 for site plan.

The provision focus on smaller gravel areas (15,000 SF or less) so that larger lots which presumably have a greater ability to address parking setbacks will continue to meet the normal setback requirements.

This option more directly addresses the regulation of vacant lots which is at the heart of the issue. As discussed above these are typically smaller lots that were part of the rail road corridor and sold to abutters and others in the 1980s and 1990s. This alternative links flexibility in parking regulations with some level of building development activity.

Proposed Text Amendment: Add the following section under Sec. 14-295 (a) (26) as a permitted use.

(26) Notwithstanding Sec. 14-295 (a) (24) and (25) above, surface parking that does not meet the 35-foot parking setback, provided that:

a. All or a portion of the 35 foot setback area had a gravel surface on September 29, 2015.

   Note: Gravel areas in the B-7 are listed in section II of this memo.

b. The total gravel surface area on the lot and any contiguous lots did not exceed 15,000 square feet on September 29, 2015.

   Note: The 15,000 SF limit is intended to limit the application of this provision. Larger scale lots should be able to meet the normal setback requirements.

c. The parking spaces provide parking to a principle building on the same lot and or a principle building on a contiguous lot.

   Note: The gravel area must be contiguous with redevelopment activity or on the same lot qualifying for the reduced parking set back. In some cases the gravel area may have a separate deed from where the redevelopment is taking place although it still must be contiguous to it. This provision is not intended to provide off-site parking for another use.

d. One of the buildings described in paragraph c above meets the minimum height requirements of the Bayside Height Overlay Map and/or a building on the site has a floor area of 40,000 SF or greater.

   Note: Links flexibility in parking setbacks in exchange for a minimum scale of building development.

e. The total number of spaces within 35 foot setback in combination with other spaces on the lot does not exceed the minimum parking spaces required in sec. 14-526 (a) (4)(a)(1).

Note: Use of the gravel parking area must not result in parking that is excessive for the site beyond normal minimum parking requirements.

f. The proposed parking spaces meets the landscape and buffer requirements of 14-299 (F).

Note: This standard requires that parking must not occupy a portion of a public sidewalk; driveway entrances must meet the City of Portland Technical Manual Standards; and that landscape and buffer standards must meet City of Portland Technical and Design Manual.

g. Parking spaces within the 35 foot setback shall provide stormwater quality treatment if required by the City of Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Standards. If not required, an alternative low impact development treatment approved by the Planning Board shall be provided.

Note: The Board requested that we draft an amendment requiring stormwater treatment for those parking lots taking advantage of this section. Currently such sites would not qualify for stormwater quality review under City and DEP standards since hard packed gravel sites such as these would be considered impervious and thus grandfathered from water quality requirements.

An example of an acceptable treatment system meeting normal City and DEP standards is the Filterra biorentention system. An overview of this system (excerpt from the DEP's Stormwater Best Management Practice Manual) is provided as Attachment 3. The Board has seen this system used in a number of development site plans in peninsula locations. The primary advantage of this system is that it can be installed in tight sites and visually looks like a street tree with a grate.

Cost is a down side as the smallest Filterra unit runs about $15,000 installed although it can treat about one-third of an acre. A more traditional engineered concrete tank system would be more expensive.

Low intensity development treatment systems such as filter strips and rain gardens are possible but these systems require an adequate amount of land area. It appears unlikely that the leftover green space of the Bayside parcels described in this report will

have enough space to provide a filter strip or rain garden to effectively treat stormwater to the level required by the normal standards of the City and DEP. The Bayside Bowl site plan did provide a filter strip but it would not meet the same level of treatment as a Filterra unit or other approved systems.

Information on low impact development treatment systems from the Low Impact Development Center (www.lid-stormwater.net) is shown as Attachment 4.

In reviewing the amendment the Board should consider a number of factors. The proposed amendment as written would not require the level of stormwater treatment equivalent to that of a Filterra system. More likely the approved system might be similar to that of a stone infiltration trench approved for the Bayside Bowl site plan which provides some treatment but not to the level of a Filterra. Alternative amendment language would be to require stormwater treatment meeting the normal City and DEP standards regardless of whether the site has grandfathered impervious surfaces. This has cost implications as discussed in the second paragraph of this section.

V. PROPOSED ZONING AMENDMENT (COMMERCIAL KITCHENS)

Staff is proposing an amendment to the B-7 zone regarding commercial kitchens. Since the workshop we have also drafted amendments to allow commercial kitchens in the B-2/B-2b as well. It has recently come to our attention that a commercial kitchen developer (Neil Spillane of Forq Food Lab) has proposed a commercial kitchen in a B-2b zone in Bayside (272 Lancaster Street) adjacent to a B-7 zone. The property is highlighted in yellow in the map below.

By way of background commercial kitchens are facilities used for the cooking and preparation of food for retail or wholesale purposes. Typically individuals or small businesses rent the facilities to prepare their product including packaging and other production related activities. Commercial kitchens are often called kitchen incubators because they provide the opportunity for entrepreneurs to initiate and grow their business. These uses have gained a national reputation as a catalyst for job creation. Food plays plays a major role in Portland's economy as exemplified by the White House designation of Greater Portland as one of 12 Manufacturing Communities in the nation. See Attachment 5. See also Attachment 6 for information on kitchen incubators.

A. B-7 Zoning Text

Existing Zoning Text

In the B-7 zone sec. 14-296 (a) (2) (c) identifies "bakeries, coffee roasters, and commercial kitchens having no retail sales within the principle structure" as a conditional use.

We have received feedback that it would be advantageous for commercial kitchens to have retail space or a tasting room to promote businesses that use the commercial

kitchen. Curiously a retail use within a commercial kitchen is specifically excluded under the present text which seems counterproductive to the goals of creating a pedestrian friendly and mixed use district in Bayside.

Proposed B-7 Text Amendment: Add the following section under Sec. 14-295 (a) (27) as a permitted use (commercial):

(27) Bakeries, coffee roasters and commercial kitchens provided such uses include retail sales or a tasting room within the principle building.

Delete the following section under Sec. 14-296 (a)(2)(c), conditional uses:

~~(c) Bakeries, coffee roasters and commercial kitchens having no retail sales within principal structure.~~

B-7 Land Use Policy and Comprehensive Plan Considerations

The existing conditional use provisions evidently were borrowed from the text of a previous industrial zone in which retail uses were not allowed. This is understandable given the goals of an industrial zone that is charged with growing the City's industrial base. The B-7 on the other hand is a mixed use zone in which housing, retail, offices and some commercial related industrial uses (smaller scale) are allowed. Given the context of the Bayside Plan, a retail use or tasting room within a commercial kitchen seems totally appropriate since street side pedestrian activity is a planning principle of that document.

A New Vision For Bayside and the B-7 purpose section emphasizes a district featuring a "mix of uses", "a quality pedestrian environment", an "urban vitality" along with other urban qualities. The proposed text amendment for a bakery, coffee roaster and commercial kitchen with the inclusion for retail sales or a tasting room reinforces these qualities and is similar to other uses allowed in the B-7 zone such as restaurants and retail uses. The proposed text amendment supports the intent of Bayside land use policies as an urban district.

B. B-2/B-2b Zoning Text

Existing B-2/B-2b Zoning Text

The B-2/B-2b zone does not list commercial kitchens as a permitted or conditional use but features similar uses such as bakeries and restaurants. Sec. 14-182(16) lists "bakeries existing in existence since November 15, 1997" as a permitted use. The following paragraph (17) states that bakeries established after November 15, 1997 are required to have retail sales within principle structures. Bakeries in the B-2b are further limited to a floor area of no greater than 7,000 SF. Evidently there was a concern that bakeries should have a retail presence contributing to the pedestrian and retail vitality of the zoning district rather than a self-contained "industrial bakery". The limitation on floor area speaks to a preference for a retail scale bakery in contrast to a larger industrial bakery such as the former J.J. Nissen facility.

Proposed B-2/B-2b Text Amendment: Add the following section under Sec. 14-182 (b) (20), as a permitted use.

(20) Commercial kitchens provided the commercial kitchen includes retail sales or a tasting room within the principal structure. Commercial kitchens in the B-2b shall be no greater than 7,000 square feet in size.

B-2/B-2b Land Use Policy and Comprehensive Plan Considerations
A commercial kitchen (with a requirement of retail sales or tasting room) is similar to other permitted uses in the B-2/B-2b such as bakeries and restaurants. The provision for retail sales or tasting room supports the "people activity" inherent in a B-2/B-2b retail district. A commercial kitchen as described in this report is a relatively new use which is not reflected in the existing text.

The B-2b purpose section states it is intended to "provide neighborhood and community retail and service establishments" while the B-2 is intended to "provide a broad range of goods and services and general businesses with a mixture of large and small buildings such a grocery stores, shops and services located in major shopping centers and along arterial streets". Commercial kitchens appear to be consistent with and supportive of these purpose statements.

The B-2b provides a 7,000 square foot floor area limitation on commercial kitchens which is consistent with the existing treatment of bakeries. This provision guards against larger facilities that would more appropriately be located in off-peninsula areas or in industrial zones.

VI. MOTIONS FOR THE BOARD TO CONSIDER

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on September 29, 2015 and on the basis of the testimony presented at the public hearing, the Planning Board finds that the proposed B-7 zoning text amendments for gravel surface parking **[is or is not]** consistent with Portland's Comprehensive Plan and therefore **[recommends or does not recommend]** adoption of the amendments to the City Council.

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on September 29, 2015 and on the basis of the testimony presented at the public hearing, the Planning Board finds that the B-7 text amendment for commercial kitchens **[is or is not]** consistent with Portland's Comprehensive Plan and therefore **[recommends or does not recommend]** adoption of the amendments to the City Council.

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for the public hearing on September 29, 2015 and on the basis of the testimony presented at the public hearing, the Planning Board finds that the B-2/B-2b text amendment for commercial kitchens **[is or is not]** consistent with Portland's Comprehensive Plan and therefore **[recommends or does not recommend]** adoption of the amendments to the City Council.

ATTACHMENTS

1. Proposed Text Amendments
2. Bayside Bowl Site plan
3. Maine Stormwater Management Practices Manual (excerpt)
4. Limited Intensity Development Stormwater Treatment Systems (excerpt)
5. Greater Portland Sustainable Food Production Cluster Info
6. U.S. Kitchen Incubators: An Industry Snapshot, dated August 5, 2013 (excerpt)

Proposed B-7 Text Amendment: Add the following under Sec. 14-295 (a) (26) as a permitted use.

(26) Notwithstanding Sec. 14-295 (a) (24) and (25) above, surface parking that does not meet the 35-foot parking setback, provided that:

a. All or a portion of the 35 foot setback area had a gravel surface on September 29, 2015.

b. The total gravel surface area on the lot and any contiguous lots did not exceed 15,000 square feet on September 29, 2015.

c. The parking spaces provide parking to a principle building on the same lot and or a principle building on a contiguous lot.

d. One of the buildings described in paragraph c above meets the minimum height requirements of the Bayside Height Overlay Map and/or a building on the site has a floor area of 40,000 SF or greater.

e. The total number of spaces within 35 foot setback in combination with other spaces on the lot does not exceed the minimum parking spaces required in sec. 14-526 (a) (4)(a)(1).

f. The proposed parking spaces meets the landscape and buffer requirements of 14-299 (F).

g Parking spaces within the 35 foot setback shall provide stormwater quality treatment if required by the City of Portland Stormwater Management Standards and the Maine DEP Chapter 500 Stormwater Management Standards. If not required, an alternative low impact development treatment approved by the Planning Board shall be provided.

Proposed B-7 Text Amendment: Add the following under Sec. 14-295 (a) (27), as a permitted use (commercial).

(27) Bakeries, coffee roasters and commercial kitchens provided such uses include retail sales or a tasting room within the principle building.

Delete the following section under Sec. 14-296 (a)(2)(c) as a conditional use.

~~(c) Bakeries, coffee roasters and commercial kitchens having no retail sales within principal structure.~~

Proposed B-2/B-2b Text Amendment: Add the following section under Sec. 14-182 (b) (20), as a permitted use.

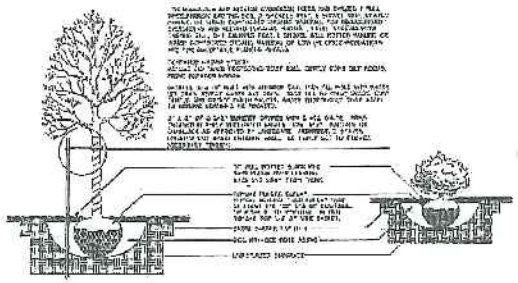
(20) Commercial kitchens provided the commercial kitchen includes retail sales or a tasting room within the principal structure. Commercial kitchens in the B-2b shall be no greater than 7,000 square feet in size.

GENERAL PLANTING NOTES

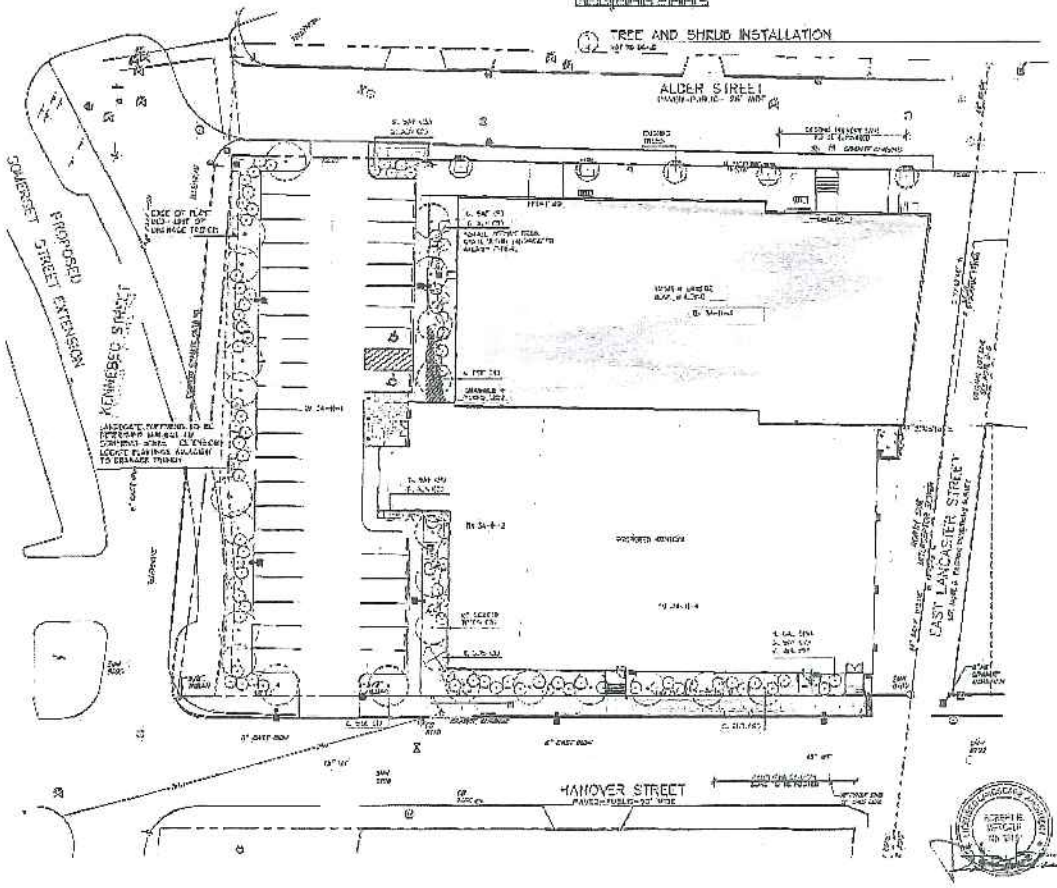
1. CALL DIG-RITE (1-800-344-7233) PRIOR TO BEGINNING WORK. THE LANDSCAPE CONTRACTOR IS AWARE OF THE PRESENCE OF UNDERGROUND UTILITIES AND SHALL VERIFY THE EXISTING AND LOCATION OF SAFE BEFORE COMMENCING AND DURING OPERATIONS. THE LANDSCAPE CONTRACTOR SHALL REPLACE OR REPAIR UTILITIES DAMAGED BELOW GROUND, DUE DAMAGE IN PERFORMANCE OF THIS WORK AT NO ADDITIONAL COST TO OWNER.
2. CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS PRIOR TO CONSTRUCTION BIDDING.
3. DO NOT SCALE FROM DRAWINGS. ANY DIMENSIONS OR DIMENSIONING SHALL BE REFERRED HORIZONTALLY TO THE LANDSCAPE ARCHITECT. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, NOTES AND SPECS SHALL BE IMMEDIATELY REPORTED TO THE LANDSCAPE ARCHITECT FOR FURTHER DIRECTION AND RESOLUTION BEFORE ANY ADDITIONAL WORK PROCEEDS.
4. PROVIDE SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING CONDITIONS.
5. CONTRACTOR SHALL FURNISH AND PLACE 3" DEPTH OF LOAM IN ALL SHRUB BEDS, 20 INCHES IN ALL TREE PITS, AND 6 INCHES UNDER ALL TURF AREAS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE SUBSOIL PREPARATION WITH THE GENERAL CONTRACTOR PRIOR TO PLACING LOAM.
6. ALL PLANT MATERIAL INSTALLED SHALL MEET THE SPECIFICATIONS OF "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE "AMERICAN ASSOCIATION OF NURSERYMEN" LATEST EDITION.
7. ALL PLANT MATERIAL SHALL BE FREE FROM INSECTS AND DISEASE.
8. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH ACCEPTABLE HORTICULTURAL PRACTICES AND AS TO INSURE PROPER PLANTING OF PLANT BED AND TREE PIT PREPARATION, PLANTING, STAKING OR GUYING, WATERING, CREATING PROTECTIVE PLANTING AND ADEQUATE MAINTENANCE UNTIL ACCEPTANCE FROM THE OWNER.
9. ALL GRASS AND OTHER VEGETATION AND DEBRIS SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO PLANTING.
10. EXISTING TREES TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
11. ALL SHRUB BEDS AND TREE PITS SHALL BE MULCHED WITH 3" CLEAN UNDYED BLACK MULCH AND NOT EXCEED 3" DEPTH.
12. ANY DEVIATION FROM THE LANDSCAPE PLAN, INCLUDING PLANT LOCATION, SELECTION, SIZE, QUANTITY OR QUALITY SHALL BE REVIEWED AND APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT AND MUNICIPAL AUTHORITY, IF REQUIRED PRIOR TO INSTALLATION ON SITE.
13. WHERE INDICATED ON PLAN, PLANTING BED BELOW FOR GROUND COVER AND PERENNIAL BED AREAS IN ALL COMBINATION FOUR PARTS PEAT MOSS, TWO PARTS SPHAGNUM PEAT MOSS, AND ONE PART HORTICULTURAL GRADE BY VOLUME. PEAT MOSS MAY BE SUBSTITUTED WITH WELL-ROTTED OR FERTILIZER MANURE OR COMPOST. MATERIAL SHOULD BE TILLED TO A DEPTH OF 6 INCHES.
14. DAMAGE TO EXISTING SITE IMPROVEMENTS DURING INSTALLATION OF LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.
15. ALL WORK WITHIN THE ROAD RIGHT-OF-WAY AND ALL UTILITIES CONFLICTING TO IMPROVEMENTS WITHIN THE ROAD SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.

PLANT LIST

KEY	QTY	COMMON NAME	SCIENTIFIC NAME	SIZE
TREES				
AL RUB	3	RED MAPLE	ACER RUBRUM	2" CAL.
A. PLA	1	NORWAY MAPLE	ACER PLATANOIDES	2" CAL.
G. SPE	1	LOCUST STRAITA "TRUCK"	GLEDITSIA TRIACANTHOS	2" CAL.
AL. CUD	6	GRANDIS SERVICEBERRY	AMELANCHIER LAMARCKII	6' CLM.
L. CUD	1	TAKIO CORNELIAN "CORNATA"	CORNUS MAS	6' CLM.
			WRIGHT JAPANESE YEW	4-5' HT.
SHRUBS				
BU. AUR	3	BUTTERFLY BUSH "BLUE CHIP"	BUDDLEIA DAVIDII "BLUE CHIP"	#3
C. SAT	3	KOREAN SPICEBUSH "HALE"	LINDERA OBTUSILOBA	#3
HY. CAL	15	HYDRIA SALT	SWEET SALT	#3



TREE AND SHRUB INSTALLATION



LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
SPOT ELEVATION	x	
CONTOUR		
MANHOLE		
HYDRANT		
LIGHT POLE		
WATER VALVE	WV	
GAS		
FENCE		
GUY		
DECIDUOUS TREE		
EVERGREEN TREE		
PIN SCALPED		
MB FOUND		
IRON PIN		
WALL MOUNTED		
LIGHT FIXTURE		
SECURITY CAMERA		
DRAINAGE GRATE		
CITY CONTROL POINT		

Prepared For:
Applicant:
BoPaLLC
58 Alder Street
Portland, Maine
Justin Morrell, Manager

Prepared By:
MITCHELL & ASSOCIATES
Landscape Architects
Life Member ASLA
70 Center Street
Portland, Maine 04101
Tel: (207) 774-4445

BAYSIDE BOWL

58 Alder Street Portland, Maine

Date: MARCH 22, 2013

Issued For: SITE PLAN SUBMISSION

Revisions:
4-23-13 per staff comments

Reproduction or reuse of this drawing without the express written consent of Mitchell & Associates is prohibited.

Title: PLANTING PLAN

Scale: 1"=10'

0 10 20

North

Sheet No. L-1

Attachment 4

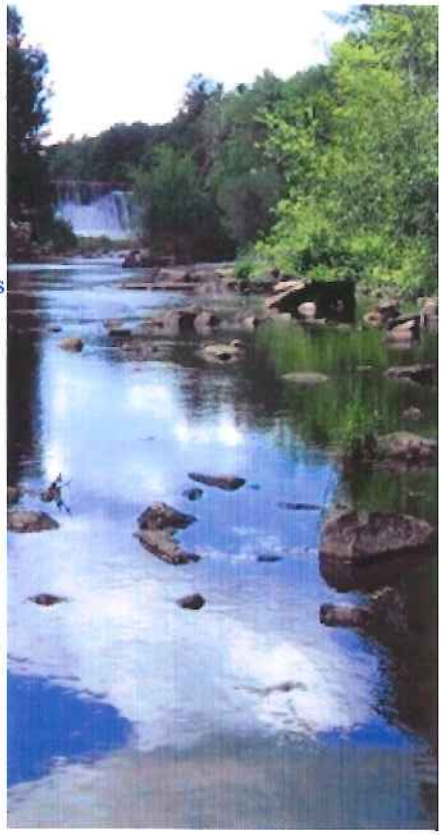
ATT. 3

EXCERPT

Maine Department of Environmental Protection

Home → Land → Programs → Stormwater → Stormwater BMPs

Maine Stormwater Best Management Practices Manual



This page:

Manual
Certification for inspection and maintenance of Stormwater BMPs
Engineering List Serve

Maine Stormwater Best Practices Manual

The files below are in pdf format, unless otherwise indicated, and may take some time to load. To view PDF files, get Adobe Acrobat Reader here.

General contact: Marianne Hubert, (207) 215-6485

Introduction

Volume I. Stormwater Management Manual

- Chapter 1. Introduction
- Chapter 2. DEP Stormwater Management Objectives
- Chapter 3. Low Impact Development
- Chapter 4. Pollution Prevention
- Chapter 5. Stormwater Design Considerations
- Appendix A. Rain Garden Layouts
- Appendix B. Landscape Design Standards for Stormwater Management

Volume II. Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development

- Chapter 1. Introduction
- Chapter 2. The Watershed Budget
- Chapter 3. Meeting the Project's Phosphorus Budget
- Chapter 4. Treatment Factors for Phosphorus BMPs
- Chapter 5. Credits for Mitigation and Compensation Fees
- Chapter 6. Performance Standards for Smaller Projects
- Appendix A. Phosphorus and Lake Water Quality
- Appendix B. DEP's Method for Defining Watershed Per Acre Phosphorus Allocations
- Appendix C. Per Acre Phosphorus Allocations for Selected Maine Lakes
  - Sorted by Lake Name
  - Sorted by Town Name
- Appendix D. Worksheets (excel files)
  - Worksheet 1. PPB Calculations

    - Worksheet 2. Pre-PPE and Post-PPE Calculations
    - Worksheet 3. Mitigation Credit
    - Worksheet 4. Project Phosphorus Export Summary
- Appendix E. Alternative Method for Small Commercial-type Developments Located Within Designated Growth Areas
- Appendix F. See "Lake Stormwater Phosphorus Compensation Fee Program" page.

Volume III. BMP Technical Design Manual

- Chapter 1. Introduction
- Chapter 2. Stormwater Hydrology
- Chapter 3. Peak Flow Control / Detention Basins
- Chapter 4. Wet Ponds
- Chapter 5. Vegetated Buffers revised June 2010. Chapter 5 figures
- Chapter 6. Infiltration BMPs
- Chapter 7.0. Filtration BMP revised June 2009. Chapter 7 figures
- Chapter 7.1. Grassed Underdrained Soil Filter BMP (updated May 2014)
- Chapter 7.2. Underdrained Bioretention Cell BMP (updated May 2014)
- Chapter 7.3. Underdrained Subsurface Sand Filter BMP
- Chapter 7.4. Stormtreat Filter BMP
- Chapter 7.5. Filterra
- Chapter 7.6. Roof Dripline Filtration BMP
- Chapter 7.7. Manmade Pervious Surfaces
- Chapter 7.8. The Stormfilter®
- Chapter 8.0. Conveyance and Distribution Systems
- Chapter 8.1. Vegetated Swales
- Chapter 8.2. Flow Splitters and Bypass
- Chapter 8.3. Level Spreaders
- Chapter 8.4. Permeable Road Base (October 2010)
- Chapter 9. Separator BMPs
- Chapter 10. LID Design Practices and Techniques
- Chapter 11. Designing for Operation & Maintenance
- Appendix A. Hydrologic Data for Maine
- Appendix B. Runoff Estimation & Hydrologic Models
- Appendix C. Proprietary Hydrology and Hydraulics Computer Program
- Appendix D. Templates for Deed Restrictions & Conservation Easements
- Appendix E. Example LID Measures

Certification for Inspection and Maintenance of Stormwater BMPs

Municipalities that are regulated under Maine's Municipal Separate Stormwater Sewer Systems (MS4) program require that the person who conducts post-construction inspections of Stormwater Best Mangement Practices (BMPs) at the facilities in their town be qualified as a Post-Construction Stormwater Inspector. Unless in possession of a degree in engineering or natural resources or with experience with stormwater management in the State of Maine, successfully completing the DEP test on inspecting and maintaining stormwater BMPs is necessary. More information and the test is found in the following file:

- Stormwater BMP inspector test and answer sheet

Section 7.5
Filterra Bioretention Systems

7.5.1 Product Description

The Filterra® bioretention filtration system is a self-contained stormwater treatment system. The technology packages soil media, plants and drainage infrastructure similar to those found in typical bioretention best management practices (BMPs) into a specially designed, pre-fabricated concrete housing (Figure 1). The Filterra® is a flow-through system, intended to provide decentralized, distributed stormwater treatment control within a wide range of urbanized settings. The Filterra® technology is well-suited for incorporation into Low Impact Development (LID) site and stormwater treatment design. The Filterra® technology is capable of providing effective removal of suspended sediments, nutrients, heavy metals, and TPH from treated stormwater flows. For more information, please review a Whitepaper on the Filterra® technology at www.filterra.com.

Figure 1. Filterra® Bioretention Stormwater Treatment System

The Filterra® design is based on the principles of traditional bioretention technologies such as filter strips and rain gardens. Bioretention systems and similar micro-scale controls are intended to enhance the treatment capacity of developed landscapes and reduce reliance on larger downstream controls such as detention basins. They may provide significant treatment over the entire course of a typical runoff event if designed, sited, installed and maintained appropriately. Bioretention technologies operate similarly to under drain filters in terms of particulate settling, filtration, adsorption and absorption of pollutants. Unit treatment processes more specific to bioretention include nutrient uptake, transpiration and other measures associated with the vegetation and root structure.

The Filterra® technology is intended to address common problems and limitations of typical bioretention systems, providing an easily-installed, easily-maintained, standardized bioretention design. In terms of installation, maintenance and functionality, the Filterra® also shares similarities with common sand or sand/organic filtration technologies. The most critical element of the Filterra® design is the specialized soil media, composed to optimize the flow-through rates and treatment capacity of the system. The top of the Filterra® system is typically enclosed, with a tree frame and grate incorporated into the lid to accommodate the specified vegetation and maintenance access. To help improve uniformity and consistency of performance, Americast offers comprehensive, customized sizing and installation guidance to Filterra® customers and an extensive on-site maintenance service.

7. The Filterra® Bioretention System(s) shall be delivered to the site with the engineered filter media and plumbing fully installed. The Filterra® shall be delivered sealed, preventing debris and sediment from entering the system during construction. The boards on top of the lid and boards sealed in the system's throat must **NOT** be removed prior to "activation". The activation of the system includes removal of the internal wooden forms and protective mesh cover, installation of plant(s) and mulch layers as necessary. Activation of the Filterra® unit is performed ONLY by the Supplier (Americast or its authorized dealer). The activation process cannot commence until the project site is fully stabilized and cleaned (full landscaping, grass cover, final paving and street sweeping completed), minimizing the risk of construction materials contaminating the Filterra® system.

8. A list of appropriate plants for use with the Filterra® system is provided on the Filterra® website. Use of native species may reduce the need for additional irrigation of the Filterra® vegetation. Each Filterra® must receive adequate irrigation to ensure survival of the living system during periods of drier weather. This may be achieved through a piped system, gutter flow or through the tree grate. In general, irrigation needs should be the same as that of the surrounding landscaping, i.e. if the landscaping is being watered, the Filterra® should be, as well.

7.5.3 Sizing Guidelines

Appropriate sizing, location and installation of the Filterra® are essential to the performance of the stormwater treatment system. The Filterra® system is specifically designed to treat runoff flows from small watersheds (or "microsheds"). As such, it is intended to be used as a distributed, upstream control, per the design principles of Low Impact Development (LID) stormwater management. The Filterra® Bioretention System shall be sized in accordance with the manufacturer's standard New England sizing guidelines outlined in the following table to treat at least 90% of the annual runoff volume.

Filterra® Model Number	Area in Acres
4x6 or 6x4	0.32
4x8 or 8x4	0.42
6x6	0.47
6x8 or 8x6	0.64
6x10 or 10x6	0.79
6x12 or 12x6	0.95
7x13 or 13x7	1.20

This sizing table can also be found as Table 1. Filterra® Quick Sizing Table, located in the Filterra® Design Assistance Kit (DAKit) on the Filterra® website. The entire contributing drainage area to the Filterra® should be considered and the minimum allowable C factors noted. The maximum contributing drainage area will vary with site conditions.

Information on the pollutant removal efficiency of the Filterra® system is based on more than three-years of lab and field studies performed by the Civil Engineering Department at the University of Virginia, as well as field studies performed under the Washington TAPE protocol. Pollutant removal efficiencies for the Filterra® system are as follows:

Total Suspended Solids: 85%
Total Phosphorus: 60% - 70%
Total Nitrogen: 43%
Dissolved Zinc: 58%
Dissolved Copper: 46%
TPH: >93%

ATT. 4

EXCERPT

About the new Website design

Please view the **Site Map** if you need assistance locating a particular page on the LID Urban Design Tools Website.

This update is merely a design change. No content has been changed or updated.

Trouble with Website?

If you have any trouble accessing pages on this website, please **contact** us by email and we will get back to you as soon as possible.

Please include the URL (i.e. web page link) that you are referring to so that we may better assist you. Thanks.

Tree Box Filters

Specifications

Planning / Design Conside rations[1]

Tree box filters should be designed (sizing, spacing, installation and location) in accordance with manufacturer's specifications. The designer is responsible for selecting and providing the appropriate site design parameters for a particular design to the manufacture to ensure proper application of the device.

Example of a completed tree box filter
(Source: Americast, Inc.)

Soils Investiga tion

When tree box filters is being used to infiltrate treated runoff into the surrounding subsoil refer to the local jurisdiction's requirements for soil studies and infiltration design criteria. It is recommended that there be one soil boring log for each structure. A gravel storage area under the tree box filter can be sized to meet local infiltration volumes and soil infiltration rates.

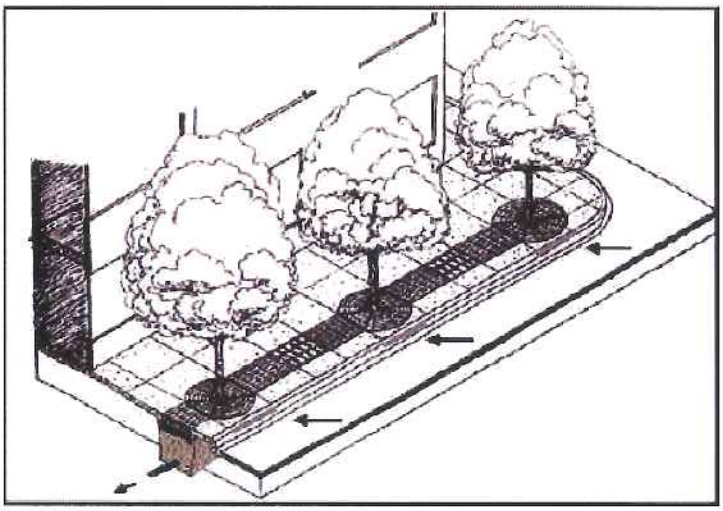
Site Conditions

A tree box filter with its enclosed non-permeable concrete container makes it ideal for situations where infiltration is undesirable or not possible. These situations would include: clay soils, karst topography, high groundwater conditions, close proximity to buildings, steep slopes, contaminated soils, brownfields sites, highly contaminated runoff, maintenance facilities and gas stations. For "hot spots" where chemical spills are likely, the under-drain system can be fitted with a emergency shut-off valve to quickly close the discharge drain pipe isolating the spill in the concrete container for easy clean-up, removal and replacement of the filter system.

Tree box filters are unique since a major decision is to consider how to integrate its plants into your landscape designs. They can be blended into your landscape scheme or it can be the centerpiece of the landscape design. In many cases, tree box filters can help you meet both stormwater and landscape requirements making it both multifunctional and multi-beneficial.

Urban Retrofit Conditions

Tree box filters are highly adaptable and can be used for all developments and in all soil conditions. Since the filter is contained in a concrete box and completely sealed it can be built in and around roadways, sidewalks, buildings and parking lots without fear of developing piping that could cause sinkholes or ground subsidence. It can also be installed on any slope conditions typical of parking lots and roadways. In highly urban areas, tree box filters can be used in the design of an entire streetscape converting the typical non-functional streetscape into large stormwater or combined sewer flow filter device.



Manufactured Tree Box Filters For Stormwater Management
(Source: Virginia DCR Stormwater Management Program)

Tree box filters are best incorporated into the overall site or streetscape-landscaping plan. The individual box locations, designs and plants must integrate a combination of drainage infrastructure considerations, grades, unique site conditions, utility locations, water quality requirements, aesthetics and landscaping requirements.

Aesthetic Considerations

Aesthetic considerations for tree box filters must be evaluated early in the site planning process. While topography and hydraulic considerations may dictate the general placement of each structure, overall aesthetics of the site and tree box filter design should be integrated into the site plan and stormwater concept plan from their inception. Both the stormwater engineer and the landscape architect must participate in developing the layout of facilities, design of unique site infrastructure features and types of plants to be used.

Sediment Control

Similar to bioretention facilities, tree box filters should not be installed prior to full site stabilization without adequate protection. Without protection during construction the system will become choked with sediment rendering it inoperable from the outset. Simply providing some type of inlet filtering mechanism during construction will not adequately control the sediment. One large storm may completely clog the tree box

filter soil media, requiring immediate maintenance. Follow the manufacturer's recommendations for sediment control. If tree box filter is installed when there is active construction within the drainage area the opening to the filter should be blocked off completely.

Pretreatment

Pretreatment is generally not necessary, tree box filters are designed to operate without clogging under normal operating and maintenance conditions. The relatively small drainage area to filter size reduces the effective annual load thus making tree box filters very effective and increasing its longevity. Routine annual inspection and maintenance will ensure that the filter will operate indefinitely. Normal conditions mean a stabilized drainage area with typical concentrations of sediment and other urban pollutants. Follow the manufacturer's recommendations for unusual site conditions where high pollutant loads are expected.

Observation Well and Clean-out

The tree box filter is delivered to the site completely assembled or assembled by the manufacture at the site. The system comes with an observation well installed that can be used as a clean out to remove any blockages in the under drain piping.

References

[1] Virginia Dept of Conservation and Recreation Stormwater Management Program http://www.dcr.virginia.gov/soil_&_water/stormwat.shtml

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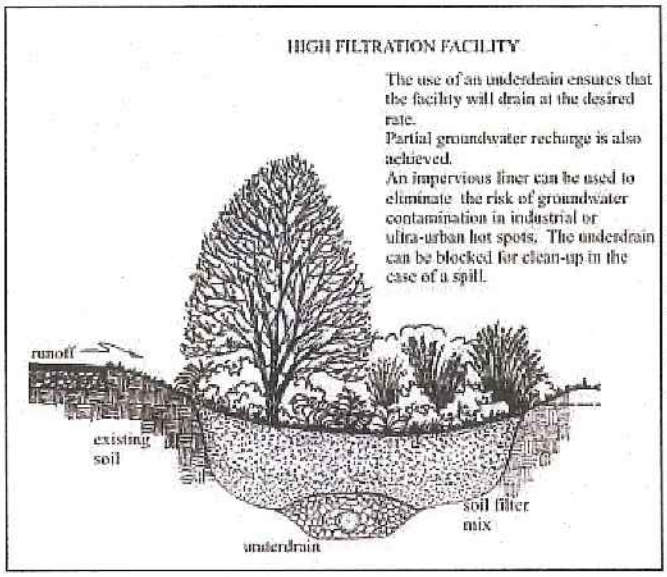
Bioretention

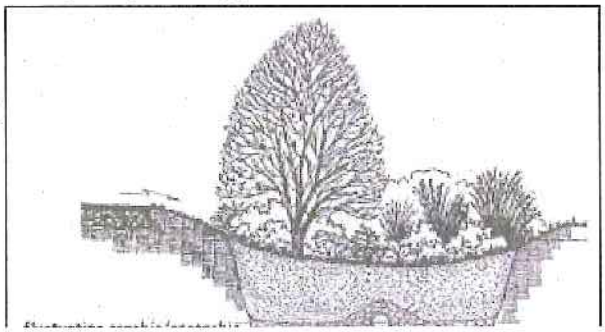
Watershed Benefits

Pollutant Filtering

Bioretention areas function as soil and plant-based filtration devices that remove pollutants through a variety of physical, biological, and chemical treatment processes. The reduction of pollutant loads to receiving waters is necessary for achieving regulatory water quality goals. For example, several states, including Maryland, have agreed to work towards reducing nutrient runoff to the Chesapeake Bay by 40%. A number of laboratory and field experiments have been conducted by the University of Maryland in conjunction with Prince George's County Department of Environmental Resources and the National Science Foundation in order to quantify the effectiveness of bioretention cells in terms of pollutant removal.[1] A web site dedicated to this work can be found at http://www.ence.umd.edu/~apdavis/Bioret.htm.



In general, the studies have found that properly designed and constructed bioretention cells are able to achieve excellent removal of **heavy metals**. Users of this technique can expect typical copper (Cu), zinc (Zn), and lead (Pb) reductions of greater than 90%, with only small variations in results. Removal efficiencies as high as 98% and 99% have been achieved for Pb and Zn. The mulch layer is credited with playing the greatest role in this uptake, with nearly all of the metal removal occurring within the top few inches of the bioretention system. Heavy



metals affiliate strongly with the organic matter in this layer. On the other hand, **phosphorus** removal appears to increase linearly with depth and reach a maximum of approximately 80% by about 2 to 3 feet depth. The likely mechanism for the removal of the phosphorus is its sorption onto aluminum, iron, and clay minerals in the soil. **TKN (nitrogen)** removal also appears to depend on depth but showed more variability in removal efficiencies between studies. An average removal efficiency for cell effluent is around 60%. Generally 70 to 80% reduction in **ammonia** was achieved in the lower levels of sampled bioretention cells. Finally, **nitrate** removal is quite variable, with the bioretention cells demonstrating a production of nitrate in some cases due to nitrification reactions. Currently, the University of Maryland research group is looking at the possibility of incorporating into the bioretention cell design a fluctuating aerobic/anaerobic zone below a raised underdrain pipe in order to facilitate denitrification and thus nitrate removal.[2]

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These studies indicate that in urban areas where heavy metals are the focal pollutants, shallow bioretention facilities with a significant mulch layer may be recommended. In residential areas, however, where the primary pollutants of concern are nitrogen and phosphorus, the depth dependence will require deeper cells that reach approximately 2 to 3 feet.

Other pollutants of concern are also addressed by the bioretention cells. For example, sedimentation can occur in the ponding area as the velocity of the runoff slows and solids fall out of suspension. Field studies at the University of Virginia have indicated 86% removal for **Total Suspended Solids (TSS)**, 97% for **Chemical Oxygen Demand (COD)**, and 67% for **Oil and Grease.** [3] Additional work with laboratory media columns at the University of Maryland has demonstrated potential bioretention cell removal efficiencies greater than 98% for total suspended solids and oil/grease.[4]

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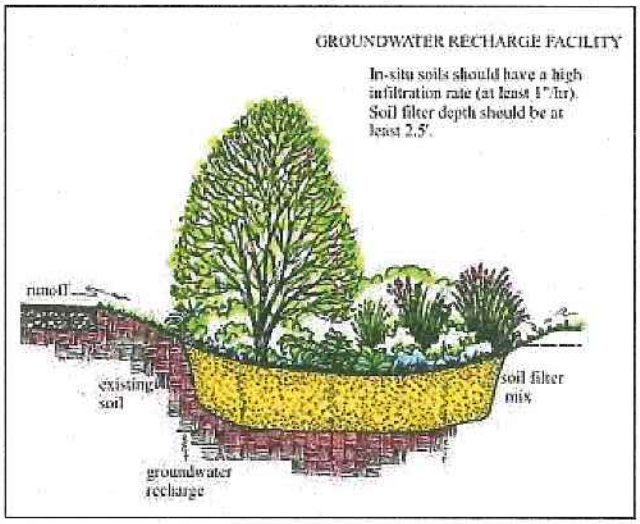
Runoff Volume and Timing

One of the primary objectives of LID site design is to minimize, detain, and retain post development runoff uniformly throughout a site so as to mimic the site's predevelopment hydrologic functions.[5] Originally designed for providing an element of water quality control, bioretention cells can achieve ***quantity* control** as well. By infiltrating and temporarily storing runoff water, bioretention cells reduce a site's overall runoff volume and help to maintain the



predevelopment peak discharge rate and timing. The volume of runoff that needs to be controlled in order to replicate natural watershed conditions

changes with each site based on the development's impact on the site's curve number (CN). The bioretention cell sizing tool can be used to determine what cell characteristics are necessary for effective volume control. Keep in mind that the use of underdrains can make the bioretention cell act more like a filter that discharges treated water to the storm drain system than an infiltration device.[6] Regardless, the ponding capability of the cell will still reduce the immediate volume load on the storm drain system and reduce the peak discharge rate. Where the infiltration rate of *in situ* soils is high enough to preclude the use of underdrains (at least 1"/hr), increased **groundwater recharge** also results from the use of the bioretention cell. If used for this purpose, care should be taken to consider the pollutant load entering the system, as well as the nature of the recharge area. An additional hydrologic benefit of the bioretention cell is the **reduction of thermal pollution.** Heated runoff from impervious surfaces is filtered through the bioretention facility and cooled; one study observed a temperature drop of 12°C between influent and effluent water.[7] This function of the bioretention cell is especially useful in areas such as the Pacific Northwest where cold water fisheries are important.

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Additional Ecosystem Benefits

Bioretention cells are dynamic, living, micro-ecological systems.[8] They demonstrate how the landscape can be used to protect ecosystem integrity. The design of bioretention cells involves, among other things, the hydrologic cycle, nonpoint pollutant treatment, resource conservation, habitat creation, nutrient cycles, soil chemistry, horticulture, landscape architecture, and ecology[8]; the cell thus necessarily demonstrates a multitude of benefits. Beyond its use for stormwater control, the bioretention cell provides attractive landscaping and a natural habitat for birds and butterflies. The increased soil moisture, evapotranspiration, and vegetation coverage creates a more comfortable local climate. Bioretention cells can also be used to reduce problems with on-site erosion and high levels of flow energy.

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[3] Yu, S.L., X. Zhang, A. Earles and M. Sievers, 1999: Field testing of ultra-urban BMPs. Proceedings of the 26th Annual Water Resources Planning and Management Conference ASCE, 6-9 June, Tempe, Arizona.

[4] Hsieh, C. and A.P. Davis, 2002: Engineering bioretention for treatment of urban stormwater runoff. WEF Watershed 2002 Specialty Conference, 23-27 February, Ft. Lauderdale, Florida.

[5] Coffman, L.S., R. Goo and R. Frederick, 1999: Low impact development an innovative alternative approach to stormwater management. Proceedings of the 26th Annual Water Resources Planning and Management Conference ASCE, June 6-9, Tempe, Arizona.

[6] Los Angeles County BMP Design Criteria [PDF]

[7] United States Environmental Protection Agency Office of Water, 2000:

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Permeable Pavers

Watershed Benefits

Typical scenario...

Most of the 'paving over' in developed areas is due to common roads and parking lots, which play a major role in transporting increased stormwater runoff and contaminant loads to receiving waters. Alternative paving materials can be used to locally infiltrate rainwater and reduce the runoff leaving a site. This can help to decrease downstream flooding, the frequency of combined sewer overflow (CSO) events, and the thermal pollution of sensitive waters. Use of these materials can also eliminate problems with standing water, provide for groundwater recharge, control erosion of streambeds and riverbanks, facilitate pollutant removal, and provide for a more aesthetically pleasing site. The effective imperviousness of any given project is reduced while land use is maximized. Alternative pavers can even eliminate the requirement for underground sewer pipes and conventional stormwater retention / detention systems. The drainage of paved areas and traffic surfaces by means of permeable systems is an important building block within an overall Low Impact Development scheme that seeks to achieve a stormwater management system close to natural conditions.

...with permeable pavers*

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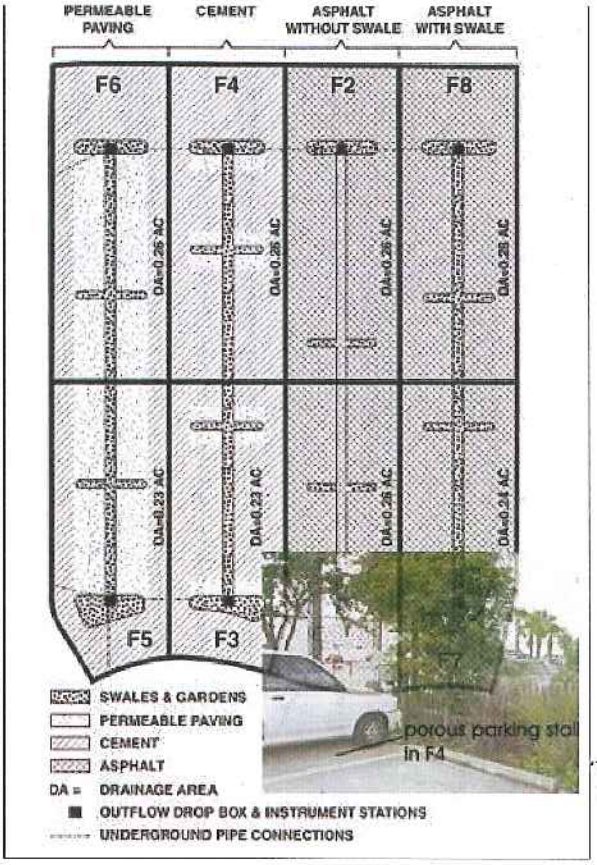
Water Quality

Some current studies on the effectiveness of permeable pavers for reducing Total Suspended Solid (TSS), nutrient, metal and thermal loadings are being conducted in Florida, Toronto, and Washington State.

The parking lot of the Florida Aquarium in Tampa, which serves 700,000 visitors annually, has been innovatively designed as a research and demonstration project for the use of permeable pavers as part of a treatment train approach, comparing three paving surfaces in conjunction with swales.[1] First-year results found that load removal efficiencies for metals (copper, iron, lead, manganese and zinc) ranged from 23

to 59% for asphalt pavement with a swale; 62 to 84% for cement pavement with a swale; and 75 to 92% for porous concrete with a swale. In general, metals were measured at much higher concentrations in the basins paved with asphalt than those paved with cement products. The porous system with a swale also achieved 91% removal efficiency for total suspended solids, higher than the other two paving systems.



Studies at the University of Guelph in Canada have also observed greater pollutant loads from asphalt surfaces than from concrete or permeable pavers. There, a research team led by Professor William James has been performing field and laboratory tests since 1993 on the influence of permeable pavers on runoff pollutant levels and thermal characteristics. They have found that a permeable paver made up of interlocking concrete blocks can significantly reduce the surface runoff loads of such contaminants as nitrite, nitrate, phosphate, phosphorus, metals, BOD, and ammonium.[2] In addition, during a lab simulation, the permeable pavers were found to reduce surface runoff temperatures by 2 to 4 degrees Celsius compared to the runoff from asphalt paving. Since the permeable pavers also increase infiltration, the total heat content of runoff leaving a site is reduced substantially.[3]

Finally, surface and subsurface runoff samples are being collected by the Center for Urban Water Resources Management in Washington State from a test parking area, which contains five different surface materials.[4] Constructed in 1996, the King County employee parking lot contains nine stalls, of which one is traditional asphalt, and the others are four pairs of alternative permeable pavement surfaces: gravel-filled interlocking concrete blocks, soil and grass-filled interlocking concrete blocks, gravel-filled plastic cell networks, and soil and grass-filled plastic cell networks.

The project's primary goal is to determine the long-term water quality benefits of these systems under real world usage. A system of pipes, gutters and gauges collect and enable the measurement of the volume and chemistry of both the surface runoff and the subsurface infiltrate. A comprehensive water quality analysis is being conducted over the winter of 2001/2002. Preliminary results indicate that the subsurface runoff is consistently cleaner than the surface runoff; statistical analyses and reports will be produced in future months (*Derek Booth, Feb. 2002, personal communication).*

For more specialized users, continuing research at Coventry University in England has been looking at applying nutrients to permeable pavers in order to support a microbial population that can serve as an *in-situ* bioreactor for oil degradation in highway and parking lot runoff.[5] Studies have demonstrated the potential to maintain microbial activity for over 12 months from one application of a slow-release fertilizer, with warnings given about ensuring the effective use of the nutrients so that high effluent levels will not cause eutrophication in receiving waters.

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Water Quantity

ATT. 5

Greater Portland Sustainable Food Production Cluster

Portland, Maine--America's Foodiest Small Town

bon appétit

On May 28, 2014, the White House designated the Greater Portland Sustainable Food Production Cluster, led by the Greater Portland Council of Governments (GPCOG), as one of 12 Manufacturing Communities in the nation. The Investing in Manufacturing Communities Partnership (IMCP) is sponsored by the U.S. Economic Development Administration.

Potential Impact
2,500
Jobs
$400
million

White House designates 12 'Manufacturing Communities'

Portland wins federal manufacturing designation for food and agriculture

Goals

- Scale up home enterprises to food manufacturing operations
- Find markets for raw food that is wasted
- Add value to raw food now shipped out of state for processing
- Increase global markets for Maine food
- Replace imported manufacturing inputs with Maine product
- Replace imports by households, restaurants and institutions with local food

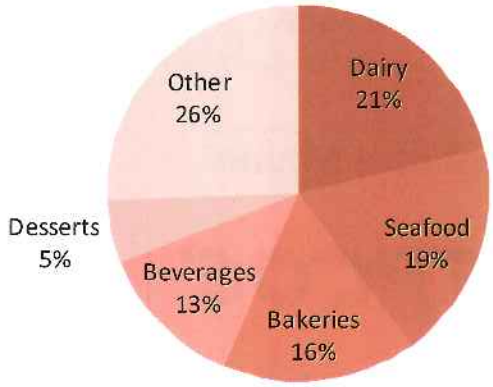
Partners

Axiom Technologies
City of Portland
Coastal Counties Workforce Inc.
Coastal Enterprises Inc.
Greater Portland Council of Governments
Gulf of Maine Research Institute
Jordan's Farm
Maine Community Foundation
Maine Food Strategy
Maine International Trade Center
Maine Office, U.S. Export Assistance Center
Maine Port Authority
Maine Sustainable Agricultural Society
Mobilize Maine
Northern Girl
Southern Maine Community College
University of Southern Maine
Woodard & Curran

Portland seeks manufacturing boost from local foods

1,812
jobs
64
Businesses
$682
Million in sales
31%
Maine's processing sector

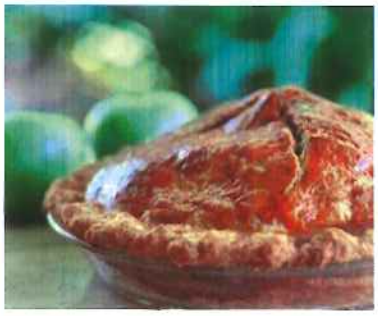
Food Processing Jobs in Cumberland County



ATT. 6

Excerpt

U.S. KITCHEN INCUBATORS: AN INDUSTRY SNAPSHOT



AUGUST 5, 2013

REPORT PRODUCED BY:

Econsult Solutions, Inc.
1435 Walnut Street
Philadelphia, PA 19102

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1.0 INTRODUCTION

Over the past five years a significant number of kitchen incubators have opened around the country, prompting the need for a national survey and industry snapshot. Kitchen incubators are shared-use commercial kitchens that culinary entrepreneurs can rent by the hour or block of time in order to commercially produce food products. The need for a kitchen incubator stems from the fact that in many places it is illegal to run a food business out of a home kitchen. In many jurisdictions food products may only be prepared for wholesale or retail in a commercial kitchen that is licensed by the proper local or state regulatory agencies. Even in areas where certain products may be legally produced from home (per cottage food laws), many products still require a licensed facility, and in addition, most home kitchens cannot accommodate commercial-grade equipment and are not appropriate for running a business enterprise.

Entrepreneurs who need licensed commercial kitchens often rent space from a restaurant after hours, use a church basement kitchen, or seek any other type of kitchens that may be available. Often these facilities are not ideal due to a lack of flexibility of when the space is available, inconsistent access, expense, and a lack of adequate equipment. Kitchen incubators/accelerators and shared-use kitchens seek to fill this gap and provide facilities for these entrepreneurs. This report speaks to the difference between a kitchen incubator/accelerator and a shared-use kitchen which will be discussed in a later section.

Currently there are at least 135 shared-use commercial kitchen facilities across the U.S. and there has been major attention recently around kitchen incubators. An April 11, 2013 article from Initiative for a Competitive Inner City (ICIC) explains, "First it was food trucks, and now it's kitchen incubators. They are popping up in cities left and right. Once a novelty, the kitchen incubator seems to have become commonplace."[1] This interest in kitchen incubators is coupled with a trend of increased investment in the food industry. An April 28, 2013 article in *The New York Times* explained "In the last year, venture capital firms in the valley have funneled about $350 million into food projects, and investment deals in the sector were 37 percent higher than the previous year…"[2]

Expanding interest in kitchen incubators is not surprising considering recent trends in the culinary industry. Across the nation, local, fresh, organic and artisanal products are gaining market share, as consumers buy into the "locavore" movement. Additionally, kitchen incubators may be viewed as a type of "maker space," a term used to describe co-working facilities focusing on a variety of handmade products. Increasingly multi-sector maker spaces are including food-industry facilities or full-scale kitchen incubators in their models.

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[1] Amanda Maher, "Are Kitchen Incubators the Greatest Thing Since Sliced Bread?" ICIC, April 11 2013, http://www.icic.org/connection/blog-entry/kitchen-incubators.

[2] Jenna Wortham and Claire Cain Miller, "Venture Capitalists Are Making Bigger Bets on Food Start-Ups," The New York Times, April 28, 2013, http://www.nytimes.com/2013/04/29/business/venture-capitalists-are-making-bigger-bets-on-food-start-ups.html?ref=business.

While the concept of a shared-use commercial kitchen is not new, the recent batch of incubators demonstrates diversity and creativity of approaches and models. One of the most significant differentiators is that some facilities' primary approach is providing space for rent and little else, whereas others are incubators in the true sense of the word, providing business assistance and classes, access to low-interest lending, and supporting entrepreneurs in obtaining sales venues, distribution, and contract opportunities.

Based on this observed growth in the number of kitchen incubators, Econsult Solutions, Inc. (ESI) decided to initiate a survey of the kitchen incubator landscape in the U.S. The purpose of this research is to inform operators of existing and planned kitchen incubators to better understand national models of kitchen incubators and approaches to culinary micro-enterprise development. In addition this research will inform ESI's own work as it advises clients who are developing their own kitchen incubator projects. ESI hopes that this survey encourages additional research into national models for kitchen incubators, in order to better inform the industry and encourage local economic growth and new resources for micro-entrepreneurs.

TERMINOLOGY

It is important to note that there is a significant difference between a "shared-use kitchen" and an "incubator" or "accelerator." The main differentiator is that a shared-use kitchen provides little to no supportive resources, training, or capacity building for entrepreneurs. An incubator can be further differentiated from an accelerator by the fact that an incubator is focused on new and very early-stage businesses, whereas an accelerator is focused on established businesses looking to move on to a more robust stage of business development.

This study found that frequently, the terms "shared-use kitchen" and "kitchen incubator/accelerator" are used interchangeably. This fact can be problematic because many entrepreneurs require more than a shared-use kitchen in order to effectively legitimize and grow their business. There is certainly a place for shared-use kitchens; however, they do not satisfy the range of capacity-building resources that culinary entrepreneurs often need. One question asked of respondents in this study seeks to identify the types of business supportive services provided, in order to determine whether a facility is a shared-use kitchen or an incubator/accelerator, and if the latter, how robust the capacity building services are.

It should be noted that there are still other types of shared-use kitchen environments: "community kitchens." These types of facilities are not typically focused on any sort of small business development, but rather to support neighborhood stakeholders and institutions. Community kitchens can take a variety of forms, being used to cook meals for donation in low-income geographies, for cooking classes, to provide a space for hobbyists, to accommodate eating clubs, to support community programming (such as health/nutrition or youth programs), or a variety of other uses. While some of the kitchens surveyed may be defined more as shared-use kitchens, we sought to eliminate those that seemed to be primarily community kitchens.

Many facilities run a fine line between being a shared-use kitchen and an incubator or an incubator and an accelerator. ESI determined that it was not truly feasible or productive to

differentiate between these three types of facilities. However, ESI did seek to eliminate community kitchens from the survey. Throughout this report the term "incubator" is used to represent the facilities surveyed here, keeping in mind that some may be better defined as shared-use kitchens with limited business support services, and others as accelerators, focusing on later stage business growth.

DIFFERENT MODELS

Kitchen incubators come in a variety of forms. The most common is a facility with kitchens, prep spaces, and baking equipment, including some type of loading facilities and cold/dry storage. Some are more heavily focused on baking than others. Examples of the variations seen across the country are expressed below:

- Recently, kitchen incubators have served increasingly as **food truck commissaries**, and some, like Food Fort (Columbus, OH) are heavily focused on accommodating food trucks.
- A number of incubators are focused on helping **low-income, minority, and immigrant communities**, such as La Cocina (San Francisco), which focuses on Latina entrepreneurs.
- Some of the larger incubators are **affiliated with universities**, such as ACEnet (Athens, OH) or Rutgers Food Innovation Center (Bridgeton, NJ), and these tend to focus on product innovation.
- Most of the incubators that provide **significant small-business capacity building** resources are not-for-profit; however, a few for-profit incubators place a very strong focus on small business development at a level that meets or exceeds the top not-for-profit incubators. A good example is Union Kitchen (Washington, DC).
- A handful of incubators are focusing on **beer brewing**. As the craft beer movement grows, there will surely be more such facilities. One example is Bake, Boil, and Brew (San Antonio, TX).
- Some incubators, such as Organic Food Incubator (Long Island City, NY), have gotten into **packaging and co-packing** for their member entrepreneurs.
- Some make the connection between culinary **workforce development and entrepreneurship**. Increasingly, programs that provide culinary workforce training are seeing a portion of their clients interested in starting their own food business. One example of a workforce/incubator hybrid is Hot Bread Kitchen (Harlem, NY).
- Several incubators are **connected with farmers markets or public markets**. This relationship seems to produce a very positive synergy. Examples include Watertown Farm Market Kitchen (Watertown, WI), and YorKitchen (York, PA).
- Some incubators include a substantial **classroom training kitchen**, such as the Center for Culinary Enterprises (Philadelphia, PA), whose classroom kitchen functions as a TV studio.

CHALLENGES

Some prominent kitchen incubators went out of business and closed their doors in the early 2000s, creating concern about the sustainability of the business model. However, with the

booming interest in local and artisanal food, the demand for kitchen space has exploded over the past decade, creating the demand that has bred new kitchen incubators across the country. For most of these incubators it is too early to tell if they will be successful, however, it is clear that there is much more interest in local food production and culinary entrepreneurship than there was even a decade ago. This new demand may create the impetus that incubators need to truly succeed.

Yet, there remain major challenges in operating a successful incubator. Chief among them is the fact that incubators rise and fall based on the success of their member entrepreneurs. Many entrepreneurs are ill-equipped to run a small business and need substantially more than a shared kitchen. For this reason, it seems evident that if incubators are to succeed, they will need to adopt a holistic and comprehensive approach to small business development—especially when serving as a matchmaker between entrepreneurs and sales venues, such as procurement contracts.

Other potential issues relate to the design and flow of the facility, how reservations are made and payments transacted, and the ability to attract enough high-quality entrepreneurs. A whole other set of issues revolve around the nature of food sanitation regulations within different jurisdictions, and how those regulations are enforced by local regulatory authorities. These regulations vary widely and allow some incubators to function effectively while presenting a daunting stumbling block to others.

IMPACTS/OUTCOMES

Throughout this report it is continually stressed that little data exist on the performance and impact of incubators, in part because most do not collect any. In addition, the large majority of facilities are very new. However, it is still important to analyze the state of the industry through a framework of what these facilities seek to achieve. There are several ways to look at the impacts and outcomes of kitchen incubators. The most obvious is to look at how many businesses that were created from these facilities are still in business one year or two years later. Another typical metric is growth of member entrepreneurs' business through traditional indicators such as sales volume and gross revenue. For incubators that do collect data, the most popular seems to be jobs created. This metric can be expanded by looking at the nature and pay scale of those jobs. The data show that incubators tend to have a significant percentage of their clients being women, an ethnic/racial minority, and/or coming from low-income backgrounds. Even if a facility does not intentionally seek to have an impact on economic inclusion, they often de facto do, and so this metric can also be used to evaluate the impact of an incubator.

PLANNING BOARD REPORT
PORTLAND, MAINE

3-unit Condominium Development
68-72 Munjoy Street
Level III Site Plan and Subdivision Review
2015-121
Peninsula Property Development

Submitted to: Portland Planning Board Date: September 24, 2015 Public Hearing Date: September 29, 2015	Prepared by: Nell Donaldson, Planner CBLs: 016-B-009 Project #: 2015-121

I. INTRODUCTION

Robert LeBlanc of Peninsula Property Development appears before the planning board for a site plan and subdivision review for a three-unit condominium development on a double lot at 68-72 Munjoy Street on Munjoy Hill. The plans show the new condominiums directly adjacent to the applicant's existing two-unit residential building on the site. Parking will be located under the new building. The plans include landscaping, stormwater treatment for proposed changes in impervious surface, and some minor sidewalk reconstruction.

This development is being referred to the planning board for compliance with the site plan and subdivision standards. A total of 219 notices were sent to property owners within 500 feet of the site and a legal ad ran on September 21 and 22, 2015.

Applicant: Robert LeBlanc, Peninsula Property Development
Consultants: William Dawson, Tighe &Bond; Titcomb Associates, Surveyor;

II. REQUIRED REVIEWS

Waiver Requests	***Applicable Standards***
Aisle width – To allow an 18.5' aisle in the parking area *Supported by consulting traffic engineer*	Technical Manual, *Section 1.14*, requiring that aisle width for right-angle parking be 24 feet per Figure I-27
Street trees - 3units = 3 trees required. Two existing trees on site. Contribution for 1tree outstanding.	Site Plan Standard, *Section 14-526(b)2.b(iii)* and Technical Manual, *Section 4.6.1*. All multi-family development shall provide one street tree per unit. Waiver permitted where site constraints prevent it, with applicant contributing proportionate amount to Tree Fund.
Review	***Applicable Standards***
Site Plan	*Section 14-526*
Subdivision	*Section 14-497*

III. PROJECT DATA

Existing Zoning	R-6
Existing Use	Residential (2 units)
Proposed Use	Residential (3 additional units, for a total of 5)
Parcel Size	5,762 SF

	Existing	*Proposed*	*Net Change*
Building Footprint	1,334 SF	3,178 SF	1,822 SF
Building Floor Area	2,712 SF	8,178 SF	5,466 SF
Impervious Surface Area	1,886 SF	4,408 SF	2,522 SF
Parking Spaces	2	5	3
Bicycle Parking Spaces	0	2 (interior)	2
Estimated Cost of Project	$215,000		

Figures 1 and 2: 68-72 Munjoy Street site from above (left) and from Munjoy Street (right)

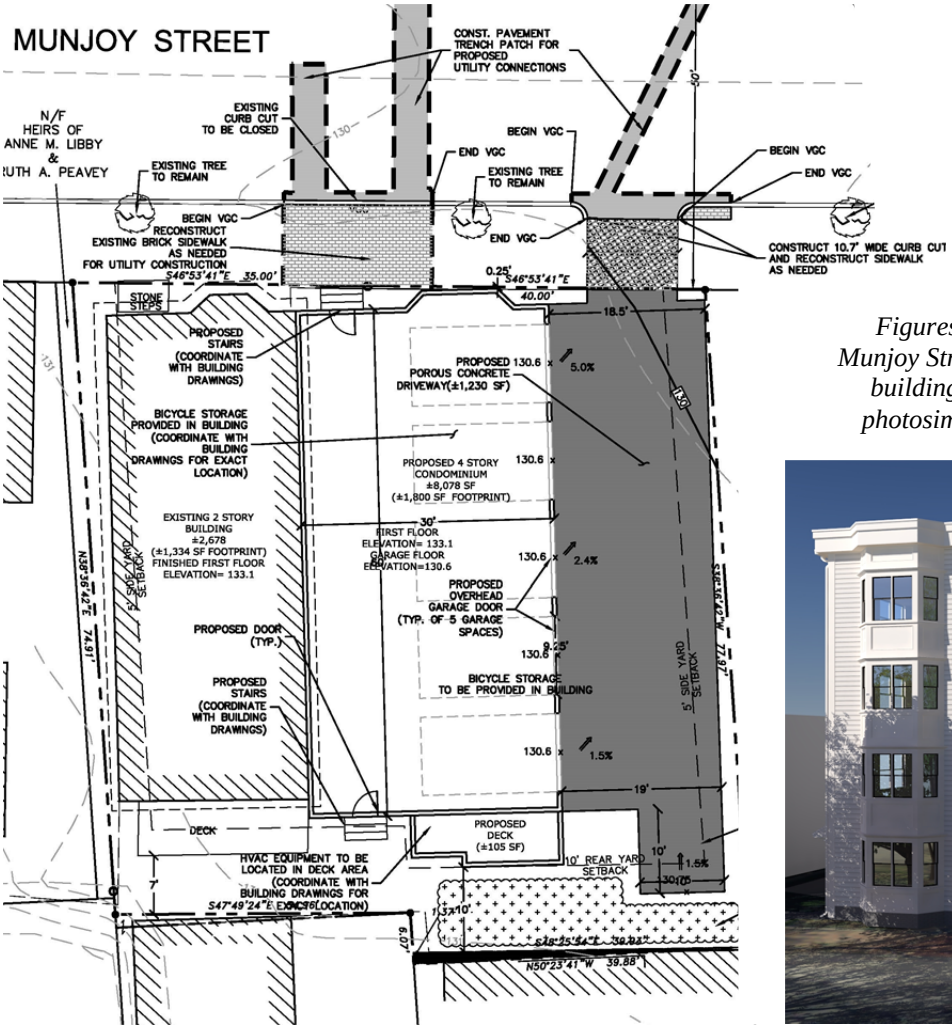
IV. EXISTING CONDITIONS

68-72 Munjoy Street is located on the west side of Munjoy Street on Munjoy Hill and technically consists of two separate lots under common ownership *(Figure 1)*. The northerly of the two lots, #72, houses a recently-renovated late 1880s residential building *(Figure 2)*. The southerly lot, #68, is vacant save for a driveway and some landscaping. The original curb cut for the southerly lot remains.

Residential uses surround the site on all sides; the former Adams School site lies directly across the street. The adjacent residential buildings are generally two- to three-stories in height with flat roofs and minimal setbacks. Buildings are typically older in character with clapboard siding. The surrounding neighborhood is zoned R-6.

V. PROPOSED DEVELOPMENT

The applicant's plans show a three-unit residential building in what will read like a four-story addition to the existing duplex on the site. All three of the two-bedroom units will share access via a common door on Munjoy Street. Vehicular circulation will be located on the southerly side of the site, and parking for all units (including the two existing units on the site) will be located underneath the new residential building. Landscaping is shown at the front and rear of the property.



Figures 3, 4, and 5 (clockwise from left): 72 Munjoy Street site plan; rendering of proposed building from directly across Munjoy Street; photosimulation from south on Munjoy Street

The applicant has provided elevations and renderings which show the building in the context of Munjoy Street. The building has been designed to mirror the form of the existing two-unit building on site, with similar roof, bay, stoop, and window patterns. It should be noted that the building, while zoning compliant, is significantly taller than both adjacent buildings. The applicant has attempted to minimize this disparity by integrating the design to the extent feasible with the site's existing building.

VI. PUBLIC COMMENT

The Planning Division received no public comments on the plans. Because the proposal is for less than five units, no neighborhood meeting is required.

VII. RIGHT, TITLE, & INTEREST

The applicant has provided deeds as evidence of right, title, and interest *(Attachment B).*

VIII. FINANCIAL & TECHNICAL CAPACITY

The applicant has submitted a letter from Gorham Savings Bank attesting to the financial capacity of the applicant *(Attachment C).*

IX. ZONING ANALYSIS

The plans show the building meeting the dimensional standards of the R-6 zone:

	Dimensional Standard	*Proposed*
Minimum lot size (residential)	2,000 SF	5,762 SF
Minimum lot area/dwelling unit	725 SF	1,152 SF
Street frontage	20 feet	75 feet
Minimum front yard setback	5 feet or average depth of adjacent yards	3" (average of two adjacent yards)
Minimum rear yard setback	10 feet	10 feet
Minimum side yard setback	5 feet	18.5 feet
Maximum lot coverage	60%	54%
Minimum lot width	20 feet	~75 feet
Maximum height	45 feet	43 feet 6 inches
Landscaped open space	20%	25%

X. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant has submitted a draft subdivision plat *(Plan 4)*, which, given timing constraints, was not reviewed by Corporation Counsel and the city's surveyor prior to the writing of this report. A final plat meeting the requirements of Section 14-496 has been included as a condition of approval.

The applicant has provided drafts of the condominium documents as well *(Attachment Q)*. The review of these documents has also been included as a condition of approval.

XI. SUBDIVISION REVIEW (14-497(a). Review Criteria)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's subdivision ordinance. Staff comments are below.

1. Water, Air Pollution

The portion of the site to be developed is currently occupied by a lawn and surface parking. Just over 2,500 SF of additional impervious surface is proposed as part of the project. A significant amount of this new impervious surface would be comprised of roof. Per the plans, the applicant proposes to treat stormwater runoff with a porous concrete driveway with a reservoir course for storage and infiltration. David Senus, the city's consulting civil engineer, has reviewed this system and indicated his approval *(Attachment 1)*. No detrimental water or air quality impacts are anticipated.

2 & 3. Adequacy of Water Supply
The applicant has provided evidence of capacity from the Portland Water District *(Attachment L)*.

4. Soil Erosion
No unreasonable soil erosion or reduction in the capacity of the land to hold water is anticipated.

5. Impacts on Existing or Proposed Highways and Public Roads
The applicant proposes to develop three two-bedroom units. Tom Errico, the city's consulting traffic engineer, has reviewed the plans and anticipates no appreciable impacts to the existing street network *(Attachment 2)*.

6. Sanitary Sewer/Stormwater Disposal
A sewer connection is proposed to an existing sewer line in Munjoy Street. The applicant has provided a wastewater capacity letter from David Margolis-Pineo of the Department of Public Services attesting to the city's capacity to transport and treat the anticipated wastewater flows from the project via this sewer line *(Attachment L)*.

As noted above, the proposed development would result in a small increase in impervious surface on site, which is proposed to be treated through porous concrete with subsurface infiltration. This system has been deemed sufficient by Mr. Senus.

7. Solid Waste
Public curbside trash and recycling is proposed, which is acceptable under the city's ordinance *(Attachment K)*.

8. Scenic Beauty
This proposal is not deemed to have an adverse impact on the scenic beauty of the area.

9. Comprehensive Plan
The plans meet multiple goals from the city's housing plan, including "encourag[ing] higher density housing for both rental and home ownership opportunities, particularly located near services, such as schools, businesses, institutions, employers, and public transportation."

10. Financial and Technical Capacity
As noted above, the applicant has submitted a letter from Gorham Savings Bank attesting to the applicant's financial capacity (*Attachment C)*.

11. Wetland/Water Body Impacts
There are no anticipated impacts to wetlands or water bodies.

12. Groundwater Impacts
There are no anticipated impacts to groundwater supplies.

13. Flood-Prone Area
Per the city's existing flood maps, the site is not located in a flood zone.

XII. SITE PLAN REVIEW

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's site plan ordinance. Staff comments are below.

1. Transportation Standards

a. Impact on Surrounding Street Systems
The development entails three two-bedroom units. As noted above, it is not anticipated to have any appreciable impact on the surrounding street network.

b. Access and Circulation

The final plans include the reconstruction of existing brick sidewalk and apron along the frontage of the site. The plans also include a new porous concrete drive aisle which will provide access to five parking spaces within the first floor of the proposed building. The plans show this aisle measuring 18.5' in width and touching the southerly property line at the site's southeast corner. The applicant has provided a turning template which shows that vehicles can maneuver in this area. Mr. Errico writes,

> *I have reviewed the project site plan and vehicle turning template information and generally find the project to be acceptable. Based upon the vehicle template graphics provided, vehicles will be able to access and egress the parking garages - but with great difficulty. I'm supportive of a waiver on the width of the parking aisle, but the site plan shall be revised to install a barrier that prevents vehicles from encroaching on the abutting property. One suggestion would be a wooden guide rail.*

The applicant has engaged the adjacent neighbor in an effort to come to an agreement on the treatment of this property line. Resolution of this matter has been included as a condition of approval.

c. Public Transit Access

The proposed development is not located along a public transit route. As such, no provisions for transit access are required.

d. Parking

Division 20 of the land use ordinance provides an exception for the off-street parking requirement for the first three units in the R-6 zone. Per the ordinance, then, no off-street parking is required in this case. The applicant has, however, elected to provide five off-street spaces; these will accommodate not only the three new units on the site, but the two existing units as well.

Two bicycle spaces per five dwelling units are required under the site plan ordinance. The final plans denote secure bicycle parking inside the building.

e. Transportation Demand Management

A transportation demand management plan is not required.

2. Environmental Quality Standards

a. Preservation of Significant Natural Features

There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation

The landscaping plan includes the installation of shade-tolerant perennials on the front of the building, with eastern white cedar and climbing hydrangea proposed at rear. Jeff Tarling, the city's arborist, has reviewed the landscaping plan and writes,

> *The landscape plan as submitted for the 72 Munjoy Street project should be extensive in regards to including woody plants that provide buffering and year around interest. The herbaceous plant list provided also needs to be quantified in regards to the number of plants, sizes and locations.*
>
> *Noted the plan shows climbing hydrangea, the plant size and what the plants will grow on are unknown.*

Further, Mr. Tarling has requested that notes regarding the preservation of existing street trees be added to the plan. He writes,

> *Existing street trees need to be protected during construction site work, this includes protective fencing, pruning of broken branches or disturbed roots and no storage of equipment or materials near the root zone.*

A modified landscaping plan addressing these comments has been included as a condition of approval. The applicant will also be required to provide a contribution for one street tree into the city's tree fund. Two trees have been provided on site; three are technically required.

c. Water Quality/Storm Water Management/Erosion Control
The applicant has provided plans showing porous concrete pavers with a subsurface reservoir course as a means of stormwater treatment *(Attachment J).* As noted above, Mr. Senus has reviewed the stormwater plans and details and indicated his approval *(Attachment 1).*

3. Public Infrastructure and Community Safety Standards

a. Consistency with Related Master Plans
As noted above, the project is generally deemed consistent with related master plans.

b. Public Safety and Fire Prevention
The applicant has provided a life safety summary for review by the city's Fire Prevention Bureau *(Attachment M).* Keith Gautreau, of the Fire Prevention Bureau, has indicated his general approval *(Attachment 4).*

c. Availability and Capacity of Public Utilities
The plans depict underground electric from a pole across Munjoy Street. However, the plans also show overhead electric to the existing two-unit building on the site. Mr. Margolis-Pineo has requested that all overhead service to the site be placed underground. He writes,

> *The applicant is showing the power/communication cables to the proposed new building being placed underground as required but it unclear if the wires to the existing building will be placed underground. A note should be added to the plans stating the existing overhead wires shall be installed underground.*

Revised plans depicting underground electrical to the site have been included as a condition of approval.

As noted above, the applicant has provided evidence of utility capacity.

4. Site Design Standards

a. Massing, Ventilation, and Wind Impact
There are no anticipated impacts to ventilation or wind patterns.

b. Shadows
There are no anticipated impacts to publicly accessible open spaces.

c. Snow and Ice Loading
Snow storage has been depicted at the westerly end of the drive aisle.

d. View Corridors
There are no view corridors in the vicinity.

e. Historic Resources
There are no historic districts or landmarks within 100 feet.

f. Exterior Lighting
The applicant has provided a lighting plan indicating full cutoff fixtures in accordance with the city's Technical Manual. The plan has been deemed acceptable.

g. Noise and Vibration
All heating, ventilation, and air conditioning equipment has been proposed at the interior of the site.

h. Signage and Wayfinding
No signage or wayfinding is proposed at this time.

i. Zoning-Related Design Standards
The city's site plan ordinance establishes design standards for development in the R-6 zone. The Design Manual further includes design guidelines for the R-6 zone, as well as design standards for multi-family housing. Caitlin Cameron, the city's urban designer, has reviewed the drawings and indicated her general approval *(Attachment 6)*.

XIII. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the planning board approve the proposed 3-unit condominium development at 72 Munjoy Street.

XIV. PROPOSED MOTIONS

A. WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the planning board report for the public hearing on September 29, 2015 for application 2015-121 relevant to Portland's technical and design standards and other regulations; and the testimony presented at the planning board hearing:

1. The planning board **finds/does not find**, based upon the consulting transportation engineer's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the *Technical Manual* standard *(Section 1.14)* which requires that aisle width for right-angle parking be 24 feet per *Figure I-27*, that substantial justice and the public interest are secured with the variation in this standard, and that the variation is consistent with the intent of the ordinance. The planning board **waives/does not waive** the *Technical Manual* standard *(Section 1.14)* to allow a 18.5' foot wide aisle in the parking area; and
2. The planning board **finds/does not find** that the applicant has demonstrated that site constraints prevent the planting of all required street trees in the right-of-way. The planning board **waives/does not waive** the site plan standard (*Section 14-526 (b) (iii)* requiring one street tree per unit for multi-family development and concludes that the applicant shall contribute $200 for one street tree to Portland's tree fund.

B. SUBDIVSION

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the planning board report for the public hearing on September 29, 2015 for application 2015-121 relevant to the subdivision regulations; and the testimony presented at the planning board hearing, the planning board finds that the plan **is/is not** in conformance with the subdivision standards of the land use code, subject to the following conditions of approval, which must be met prior to the signing of the plat:

1. The applicant shall finalize the subdivision plat for review and approval by Corporation Counsel, the Department of Public Services, and the Planning Authority; and

2. The applicant shall finalize condominium documents for review and approval by Corporation Counsel and the Department of Public Services.

C. DEVELOPMENT REVIEW

On the basis of the application, plans, reports and other information submitted by the applicant; findings and recommendations contained in the Planning Board Report for the public hearing on

September 29, 2015 for application 2015-121 relevant to the site plan regulations; and the testimony presented at the planning board hearing, the planning board finds that the plan **is/is not** in conformance with the site plan standards of the land use code, subject to the following conditions of approval that must be met prior to the issuance of a building permit, unless otherwise stated:

1. Prior to the issuance of a certificate of occupancy, the applicant shall submit plans to eliminate the potential for vehicular encroachment on the adjacent property for review and approval by the city's consulting traffic engineer;

2. The applicant shall provide a revised landscaping plan including:
   a. Plant quantities, sizes, and locations;
   b. Details regarding the supporting structure for the proposed climbing hydrangea; and
   c. Notes which state measures to be taken to protect street trees during construction

   for review and approval by the city's arborist;

3. The applicant shall revise the plans to depict underground electrical service for review and approval by the Department of Public Services;

XV. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Civil engineer review (memo from David Senus, 9/9/15)
2. Traffic engineer review (memo from Thomas Errico, 9/2/15)
3. City Arborist review (memo from Jeff Tarling, 9/21/15)
4. Fire Prevention Bureau review (memo from Keith Gautreau, 8/8/15)
5. Department of Public Services review (memo from David Margolis-Pineo, 9/2/15)
6. Design review (memo from Caitlin Cameron, 9/24/15)

APPLICANT'S SUBMITTALS

A. Level III Site Plan Application
B. Evidence of Right, Title, & Interest
C. Evidence of Financial and Technical Capacity
D. Project Description
E. R-6 Zoning Analysis
F. Summary of Existing and Proposed Easements
G. Consistency with Comprehensive Plan
H. Building Description and Material Choices
I. Traffic Analysis
J. Drainage Study/Stormwater Narrative
K. Solid Waste Generation
L. Utility Capacity Letters
M. Fire Department Checklist
N. Lighting Plan & Cut Sheets
O. Heat Pump Specifications
P. Construction Management Plan
Q. Condominium Documents

PLANS

Plan 1. Cover Sheet
Plan 2. Boundary Survey
Plan 3. Existing Conditions and Demolition Plan
Plan 4. Subdivision Plat
Plan 5. Site Plan
Plan 6. Grading, Drainage, Erosion Control, & Utilities Plan
Plan 7. Erosion Control Notes and Details

Plan 8. Details
Plan 9. Front and Rear Elevations
Plan 10. Left Elevation
Plan 11. Right Elevation
Plan 12. Rendering 1
Plan 13. Rendering 2
Plan 14. Rendering 3
Plan 15. Rendering 4
Plan 16. Rendering 5
Plan 17. Rendering 6
Plan 18. Rendering 7
Plan 19. Car Turn Exhibit
Plan 20. Landscape Plan

COMMITMENT & INTEGRITY
DRIVE RESULTS

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Att. 1

MEMORANDUM

TO: Nell Donaldson, Planner
FROM: David Senus, PE
DATE: September 9, 2015
RE: 72 Munjoy Street, Response to Comments for Final Level III Site Plan Application

---

Woodard & Curran has reviewed the response to comments submittal for the Final Level III Site Plan Application for the proposed condominium located at 72 Munjoy Street in Portland, Maine. The project involves the construction of a three unit condominium building to be built adjacent to an existing two unit building.

Documents Reviewed by Woodard & Curran

- Response to Comments Letter prepared by Tighe & Bond dated August 28, 2015.
- Capacity to Serve Letters from PWD & City of Portland DPS, dated September 1, 2015 and August 26, 2015, respectively.
- Engineering Plans, Sheets C-1 through C-5, REV dated August 28, 2015, prepared by Tighe & Bond, on behalf of Peninsula Property Development, LLC.

Comments

1) All review comments contained in the Woodard & Curran memorandum dated August 13, 2015 have been adequately addressed.

Att. 2

From: Tom Errico <thomas.errico@tylin.com>
To: Helen Donaldson <HCD@portlandmaine.gov>
CC: David Margolis-Pineo <DMP@portlandmaine.gov>, Katherine Earley <KAS@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Tarling, Jeff" <JST@portlandmaine.gov>
Date: 9/2/2015 1:09 PM
Subject: 72 Munjoy Street

Nell - I have reviewed the project site plan and vehicle turning template information and generally find the project to be acceptable. Based upon the vehicle template graphics provided, vehicles will be able to access and egress the parking garages - but with great difficulty. I'm supportive of a waiver on the width of the parking aisle, but the site plan shall be revised to install a barrier that prevents vehicles from encroaching on the abutting property. One suggestion would be a wooden guide rail.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
[T.Y. Lin International]T.Y. Lin International
12 Northbrook Drive
Falmouth, ME 04105
207.781.4721 (main)
207.347.4354 (direct)
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Visit us online at www.tylin.com<http://www.tylin.com>
Twitter | Facebook | LinkedIn | YouTube

"One Vision, One Company"

Please consider the environment before printing.

Att. 3

From: Jeff Tarling
To: Helen Donaldson
Date: 9/21/2015 3:06 PM
Subject: 72 Munjoy Street - Landscape

Hi Nel -

The landscape plan as submitted for the 72 Munjoy Street project should be extensive in regards to including woody plants that provide buffering and year around interest. The herbaceous plant list provided also needs to be quantified in regards to the number of plants, sizes and locations. Noted the plan shows climbing hydrangea, the plant size and what the plants will grow on are unknown.

Existing street trees need to be protected during construction site work, this includes protective fencing, pruning of broken branches or disturbed roots and no storage of equipment or materials near the root zone.

Thanks,

Jeff Tarling
City Arborist

MEMORANDUM

To: FILE

From: Nell Donaldson

Subject: Application ID: 2015-121

Date: 8/18/2015

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

The new building shall not affect the egress or required Fire Department access for the neighboring building.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Emergency Access to the building and site will be off of Munjoy Street. There is access to two sides of the structure via the proposed driveway.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

The hydrant is nearby at the corner of Munjoy and Moody less than 100 ft away.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

All construction and installation shall comply with 2009 NFPA 1, 2009 NFPA 101.
All construction and installation shall comply with City Code Chapter 10.
http://www.portlandmaine.gov/citycode/chapter010.pdf

The new construction portion of the building shall be sprinkled in accordance with NFPA 13R.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.
If the building entry faces a different street, both the street name and number should be large enough to read from the street.
Address numbers must be a minimum of 4 inches high.

Att. 5

From: David Margolis-Pineo
To: David Senus; Helen Donaldson; Jeff Tarling; Keith Gautreau; Thomas Errico
Date: 9/2/2015 8:30 AM
Subject: Re: 72 Munjoy - revised plans

Nell,

The applicant has addressed all of my comment except one which needs clarification. The applicant is showing the power/communication cables to the proposed new building being placed underground as required but it unclear if the wires to the existing building will be placed underground. A note should be added to the plans stating the existing overhead wires shall be installed underground.

Thanks

Planning and Urban Development Department
Planning Division

Subject: R-6 Small Infill & Multi-family Design Review – 72 Munjoy Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Wednesday, September 23, 2015

On Wednesday, September 23, a design review according to the *City of Portland Design Manual* Standards was performed for the proposed new construction of a four-family dwelling at 72 Munjoy Street. The review was performed by Caitlin Cameron, Urban Designer, Nell Donaldson, Planner, and Shukria Wiar, Planner, within the Planning Division of the Planning & Urban Development Department. The project was reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) and also the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual).

Design Review Criteria:
The project was reviewed with the *R-6 Design Principles and Standards*.

The project must also meet the design standards of the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters.*

Findings of the Design Review:
The proposed design **passes** all of the criteria of the *R-6 Design Principles and Standards.*

The proposed design **passes** all of the *Multi-family design standards*– some comments are provided below.

Design Review Comments:

Principle A Overall Context – Met – The mass and height of the proposal is consistent and compatible with the surrounding residential context.

- *A-1 Scale and Form:* The scale of the project is compatible with the existing context. The building form is a variation on a typical triple-decker typology.
- *A-2 Composition of Principal Facades:* The composition of the front facades is a typical two-bay with a bay window.
- *A-3 Relationship to the Street:* The building is set adjacent to the existing building and is appropriately placed near the street with a slight front-yard setback to accommodate the bay and the stoop.

Principle B Massing – Met – Most aspects of the building reflect the principle and the Standards are met by the proposed design.

- *B-1 Massing:* The proposed massing is generally consistent with the neighborhood using a vertical proportion and a projection on the front façade.
- *B-2 Roof Forms:* The proposed roof form is consistent with the surrounding context and the building type.
- *B-3 Main Roofs and Subsidiary Roofs:* There is a clear main roof form.
- *B-4 Roof Pitch:* Not applicable
- *B-5 Façade Articulation:* The project employs a covered entry and bay windows.
- *B-6 Garages:* Not applicable, garages face side.

Principle C Orientation to the Street – Met – The project appropriately reflects the private/public relationship of residential buildings in this neighborhood.

- *C-1 Entrances:* The main entry is emphasized with the canopy, stoop, and material articulation.
- *C-2 Visual Privacy:* Visual privacy is adequately addressed; all ground floor windows appear to be higher than 48" above adjoining sidewalk grade.
- *C-3 Transition Spaces:* A front porch/stoop is provided.

Principle D Proportion and Scale – Met – The proportions and scale of the building overall is harmonious and human-scaled.

- *D-1 Windows:* The majority of windows are rectangular and have vertical proportions.
- *D-2 Fenestration:* The percent of fenestration on the front façades appear to meet the minimum 12% requirement.
- *D-3 Porches:* Not applicable.

Principle E Balance – Met – The building façade composition creates a sense of balance with good use of overall and local symmetry and articulation of façade materials.

- *E-1 Window and Door Height:* The majority of window and door head heights align along a common horizontal datum.
- *E-2 Window and Door Alignment:* The majority of windows shall stack so that centerlines of windows are in vertical alignment.
- *E-3 Symmetricality:* Primary window compositions are arranged symmetrically around discernable vertical axes.

Principle F Articulation – Met – The project is adequately articulated.

- *F-1 Articulation:* Project employs a cornice, materials with texture and scale, and vertical trim boards.
- *F-2 Window Types:* The window types are consistent.
- *F-3 Visual Cohesion:* The visual cohesion of the façade is good; materials are appropriately placed.
- *F-4 Delineation between Floors:* Floors are delineated with window alignment.
- *F-5 Porches, etc.:* No visible balconies or porches from the street.
- *F-6 Main Entries:* The main entry is emphasized with a canopy with placement at the street.
- *F-7 Articulation Elements:* Project includes an offset with a bay, eaves of at least 6 inches, and exterior trim.

Principle G Materials – Met – The dominant neighborhood material is clapboard.

- *G-1 Materials:* The use of clapboards is in keeping with the residential context.
- *G-2 Material and Façade Design:* The materials are appropriately placed according to their nature.
- *G-3 Chimneys:* Not applicable
- *G-4 Window Types:* Window types are consistent.
- *G-5 Patios and Plazas:* Proposed porch/balconies use concrete and metal.

(i) Two-family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters:

Standard 1 – Met – The street-facing façade provides a basic level of visual interest. The form, scale, roof line, and building orientation are consistent with the surrounding residential context. The building height is one to two stories above neighboring buildings but the height is not overwhelming. The principal entrance is elevated consistent with the predominant residential pattern.

Standard 2 – Met – The building has a relationship to the street consistent with the surrounding building context.

Standard 3 – Met – The project provides balcony space for each dwelling unit.

Standard 4 – Met – The project has a high level of fenestration and the provision of balconies also contributes to residents' access to light and air. Storage is provided within each unit.

Standard 5 – Met – Garage doors and drive are located on side of building and away from the street.

Standard 6 – Not Applicable

Att. A

Portland, Maine | Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☒ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

Applicant Signature: _____ Date: 7/22/15

I have provided digital copies and sent them on: _____ Date: 7/22/15

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

Updated: June 1, 2015

PROJECT NAME: 72 Munjoy Street

PROPOSED DEVELOPMENT ADDRESS:

72 Munjoy Street, Portland, ME 04101

PROJECT DESCRIPTION:

A Three unit condominium building to be built adjacent to our existing 2 unit building.

CHART/BLOCK/LOT: 016B009001

PRELIMINARY PLAN _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Robert LeBlanc Business Name, if applicable: Peninsula Property Development Address: 71 west street City/State : Portland, ME Zip Code: 04102	**Applicant Contact Information** Work # 207-879-2222 Home# 207-776-0913 Cell # Fax# e-mail: robertleblanc1@me.com
Owner – (if different from Applicant) Name: Address: City/State : Zip Code:	**Owner Contact Information** Work # Home# Cell # Fax# e-mail:
Agent/ Representative Name: Address: City/State : Zip Code:	**Agent/Representative Contact information** Work # Cell # e-mail:
Billing Information Name: Peninsula Property Development Address: 71 West street City/State : Portland, ME Zip Code: 04102	**Billing Information** Work # 207-879-2222 Cell # 207-776-0913 Fax# e-mail: robertleblanc1@me.com

Engineer Name: Professional Engineering Design Address: 52 Stanley Lane City/State : Norway, ME Zip Code: 04268	**Engineer Contact Information** Work # 207-743-6585 Cell # Fax# e-mail:
Surveyor Name: Titcomb Associates Rex Crateau Address: 13 Gray Road City/State : Falmouth, ME Zip Code: 04105	**Surveyor Contact Information** Work # 207-797-9199 Cell # Fax# e-mail: rcrateau@titcombsurvey.com
Architect ~~J Call Design~~ Name: William J. Dawson, PE Address: Tighe & Bond, 177 Corporate Drive City/State : Portsmouth, NH Zip Code: 03801	**Architect Contact Information** Work # (603) 433-8188 Cell # (207) 274-9003 Fax# (603) 433-8988 e-mail: wjdawson@tighebond.com
Attorney Name: Jeff Herbert Address: 65 West Commercial St. City/State : Portland, ME Zip Code: 04101	**Attorney Contact Information** Work # 207-879-1337 Cell # 207-956-3204 Fax# e-mail: jherbert@optlaw.net

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews)

X Less than 50,000 sq. ft. ($500.00)
___ 50,000 - 100,000 sq. ft. ($1,000)
___ 100,000 – 200,000 sq. ft. ($2,000)
___ 200,000 – 300,000 sq. ft. ($3,000)
___ over $300,00 sq. ft. ($5,000)
___ Parking lots over 11 spaces ($1,000)
___ After-the-fact Review ($1,000.00 plus applicable application fee)

Plan Amendments (check applicable reviews)

___ Planning Staff Review ($250)
___ Planning Board Review ($500)

The City invoices separately for the following:

- Notices ($.75 each)
- Legal Ad (% of total Ad)
- Planning Review ($40.00 hour)
- Legal Review ($75.00 hour)

Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.

Other Reviews (check applicable reviews)

___ Traffic Movement ($1,000)
___ Stormwater Quality ($250)
X Subdivisions ($500 + $25/lot)
# of Lots 3 x $25/lot = _____
___ Site Location ($3,000, except for residential projects which shall be $200/lot)
# of Lots ___ x $200/lot = _____
___ Other _____
___ Change of Use
___ Flood Plain
___ Shoreland
___ Design Review
___ Housing Replacement
___ Historic Preservation

RL

Updated: June 1, 2015

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. **In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.**

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. **One (1) full size site plans** that must be **folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
   a. Application form that is completed and signed.
   b. Cover letter stating the nature of the project.
   c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	Date:
	8/22/15

PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site	5,762 sq. ft.
Proposed Total Disturbed Area of the Site	3,500 sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.	
Impervious Surface Area	
Impervious Area (Total Existing)	1,886 sq. ft.
Impervious Area (Total Proposed)	3,178 sq. ft.
Building Ground Floor Area and Total Floor Area	
Building Footprint (Total Existing)	1,356 sq. ft.
Building Footprint (Total Proposed)	3,178 sq. ft.
Building Floor Area (Total Existing)	2,712 sq. ft.
Building Floor Area (Total Proposed)	8,178 sq. ft.
Zoning	
Existing	R-6
Proposed, if applicable	NA
Land Use	
Existing	Multifamily Residential
Proposed	Multifamily Residential
Residential, If applicable	
# of Residential Units (Total Existing)	2
# of Residential Units (Total Proposed)	5
# of Lots (Total Proposed)	1
# of Affordable Housing Units (Total Proposed)	0
Proposed Bedroom Mix	
# of Efficiency Units (Total Proposed)	0
# of One-Bedroom Units (Total Proposed)	0
# of Two-Bedroom Units (Total Proposed)	5
# of Three-Bedroom Units (Total Proposed)	0
Parking Spaces	
# of Parking Spaces (Total Existing)	2
# of Parking Spaces (Total Proposed)	5
# of Handicapped Spaces (Total Proposed)	0
Bicycle Parking Spaces	
# of Bicycle Spaces (Total Existing)	0
# of Bicycle Spaces (Total Proposed)	0
Estimated Cost of Project	$ 215,000

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
✓		1	Completed Application form
✓		1	Application fees
✓		1	Written description of project
✓		1	Evidence of right, title and interest
NA		1	Evidence of state and/or federal approvals, if applicable
✓		1	Written assessment of proposed project's compliance with applicable zoning requirements
✓		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
none		1	Written requests for waivers from site plan or technical standards, if applicable.
✓		1	Evidence of financial and technical capacity
✓		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
✓		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
✓		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
✓		Proposed grading and contours;	
✓		Existing structures with distances from property line;	
✓		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
✓		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
✓		Preliminary infrastructure improvements;	
✓		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
NA		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
NA		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
✓		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
✓		Exterior building elevations.	

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
✓		1	* Completed Application form
✓		1	* Application fees
✓		1	* Written description of project
✓		1	* Evidence of right, title and interest
NA		1	* Evidence of state and/or federal permits
✓		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
✓		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
✓		1	* Evidence of financial and technical capacity
✓		1	Construction Management Plan
✓		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
NA		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
✓		1	Stormwater management plan and stormwater calculations
✓		1	Written summary of project's consistency with related city master plans
Applied		1	Evidence of utility capacity to serve
✓		1	Written summary of solid waste generation and proposed management of solid waste
quote attached		1	A code summary referencing NFPA 1 and all Fire Department technical standards
✓		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
Heat pumps		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	**Final Site Plans including the following:**
			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
			Existing and proposed structures on parcels abutting site;
			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
			Location of all snow storage areas and/or a snow removal plan;
			A traffic control plan as detailed in Section 1 of the Technical Manual;
			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
			Location and proposed alteration to any watercourse;
			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
			Proposed buffers and preservation measures for wetlands;
			Existing soil conditions and location of test pits and test borings;
			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
			Grading plan;
			Ground water protection measures;
			Existing and proposed sewer mains and connections;

- Continued on next page -

		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
2.
3. Name address, telephone number of architect

4. Proposed uses of any structures [NFPA and IBC classification]
5.
6. Square footage of all structures [total and per story]

7. Elevation of all structures

8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***

9. Hydrant locations

10. Water main[s] size and location

11. Access to all structures [min. 2 sides]

12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

Att. B

This page contains a detailed description of the Parcel ID you selected.

New Search!

Current Owner Information:

CBL	016 B008001
Land Use Type	TWO FAMILY
Verify legal use with Inspections Division	
Property Location	72 MUNJOY ST
Owner Information	C AND B REALTY LLC 71 WEST ST PORTLAND ME 04102
Book and Page	31834/265
Legal Description	16-B-8 MUNJOY ST 72 2591 SF
Acres	0.0595

Current Assessed Valuation:

TAX ACCT NO.	2474
LAND VALUE	$106,800.00
BUILDING VALUE	$187,500.00
HOMESTEAD EXEMPTION	($10,000.00)
NET TAXABLE - REAL ESTATE	$284,300.00
TAX AMOUNT	$5,686.00

OWNER OF RECORD AS OF APRIL 2014
DANIELS RALPH B &
MARGARET A JTS
72 MUNJOY ST
PORTLAND ME 04101

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.

Building Information:

Building 1

Year Built	1885
Style/Structure Type	OLD STYLE
# Stories	2
# Units	2
Bedrooms	5
Full Baths	2
Total Rooms	12
Attic	NONE
Basement	FULL
Square Feet	2492

View Sketch View Map View Picture

Outbuildings/Yard Improvements:

Building 1

This page contains a detailed description of the Parcel ID you selected.

New Search!

Current Owner Information:

Select Language ▼

CBL	016 B009001
Land Use Type	VACANT LAND
Verify legal use with Inspections Division	
Property Location	68 MUNJOY ST
Owner Information	C AND B REALTY LLC 71 WEST ST PORTLAND ME 04102
Book and Page	31834/263
Legal Description	16-B-9 MUNJOY ST 68-70 3200 SF
Acres	0.0735

Current Assessed Valuation:

TAX ACCT NO.	2476	**OWNER OF RECORD AS OF APRIL 2014**
LAND VALUE	$19,500.00	DANIELS RALPH B JR & MARGARET A JTS
BUILDING VALUE	$0.00	72 MUNJOY ST
NET TAXABLE - REAL ESTATE	$19,500.00	PORTLAND ME 04101
TAX AMOUNT	$390.00	

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.

Building Information:

Building 0

Year Built	
Style/Structure Type	VACANT LAND

Sales Information:

Sale Date	Type	Price	Book/Page
10/8/2014	LAND	$30,960.00	31834/263

New Search!

MAINE REAL ESTATE TAX PAID

QUITCLAIM DEED WITH COVENANT

Maine Statutory Short Form

KNOW ALL BY THESE PRESENTS, that we, **RALPH B. DANIELS, JR.** and **MARGARET A. DANIELS**, of Portland, County of Cumberland and State of Maine, **GRANT** to **C AND B REALTY LLC** a Maine Limited Liability Company established and existing under the laws of the State of Maine, with a mailing address of 23 Bittersweet Lane, Cumberland, ME 04021, with **QUITCLAIM COVENANTS,** the land in Portland, County of Cumberland, State of Maine, bounded and described as follows:

A certain lot or parcel of land situated on the westerly sideline of Munjoy Street, adjoining the southerly sideline of land now or formerly of Ralph B. Daniels, Jr. and Margaret A. Daniels in the City of Portland, County of Cumberland and State of Maine, and being more particularly described as follows:

Beginning at a point on the westerly sideline of Munjoy Street, said point being distant 165 feet northerly from the intersection formed by said westerly sideline of Munjoy Street and the northerly sideline of Wilson Street, said point also marking the southeasterly corner of land now or formerly of Ralph B. Daniels, Jr. and Margaret A. Daniels; thence in a general westerly direction by the southerly sideline of land of said Ralph B. Daniels, Jr. et al and by land now or formerly of Thomas F. O'Donnell 85 feet, more or less, to land now or formerly of William T. Compston and Marian D. Compston; thence in a general southerly direction by the easterly sideline of said William T. Compston et al 40 feet to land now or formerly of Robert J. Stebbins and Georgiana S. Stebbins; thence in a general easterly direction by the northerly sideline of land of said Robert J. Stebbins et al and by land now or formerly of Patrick Murphy 83 feet, more or less, to the westerly sideline of Munjoy Street; thence in a general northerly direction by the easterly sideline of Munjoy Street 40 feet to land now or formerly of Ralph B. Daniels, Jr. et al and the point of beginning.

Also all right, title and interest, if any, in and to all passageways, lanes, streets or alleys adjoining, abutting and/or running with the above described premises.

The above-described premises are conveyed **SUBJECT TO** the following restrictions, covenants and agreements: The Grantors and Grantee herein, their heirs and assigns, shall not discriminate on the basis of race, color, sex, religion or national origin in the sale, lease or rental, or in the use or occupancy of the demised property or any improvements erected or to be erected thereon, or any part thereof. These covenants shall be covenants running with the land, shall be contained in any instruments from Ralph B. Daniels, Jr. and Margaret A. Daniels or from their heirs and assigns to any future Grantee

Being the same premises conveyed to the Grantors herein by Instrument of the Portland Renewal Authority dated November 30, 1970 and recorded in the Cumberland County Registry of Deeds in Book 3152, Page 480. Reference is also made to a Quitclaim Deed Without Covenant of Portland Renewal Authority to the Grantors herein, to be recorded in the Cumberland County Registry of Deeds.

WITNESS our hands and seals this 24th day of the month of September, 2014.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

Barbara Vestal
Witness

Ralph B Daniels Jr
Ralph B. Daniels, Jr.

Witness

Margaret A. Daniels
Margaret A. Daniels

STATE OF MAINE
COUNTY OF CUMBERLAND

Sept. 24, 2014

Then personally appeared the above named Ralph B. Daniels, Jr. and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Barbara Vestal
Attorney at Law/~~Notary Public~~

Printed name: Barbara A. Vestal

My Commission Expires: ME BAR REG #764

Received
Recorded Register of Deeds
Oct 08,2014 12:55:39P
Cumberland County
Pamela E. Lovley

MAINE REAL ESTATE TAX PAID

WRRANTY DEED

Maine Statutory Short Form

KNOW ALL BY THESE PRESENTS, that we, **RALPH B. DANIELS,** sometimes also known as Ralph B. Daniels, Jr., and **MARGARET A. DANIELS**, of Portland, County of Cumberland and State of Maine, **GRANT** to **C AND B REALTY LLC** a Maine Limited Liability Company established and existing under the laws of the State of Maine, with a mailing address of 23 Bittersweet Lane, Cumberland, ME 04021, with **WARRANTY COVENANTS,** the land in Portland, County of Cumberland, State of Maine, bounded and described as follows:

A certain lot or parcel of land with the buildings thereon situated on the southwesterly sideline of Munjoy Street in said Portland and bounded and described as follows:

Beginning in the line of said street, at the northerly corner of Lot Number 8, as shown on a plan recorded in the Cumberland County Registry of Deeds in Book 189, Page 207; thence running southwesterly by Lot Number 3, as shown on said plan, seventy-four (74) feet, more or less, to a point which is within five (5) feet of halfway between said Munjoy Street and Atlantic Street; thence southeasterly parallel with said Atlantic Street thirty-five (35) feet to a stake; thence northeasterly parallel with the first escribed line seventy-four (74) feet, more or less, to said Munjoy Street; thence northwesterly by said Munjoy Street thirty-five (35) feet to the point of beginning.

Being the same premises conveyed to the Grantors herein by Warranty Deed of Francis J. Peavey and Ruth A. Peavey dated February 14, 1969 and recorded in the Cumberland County Registry of Deeds in Book 3075, Page 583.

WITNESS our hands and seals this 24th day of the month of September, 2014.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

Barbara Postal
Witness

Ralph B. Daniels
Ralph B. Daniels

Witness

Margaret A. Daniels
Margaret A. Daniels

STATE OF MAINE
COUNTY OF CUMBERLAND

Sept 24, 2014

Then personally appeared the above named Ralph B. Daniels and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Barbara A. Vestal

Attorney at Law/~~Notary Public~~

Printed name: Barbara A. Vestal

My Commission Expires: ME BAR REG #764

Received
Recorded Register of Deeds
Oct 08,2014 01:04:45P
Cumberland County
Pamela E. Lovley

72 Munjoy street

Evidence of financial and technical capacity.

As a developer who has renovated 6 Romasco street (2 unit), 146 Newbury street (2 unit), 71 West street (3 unit), 57-59 Moody street (2 unit), and the first 2 units at 72 Munjoy street within the last 2 ½ years we have both the technical and financial ability to complete the construction of the 3 new units at 72 Munjoy street. The above projects are all located on the peninsula of Portland and been completed in a timely manner. We have developed a good working relationship with the code enforcement office and look forward to future projects in Portland.

We have also enclosed a letter from Gorham Savings Bank written by Jack Lufkin further stating our abilities to build this project.

Gorham
SAVINGS BANK

June 24, 2015

Mr. Jeffrey Lavigne
Planning and Development Director
City of Portland
389 Congress Street
Portland, Maine 04101

RE: **Financial Capacity**

Dear Mr. Lavigne:

I am writing this letter on behalf of Mr. and Mrs. Robert and Carrie LeBlanc, Peninsula Property Development LLC, to address their financial capacity to undertake the condominium development project contemplated at 68 Munjoy Street in Portland.

Please be advised that the LeBlanc's and Peninsula Property Development LLC have a comprehensive banking relationship with Gorham Savings Bank. In my professional opinion, through an underwriting analysis, the LeBlanc's and Peninsula Property Development LLC have demonstrated adequate financial capacity to complete the project at 68 Munjoy Street.

If you should have any specific questions regarding their financial capacity as it relates to completing the contemplated project, please feel free to contact me directly at (207) 222-1469.

Sincerely,

Jack N. Lufkin
Vice President, Regional Business Banking Officer
Gorham Savings Bank

Cc: File

Att. D

72 Munjoy 3 unit project description

We are proposing to build a new 3 unit condominium building attached to our existing 2 unit building that we recently completed a renovation on. The new building will have a common wall with the older existing structure and will consist of first floor parking and 3 units above one on each floor. We are trying to stay consistent with the style and flavor of the neighborhood with a more upscale design and façade. Each unit will be a two bedroom 2 bath configuration with modern amenities and energy efficient systems. I have enclosed a brochure of the existing building for a reference.

72 Munjoy Street
Consistency with R-6 Design Standards

Our project at 72 Munjoy has been designed with the new R-6 zoning standards from the beginning. We meet all the design criteria and have not tried to maximize any of the individual requirements.

Minimum Lot size 2,000 sq.ft. 72 Munjoy 5,762 sq.ft.
Minimum sq. ft. per unit 725 sq.ft. 72 Munjoy 1,192 sq.ft.
Side set back combined 10 ft. 72 Munjoy 18 ft.
Setbacks Rear 10 ft. 72 Munjoy 10 ft.
Average front set back 3" 72 Munjoy 3"
Lot coverage ratio 60 % 72 Munjoy 54%
Green Space 20% 72 Munjoy 25%
Height 45 ft. 72 Munjoy 42 ft.
Parking spaces needed 3 72 Munjoy 5 spaces

72 Munjoy is proposed as a 3 unit residential building, which is consistent with the use and character of the neighborhood and the R-6 zone.

72 Munjoy zoning compliance

I have been following the new R-6 zoning changes for the last 10 months and have attended most of the meetings. I have waited to submit this project until after those changes were voted on. 72 Munjoy is designed to fit within the new R-6 guidelines. We are keeping the existing front of the building consistent with the current structure and the nature of the neighborhood. We are attaching to one side of the existing structure thus adding on to the current building. The rear set back is being kept at least 5 feet off the rear line and in some area's more. The side set back will be at least 25 feet of the side lot line. We are 3,134 sq.ft. of building footprint out of the total lot size of 5,791 sq.ft. for a 54.11 lot coverage percentage. We are proposing 5 units on the property, which when you use the new R-6 guidelines could hold at least 7 units. We are keeping our building height below 45 feet. Our Civil engineer will address the other setback, lot coverage, impervious area and storm water calculation issues.

72 Munjoy front Yard calculations

Bob,

If you align the new building with the long side of the existing building, the foundation of the new bay window lies a distance of 0.35 feet from the street line, or about four inches. Keeping mind that siding and trim will be added, I would pull the bay back to 1’-10” versus the current 2’-0” just to be certain. The choice is of course yours. We could also stake the street line just prior to construction so the set-back could be checked on site.

Rex J. Croteau ***Titcomb Associates*** 133 Gray Road 39 Court Street
Falmouth, ME 04530 (207) 797-9199 (207) 443-9199 Fax (207) 878-3142 Fax (207) 386-5077
rcroteau@titcombsurvey.com **Error! Hyperlink reference not valid.**

72 Munjoy Street
Summary of existing and or proposed easements

We don’t have any proposed or existing easements on the property.

72 Munjoy Street
Consistency with Master Plan

The 72 Munjoy street project has been envisioned from the beginning with the R-6 zone rewrite and the city of Portlands Master plan in mind. We purchased the property in anticipation of the new zoning changes and with the idea of redeveloping the existing structure and the vacant lot together. The city of Portland's Master plan of utilizing previously unbuildable lots and creating infill opportunities was the reason we purchased the property. We feel our project represents the intent and opportunity that the city of Portland's Master Plan and the new R-6 rezoning guidelines were written to accomplish.

72 Munjoy Street
Building description and material choices

The existing building at 72 Munjoy street is currently a white sided building with traditional clapboard look and black two over one windows. The style, character and trim of the old building has been left intact with additional accents added to give the building a new facelift and a more upscale appearance. The additional, new three units we are proposing with this application would be identical in material, design and appearance.

The materials we are using have been designed to be attractive, durable and energy efficient. The building will consist of spray foam insulation with zip wall green board siding. The windows will be Jeldwen high efficiency aluminum clad exterior with wood interior. The siding will be vinyl on the rear and L.P. smart side on the sides and front. The smart side is a 7" exposure prefinished simulated wood grain product. The exterior bay window area and all exterior widow trim on the smart side will be entirely built out of Everclear, which is an pvc board material. The front entry way will match the existing entryway including the granite steps and architectural shingles.

The garage doors will be metal insulated with windows and be black in color to match the windows. Above the garage doors will be a small overhang to protect against snow and rain and add additional depth and character to the side of the building. The overhang will be covered in the same architectural shingles. All the facia trim will match the existing building. The roof will be a rubber membrane system consistent with the existing building.

John Gutwin of Pepperchrome landscape architects is currently in the process of developing a Photocramatic of the building and the existing neighborhood.

LP® SmartGuard®

ENGINEERED TOUGHNESS TO RESIST HARSH CLIMATES

EXTREME PROTECTION IN TOUGH CLIMATES

Exterior trim and siding are often subjected to extreme temperatures, moisture and insects. That's why all LP® SmartSide® products feature our exclusive SmartGuard process. Only SmartGuard offers four components of protection against termites and fungal decay.

TREATED TO THE CORE

Every LP SmartSide product is treated to the core with an advanced formula of binders, waxes and zinc borate before being bonded with a water-resistant, resin-saturated overlay. This process helps keep out moisture for long-term durability and strength against harsh weather.

LP SMART FACT:

Zinc borate is safely used in household items including paper, carpet and paint.

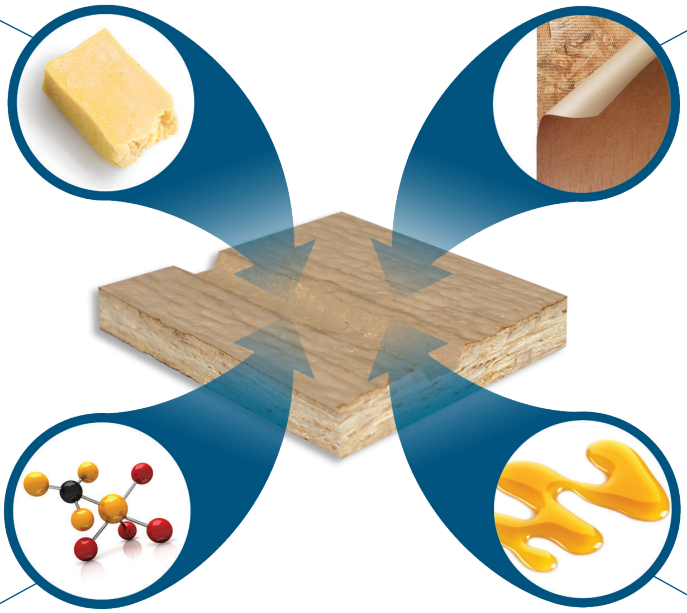
THE POWER OF SOUND ENGINEERING AND SMART PRODUCT DESIGN

WAXES

Special water-resistant waxes coat each strand or fiber of wood for enhanced durability in rainy, humid environments.

RESIN-SATURATED OVERLAY

Offering the final layer of protection against the elements, a resin-saturated overlay resists moisture intrusion while providing a durable base for quality paint adhesion and beauty.



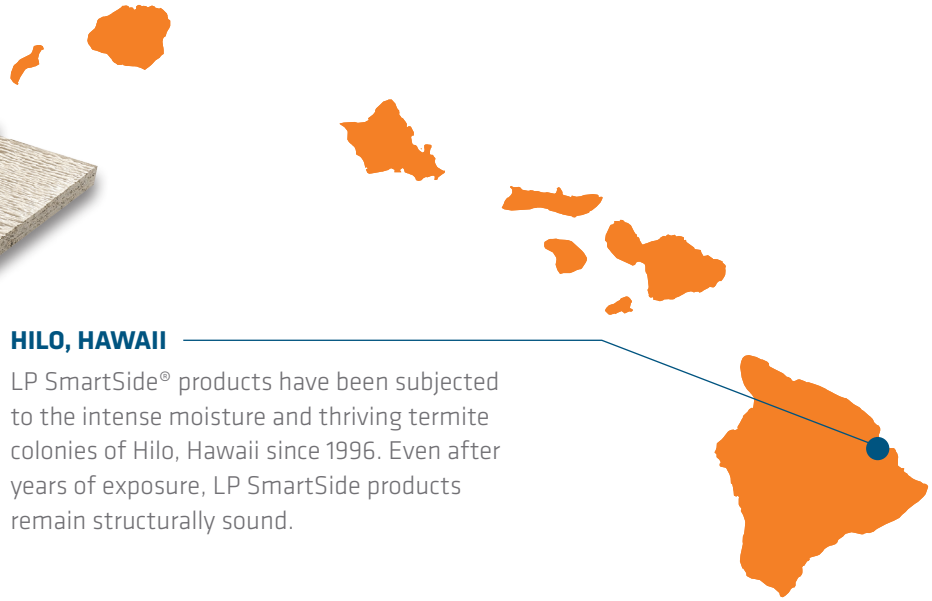
ZINC BORATE

Engineered wood products treated with zinc borate have been proven to effectively resist damage from termites and fungal decay for decades. Safe for children and pets, this naturally occurring additive provides long-lasting performance that preserves the beauty of LP SmartSide Trim and Siding.

ADVANCED BINDERS

LP SmartSide Trim and Siding provide incredible strength to resist impact damage thanks to their industrial-grade binders and resins. You'll have the confidence of knowing that your siding can stand up to everyday airborne debris such as hail, sticks and golf balls.

TESTED IN ONE OF THE TOUGHEST PLACES ON EARTH



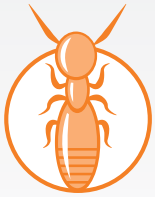
HILO, HAWAII

LP SmartSide® products have been subjected to the intense moisture and thriving termite colonies of Hilo, Hawaii since 1996. Even after years of exposure, LP SmartSide products remain structurally sound.

LP® SMARTGUARD® PROVING GROUNDS

- HARSH JUNGLE ENVIRONMENT
- HIGH HUMIDITY
- 170" ANNUAL RAINFALL
- HIGH FORMOSAN TERMITE POPULATION
- IDEAL CONDITIONS FOR FUNGAL DECAY

170" OF ANNUAL RAINFALL



FORMOSAN TERMITE

To learn more about LP SmartSide Trim and Siding with SmartGuard, visit **lpsmartside.com**.

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LP BUILDING PRODUCTS SMARTSIDE® TRIM & SIDING

AZEK® Building Products

Designed to last beautifully.™

TRIM MOULDING

AZEK® Building Products

Designed to last beautifully.™

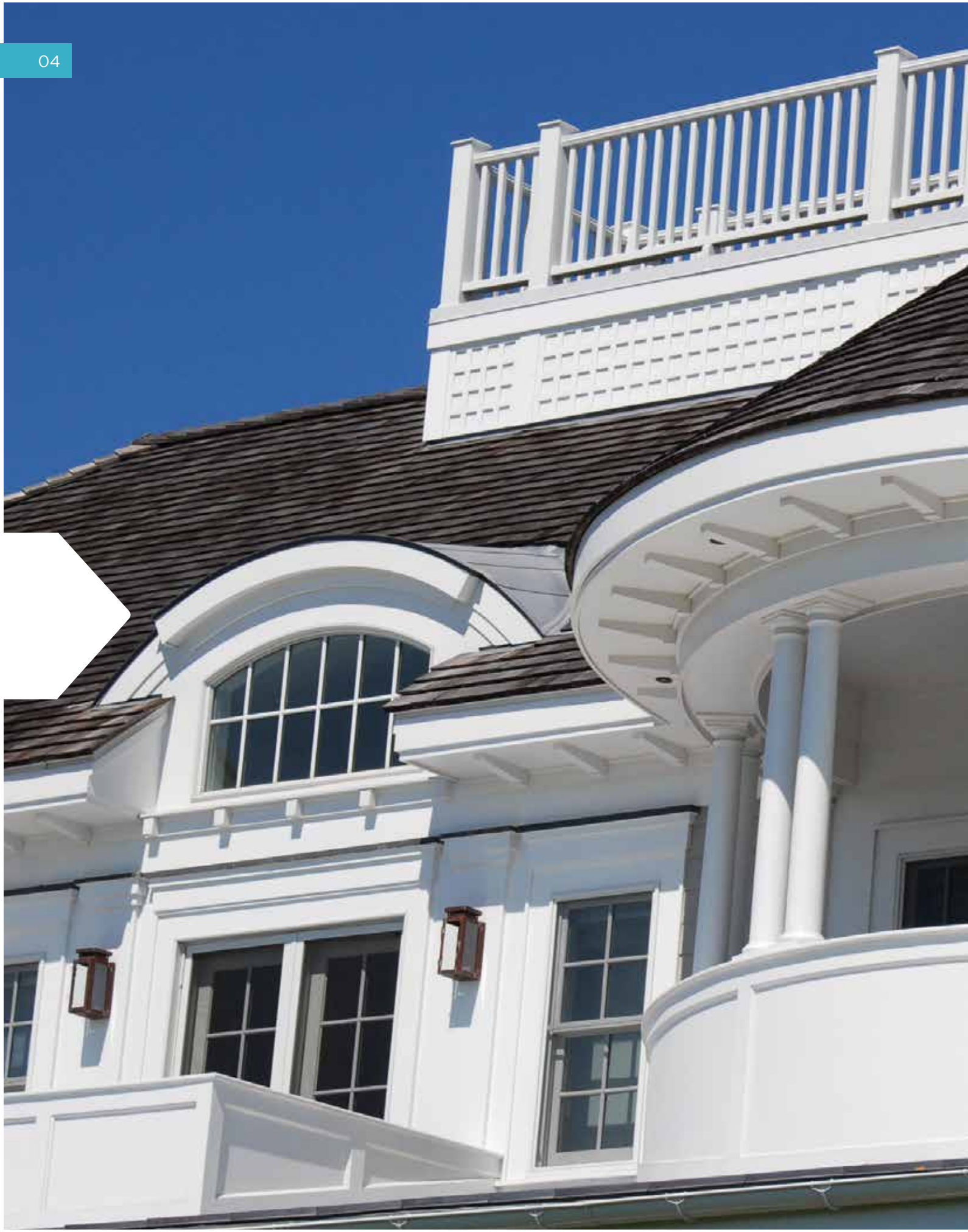
We know you take great pride in your home. We know you want nothing but the best. AZEK Building Products are engineered to withstand the test of time, and designed to last beautifully.

AZEK Trim and Moulding offer the highest performing wood replacement line of PVC products available in the market. We understand quality, longevity and durability, so we designed our trim and moulding products to not split, crack or rot...allowing you to spend more time enjoying life's finer things instead of worrying about maintenance.

Whether you are relaxing in your outdoor haven, or entertaining party guests, you can rest assured knowing that AZEK Building Products will take your home to a whole new level of elegance and sophistication.

TRIM

MOULDING



TRIM

AZEK Trim, offers an unequaled combination of uniformity, durability, workability and beauty. AZEK Trim is available in trim, sheets, cornerboards and beadboard, as well as other unique trim products that help solve common construction challenges.

AZEK TRIM — #1 BRAND IN TRIM

Look & Feel of Real Wood

Durable & Long Lasting

Low Maintenance

Can be Worked Similar to Wood - Even Mitered, Routed & Turned on a Lathe

Can be Heat Formed for Eye-Catching Curves

25 Year Warranty

Building Code Report (ESR-1074)

AZEK Trim... Best-in-Class

Beauty

Semi-matte White Finish
White Color Throughout Profile
Maintains Its Color Without Protection
Readily Accepts Paints

Workability

Use Standard Woodworking Tools
Can be Milled, Shaped and Moulded
Can be Heat Formed for Curved Applications
Fasten Close to Edge Without Splits
Can Rout or Cut without “Chip Outs”

Durability

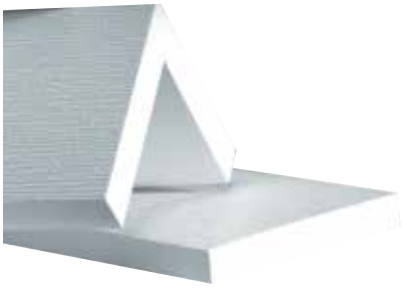
Never Requires Paint for Protection
Will Not Rot, Cup, Split, Twist or Warp
Moisture and Insect Resistant
Suitable for Ground/Masonry Contact
25-Year Limited Warranty

Uniformity

Consistent Density
Square Edges
No Waste, Every Inch Usable

WHY IS AZEK TRIM THE #1 BRAND OF TRIM?

- Over 25 years of cellular pvc manufacturing experience.
- State-of-the-art manufacturing facilities.
- Confidence of a Building Code Report ESR-1074.
- Maintains a “like new” appearance even in the harshest of weather conditions.
- Made in America, AZEK Trim uses high quality ingredients to create boards you'll be proud to have on your home.



Most AZEK Trim products are available in either the Traditional or Frontier finish.

TRADITIONAL
Natural, semi-matte white surface

Available in board, cornerboard, beadboard, AZEK to Mill, sheets, Finish Grade Trim, Universal Skirt Board, Integrated Drip Edge and Column Wrap

FRONTIER
Rustic Texture

Reversible - Traditional on one side and Frontier on the other

Available in board, cornerboard, Integrated Drip Edge, and Universal Skirt Board

25-Year Limited Warranty

AZEK's Warranty

- Perfect for ground contact applications
- Impervious to moisture and insects
- Does not require paint for protection
- Can be heat formed for unique designs
- Building code listing ESR-1074

With the AZEK Edge

- Precise, sealed edges on all 4 sides (S4S)
- Stays cleaner in the lumberyard and job site
- Tight board tolerances
- Easier to clean if it does get dirty

With unparalleled quality, AZEK Trim products are backed by a proven track record of performance that tops all competitors. For a trim product that will offer years of lasting good looks, choose AZEK Trim.

AZEK Trim
(Traditional & Frontier)

Trim that is easy to work with and offers long lasting durability, AZEK Trim is the perfect replacement for wood in all non-stress and non-load bearing applications. It can be easily milled, routed, and heat formed for custom looks. AZEK Trim doesn't require paint for protection, but can be easily painted for aesthetics.

5/8 x Thickness

Actual	Lengths
5/8" x 3 1/2"	12' and 18'
5/8" x 5 1/2"	12' and 18'
5/8" x 7 1/4"	12' and 18'
5/8" x 9 1/4"	12' and 18'
5/8" x 11 1/4"	12' and 18'
5/8" x 15 1/4"	12' and 18'

4/4 x Thickness

Nominal	Actual	Lengths
1 x 2	3/4" x 1 1/2"	18'
1 x 4	3/4" x 3 1/2"	12' and 18'
1 x 5	3/4" x 4 1/2"	12' and 18'
1 x 6	3/4" x 5 1/2"	12' and 18'
1 x 8	3/4" x 7 1/4"	12' and 18'
1 x 10	3/4" x 9 1/4"	12' and 18'
1 x 12	3/4" x 11 1/4"	12' and 18'
1 x 16	3/4" x 15 1/4"	12' and 18'

5/4 x Thickness

Nominal	Actual	Lengths
5/4 x 4	1" x 3 1/2"	12', 18', and 20'
5/4 x 5	1" x 4 1/2"	12', 18', and 20'
5/4 x 6	1" x 5 1/2"	12', 18', and 20'
5/4 x 8	1" x 7 1/4"	12', 18', and 20'
5/4 x 10	1" x 9 1/4"	12', 18', and 20'
5/4 x 12	1" x 11 1/4"	12', 18', and 20'
5/4 x 16	1" x 15 1/4"	12', 18', and 20'

6/4 x Thickness (Frontier Only)

Nominal	Actual	Lengths
6/4 x 4	1 1/4" x 3 1/2"	20'
6/4 x 6	1 1/4" x 5 1/2"	20'
6/4 x 8	1 1/4" x 7 1/4"	20'
6/4 x 10	1 1/4" x 9 1/4"	20'
6/4 x 12	1 1/4" x 11 1/4"	20'

AZEK Finish Grade Trim*
(Traditional Only)

Two-piece trim system installs quickly and easily, saving time and labor costs while providing a beautiful, smooth, fastener-free trim surface. No need to fill, paint and sand nail holes. Perfect for door and window surrounds, but could be used in nearly any trim application.

Base plate can be quickly and securely face nailed. Then the cover trim fits neatly over the base trim and includes a nailing flange to eliminate visible fasteners.

Finish Grade Trim*

Nominal	Actual	Lengths
6/4 x 4	1 1/4" x 4"	18'
6/4 x 6	1 1/4" x 6"	18'

3" x 3" (Miter Key Corner Reinforcement)

AZEK Universal Skirt Board*

Providing the perfect transition between the siding and trim, as well as assisting in water management, the two piece Universal Skirt Board includes a reversible trimboard that is routed to accept a proprietary universal siding interface.

Unlike other skirtboards, AZEK Universal Skirt Board will work equally well with a variety of siding products including fiber cement, vinyl, cedar shingles or wood.

The AZEK Universal Skirt Board reduces labor, saves installation time and costs, and replaces the need for starter strips. It is perfect for use where water tables are not needed or desired.

Universal Skirt Board*

Nominal	Actual	Lengths
5/4 x 6	1" x 5 1/2"	18'
5/4 x 8	1" x 7 1/4"	18'
5/4 x 10	1" x 9 1/4"	18'

1½" nailing flange length
¼" drip edge overhang

* Patent Pending
†Traditional only

AZEK Integrated Drip Edge*

Trim product designed to assist with water management efforts around window and door surrounds. The two piece product, which includes a reversible trimboard, is routed to accept a drip edge designed to help channel water away from the window or door surround. For easy installation, the drip edge has an integrated nailing flange to reduce labor and installation costs.

Integrated Drip Edge*

Nominal	Actual	Lengths
5/4 x 4	1" x 3 1/2"	18'
5/4 x 6	1" x 5 1/2"	18'

1¼" nailing flange
⅛" drip edge overhang

AZEK Rabbeted Cornerboard and Trim (Traditional and Frontier)

With rabbeted edges, the one-piece AZEK Rabbeted Cornerboard is designed to ease siding installation and deliver a crisp, clean trim facade. AZEK Rabbeted Trim also eases installation for a clean finish.

Rabbeted Cornerboard

Nominal	Actual	Lengths
5/4 x 4	1" x 3 1/2"	10' and 20'
5/4 x 6	1" x 5 1/2"	10' and 20'
5/4 x 8 (Traditional Only)	1" x 7 1/4"	10' and 20'

Rabbeted Trim

Nominal	Actual	Lengths
5/4 x 4	1" x 3 1/2"	18'
5/4 x 6	1" x 5 1/2"	18'
5/4 x 8	1" x 7 1/4"	18'

AZEK Cornerboard (Traditional and Frontier)

With a seam that will not open, AZEK Cornerboards offer time savings during installation while providing an upscale look. Available in Traditional and rustic Frontier in 10' and 20' to complement any housing exterior.

5/4 x Thickness

Nominal	Actual	Lengths
5/4 x 4	1" x 3 1/2"	10' and 20'
5/4 x 6	1" x 5 1/2"	10' and 20'

6/4 x Thickness

Nominal	Actual	Lengths
6/4 x 4	1 1/4" x 3 1/2"	10'
6/4 x 6	1 1/4" x 5 1/2"	10'

AZEK Beadboard

Reversible Beadboard profile with edge/center bead on one side and v-groove on the other side. This design offers flexibility when planning your project. Perfect for wainscoting and porch ceiling.

1/2" Beadboard has a nailing flange for easier installation.

Beadboard

Nominal	Actual	Lengths
5/8 x 4	5/8" x 3 1/2"	18'
1/2 x 6	1/2" x 5 1/2"	18'

* Patent Pending
†Traditional only

AZEK Sheet
(Traditional)

Perfect for bay windows, dormers and raised panels. Applications over 16″ wide are easy.

AZEK Sheet

Actual	Lengths
3/8″ x 4′*	8′ and 10′
1/2” x 4′*	8’ and 10’
5/8” x 4’	8’, 10’ and 18′
3/4” x 4’	8’, 10’, 12′ and 18′
1” x 4’	8’, 10’, 12’ and 20’

*3/8″ and 1/2″ sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened. Contact your AZEK Territory Sales Manager with questions.

AZEK Column Wrap

Easy to install, 3-Plus-1 column wrap profile saves time and installation costs. Three connected panels and a fourth “locking” panel fit easily around a structural support with press fit seams and nicely finished corners. AZEK Column Wrap is available in the Traditional finish.

Column Wrap

Nominal	Actual	Lengths
4 x 4	3 3/4″ x 3 3/4″	10′
6 x 6	5 3/4” x 5 3/4”	10’
8 x 8	7 3/4” x 7 3/4”	10’

AZEK to Mill (ATM)

Perfect for use as a fabrication component due to its thicker profile. The consistent density and solid color offer a superior product for milling operations.

AZEK to Mill (ATM)

Actual	Lengths
1 1/4″ x 9 1/4″	18′
1 1/4” x 48”	8’

AZEK Adhesive

Water-based, non-toxic, easy to clean-up adhesive that is perfect for AZEK to AZEK adhesion. Glued joints will never open.

AZEK Adhesive

Container Size	
4 oz.	32 oz.
8 oz.	128 oz.
16 oz.	5 Gal. (640 oz.)

AZEK Trim and AZEK Mouldings should be installed using the same good building principles used to install wood or composite trim and mouldings and in accordance with the local building codes and established installation guidelines. AZEK Building Products Inc. claims no liability or responsibility for the improper installation of this product.

AZEK Trim and AZEK Moulding may not be suitable for every application and it is the sole responsibility of the installer to be sure that AZEK Trim and Mouldings are fit for the intended use. Since all installations are unique, it is also the installer’s responsibility to determine specific requirements in regards to each trim application. AZEK Building Products recommends that all applications be reviewed by a licensed architect, engineer or local building official before installation.

Technical information and AZEK Trim and Moulding Installation Guidelines are available online at www.AZEK.com or from your local AZEK Dealer. If you have any questions or need assistance, please call AZEK Customer Service at 877-ASK-AZEK (877-275-2935) or visit www.AZEK.com.

All photos contained in this brochure are for display purposes only and not for the purpose of validating the suitability or safety of any particular installation or application of the product. Always consult AZEK’s Installation Instructions as well as local building codes to ensure proper installation.

MOU

AZEK Mouldings are available in many of the most popular moulding profiles. AZEK products are known for longevity and durability and won't split, crack or rot. They can be installed using traditional tools and fasteners and, for custom applications, most AZEK Moulding products can be heat formed to create eye-catching curved moulding details.

AZEK MOULDING — THE PERFECT COMPLEMENT TO AZEK TRIM

Durable & Long Lasting

Moisture Resistant

Insect Resistant

Available in Most Popular Profiles

Low Maintenance

Perfect for Ground Contact Applications

25 Year Warranty

Does Not Require Paint for Protection

AZEK Moulding

- Same color, look and feel as AZEK Trim
- Crisp, authentic architectural details
- Increases stability/predictability and minimizes expansion/contraction when fastening
- No painting required, yet easy to paint if a custom color is desired
- UV protection inside and out
- Uniform material minimizes chip outs on cut lengths
- One warranty covers all products
- No cupping, rotting or splitting
- Most can be heat formed to create curved moulding details
- Installed with similar tried-and-true installation methods as traditional wood mouldings
- Standard AZEK Installation Guidelines will apply to AZEK Mouldings
- Use AZEK Adhesive for "welding" AZEK to AZEK surfaces and eliminate joints

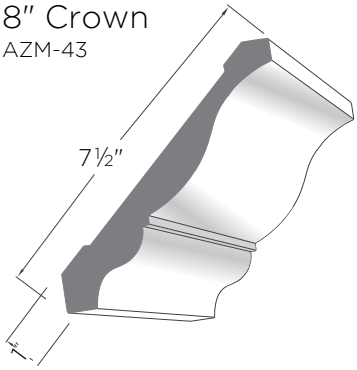
THE AZEK DIFFERENCE...

The best looking, highest performing wood replacement line of mouldings available in the market - AZEK Moulding. You will be proud to show off your beautifully designed space now, and for years to come.

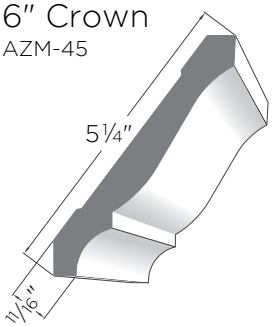
CROWN PROFILES

Crown moulding profiles are typically decorative mouldings designed for use along the intersection of a wall and ceiling. May be combined with other mouldings to create a "built-up" profile.

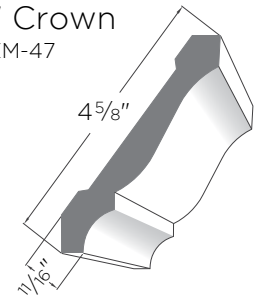
8″ Crown
AZM-43



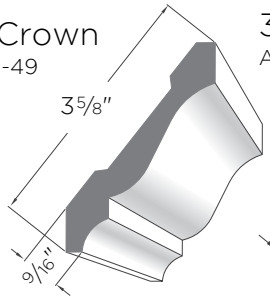
6″ Crown
AZM-45



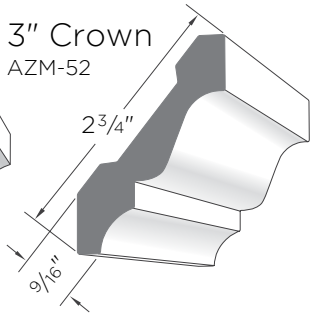
5″ Crown
AZM-47



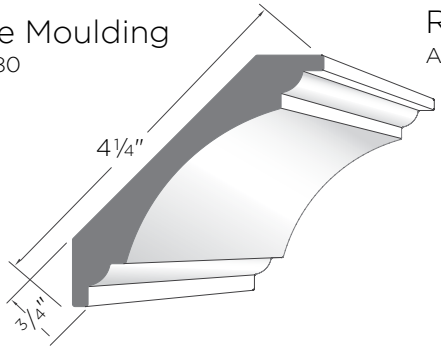
4″ Crown
AZM-49



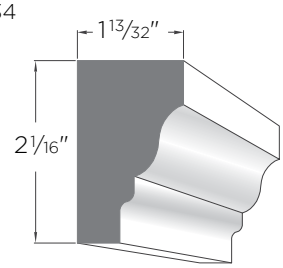
3″ Crown
AZM-52



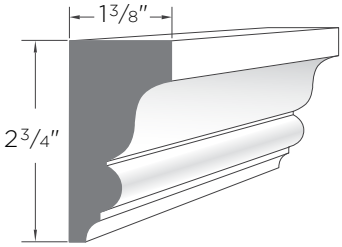
Cove Moulding
AZM-80



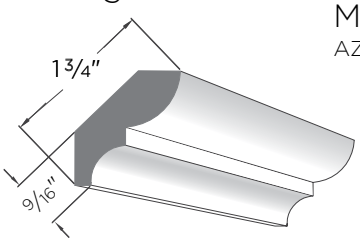
Rams Crown
AZM-6934



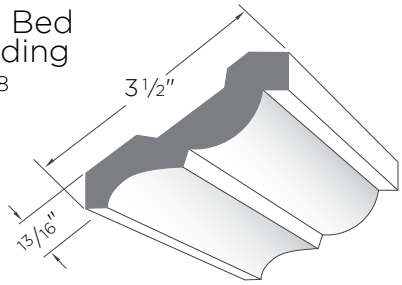
Imperial Rake Crown
AZM-6937



Bed Moulding
AZM-75



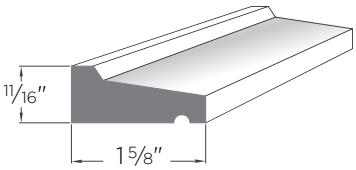
3 1/2″ Bed Moulding
AZM-28



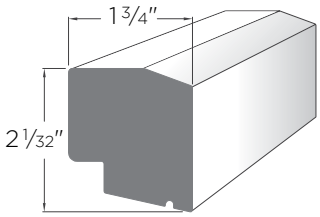
DETAIL & SILL/DRIP PROFILES

Drip Cap is typically used as a water table or brick ledge for separation and water shed against two differing material types. Sill profiles shed water and offer architectural detail.

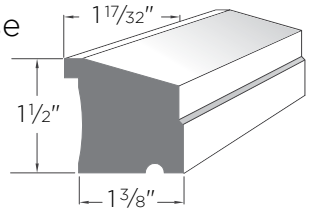
Drip Cap
AZM-197



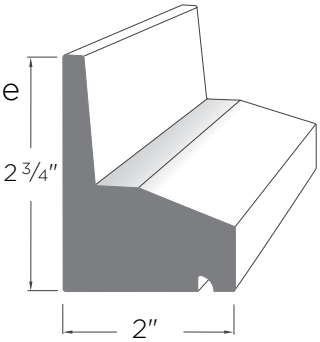
Historic Sill
AZM-6930



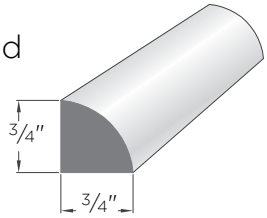
Sub Sill Nose
AZM-6933



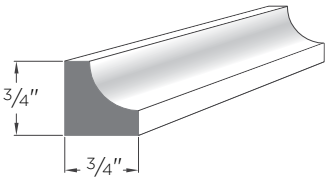
Water Table
AZM-6935



Quarter Round
AZM-105



Scotia
AZM-93



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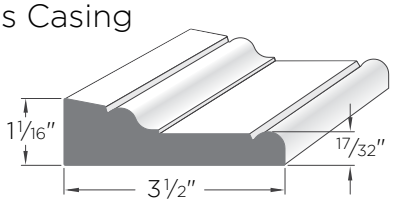
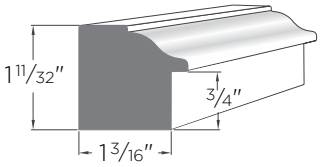
CASING PROFILES

Casing profiles are decorative mouldings typically used flush against a wall, door or window to create surrounds.

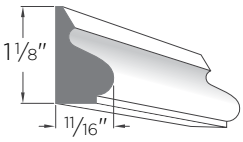
Adams Casing
AZM-97



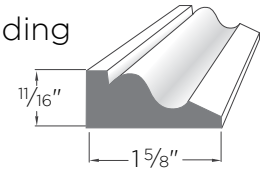
Back Band
AZM-6931



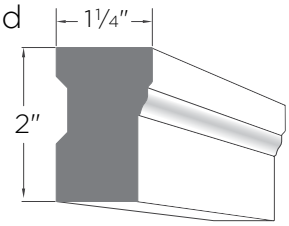
Base Cap
AZM-164



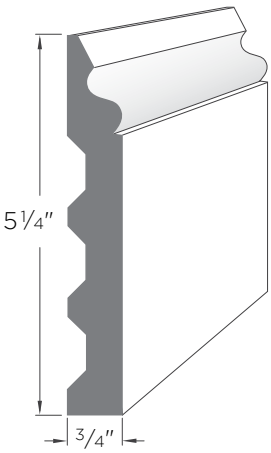
Band Moulding
AZM-217



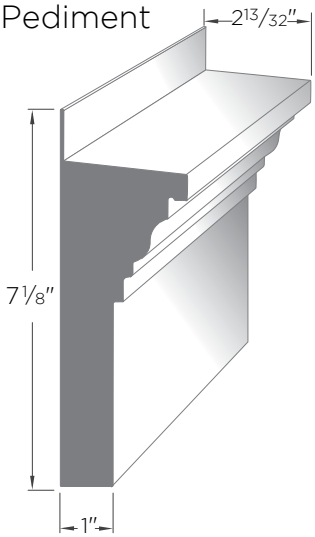
Brick Mould
AZM-180



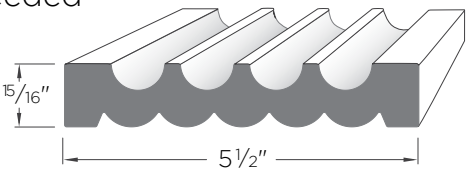
Colonial Base Cap
AZM-163



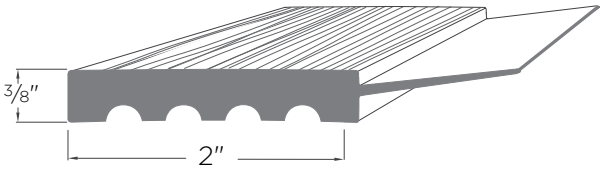
Crosshead Pediment
AZM-6216



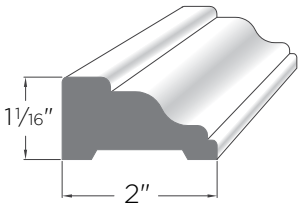
Fluted / Reeded
AZM-606



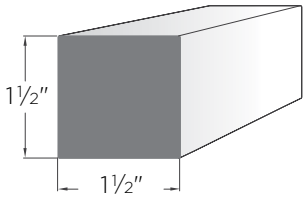
Garage Door Thermostop
AZM-6936



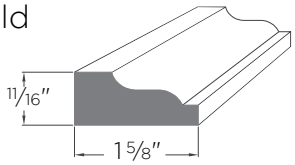
Rake Moulding
AZM-287



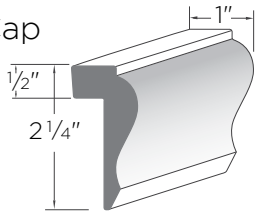
Square Profile
AZM-236



Shingle Mould
AZM-210



Wainscot Cap
AZM-284



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	AZEK® Trim	Wood Trim	Vinyl/ Aluminum Coil Wrap	Fiber Cement Trim	Engineered/ Hardboard Trim	Poly-Ash Trim
UNIFORMITY						
Consistent Density	●	●	○	●	●	○
Square Edges	●	●	○	●	○	○
No Voids	●	●	○	●	●	●
No waste, every inch usable	●		●	○	○	○
Premium lengths, no upcharge	●		○	○	○	●
Contains no known carcinogens	●	●	●		●	
DURABILITY						
Never Requires Paint for Protection	●		●			
Will not rot, cup, split, twist or warp	●		○	●	○	●
Impervious to Moisture and Insects	●		●			●
Suitable for Ground/Masonry Contact	●					●
25 Year Warranty	●			○	○	○
Handles easily without breakage	●	●	●		●	
WORKABILITY						
Use Standard Woodworking Tools	●	●			○	●
Can be Safely Milled, Shaped, and Molded*	●	●			○	
Can be Thermoformed	●					
Fasten Close to Edge Without Splits	●				○	○
Can Rout or Cut without “chip outs”	●	○	●		○	○
Never requires painting to retain warranty	●		○		○	
BEAUTY						
Semi-matte White Finish	●		○			
White Color Throughout Profile	●					
Maintains Original Color Without Protection	●		●			
Readily Accepts Paints and Stains	●	●		●	●	●
Complements all Housing Exteriors	●	●		○	○	○
Can be crafted for unique applications	●	○				
EXTRAS						
Experienced “Direct” Sales Force	●		○	●	○	○
National PR and Ad Campaign	●		○	●	○	○
Dealer Referral System	●		○	●	○	○
Dealer Training Program	●		○	●	○	○
Available in Trimboards, Sheets, Cornerboard, and Beadboard	●					
Special solution profiles available	●					

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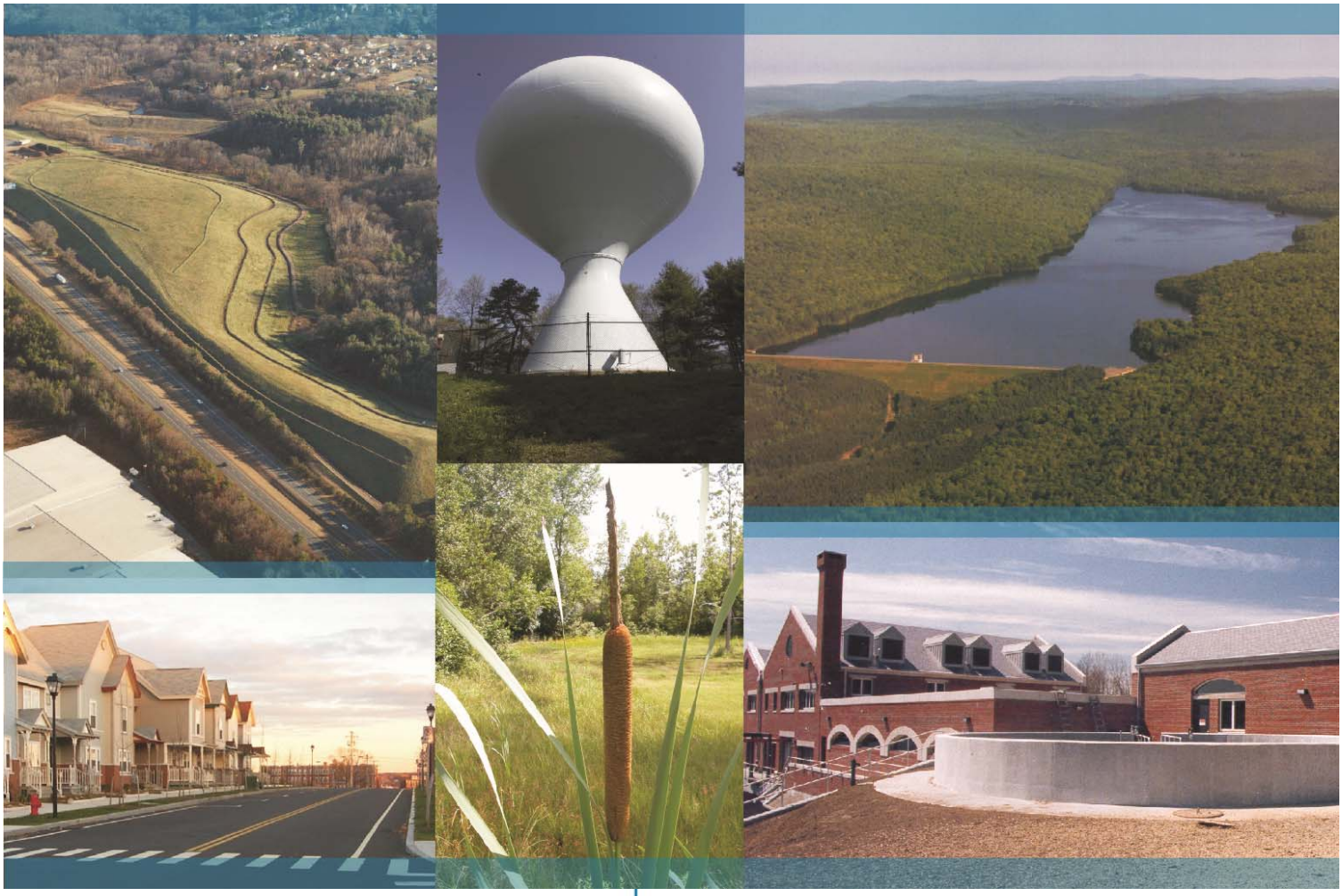
LIT-ATM 06/14

72 Munjoy Street
Traffic Analysis

We researched the available traffic data available for Munjoy street and looking at the report done in 2013 by Maine DOT haven't found any definitive traffic counts. Given the neighborhood nature of the property and the lack of much cross traffic using Munjoy to traverse to other areas Munjoy street appears well suited to handle the additional 20-30 daily trips that the our new 3 units may add to the existing traffic load. One of the existing 2 units was purchased by a couple who only spend the summer in Maine, thus already mitigating a portion of the increased traffic. Our analysis indicates traffic and congestion on Munjoy street would not be effected by our contemplated project.

Att. J



Tighe&Bond

72 Munjoy Street Condos
72 Munjoy Street
Portland, ME

Drainage Study

Prepared For:

Peninsula Property Development

July 20, 2015

Section 1 Narrative

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Section 2 Drainage Analysis

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2.2 Pre-Development Conditions 2-3
2.2.1 Pre-Development Watershed Plan 2-4
2.2.2 Pre-Development Calculations 2-5
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2.3.1 Post-Development Watershed Plan 2-7
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2.5 Stormwater Treatment 2-9
2.6 Mitigation Description and Best Management Practices 2-10

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3.2 Maintenance Items 3-1
3.3 Overall Site Operation & Maintenance Schedule 3-2
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3.3.2 Snow & Ice Management for Standard Walkways and Pavement 3-3
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4.2 Soil Maps 4-2
4.3 Precipitation Table 4-3

J:\P\P0765 Peninsula Property Development\DRAINAGE\DRAINAGE STUDIES\P0765-Drainage Study.doc.docx

Section 1
Narrative

The proposed project consists of the construction of a four (4) story condominium building on a 0.13 acre lot in the R-6 Residential Zone. The proposed building will be connected to an existing two (2) story home. There will also be associated site improvements that include stormwater management with porous concrete and new utility service connections in Munjoy Street.

The site is currently developed with a two (2) story 1,334 SF footprint house that includes an existing paved driveway. The existing building will remain, but the paved driveway will be demolished as part of the proposed project. Currently, the runoff from the majority of the site including the driveway and roof flows to the northeast of the property where it ultimately reaches the closed drainage system in Munjoy Street.

The proposed development will increase impervious area by approximately 2,500 SF. The proposed stormwater management system, which consists of porous concrete, has been designed to mitigate additional impervious areas by decreasing post-development peak runoff rates for the 2-year, 10-year, and 25-year design storms.

The proposed stormwater management system has been designed to meet the requirements and design principles outlined in the City of Portland Technical Manual and the Maine Stormwater Best Management Practices Manual.

1.1 On Site Soil Description

Section 7 of the City of Portland Technical Manual requires a Soil Survey be completed by a Maine Certified Soil Scientist for Level III Site Plan Submissions. We are requesting a waiver from this requirement. On-site soil information used for this drainage analysis was taken from the National Resources Conservation Service (NRCS) Web Soil Survey (WSS). The WSS indicates that soils in this area consist of Hinckley gravelly sandy loam, which is in Group A of the Hydrologic Soil classification. Soils in this group have high infiltration rates when thoroughly wet, which makes them suitable for infiltration.

The proposed porous concrete pavement section has been modeled assuming a conservative infiltration rate of 1in/hr. The saturated hydraulic conductivity rating for this soil is approximately 8.2in/hr, which was based on data from the NRCS WSS. The NRCS WSS soil data has been included in this report.

Section 2
Drainage Analysis

2.1 Calculation Methods

The design storms analyzed in this study are the 2-year, 10-year and 25-year 24-hour duration storm events. The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model.

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.

2.2 Pre-Development Conditions

Pre-Development conditions are considered, for this study, to be the conditions of the site prior to the start of the ongoing excavation operations. In order to analyze the pre-development condition, the site has been divided into two (2) contributing watershed areas modeled at one (1) point of analysis. Th points of analysis and watersheds are depicted on the plan entitled “Pre-Development Watershed Plan”, Sheet WS-1.

Point of Analysis (PA-1)

Point of Analysis One (PA-1) is comprised of Pre-Development Watershed (WS-1A) and (WS-1B). Pre-Development Watershed (WS-1A) consists of runoff generated by the existing ±1,334 SF (2) story building roof. Runoff generated from this area is collected by roof leaders and is discharged above ground where it ultimately flows into Munjoy Street. Pre-Development Watershed (WS-1B) consists of runoff generated by the existing paved driveway and lawn area. Runoff generated from this area travels via sheet flow into Munjoy Street.

2.2.1 Pre-Development Watershed Plan

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MOODY STREET

MUNJOY STREET

N/F
HEIRS OF
ANNE M. LIBBY
&
RUTH A. PEAVEY

PA1

N/F
PENINSULA PROPERTIES
LLC
28744/218

STONE STEPS

PORCH

HIB

WS-1B

WS-1A

DECK

N/F
BRIAN FISK
&
ABIGAIL LLOYD
27934/47

N/F
ROBERT W. FERRELLI
&
PRISCILLA E. FERRELLI
3182/381

N/F
MARIAN H. LONG
21780/96
32214/300

N/F
LESLIE J. ROTHMAN
&
DAVID W. GAILUS
22508/256

N/F
ANN C. MULLER
18570/335

GRID N

SCALE IN FEET
0 10' 20'
GRAPHIC SCALE

LEGEND

PRE-DEVELOPMENT WATERSHED

LONGEST FLOWPATH

WS-1 PRE-DEVELOPMENT WATERSHED

PA1 POINT OF ANALYSIS

LEGEND:	MAP UNIT NAME	HYDROLOGIC SOIL GROUP RATING:
HIB	HINCKLEY GRAVELLY SANDY LOAM	A

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
-	-	-

PROJECT NO:	P-0765
DATE:	2015/06/16
FILE: P0765-SITE.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	GMM

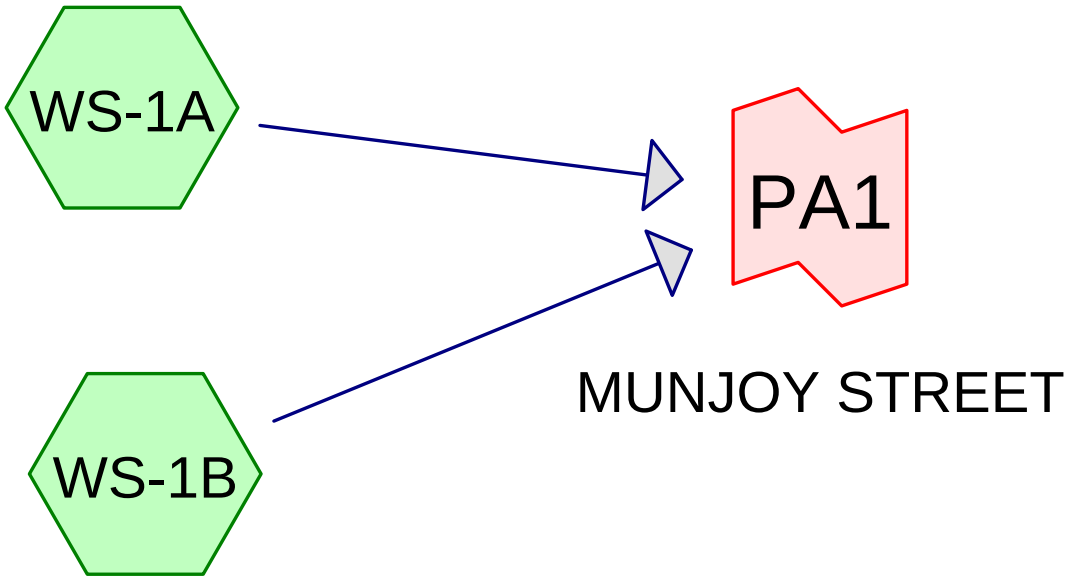
PRE-DEVEOPMENT WATERSHED PLAN

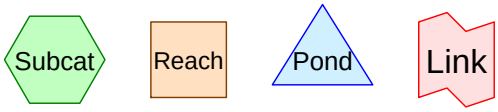
SCALE: 1" = 10'

WS-1

Last Saved: 7/20/2015
Plotted On:Jul 20, 2015-5:20pm By: gwh
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg

2.2.2 Pre-Development Calculations





Routing Diagram for P0765-PRE
Prepared by Tighe & Bond, Printed 7/20/2015
HydroCAD® 10.00 s/n 03436 © 2013 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.088	39	>75% Grass cover, Good, HSG A (WS-1A, WS-1B)
0.013	98	Paved parking, HSG A (WS-1B)
0.031	98	Roofs, HSG A (WS-1A)
0.132	**59**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.132	HSG A	WS-1A, WS-1B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.132		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>1.51"
Flow Length=75' Tc=6.8 min CN=84 Runoff=0.07 cfs 0.005 af

Subcatchment WS-1B: Runoff Area=4,008 sf 14.60% Impervious Runoff Depth>0.06"
Flow Length=75' Tc=6.8 min CN=48 Runoff=0.00 cfs 0.000 af

Link PA1: MUNJOY STREET Inflow=0.07 cfs 0.006 af
Primary=0.07 cfs 0.006 af

Total Runoff Area = 0.132 ac Runoff Volume = 0.006 af Average Runoff Depth = 0.50"
66.67% Pervious = 0.088 ac 33.33% Impervious = 0.044 ac

Summary for Subcatchment WS-1A:

Runoff = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.00 cfs @ 14.96 hrs, Volume= 0.000 af, Depth> 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
585	98	Paved parking, HSG A
3,423	39	>75% Grass cover, Good, HSG A
4,008	48	Weighted Average
3,423		85.40% Pervious Area
585		14.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.132 ac, 33.33% Impervious, Inflow Depth > 0.50" for 2-YR event
Inflow = 0.07 cfs @ 12.10 hrs, Volume= 0.006 af
Primary = 0.07 cfs @ 12.10 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>2.99"
Flow Length=75' Tc=6.8 min CN=84 Runoff=0.13 cfs 0.010 af

Subcatchment WS-1B: Runoff Area=4,008 sf 14.60% Impervious Runoff Depth>0.48"
Flow Length=75' Tc=6.8 min CN=48 Runoff=0.02 cfs 0.004 af

Link PA1: MUNJOY STREET Inflow=0.15 cfs 0.014 af
Primary=0.15 cfs 0.014 af

Total Runoff Area = 0.132 ac Runoff Volume = 0.014 af Average Runoff Depth = 1.24"
66.67% Pervious = 0.088 ac 33.33% Impervious = 0.044 ac

Summary for Subcatchment WS-1A:

Runoff = 0.13 cfs @ 12.10 hrs, Volume= 0.010 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.70"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.02 cfs @ 12.20 hrs, Volume= 0.004 af, Depth> 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.70"

Area (sf)	CN	Description
585	98	Paved parking, HSG A
3,423	39	>75% Grass cover, Good, HSG A
4,008	48	Weighted Average
3,423		85.40% Pervious Area
585		14.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.132 ac, 33.33% Impervious, Inflow Depth > 1.24" for 10-YR event
Inflow = 0.15 cfs @ 12.11 hrs, Volume= 0.014 af
Primary = 0.15 cfs @ 12.11 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>3.73"
Flow Length=75' Tc=6.8 min CN=84 Runoff=0.17 cfs 0.012 af

Subcatchment WS-1B: Runoff Area=4,008 sf 14.60% Impervious Runoff Depth>0.78"
Flow Length=75' Tc=6.8 min CN=48 Runoff=0.05 cfs 0.006 af

Link PA1: MUNJOY STREET Inflow=0.22 cfs 0.018 af
Primary=0.22 cfs 0.018 af

Total Runoff Area = 0.132 ac Runoff Volume = 0.018 af Average Runoff Depth = 1.68"
66.67% Pervious = 0.088 ac 33.33% Impervious = 0.044 ac

Summary for Subcatchment WS-1A:

Runoff = 0.17 cfs @ 12.10 hrs, Volume= 0.012 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.05 cfs @ 12.14 hrs, Volume= 0.006 af, Depth> 0.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
585	98	Paved parking, HSG A
3,423	39	>75% Grass cover, Good, HSG A
4,008	48	Weighted Average
3,423		85.40% Pervious Area
585		14.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.0150	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0100	1.50		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.8	75	Total			

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.132 ac, 33.33% Impervious, Inflow Depth > 1.68" for 25-YR event
Inflow = 0.22 cfs @ 12.11 hrs, Volume= 0.018 af
Primary = 0.22 cfs @ 12.11 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

2.3 Post-Development Conditions

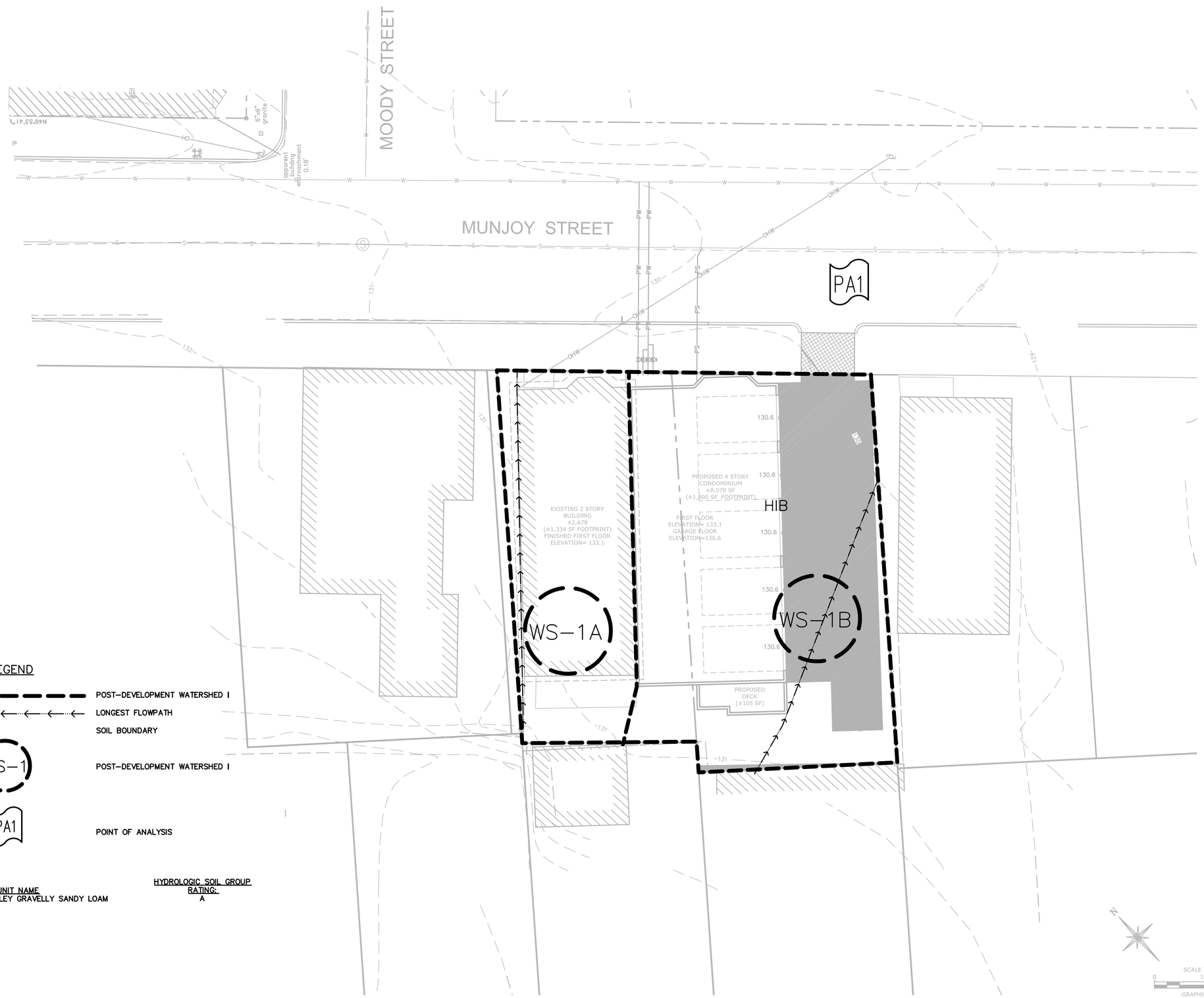
The Post-Development drainage area is also characterized by two (2) contributing watershed areas modeled at one (1) point of analysis. The points of analysis and watersheds are depicted on the plan entitled “Post-Development Watershed Plan”, Sheet WS-2.

Point of Analysis (PA-1)

Point of Analysis One (PA-1) is comprised of Post-Development Watershed (WS-1A) and (WS-1B). Post-Development Watershed (WS-1A) remains largely unchanged from the pre-development condition. Post-Development Watershed (WS-1B) consists of runoff generated by the proposed building roof, porous concrete driveway, and lawn area. Runoff generated from the proposed roof is collected by roof leaders and discharged into the reservoir course of the porous concrete. The remaining runoff generated in this watershed enters the porous concrete through the surface and is detained and infiltrated in the subsurface soils.

2.3.1 Post-Development Watershed Plan

Tighe&Bond
www.tighebond.com



LEGEND

POST-DEVELOPMENT WATERSHED I

LONGEST FLOWPATH

SOIL BOUNDARY

WS-1 POST-DEVELOPMENT WATERSHED I

PA1 POINT OF ANALYSIS

LEGEND:	MAP UNIT NAME	HYDROLOGIC SOIL GROUP RATING:
HIB	HINCKLEY GRAVELLY SANDY LOAM	A

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
-	-	-

PROJECT NO:	P-0765
DATE:	2015/06/16
FILE: P0765-SITE.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	GMM

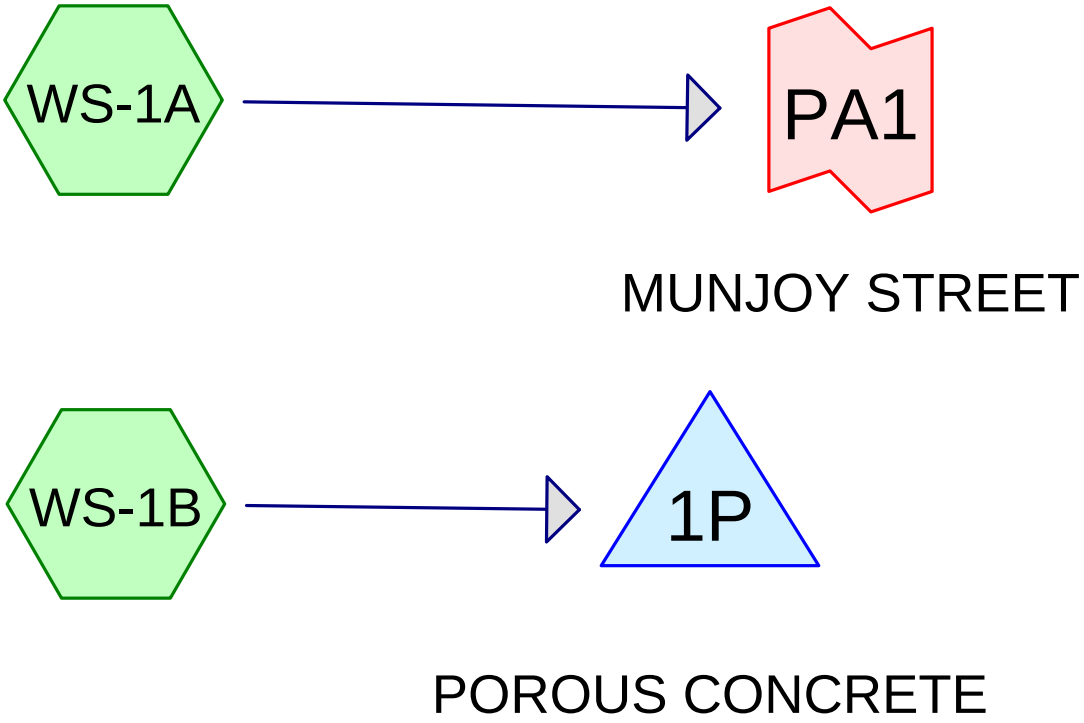
POST-DEVEOPMENT WATERSHED PLAN

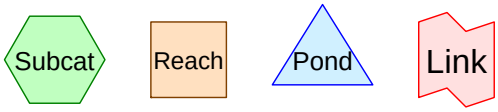
SCALE: 1" = 10'

WS-2

Last Saved: 7/20/2015
Plotted On:Jul 20, 2015-2:29pm By: pxh
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg

2.3.2 Post-Development Calculations





Routing Diagram for P0765-POST
Prepared by Tighe & Bond, Printed 7/20/2015
HydroCAD® 10.00 s/n 03436 © 2013 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.032	39	>75% Grass cover, Good, HSG A (WS-1A, WS-1B)
0.028	98	Paved parking, HSG A (WS-1B)
0.074	98	Roofs, HSG A (WS-1A, WS-1B)
0.135	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.135	HSG A	WS-1A, WS-1B
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.135		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>1.51"
Flow Length=75' Slope=0.0110 '/' Tc=7.7 min CN=84 Runoff=0.07 cfs 0.005 af

Subcatchment WS-1B: Runoff Area=4,112 sf 76.24% Impervious Runoff Depth>1.52"
Tc=5.0 min CN=84 Runoff=0.17 cfs 0.012 af

Pond 1P: POROUS CONCRETE Peak Elev=127.64' Storage=144 cf Inflow=0.17 cfs 0.012 af
Outflow=0.03 cfs 0.012 af

Link PA1: MUNJOY STREET Inflow=0.07 cfs 0.005 af
Primary=0.07 cfs 0.005 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.017 af Average Runoff Depth = 1.51"
23.75% Pervious = 0.032 ac 76.25% Impervious = 0.103 ac

Summary for Subcatchment WS-1A:

Runoff = 0.07 cfs @ 12.11 hrs, Volume= 0.005 af, Depth> 1.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0110	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0110	1.57		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
1,230	98	Paved parking, HSG A
1,905	98	Roofs, HSG A
977	39	>75% Grass cover, Good, HSG A
4,112	84	Weighted Average
977		23.76% Pervious Area
3,135		76.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: POROUS CONCRETE

Inflow Area = 0.094 ac, 76.24% Impervious, Inflow Depth > 1.52" for 2-YR event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.012 af
Outflow = 0.03 cfs @ 11.95 hrs, Volume= 0.012 af, Atten= 83%, Lag= 0.0 min
Discarded = 0.03 cfs @ 11.95 hrs, Volume= 0.012 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 127.64' @ 12.57 hrs Surf.Area= 1,230 sf Storage= 144 cf
Flood Elev= 129.75' Surf.Area= 1,230 sf Storage= 1,107 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 32.3 min (863.5 - 831.2)

Volume	Invert	Avail.Storage	Storage Description
#1	127.35'	1,107 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,768 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.35	1,230	0	0
129.60	1,230	2,768	2,768

Device	Routing	Invert	Outlet Devices
#1	Discarded	127.35'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.03 cfs @ 11.95 hrs HW=127.38' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.040 ac, 76.27% Impervious, Inflow Depth > 1.51" for 2-YR event
Inflow = 0.07 cfs @ 12.11 hrs, Volume= 0.005 af
Primary = 0.07 cfs @ 12.11 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>2.99"
Flow Length=75' Slope=0.0110 '/' Tc=7.7 min CN=84 Runoff=0.13 cfs 0.010 af

Subcatchment WS-1B: Runoff Area=4,112 sf 76.24% Impervious Runoff Depth>3.00"
Tc=5.0 min CN=84 Runoff=0.33 cfs 0.024 af

Pond 1P: POROUS CONCRETE Peak Elev=128.15' Storage=396 cf Inflow=0.33 cfs 0.024 af
Outflow=0.03 cfs 0.024 af

Link PA1: MUNJOY STREET Inflow=0.13 cfs 0.010 af
Primary=0.13 cfs 0.010 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.034 af Average Runoff Depth = 2.99"
23.75% Pervious = 0.032 ac 76.25% Impervious = 0.103 ac

Summary for Subcatchment WS-1A:

Runoff = 0.13 cfs @ 12.11 hrs, Volume= 0.010 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.70"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0110	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0110	1.57		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.024 af, Depth> 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.70"

Area (sf)	CN	Description
1,230	98	Paved parking, HSG A
1,905	98	Roofs, HSG A
977	39	>75% Grass cover, Good, HSG A
4,112	84	Weighted Average
977		23.76% Pervious Area
3,135		76.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: POROUS CONCRETE

Inflow Area = 0.094 ac, 76.24% Impervious, Inflow Depth > 3.00" for 10-YR event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.024 af
Outflow = 0.03 cfs @ 11.75 hrs, Volume= 0.024 af, Atten= 91%, Lag= 0.0 min
Discarded = 0.03 cfs @ 11.75 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 128.15' @ 13.08 hrs Surf.Area= 1,230 sf Storage= 396 cf
Flood Elev= 129.75' Surf.Area= 1,230 sf Storage= 1,107 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 115.0 min (926.6 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	127.35'	1,107 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,768 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.35	1,230	0	0
129.60	1,230	2,768	2,768

Device	Routing	Invert	Outlet Devices
#1	Discarded	127.35'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.03 cfs @ 11.75 hrs HW=127.38' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.040 ac, 76.27% Impervious, Inflow Depth > 2.99" for 10-YR event
Inflow = 0.13 cfs @ 12.11 hrs, Volume= 0.010 af
Primary = 0.13 cfs @ 12.11 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment WS-1A: Runoff Area=1,749 sf 76.27% Impervious Runoff Depth>3.73"
Flow Length=75' Slope=0.0110 '/' Tc=7.7 min CN=84 Runoff=0.16 cfs 0.012 af

Subcatchment WS-1B: Runoff Area=4,112 sf 76.24% Impervious Runoff Depth>3.73"
Tc=5.0 min CN=84 Runoff=0.41 cfs 0.029 af

Pond 1P: POROUS CONCRETE Peak Elev=128.44' Storage=536 cf Inflow=0.41 cfs 0.029 af
Outflow=0.03 cfs 0.029 af

Link PA1: MUNJOY STREET Inflow=0.16 cfs 0.012 af
Primary=0.16 cfs 0.012 af

Total Runoff Area = 0.135 ac Runoff Volume = 0.042 af Average Runoff Depth = 3.73"
23.75% Pervious = 0.032 ac 76.25% Impervious = 0.103 ac

Summary for Subcatchment WS-1A:

Runoff = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
1,334	98	Roofs, HSG A
415	39	>75% Grass cover, Good, HSG A
1,749	84	Weighted Average
415		23.73% Pervious Area
1,334		76.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0110	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.3	25	0.0110	1.57		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
7.7	75	Total			

Summary for Subcatchment WS-1B:

Runoff = 0.41 cfs @ 12.07 hrs, Volume= 0.029 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.50"

Area (sf)	CN	Description
1,230	98	Paved parking, HSG A
1,905	98	Roofs, HSG A
977	39	>75% Grass cover, Good, HSG A
4,112	84	Weighted Average
977		23.76% Pervious Area
3,135		76.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: POROUS CONCRETE

Inflow Area = 0.094 ac, 76.24% Impervious, Inflow Depth > 3.73" for 25-YR event
Inflow = 0.41 cfs @ 12.07 hrs, Volume= 0.029 af
Outflow = 0.03 cfs @ 11.65 hrs, Volume= 0.029 af, Atten= 93%, Lag= 0.0 min
Discarded = 0.03 cfs @ 11.65 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 128.44' @ 13.58 hrs Surf.Area= 1,230 sf Storage= 536 cf
Flood Elev= 129.75' Surf.Area= 1,230 sf Storage= 1,107 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 163.7 min (969.2 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	127.35'	1,107 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 2,768 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.35	1,230	0	0
129.60	1,230	2,768	2,768

Device	Routing	Invert	Outlet Devices
#1	Discarded	127.35'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.03 cfs @ 11.65 hrs HW=127.38' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Summary for Link PA1: MUNJOY STREET

Inflow Area = 0.040 ac, 76.27% Impervious, Inflow Depth > 3.73" for 25-YR event
Inflow = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af
Primary = 0.16 cfs @ 12.11 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Pond 1P: POROUS CONCRETE

Inflow Area = 0.094 ac, 76.24% Impervious, Inflow Depth > 4.85" for 100-YR event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 0.038 af
Outflow = 0.03 cfs @ 11.45 hrs, Volume= 0.035 af, Atten= 95%, Lag= 0.0 min
Discarded = 0.03 cfs @ 11.45 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 128.92' @ 14.15 hrs Surf.Area= 1,230 sf Storage= 771 cf
Flood Elev= 129.75' Surf.Area= 1,230 sf Storage= 1,107 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 198.6 min (996.7 - 798.1)

Volume	Invert	Avail.Storage	Storage Description
#1	127.35'	1,107 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 2,768 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.35	1,230	0	0
129.60	1,230	2,768	2,768

Device	Routing	Invert	Outlet Devices
#1	Discarded	127.35'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.03 cfs @ 11.45 hrs HW=127.38' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

2.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates for the 2-year, 10-year, and 25-year storm events. The post-development peak rate of runoff for each discharge point has been determined to be equal to or less than the peak runoff rate generated during the pre-development condition.

Point of Analysis	Pre/**Post** 2-Year Storm (cfs)	Pre/**Post** 10-Year Storm (cfs)	Pre/**Post** 25-Year Storm (cfs)
PA1	0.07/**0.07**	0.15/**0.13**	0.22/**0.16**

2.5 Stormwater Treatment

The Applicant requests a waiver from pre-treatment and treatment requirements in the City of Portland Technical Manual for stormwater runoff generated by the additional impervious area (±2,500 SF) that will result from the proposed development. The new impervious area consists of roof runoff, which does not typically require treatment as it is inherently clean, and the porous concrete driveway. The porous concrete driveway will not generate any runoff as water that falls onto the pavement will infiltrate into the reservoir course below the concrete. A small portion grass will contribute runoff into the driveway, but the grass provides sufficient treatment prior to discharge into the porous pavement.

2.6 Mitigation Description and Best Management Practices

In order to mitigate the increase in impervious area required for the proposed project, a stormwater system has been designed for this project utilizing low impact development measures.

The intent of the stormwater management system design is for runoff to be collected, detained, and infiltrated, where possible. Porous concrete pavement has been provided to mitigate potential impacts from the increase in impervious area.

All soil erosion and sediment control measures shall be in accordance with regulations and principles as outlined in the Stormwater Management for Maine: Best Management Practices and Maine Erosion and Sediment Control Handbook for Construction. The intent of the outlined measures is to minimize erosion and sedimentation during construction, stabilize and protect the site from erosion after construction is complete and improve stormwater quality from the site. Best Management Practices for this project include:

- Temporary practices to be implemented during construction.
- Permanent practices to be implemented after construction.
- Stormwater treatment devices.

TEMPORARY PRACTICES

Sequencing:

1. Construct temporary and permanent sediment, erosion and detention control facilities. Erosion, sediment and detention measures shall be installed prior to any earth moving operations that will influence stormwater runoff such as:

    - New construction
    - Development of borrow pit areas
    - Disposal of sediment spoil, stump and other solid waste
    - Control of dust

2. All permanent ditches, swales, detention, retention and sedimentation basins to be stabilized using the vegetative and nonstructural BMPs prior to directing runoff to them.

3. Clear and dispose of debris.

4. Construct temporary culverts and diversion channels as required.

5. Begin permanent and temporary seeding and mulching. All cut and fill slopes shall be seeded and mulched immediately after their construction.

6. Daily, or as required, construct temporary berms, drains, ditches, silt fences, sediment traps etc., mulch and seed as required.

7. Finish pave all roadways and parking lots.

8. Inspect and maintain all erosion and sediment control measures.

9. Complete permanent seeding and landscaping.

10. Remove trapped sediment from collection devices as appropriate and then remove temporary erosion control measures.

Stabilization Practices:

1. Install stabilized construction entrance at the location shown on plans.

2. Loam stockpiles shall be mulched, seeded and contained by a silt fence barrier.

3. All erosion control devices, including silt fences and storm drain inlet filters, shall be inspected at least once per week and following any rainfall of 1/4 inch or greater. All necessary maintenance shall be completed within 48 hours. A Maintenance Inspection Report shall be kept on site and made available by the contractor at the city's request.

4. Inactivity: Area of the site which has been disturbed, where construction activity will not occur for more than twenty-one (21) days, shall be temporarily stabilized by mulching and seeding.

5. Waste Disposal/Spill Prevention: The Erosion Control Notes and Details Sheet of the Site Plans fully detail the waste disposal and spill prevention procedures. All waste from construction activities shall be collected and stored in receptacles. No construction materials shall be buried on site. The Spill Prevention Plan focuses on personnel training, housekeeping, storage and standard practices for use and disposal of materials.

PERMANENT PRACTICES

The objectives for developing permanent Best Management Practices for this site include the following:

- Develop a plan that provides the best hydrologic condition both on site and downstream.
- Provide a higher level of removal of pollutants from stormwater runoff.
- Minimize impact on the natural environment.
- Minimize future maintenance.

Section 3
Long Term Operations & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high quality of stormwater runoff.

Annual Reporting Requirements
The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to City of Portland Department of Public Services (DPS) in a form provided by DPS, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

3.1 Contact/Responsible Party

Robert LeBlanc
Peninsula Property Development
59 Moody Street
Portland, Maine 04101

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

3.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Porous Pavement Vacuuming and Sweeping

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted and all measures must be maintained in effective operating condition.

3.3 Overall Site Operation & Maintenance Schedule

Overall Site Operation and Maintenance Schedule		
Maintenance Item	**Frequency of Maintenance**	**Operation**
Litter/Debris Removal	Weekly	Management Company
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	2 - 4 times annually	Parking Lot Sweeper
Catch Basin (CB) / CBs/YDs to be cleaned of solids and oils.	Annually	Vacuum Truck
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring	Management Company

Porous Concrete Inspection/Maintenance Requirements		
Inspection/ Maintenance	Frequency	Action
Inspect for Signs of Deterioration and Spalling	Annually	- Repair as required
Monitor for proper Infiltration	Periodically	- Inspect the area for infiltration rate. - If required: hire qualified professional to assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.
Clean Porous Asphalt	2 - 4 times annually	- Vacuum Sweeper to clean entire porous concrete area (Note: power washing may be required on heavily soiled areas to dislodge particles prior to sweeping/vacuuming).

3.3.1 Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

3.3.2 Snow & Ice Management for Standard Walkways and Pavement

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site. Salt and sand shall be used to the minimum extent practical.

3.3.3 Snow & Ice Management for Porous Concrete

- Maintenance personnel shall be properly trained as to the locations of porous concrete pavement and operations and maintenance requirements for the porous concrete pavement.
- The porous concrete areas shall be plowed after every storm in accordance with standard plowing operations for standard pavement and as required to maintain safe conditions. Special plow blades may be used to prevent scarring but are not necessary (raised blade plowing is not recommended).
- The UNHSC has documented up to a 75% net salt reduction for de-icing measures over the course of a winter season. However, salt reduction is site dependent due to pavement shading, hours of operation, storm intensities, temperatures, etc. Salt/de-icing chemicals shall be applied as needed to maintain a safe and accessible site at all times. The following recommendations for salt/de-icing chemical application may be applicable:
    - Additional salt/de-icing chemical application may be needed during challenging storm events, particularly mixed precipitation events.
    - Salt/de-icing chemical application prior to storm events may be required to maintain a safe and accessible site during the first part of a storm.
    - Salt/de-icing chemical application during and after storm events may be required to control compact snow and ice not removed by plowing.
    - Salt/de-icing chemical reduction may be realized between storm events depending on black ice formation.
- Sand application is not recommended for porous concrete areas or areas that drain to porous concrete areas due to an increased maintenance burden.

3.3.4 Annual Updates & Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

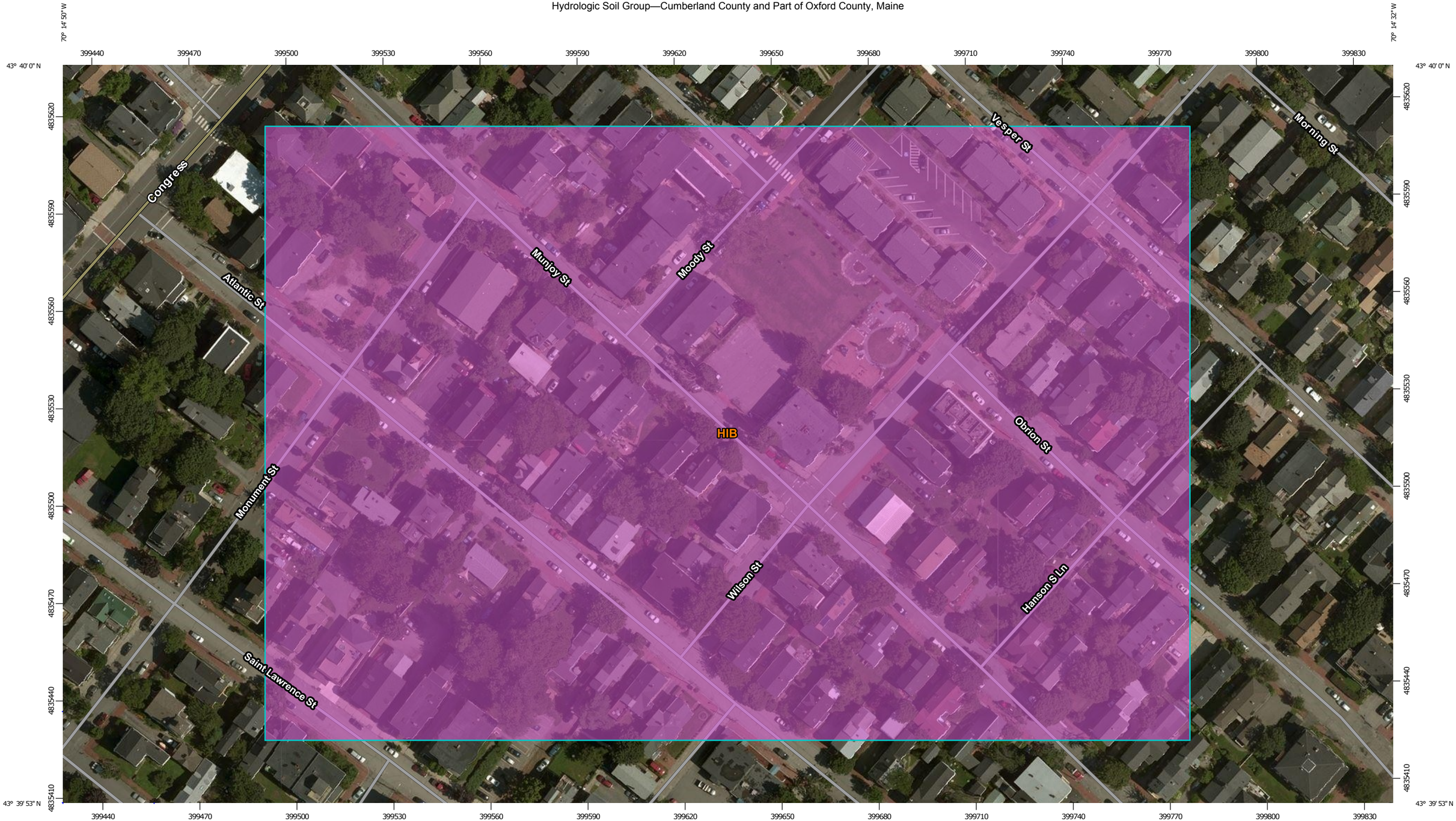
A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site.

Stormwater Management Report						
Project Name		**72 Munjoy Street Condos, Portland, ME**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			

Section 4
Appendices

4.1 Site Plans - Bound Separately

4.2 Soil Maps



Map Scale: 1:1,110 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 9, Sep 13, 2014

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

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Cumberland County and Part of Oxford County, Maine (ME005)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
HIB	Hinckley gravelly sandy loam, 3 to 8 percent slopes	A	13.4	100.0%
Totals for Area of Interest			**13.4**	**100.0%**

Description

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

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

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

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

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

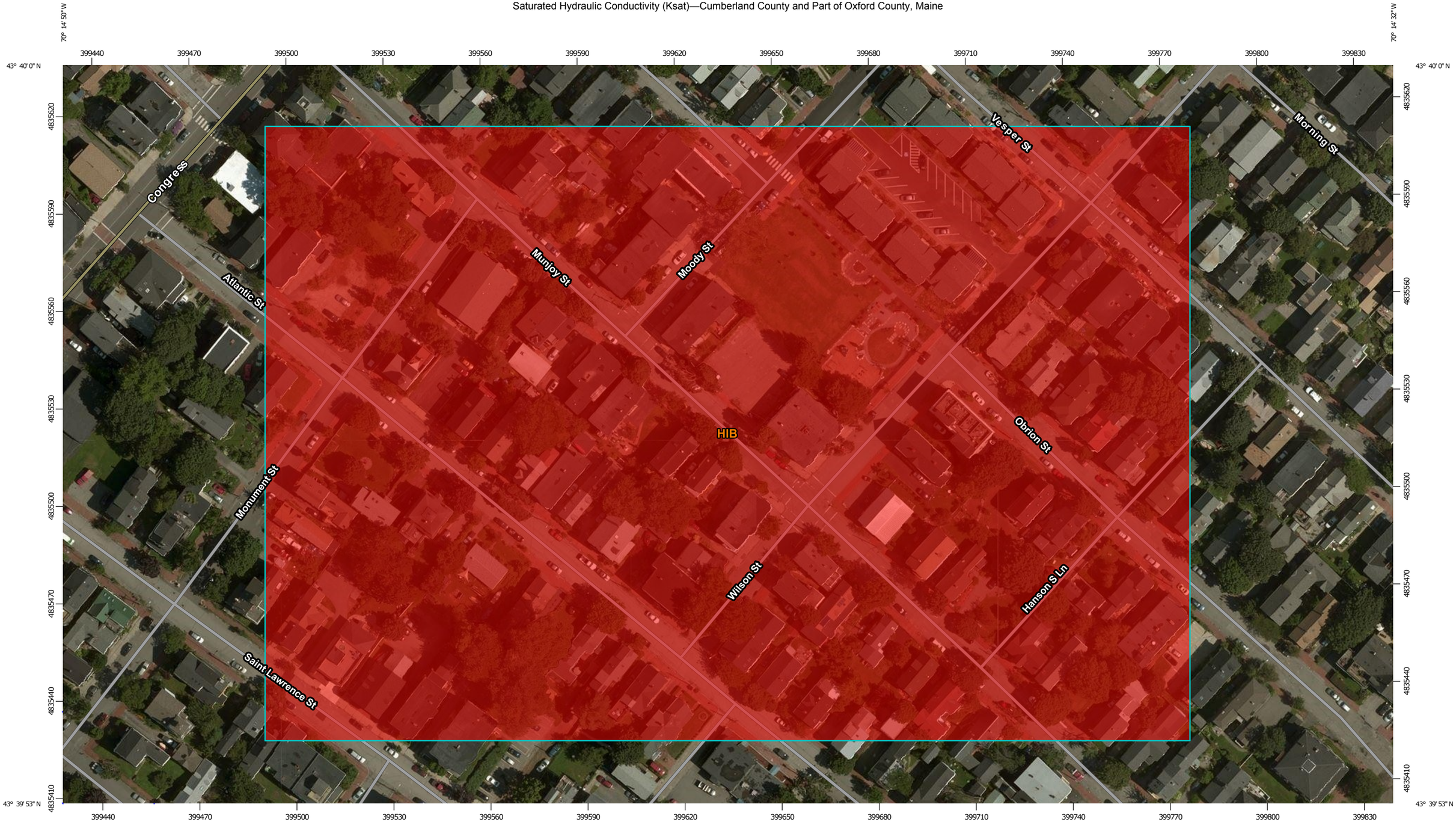
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*



Map Scale: 1:1,110 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

= 57.9133

Not rated or not available

Soil Rating Lines

= 57.9133

Not rated or not available

Soil Rating Points

= 57.9133

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 9, Sep 13, 2014

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

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

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

Saturated Hydraulic Conductivity (Ksat)

Saturated Hydraulic Conductivity (Ksat)— Summary by Map Unit — Cumberland County and Part of Oxford County, Maine (ME005)				
Map unit symbol	**Map unit name**	**Rating (micrometers per second)**	**Acres in AOI**	**Percent of AOI**
HIB	Hinckley gravelly sandy loam, 3 to 8 percent slopes	57.9133	13.4	100.0%
Totals for Area of Interest			**13.4**	**100.0%**

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: *None Specified*

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 1

Bottom Depth: 4

Units of Measure: Centimeters

4.3 Precipitation Table

Table 2-1
24 Hour Duration Rainfalls for Various Return Periods
Natural Resources Conservation Service County Rainfall Data

County	Storm Type	Return Interval or Frequency 1-Yr	2-Yr	5-Yr	10-Yr	25-Yr	100-Yr	500-Yr	Annual	
Androscoggin		2.5	3.0	3.9	4.6	5.4	6.5	7.8	45.3	
Aroostook C		2.1	2.1	3.2	3.6	4.2	5.0	5.9	36.1	(Presque Isle Area)
Aroostook N	S	2.0	2.3	3.0	3.5	4.0	4.8	5.7	36.1	(Fort Kent Area)
Aroostook S	E	2.2	2.5	3.3	3.8	4.4	5.3	6.4	39.0	(Houlton Area)
Cumberland NW	E	2.8	3.3	4.3	5.0	5.8	6.9	8.3	43.4	(NW of St. Route 11)
Cumberland SE		2.5	3.0	4.0	4.7	5.5	6.7	8.1	44.4	(SE of St. Route 11)
Franklin	N	2.4	2.9	3.7	4.2	4.9	5.9	7.0	45.6	
Hancock	O	2.4	2.7	3.6	4.2	4.9	6.0	7.2	45.2	
Kennebec	T	2.4	3.0	3.8	4.4	5.1	6.1	7.2	41.7	
Knox-Lincoln	E	2.5	2.9	3.8	4.4	5.1	6.2	7.4	46.1	
Oxford E	S	2.5	3.0	4.0	4.6	5.3	6.4	7.6	43.0	(E of St. Route 26)
Oxford W		3.0	3.5	4.5	5.2	6.0	7.1	8.4	43.8	(W of St. Route 26)
Penobscot N	1	2.2	2.5	3.3	3.8	4.4	5.4	6.4	41.5	(N of Can. -Atl. Rwy)
Penobscot S		2.4	2.7	3.5	4.1	4.8	5.8	6.9	39.5	(S of Can. -Atl. Rwy)
Piscataquis N		2.2	2.5	3.3	3.8	4.4	5.3	6.3	38.5	(N of Can. - Atl. Rwy)
Piscataquis S	A	2.3	2.6	3.4	4.0	4.6	5.5	6.6	41.0	(S of Can. - Atl. Rwy)
Sagadahoc	N	2.5	3.0	3.9	4.6	5.4	6.5	7.8	45.3	
Somerset N	D	2.2	2.5	3.3	3.8	4.4	5.3	6.3	37.3	(N of Can. - Atl. Rwy)
Somerset S	2	2.4	2.7	3.5	4.1	4.7	5.7	6.8	39.5	(S of Can. - Atl. Rwy)
Waldo		2.5	2.8	3.7	4.3	4.9	6.0	7.1	47.2	
Washington		2.4	2.5	3.4	4.0	4.8	5.9	7.1	44.2	
York		2.5	3.0	4.0	4.6	5.4	6.6	7.8	46.7	

NOTES: REVISED 4/10/92 Lew P. Crosby
24-HR DURATION RAINFALL

SOURCES: 24-HR. DATA - TP 40
ANNUAL DATA - CDAN

Note 1: [1]Use ***Type II*** for Oxford County (with the exception of towns listed below) and Penobscot County (with the exception of towns listed below) and all Main counties not listed below)

Note 2: [2]Use ***Type III*** for York, Cumberland, Androscoggin, Sagadahoc, Kennebec, Waldo, Knox, Piscataquis, Somerset, Franklin, Aroostook, Lincoln, Hancock, Washington Counties; the following Oxford County Towns: Porter, Brownfield, Hiram, Denmark, Oxford, Hebron, Buckfield and Hartford; and the following Penobscot County Towns: Dixmont, Newburgh, Hampden, Bangor, Veazie, Orono, Bradley, Clifton, Eddington, Holden, Brewer, Orrington, Plymouth, Etna, Carmel, Hermon, Glenburn, Old Town, Milford and Greenfield.

Long Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high quality of stormwater runoff.

Annual Reporting Requirements

The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to City of Portland Department of Public Services (DPS) in a form provided by DPS, certifying that the person has inspected the BMP(s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action(s) taken.

Contact/Responsible Party

72 Munjoy Street Condominium Association
72 Munjoy Street
Portland, ME 04101

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catch basin/Yard drain Cleaning
- Porous Pavement Vacuum/Sweeping
- Underdrained Soil Filter Cleaning and Maintenance

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

Overall Site Operation and Maintenance Schedule

Maintenance Item	Frequency of Maintenance	Operation
Litter/Debris Removal	Weekly	Management Company
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring	Management Company

Porous Concrete Inspection/Maintenance Requirements		
Inspection/ Maintenance	**Frequency**	**Action**
Inspect for Signs of Deterioration and Spalling	Annually	- Repair as required
Monitor for proper Infiltration	Periodically	- Inspect the area for infiltration rate. - If required: hire qualified professional to assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.
Clean Porous Asphalt	2 times annually	- Vacuum Sweeper to clean entire porous concrete driveway area (Note: power washing may be required on heavily soiled areas to dislodge particles prior to sweeping/vacuuming).

Disposal Requirements

Disposal of debris, trash, sediment and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

Snow & Ice Management for Standard Concrete and Sidewalks

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan). Curb cuts shown on the plan shall remain free of snow and ice buildup. Salt storage areas shall be covered or located such that no direct untreated discharges are possible to receiving waters from the storage site.

Snow & Ice Management for Porous Concrete

- Maintenance personnel shall meet with UNHSC for the latest guidance on snow and ice management for porous concrete areas.
- Maintenance personnel shall be properly trained as to the locations of porous concrete and operations and maintenance requirements for the porous concrete.
- The porous concrete areas shall be plowed after every storm in accordance with standard plowing operations for standard pavement and as required to maintain safe conditions. Special plow blades may be used to prevent scarring but are not necessary (raised blade plowing is not recommended).
- The UNHSC has documented up to a 75% net salt reduction for de-icing measures over the course of a winter season. However, salt reduction is site dependent due to pavement shading, hours of operation, storm intensities, temperatures, etc. Salt/de-icing chemicals shall be applied as needed to maintain a safe and accessible site at all times. The following recommendations for salt/de-icing chemical application may be applicable:
    - Additional salt/de-icing chemical application may be needed during challenging storm events, particularly mixed precipitation events.
    - Salt/de-icing chemical application prior to storm events may be required to maintain a safe and accessible site during the first part of a storm.
    - Salt/de-icing chemical application during and after storm events may be required to control compact snow and ice not removed by plowing.
    - Salt/de-icing chemical reduction may be realized between storm events depending on black ice formation.
- Sand application is not recommended for porous concrete areas or areas that drain to porous concrete areas due to an increased maintenance burden.

Annual Updates and Log Requirements

The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site.

Stormwater Management Report						
Project Name		**72 Munjoy St, Portland, ME**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			
			❑Yes ❑No			

72 Munjoy Street
Solid Waste Generation

The 3 unit building at 72 Munjoy will likely generate 2-3 small bags of Portland trash bags a week per unit and one tub of Portland recycling per unit. The total generated will be a maximum of 9 small trash bags and 3 recycling tubs per week which will be placed out on the street for weekly pickup by the city.

Att. L

August 26, 2015

Mr. Robert LeBlanc
Peninsula Property Development
71 West Street
Portland, ME 04102

RE: The Capacity to Handle Wastewater Flows from

Dear Mr. LeBlanc:

The Department of Public Services which includes the Water Resource Division has reviewed and determined that the downstream sewers from 72 Munjoy Street has the capacity to convey the estimated 900 gallons per day of wastewater which will be generated from this facility. Please be aware that design is currently being completed to replace the existing sanitary sewer and install a new stormwater sewer in front of 72 Munjoy Street. Construction will most likely begin within the next two years.

If the City can be of further assistance, please call 874-8850 or 400-6695.

Sincerely,
CITY OF PORTLAND

David Margolis-Pineo

David Margolis-Pineo
Deputy City Engineer

Anticipated Wastewater Flows from the Proposed Multifamily Complex:
Ten Bedrooms @ 90 gpd/bedroom = 900 gpd

CC: Jeffrey Levine, Director, Department of Planning and Urban Development, City of Portland
Barbara Barhydt, Development Review Services Mgr., Dep't. of Planning and Urban Development, City of Portland
Nell Donaldson, Department of Planning and Urban Development, City of Portland
Shukria Wiar, Planner, Department of Planning and Urban Development, City of Portland
Nancy Gallinaro, Water Resources Manager
Benjamin N. Pearson, E.I., Industrial Pretreatment Coordinator, City of Portland
John Emerson, Wastewater Coordinator, City of Portland

Portland Water District
FROM SEBAGO LAKE TO CASCO BAY

September 1, 2015

Tighe & Bond, Inc.
177 Corporate Drive
Portsmouth, NH 03801

Attn: William Dawson
Re: 92 Munjoy Street - Portland
Ability to Serve with PWD Water

Dear Mr. Dawson:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on July 15, 2015. Based on the information provided, we can confirm that the District will be able to serve the proposed project as further described in this letter.

Conditions of Service

The following conditions of service apply:

- It is the District's understanding that a three unit addition will be added to the existing two unit building. The ability to serve request indicated that four new services will be installed to serve the new three unit addition; three 1-inch domestic services and one 2-inch fire service.

- The current property maps show that there are two separate lots that make up this site; 68 Munjoy Street and 72 Munjoy Street. If these are to remain separate parcels, then the new services must be installed through the properties own frontage on Munjoy Street a minimum of 10-feet from the side property lines.

- Our records show that the existing two unit building is currently served with a ¾-inch domestic water service; please note that the size of this service is below our minimum service size of 1-inch. It is recommended to upgrade the size of this service in conjunction with the utility work in Munjoy Street as part of this project.

- Water District approval of water infrastructure plans will be required for the project prior to construction. As your project progresses, we advise that you submit any preliminary design plans to MEANS for review of the water main and water service line configuration. We will work with you to ensure that the design meets our current standards.

Existing Site Service

According to District records, the project site does currently have existing water service. A 3/4-inch diameter copper water service line, located as shown on the attached water service card, provides water service to this site. Please refer to the "Conditions of Service" section of this letter for requirements related to the use of this service.

225 DOUGLASS STREET P.O. BOX 3553 PORTLAND, MAINE 04104-3553
PHONE: 207.774.5961 FAX: 207.761.8307 WEB: WWW.PWD.ORG

Water System Characteristics

According to District records, there is an 8-inch diameter cast iron water main on the northerly side of Munjoy Street and a public fire hydrant located 80 feet from the site. Recent flow data is not available in this area. The most recent static pressure reading was 52 psi on 6/1/2015

Public Fire Protection

It is not anticipated that this project will include the installation of new public hydrants to be accepted into the District water system. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing codes.

Private Fire Protection Water Needs

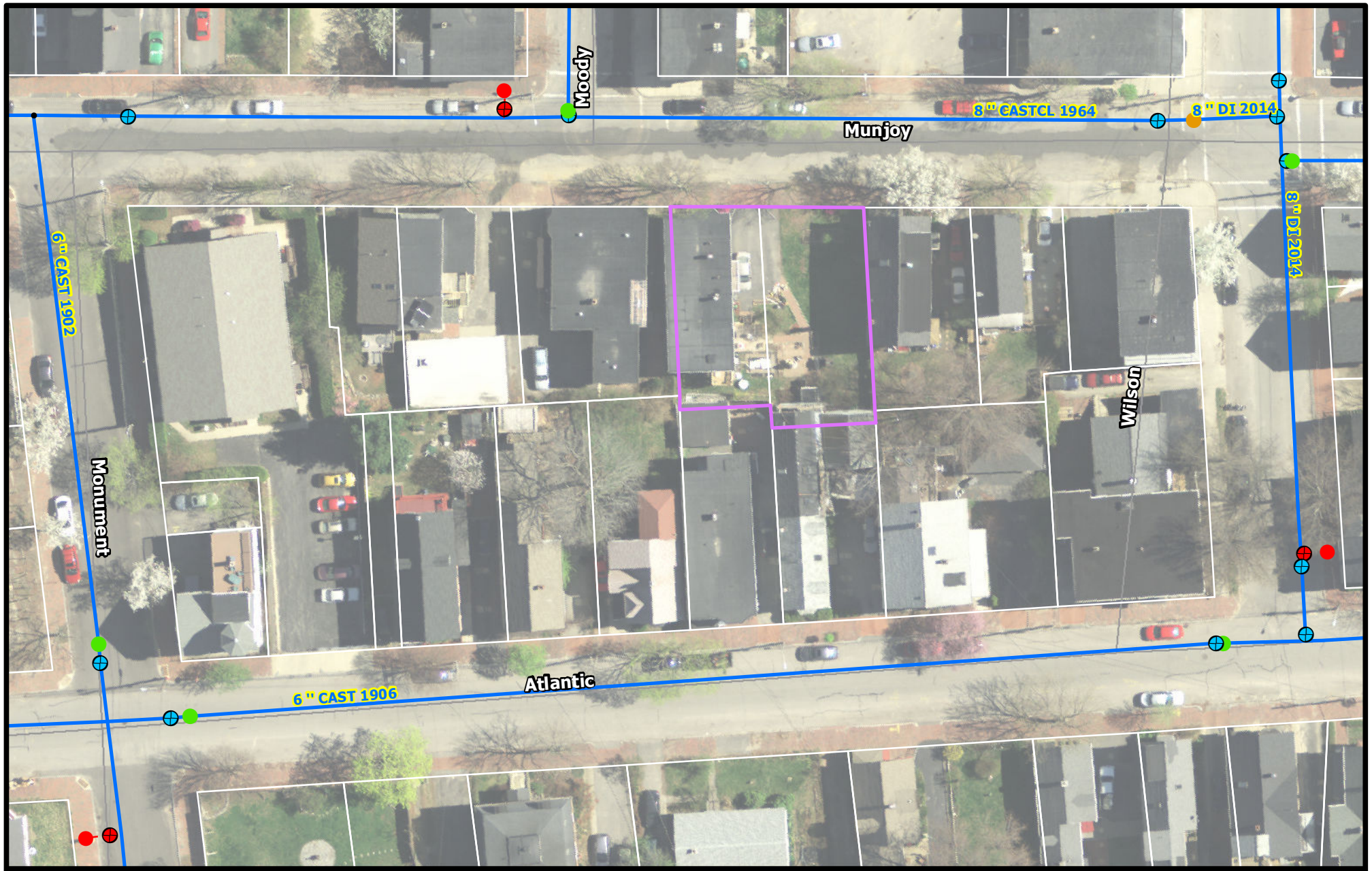
You have indicated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact the MEANS Division to request a hydrant flow test and we will work with you to get more complete data.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Glissen Havu

Glissen Havu, E.I.
Design Engineer



72 Munjoy Street

Portland

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04104

Scale 0 12.5 25 50 75 100 Feet — 1 inch = 50 feet

Legend

- Air Valve
- Blow Off
- By Pass
- Distribution
- Transmission
- Connection
- Attribute Change
- Reducer
- Hydrant
- Hydrant Control
- Combined Service
- Domestic Service
- Fire Service
- Private Hydrants
- Meter Pits
- Manhole
- CSO
- Gravity
- Force

N

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: BSJ	
Scale: As Noted	Date: July 7, 2015

Portland Fire Department
Site Review
Fire Department Checklist
72 Munjoy Street Portland, ME 04101

1. Applicant

   Peninsula Property Development
   59 Moody Street Portland, ME 04101
   207-879-2222

3. Architect:

   J. Call Design
   151 Roosevelt Trail
   Windham, ME 04062

4. Proposed uses of structure: NFPA = 13R and the IBC = commercial

   We are building a 4 story 3 unit residential condominium building with 5 parking spaces on the first floor.

6. The square footage of the structure is 1,800 sq.ft. per floor including the parking on the first floor the total structure is 7,200 sq.ft.

7. The attached is the quote for the fire system including the type of system.

8. See attached quote

9. A city hydrant is located approximately 120 feet away on the corner of Moody and Munjoy street.

10. The water main is 8" in size and is located directly in front of the building. We are in the process of getting a letter of the capacity to serve from the Portland Water District.

11. Access to the building will be available on the front and back of the building via pedestrian doors.

12. A code summary shall be included referencing NFPA 1 and all fire department Technical standards.

    The proposed sprinkler system for the Munjoy condo project is a N.F.P.A 13R system, being more than a 2 unit this system will
    have a fire department connection as well as fire alarm components such

as flow switches and tamper switches, this system shall
meet local and state authorities having jurisdiction

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant

3. Name address, telephone number of architect

4. Proposed uses of any structures [NFPA and IBC classification]

6. Square footage of all structures [total and per story]

7. Elevation of all structures

8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***

9. Hydrant locations

10. Water main[s] size and location

11. Access to all structures [min. 2 sides]

12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

Dan Banker
Owner

39 Jackson Road
Poland Springs, ME 04274

Mobile: 207-838-8930

Banker39@roadrunner.com

Alternative Sprinkler Fire Protection

INSTALLATION • SERVICE • INSPECTIONS

07/20/15

To: Mr. Bob Leblanc

The quote for the Munjoy Street Condominium Project located in Portland, Maine is as follows:

Alternative Sprinkler Fire Protection bids $16,115.00 for a 13R sprinkler system. The total includes design, material, permits (state and local), labor, and miscellaneous. The bid does not include painting or electrical and freeze warranty for piping run in cold areas. Also not included in the quote is underground piping or flushing of the underground piping.

A deposit of 1/3 is required up front for design, permits and partial material.

Quote good for 30 days.

Thank you for the opportunity to allow us to provide this pricing for you. If this pricing meets your approval, please return a signed copy of this letter to my attention and I will be in touch to discuss a proposed schedule for this work. If you would like further information or have any questions, please call me at the number provided below.

Sincerely,

Accepted By:_____
(Print)

Accepted By:_____
(Sign)

Date_____

Alternative Sprinkler Fire Protection
Danny Banker

Sprinkler Systems, Inc

P.O. Box 1285
Lewiston, Maine 04243-1285
Ph. (207) 782-0104 Fax (207) 783-4865
Fire Protection Professionals Since 1973

TO: Peninsula Property Development
59 Moody Street
Portland, Maine 04101
o) 879-2222

DATE: 9-Jun-15

ATTN: Robert LeBlanc
c0 776-0913

RE: New 3-Unit Building
72 Munjoy Street
Portland, Maine

SCOPE: PROPOSE TO INSTALL A NEW NFPA #13-R WET/DRY SPRINKLER SYSTEM IN THE ABOVE PROJECT PER STATE AND LOCAL APPROVALS

+ START INSIDE BUILDING AT NEW MINIMUM 2 1/2" UG FLANGE @ 1'-0" AFF
+ CONCEALED STEEL PIPING (RESERVE THE RIGHT TO USE BLAZEMASTER CPVC PLASTIC PIPE AND FITTINGS)
+ NEW QUICK RESPONSE/RESIDENTIAL SPRINKLERS
+ ANY AND ALL APPLICABLE STATE OF MAINE SALES TAXES
+ ASSUME ADEQUATE WATER SUPPLY PRESSURES AND FLOWS AVAILABLE IN THE CITY WATER SUPPLY MAINS
+ ASSUME ADEQUATE HEAT (MIN 40 DEG F) IN BUILDING AT ALL TIMES FOR DRY SYSTEM, ADEQUATE HEAT (MIN 40 DEG F) AT SPRINKLER VALVE ONLY
+ MINIMUM OF 4-5 WEEK LEAD TIME ON DESIGN, APPROVALS, PERMITS, ETC. FROM DATE OF CONTRACT AWARD

NOT INCLUDED IN SCOPE:

- ANY ELECTRICAL OR ALARM WORK
- ANY PAINTING OF PIPE
- ANY REPAIR, PATCHING, OR PAINTING OF STRUCTURE
- ANY SEISMIC / EARTHQUAKE BRACING
- ANY DRY PENDENT SPRINKLERS FROM ROOF SPACE THROUGH CEILINGS
- ANY SOFFITS TO HIDE OBJECTIONABLE EXPOSED PIPING
- ANY UNDERGROUND WORK

QUOTE: $27,600.00

Thank You,

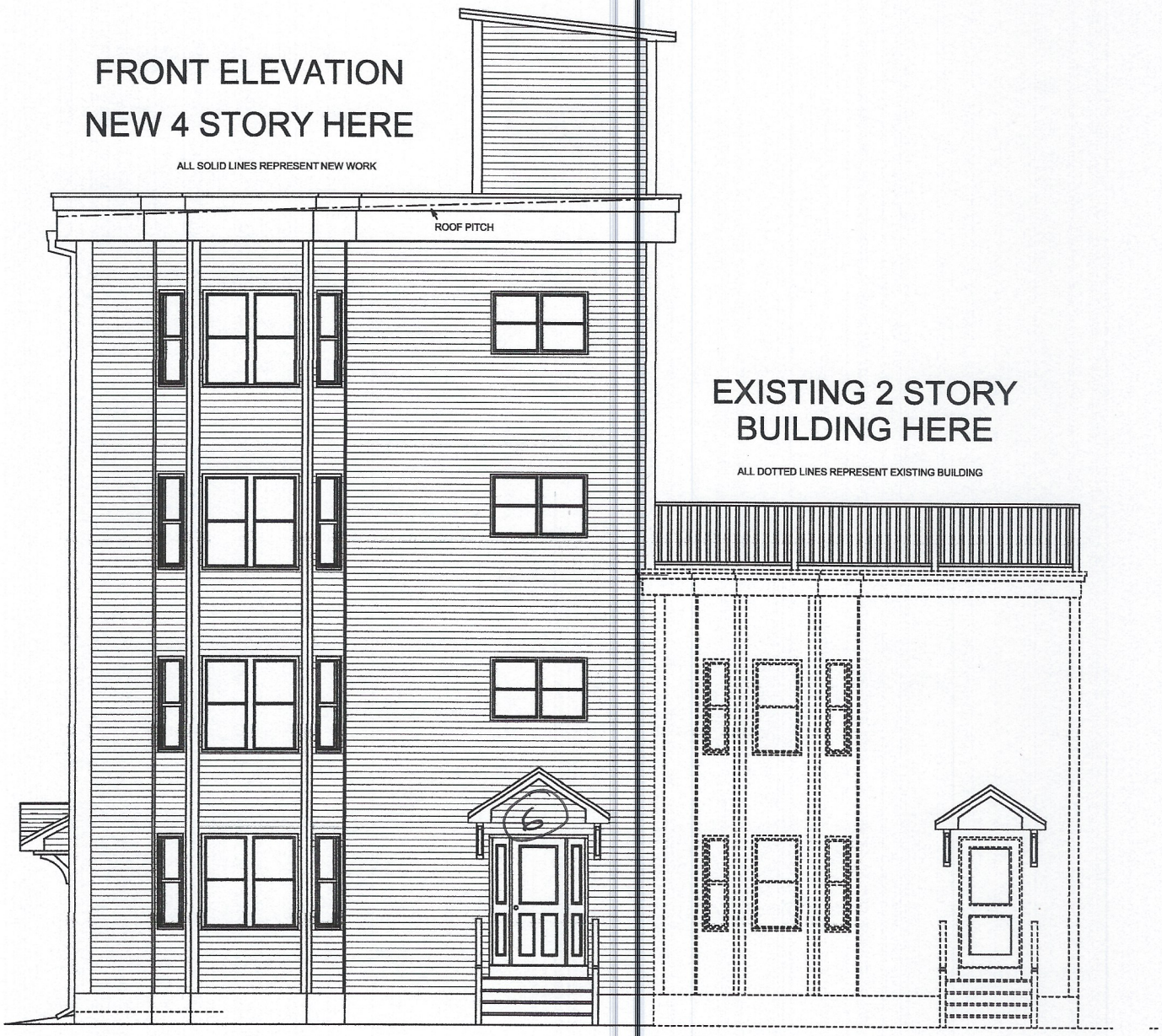
Scott E. Garland, SET, RMS
Estimating Department

Authorized By:

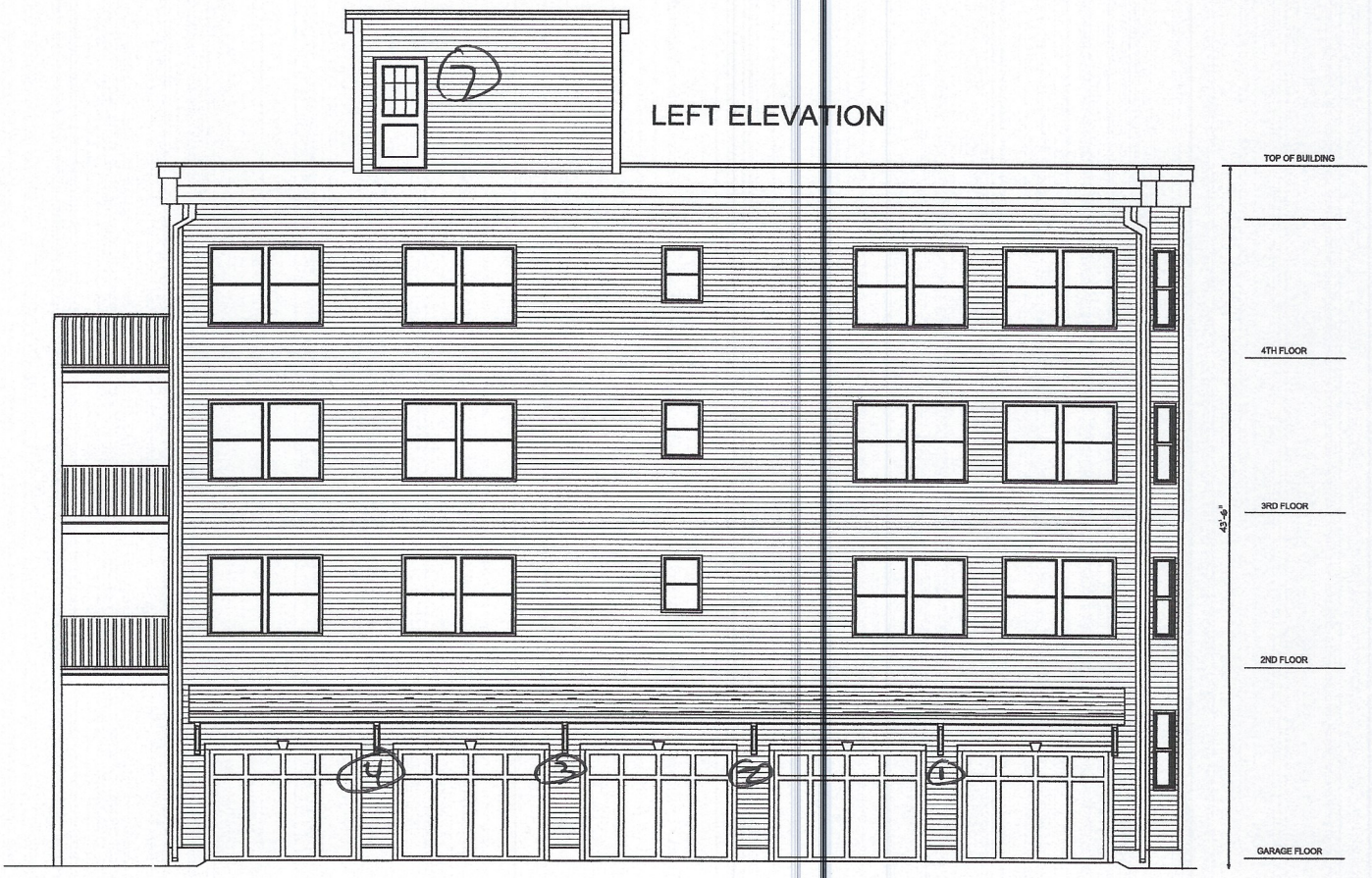
Date:

Att. N

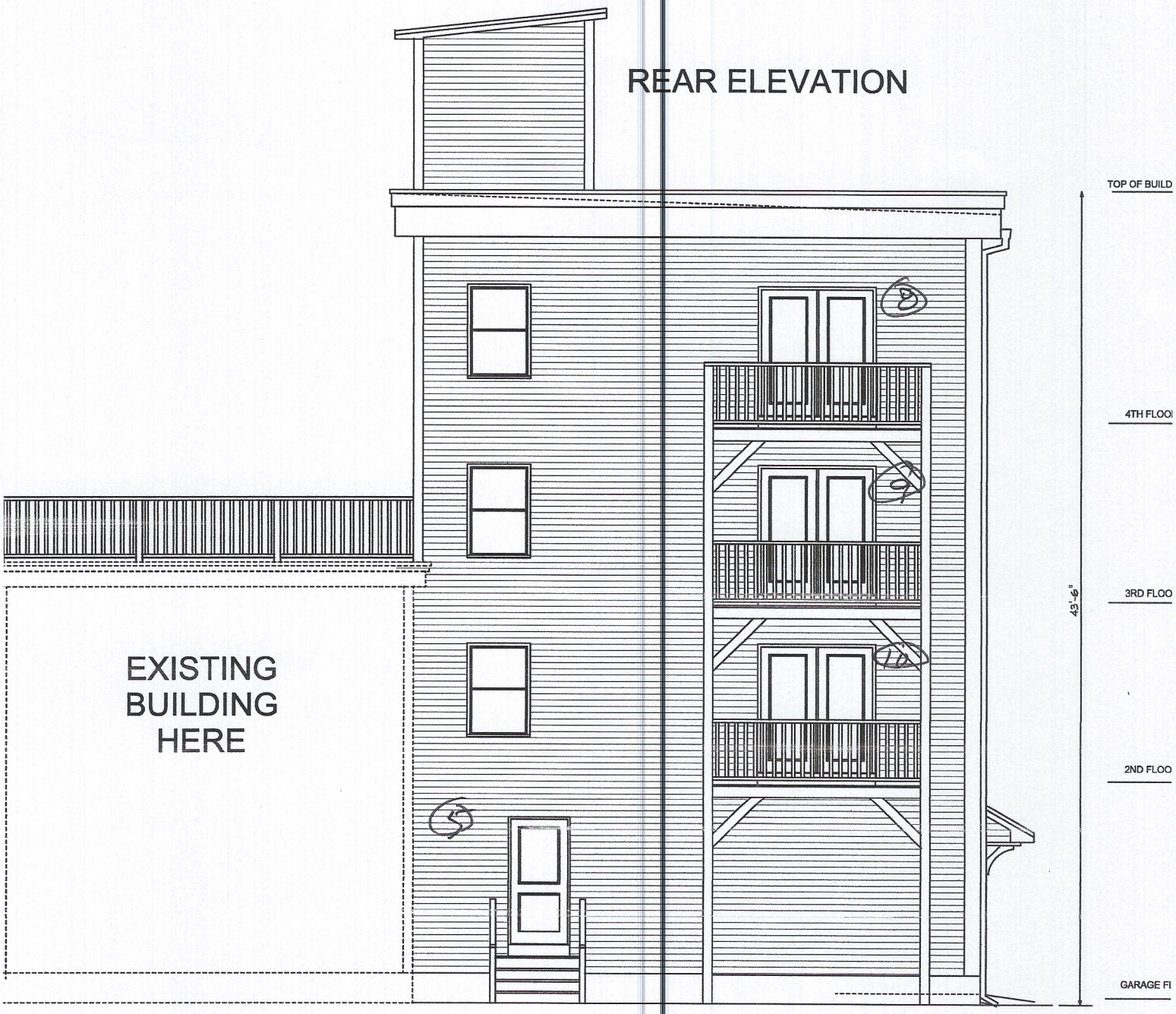
72 Munroy lighting Plan



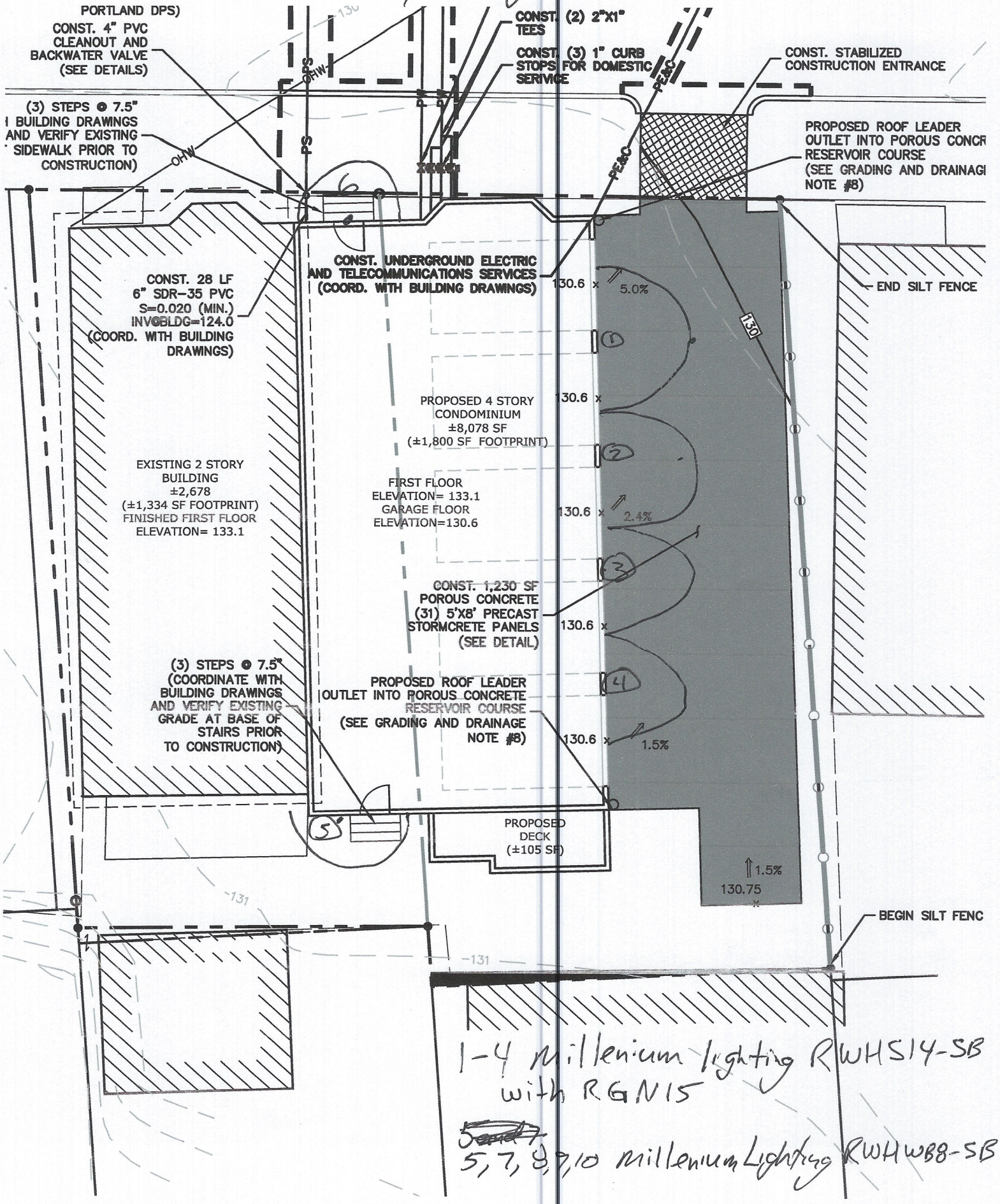
72 Munjoy lighting Plan



72 Munjoy lighting Plan



72 Munjoy Lighting Plan



1-4 Millenium lighting RWHS14-SB with RGN15

~~5 and 7~~ 5, 7, 8, 9, 10 millenium Lighting RWHWB8-SB

Millennium Lighting.

Search

LIGHTING CATEGORIES LIGHTING FAMILIES RLM LIGHTING WHAT'S NEW COMPANY FAQ CONTACT HOME

Product #: RWHS14-SB

Width: 14"

Height: 9.25"

Wattage: 200

Bulb: 1

Glass: N/A

Finish: Satin Black - UV Protectant

Extension:

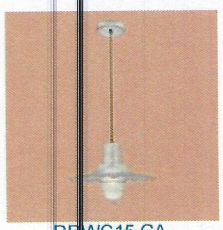
RWHS14-SB is pendant only. May be ceiling hung with stems (shown with RS-1SB) and canopy kit (RSCK-SB). May be wall hung with Goose Neck. Shown with optional Wire Guard (RWG14-SB) is also available.

Related Products

RRWC15-SB

RRWC15-ABR

RRWC15-CP



RRWC15-GA

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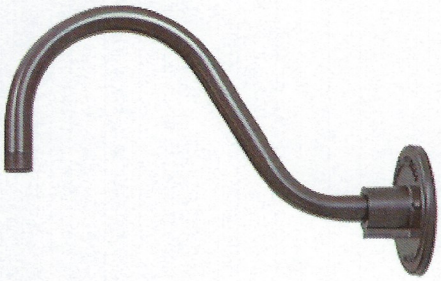

Product #: RGN15

Width: 14.5"

Height: 7.5"

Wattage: 0

Bulb: 0

Glass: N/A

Finish:

Extension:

RGN15 is available in Architectural Bronze (shown), Copper, Galvanized, Satin Black, Satin Green, Satin Red, White and Aluminum.

Related Products

RSCKSS-CP

RSCKSS-GA

RSCKSS-SB

RSCKSS-SG

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Product #: RWHWB8-SB

Width: 8"

Height: 11.75"

Wattage: 100

Bulb: 1

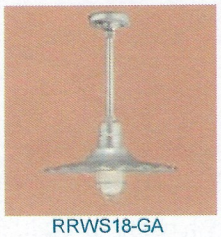
Glass: N/A

Finish: Satin Black - UV Protectant

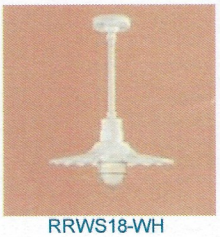
Extension: 11

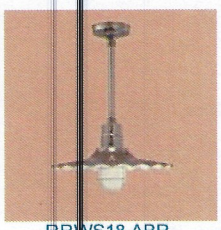
Removable Wire Guard included.

Related Products


RRWS18-GA

RRWS18-SB


RRWS18-WH


RRWS18-ABR

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Att. O

FUJITSU

Halcyon XLTH
Extra Low Temperature Heating

Submittal Data:24RLXFZH
Inverter Driven Heat Pump

24,000 BTU Multi Zone System

Job Name:_____ Date:_____

Location:_____ Approval:_____

Engineer:_____ Construction:_____

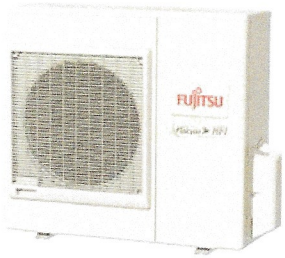
Submitted to:_____ Unit #:_____

Submitted by:_____ Drawing #:_____

Reference:_____

General Features

- Refrigerant Type R410A.
- Extra long piping allotment
- Wired and wireless remote controllers
- Automatic airflow adjustment
- Economy operation
- Base pan heater
- 5- Years Parts, 7-Years Compressor Warranty (See Warranty Statement for details)
- 24 hr. Timer
- Low operating temperature



Model Information

Outdoor…… AOU24RLXFZH
Indoor *1…… (ASU) / (ARU) / (AGU) / (AUU) 7,9,12RLF(1)
Connectable indoor units…… 2 - 3
Total capacity range…… 14,000 – 27,000 Btu/h

Electrical …… 208/230V AC 1ph-60Hz

Available Voltage Range…… 208/230 +/- 10%
Minimum Circuit Ampacity…… 25.1 A
Max Fuse Size…… 30 A
Max Starting Current…… 8.3 A

Input Power

Cooling…… (non-duct) 1.65 kW / (ducted) 1.81 kW / (mix) 1.74 kW
Heating…… (non-duct) 1.81 kW / (ducted) 1.89 kW / (mix) 1.85 kW

Current

Cooling…… (non-duct) 7.2 A / (ducted) 7.9 A / (mix) 7.6 A
Heating…… (non-duct) 7.9 A / (ducted) 8.3 A / (mix) 8.1 A

Capacity

Nominal Cooling…… 22,000 Btu/h
Min-Max Cooling…… 6,100 – 27,000 Btu/h
Nominal Heating…… 25,000 Btu/h
Min-Max Heating…… 6,800 – 29,800 Btu/h

Compressor …… Rotary (inv x1)

Motor Output…… 2,100 W
Refrigerant…… R410a
Charge…… 4 lbs. 14 oz
Oil…… RB68

Fan Motor

(Condenser) Type: DC …… Propeller x1
(Condenser) Motor Output…… 100 W
(Evaporator) Type: DC…… (wall-mount) Cross flow
(compact cassette) Turbo
(ducted) Sirocco
(floor) Cross flow x2
(Evaporator) Motor Output…… (wall) 30W-42W (compact cassette) 54W (ducted) 80-81W
(floor) 16W

Heat Exchanger

Dimensions
(H x W x D) in. (mm)…… 31-7/16 x 35-7/16 x 1-7/16 (798x900x36.38)
Fin Pitch…… 20 FPI
Rows x Stages…… 2 x 38
Pipe Type (Material)…… Copper
Fin Type (Material)…… Aluminum

Operation Temperature Range

Cooling…… 14°F (-10°C) - 115°F (-46°C)
Heating…… -15°F (-15°C) - 75°F (-24°C)

Efficiency

SEER*2…… (wall-mount) 20 (duct) 18 (mix) 19
EER (cooling)…… (wall-mount) 13.3 Btu/W (duct) 12.1 Btu/W (mix) 12.7 Btu/W
COP (heating)…… (wall-mount) 4.04 W/W (duct) 3.87 W/W (mix) 3.96 W/W
HSPF (heating)…… (wall-mount) 10.3 (duct) 9 (mix) 9.7

Enclosure (Condenser)

Material…… Painted galvanized steel
Color…… Beige (10 YR 7.5/1.0 NN)

Sound Pressure Level

Outdoor…… 52 dB(A)

Dimensions

H x W x D
Condenser
Net in. (mm)…… 32-11/16 x 35-7/16 x 13 (830x900x330)
Gross in. (mm)…… 38-3/16 x 41-5/16 x 17-1/2 (970x1,050x445)

Connection Pipe

Liquid…… 1/4" x3
Gas…… 3/8" x2 + 1/2" x1
Method (Liquid/Gas)…… Brazing
Max Length (Pre-charge)…… 229ft. (70m) / (98 ft. {30m})
Max Height Difference…… 49 ft. (15m)

Weight

Outdoor…… 146 lbs. (66 kg)
Indoors…… (wall-mount) 19 lbs. - 31 lbs.
(compact cassette) 33 lbs.
(ducted) 37 lbs. - 49 lbs.
(floor) 31 lbs.

Accessories

Wired Remote Controller…… UTY-RVNUM
Wired Remote Controller…… UTY-RNNUM
Simple Remote Controller…… UTY-RSNUM

*1 Reference brochure for approved combinations. *2 Test conditions are based on AHRI 210/240.
Note: Specifications are based on the following conditions. Cooling: Indoor temperature of 80°F (26.7°C) DB/67°F (19.44°C) WB, and outdoor temperature of 95°F (35°C) DB/75°F (23.9°C) WB. Heating: Indoor temperature of 70°F (21.11°C) DB/59°F (15.°C) WB, and outdoor temperature of 47°F (8.33°C) DB/43°F (6.11°C) WB. Pipe length: 24ft. 7in. (7.5m), Height difference: 0ft. (0m) (Outdoor unit – indoor unit)

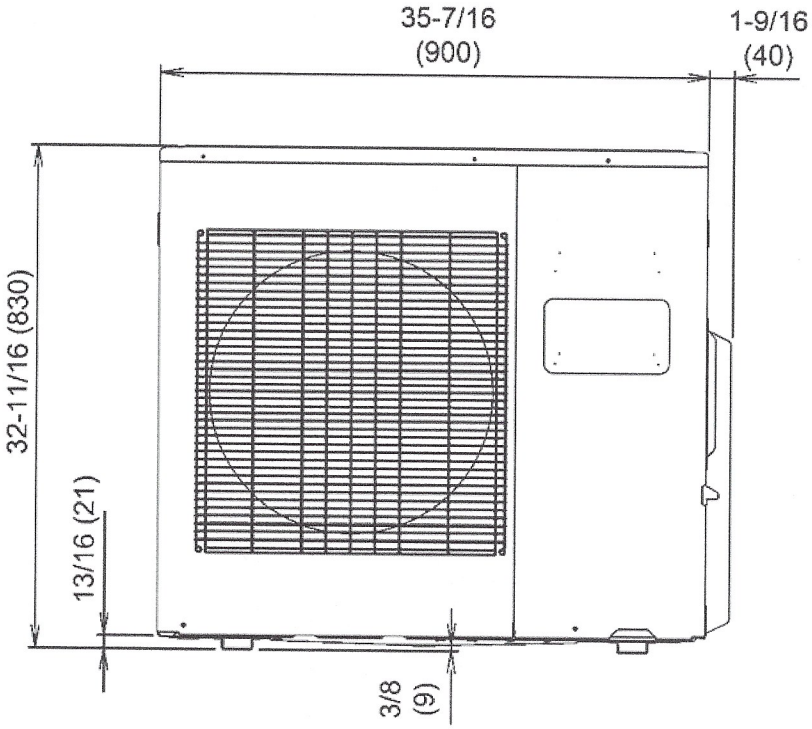
Fujitsu General America, Inc.
353 Route 46 West
Fairfield, NJ 07004
Toll Free: 1-888-888-3424
Fax: (973) 836-0447
www.fujitsugeneral.com

FUJITSU

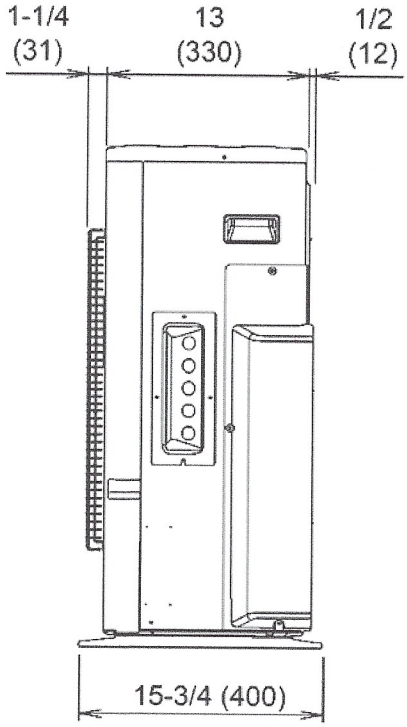
Halcyon XLTH
Extra Low Temperature Heating

Dimensions:24RLXFZH

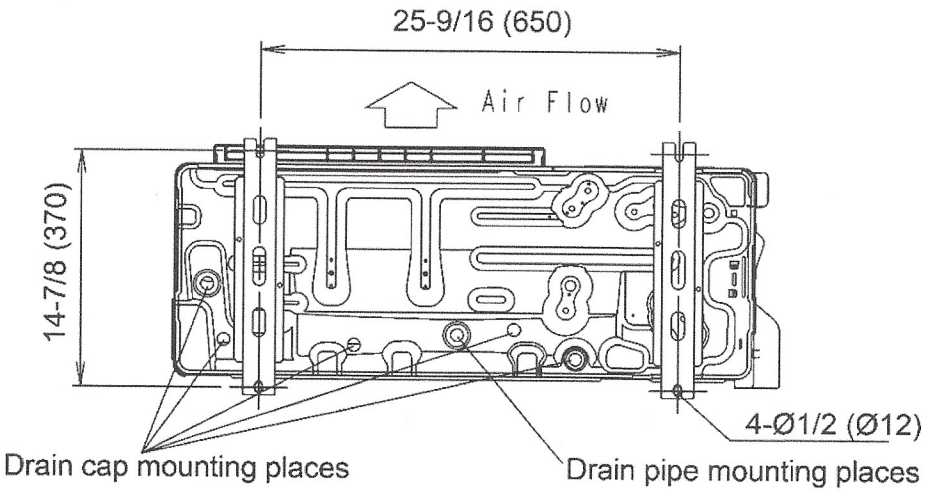
[Unit: in. (mm)]



Front view



Side view



Bottom view

FUJITSU

Fujitsu General America, Inc.
353 Route 46 West
Fairfield, NJ 07004
Toll Free: 1-888-888-3424
Fax: (973) 836-0447
www.fujitsugeneral.com

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72 Munjoy Street
Construction Management Plan

The plan for construction at 72 Munjoy street will include two instances that we will need to occupy the sidewalk during the build. The first will be when we dig in the road to install water, sewer and power. Our excavation contractor (Storey Bros) will be responsible for coordinating with the city and pulling all permits related to this part of the work. They have done so on three other building we rehabbed and are well versed in the process. They will pay the permit fees and arrange for traffic control, road closure and pedestrian flow. The closure of the unneeded curb cut will also happen at this time. The second instance will be our reconstruction of the actual sidewalk which will be handled by Labreque construction who does extensive work in the city on sidewalks and will handle all the permits and closures related to their work.

All of our site deliveries and other construction work will not need a road or sidewalk closure to be performed. We have adequate room to off load all our materials on site.

DECLARATION
OF
72 MUNJOY STREET CONDOMINIUM

ARTICLE I

SUBMISSION

Section 1.1 Submission of Real Estate. **PENINSULA PROPERTY DEVELOPMENT LLC**, formerly known as C AND B REALTY LLC, a Maine limited liability company whose mailing address is 71 West Street, Unit #1, Portland, Maine 04102 Cumberland County, Maine (the "Declarant"), hereby submits the land, rights, appurtenances and easements together with a certain two-family residential building (the "Building") and other improvements situated thereon, located within the City of Portland, Cumberland County, Maine, and more particularly described in **Exhibit A** attached hereto (the "Property") to the Maine Condominium Act, Chapter 31 of Title 33 of the Maine Revised Statutes Annotated, as amended (the "Act"), and hereby creates "72 Munjoy Street Condominium" (the "Condominium"). The Property is shown on the condominium plat identified as "Condominium Plat, 72 Munjoy Street Condominium, 68 and 72 Munjoy Street, Portland, Maine, Made for Record Owner C and B Realty LLC (currently known as Peninsula Property Development LLC)" (the "Plat") and the condominium Plan identified as "Plan of Boundary Survey, 72 Munjoy Street Condominium, 68 and 72 Munjoy Street, Portland, Maine, Made for Record Owner C and B Realty LLC (currently known as Peninsula Property Development LLC)" (the "Plan"), said Plat and Plan being prepared by Titcomb Associates and to be recorded herewith in the Cumberland County Registry of Deeds and attached hereto as **Exhibit B**. Initially, the Condominium consists of the Property and Building "A" as depicted on the Plan consisting of two (2) units known as Unit #1 and Unit #2. The Declarant reserved the right to create Three (3) additional Units for a total of up to Five (5) Units.

As set forth in this Declaration, the Declarant reserves various Development Rights, Special Declarant Rights and easements, including without limitation the right to physically construct and legally create up to Five (5) Condominium Units with associated Limited Common Elements.

The Property is conveyed and declared subject to:

(i) Easements, Conditions, Covenants and Restrictions as shown on the Plat and Plans.

(ii) The easements, covenants, restrictions and reservations contained in and created by this Declaration, said Plat and Plans and the Bylaws of the Association.

Section 1.2 Defined Terms. The terms used in this Declaration, the Bylaws of the Association and the Plat and Plans generally shall have the meanings specified in the Act, except as otherwise defined herein.

ARTICLE II

ASSOCIATION

The business affairs of the Condominium shall be managed by a non-profit and non-stock corporation to be organized under the laws of the State of Maine and to be known as the "72 Munjoy Street Condominium Association" (the "Association"). Each condominium unit owner shall be a member of the Association. Membership shall be appurtenant to each unit, and the transfer of title to a unit shall automatically transfer the membership appurtenant to that unit to the transferee(s). The owner or owners of each unit shall be entitled to the voting rights in the Association as described in Section 4.2 below. The granting of a mortgage by a unit owner, however, shall not transfer membership in the Association unless and until foreclosure or transfer in lieu of foreclosure. The Association shall have all the powers set forth in section 1603-102 of the Act and as set forth in the Bylaws of the Association, attached hereto as **Exhibit C**.

ARTICLE III

UNITS; UNIT BOUNDARIES; ALLOCATED INTERESTS

Section 3.1 Number of Units. The Declarant hereby creates a total of two (2) units in the Condominium. Initially, the Condominium consists of the Property and Building "A" as depicted on the Plan consisting of two (2) units known as Unit #1 and Unit #2. The Declarant reserved the right to create Three (3) additional Units for a total of up to Five (5) Units. For each Unit subsequently created pursuant to this Declaration, its Allocated Interest shall be set forth in an amendment to Exhibit D, and a description of such Unit including each Unit's identifying number, the location and dimensions of the vertical boundaries and horizontal boundaries of each Unit, the Common Elements to which the Unit has direct access, and any other information necessary to identify the Unit shall be shown on the Plat and Plan.

Section 3.2 Location, Identification and Dimension of Units. The location, dimensions, identification number and approximate area of each unit is shown on the Plat and Plans.

Section 3.3 Unit Boundaries. The boundaries of each unit are as shown on the Plat and Plans and are described as follows:

(a) Upper (horizontal) Boundaries. The upper boundary of each unit is the horizontal plane at the lower surface of the joist line of the ceiling of the top floor of the unit, including attic space, which includes the upper side of the gypsum board, if any, of the ceiling and any other materials constituting any part of the finished surfaces thereof.

(b) Lower (horizontal) Boundaries. The lower boundary of each unit is the physical surface of the earth extending to an intersection with the vertical (perimeter) boundaries described below.

(c) Vertical (perimeter) Boundaries. The vertical boundaries of each unit are the vertical planes at the interior edge of the stud line and exposed chimneys not covered by studding, which includes the exterior surfaces of the gypsum board of all walls bounding the unit. The vertical boundary lines also specifically include the exterior surface of doors, windows, storm windows, and glass walls, but excluding their frames, sills, and thresholds.

(d) Miscellaneous. All structures, fixtures and improvements at any time located within a unit's boundaries, whenever constructed, are a part of that unit, except as expressly provided in this Article III and elsewhere in this Declaration. A unit does not include the exterior walls, roof, foundation walls, studs, beams and rafters of the Building, nor the land nor any pipes, ducts, cables, electrical and transmission wires and conduits, distribution pipes and water and sewer pipes, and all other utility lines which serve more than one unit or the common elements up to the valve, switch or shutoff between common and exclusively used portions thereof, with the value, shut off or switch being a part of the unit.

Section 3.4 Party Walls. Each unit is owned subject to, and together with the mutual easements of support and shelter over and to the party walls provided for party walls by law. In the event, by virtue of reconstruction, repair or removal of structures, affecting elements supported or sheltered by the party wall, the

removing unit owner shall shore, reconstruct and weather proof such party wall so it can perform its function of support and shelter, and if such reconstruction, repair or removal is to be permanent, finish all surfaces exposed to weather in an architecturally finished manner consistent with the rest of the building.

Section 3.5 Relocation of Unit Boundaries and Subdivision of Units. Relocation of boundaries of units is permitted by amendment to the Declaration in compliance with the provisions of the Act and upon receipt of all necessary governmental approvals, permits and licenses. The subdivision of units is not permitted.

Section 3.6 Allocated Interests. The undivided ownership of common elements and liability for common expenses and votes in the Association shall be allocated equally between each of the initial two units.

ARTICLE IV

COMMON ELEMENTS

Section 4.1 Common Elements. Common elements consist of the entire Property, except the individual units as described in Article III above, and generally include:

(a) The land, with the benefit of and subject to all easements, covenants, agreements, and restrictions of record as of the date hereof;

(b) The exterior walls, roof, foundation walls, studs, beams and rafters of the Building;

(c) All pipes, ducts, cables, electrical and transmission wires and conduits, distribution pipes, water and sewer pipes, and all other utility lines which serve more than one unit or the common areas (excepting equipment owned by public and municipal utilities);

(d) All other parts of the Property necessary or convenient to its existence, maintenance and safety or normally in common use, except as otherwise expressly provided in this Declaration.

Section 4.2 Percentage interests. Attached hereto as **Exhibit D** is a list of all Units and identifying numbers (all as shown more fully on the Plat and Plan) allocating a percentage of undivided interests in the common elements and in the common expenses of the Association, and the votes appurtenant to each Unit. Each Unit shall be allocated a percentage of undivided interests in the common elements and in the common expenses of the Association and each Unit shall be allocated a percentage of the total votes.

Section 4.3 Limited Common Elements. Limited common elements, the exclusive use of which is reserved to the use of a particular unit, to the exclusion of the other unit, consist of the following, in addition to those features described in Section 1602-102(2) and (4) of the Act:

(a) The land underlying and surrounding each unit (and all structures and improvements located thereon) as shown on the Plat as a limited common element;

(b) Walks, drives, retaining walls, landscaping, public utility, electrical, drainage and mechanical pipes, ducts, chases, lines, conduits, ducts and accessory fixtures serving one of the units;

(c) Street and garden lights powered from an appurtenant unit;

(d) Fences, gates, mailboxes, hedges, enclosures, and other structures and fixtures enclosing a unit;

(e) Balconies, decks, porches, stairs and landings accessible from a single unit;

(f) Doors leading from units to balconies, and their related frames, sills and hardware; and

(g) Doors leading from units to interior corridors which are Common Elements (if any).

Section 4.4 Special Maintenance and Special Expense Assessment. The owners of any unit to which a fixture or other item of property is allocated to that unit as a limited Common Element under Section 4.3 above and the owners of any unit or units with a fireplace chimney or chimney flue which serves only that unit shall be responsible for the good upkeep, maintenance and repair of such fixture, item of property, fireplace chimney or chimney flue, and if the owner fails to meet such responsibility the Association may arrange for the same and shall assess the expense to such unit owners. The expense of maintenance and repair of Common Elements necessitated by the negligence, misuse, or neglect of a unit owner shall be charged by the Association to such unit owner. Notwithstanding the foregoing, all support posts for the decks and porches of the building located on the Property shall be Common Elements.

Section 4.5 Alteration of Common Elements by the Declarant. Until all Units have been sold and the Declarant's obligations under purchase and sale agreements for all Units have been satisfied, the Declarant reserves the right to modify, alter, repair or improve portions of the Common Elements, including without limitation, any equipment, fixtures and appurtenances, and furd1er reserves an easement over the Common Elements in order to discharge its obligations and o exercise any Declarant Rights, whether arising hereunder or under the Condominium Act.

ARTICLE V

DEVELOPMENT RIGHTS, SPECIAL DECLARANT RIGHTS AND DECLARANT CONTROL PERIOD

Section 5.1 Development Rights/Special Declarant Rights. The Declarant reserves the rights:

(a) Until the construction, marketing and sale of all Units is completed, including any future Units which may be created hereunder, to locate in the Common Elements and Units of the Property, even though not depicted on the Plat and Plan, and grant and reserve easements and rights-of-way for the installation, maintenance, repair, replacement and inspection of public utility lines, wires, pipes, conduits and facilities servicing or burdening the Property including, but not limited to, water, electric, telephone, cable television, fuel, sewer, and surface and subsurface drainage, provided however that no such easement shall be effective until of record, that no such easements may be granted through Units sold by Declarant to third party who is not a successor Declarant and that the Common Elements shall be promptly restored upon installation and repair;

(b) Until the construction, marketing and sale of all Units is completed, including any future Units which may be created hereunder, to connect with and make use of utility lines, wires, pipes and conduits located on the Property for construction and sales purposes, provided that the Declarant shall be responsible for the cost of services so used;

(c) Until the construction, marketing and sale of all Units is completed, including any future Units which may be created hereunder, to use the Common Elements for ingress and egress, for the construction, reconstruction, maintenance, repair, renovation, replacement or correction of the Units or Common Elements including without limitation the movement and temporary storage of construction materials and equipment, the right of vehicular and pedestrian access, the right to park motor vehicles, and for the installation of signs and lighting for sales and promotional purposes;

(d) Until the construction, marketing and sale of all Units is completed, including any future Units which may be created hereunder, to operate and relocate construction, sales, leasing and management offices; permit prospective tenants, purchasers, lenders, appraisers, and others to visit the offices

and use the Common Elements and use unsold Units for construction, sales, leasing and display purposes;

(e) Appoint and remove members of the Board of Directors and Officers of the Association in accordance with Section 5.2 of this Declaration;

(f) Until the construction, marketing and sale of all Units is completed (including any future Units which may be created hereunder), to approve of the creation of easements between adjoining Units or between a Unit and an adjoining limited common element in accordance with Section 4.4 of the Declaration in accordance with the standards set forth therein;

(g) Until the expiration of any applicable warranty established by law or agreement, the Declarant, its contractors, agents and employees shall have the right of entry into a Unit to perform warranty-related work, whether for the benefit of that Unit or any other Unit;

(h) Until the construction, marketing and sale of all Units is completed, including any future Units which may be created hereunder, to grant easements for a Unit;

(i) Those rights established under Section 4.5 of this Declaration;

(j) Those rights established under the Condominium Act;

(k) The Declarant reserves the rights but not the obligation until seven (7) years from the date of recording of this Declaration:

1. To create on the Property a total of up to five (5) Units, Common Elements and Limited Common Elements appurtenant to such Units on the land as described in the attached Exhibit A, all pursuant to Section 1602-110 of the Condominium Act. Said conversion creating additional Units and Limited Common Elements shall be composed of up to two (2) buildings, the initial Building known as "Building A," and the additional Building known as "Building B". The projected location and approximate dimensions of the Units and Limited Common Elements for said additional Building is shown on the Plan. Said additional Building, Units and Limited Common Elements may not be built with the configurations or in the locations as shown on the Plan, and the DECLARANT EXPRESSLY RESERVES THE RIGHT TO VARY SUCH BUILDING, UNITS, LIMITED COMMON ELEMENTS AND THEIR LOCATIONS in its discretion, subject to the restrictions set forth in Section 5.1 (a) – (j)above. Upon the addition of such additional Building, which may occur in such stages and in such order as the Declarant determines, they shall be fully integrated into the Condominium as if this Declaration had been originally executed and recorded containing the additional Building and the Allocated Interests of the Units shall be reallocated in accordance with the formulas set forth in this Declaration and as more particularly set forth in the amendment adding said Building.

2. All such future Units, Common Elements and Limited Common Elements shall be consistent with the initial Units in terms of the quality of construction, general architectural style and principal materials, provided that the Declarant may substitute construction materials and technique of equal or better quality and, upon the addition thereof to the Condominium need not be substantially completed but at the time of the sale to a third party must be substantially completed. All restrictions in or created by authority of this Declaration affecting the use, quality or alienation of Units shall apply to such additional Building including, without limitation, the restriction to residential use. Declarant need not add said additional Building or said Limited Common Elements to the Condominium and hence said additional Building, Units, Common Elements and Limited Common Elements NEED NOT BE BUILT. All

improvements within a future Building must be substantially completed upon the addition to the Condominium. The Declarant must exercise its right hereunder within seven (7) years of the recording of this Declaration.

3. Upon the addition of such Units to the Condominium, the Allocated Interests of all Units shall be reallocated in accordance with Section 3.1 of this Declaration and Exhibit D shall be amended accordingly.

4. To exercise any rights under this Section, the Declarant shall prepare, execute and record an amendment to the Declaration pursuant to the Condominium Act, which amendment may include a Plat and Plans as required by the Condominium Act to the extent not previously recorded. Said amendment shall become effective upon recording without the consent of any other person.

Section 5.2 Declarant Control Period.

(a) These Special Declarant Rights include during the period of Declarant Control as hereinafter described the right to appoint or remove any officer of the Association or any Executive Board member or to approve any of the acts of the Association, or of the Executive Board during the Declarant Control Period. The term "Declarant Control Period" means the period which extends from the date of the recording of this Declaration until the earlier of (a) seven (7) years following the conveyance of the first Unit to a Purchaser or (b sixty (60) days after the conveyance of seventy-five percent (75%) of the Units, other than a conveyance to a successor Declarant. The Declarant shall have the right during the Declarant Control Period to appoint, remove and replace from time to time any and all members of the Board of Directors, and officers of the Association, without the necessity of obtaining resignations. The directors appointed by the Declarant need not be Unit Owners.

Following the expiration of Declarant Control Period, the affairs of the Association shall be governed by a Board of Directors composed of no less than three (3) and no more than seven (7) natural persons, the exact number of which shall be established by the Bylaws of the Association. A majority of the members at the Board of Directors shall be Unit Owners or spouses of Unit Owners or in the case of a Unit Owner which is a corporation, limited liability company, partnership, trust or estate or other legal entity, a designated agent thereof.

The transition from Declarant appointed members of the Board of Directors to the Unit Owners generally shall occur no later than the earlier of (a) sixty (60) days after the conveyance of 75% of the Units to purchasers other than a successor Declarant, or (b) seven (7) years following conveyance of the first Unit to a Purchaser, or (c) at such earlier date as the Declarant in its sole discretion shall specify. Prior to the expiration of the Declarant Control Period, a transition meeting of the Association and a transition election shall be held at which all of the members of the Board of Directors and officers of the Association appointed by the Declarant shall resign, and the Unit Owners, including the Declarant if the Declarant owns any Units, shall thereupon elect a Board of Directors to act in the place and stead of those resigning.

By written notice duly recorded in said Registry of Deeds specifically referring to this Section, the Declarant may voluntarily surrender the right to appoint and remove officers and members of the Board of Directors prior to the termination of the Declarant Control Period, but in the event the Declarant may require, for the duration of the Declarant Control Period that specified actions of the Association or Board of Directors, as described in a recorded instrument executed by the Declarant, be approved by the Declarant before such action can become effective.

Section 5.3 Assignment. All or any part of the rights, powers or reservations of Declarant contained in this Declaration may be assigned by Declarant to any person or entity which will assume the duties and obligations of Declarant related to the rights, powers or reservations assigned. Upon the recording of an

assignment of such rights, powers or reservations pursuant to which the assignee assumes the duties and obligations of Declarant related thereto, the assignee shall become a successor Declarant as to such rights, powers or reservations assigned and shall have the same rights and powers and be subject to the same duties and obligations as are given to and assumed by Declarant herein, and Declarant shall be relieved from all liability with respect to the rights, powers, reservations, duties and obligations hereunder which are assumed by the assignee.

Section 5.4 Amendment, Waiver, Etc.

This ARTICLE 5 shall not be amended or waived without the consent of the Declarant duly recorded in said Registry of Deeds.

The rights and benefits of ARTICLE 5 and all other rights of Declarant set forth in this Declaration, the Bylaws or otherwise, as amended from time to time, may be transferred in whole or part by recorded instrument specifically referring to this Section and executed by Declarant and its successor or assignee.

The Declarant shall have the right to waive the Development and Special Declarant Rights reserved hereunder in whole or part by an written instrument provided that such waiver shall only be effective upon recording in said Registry of Deeds and such waiver shall be subject to the limitations of Section 1603-103(d) of the Act regarding Declarant Control of the Association.

ARTICLE VI

AMENDMENT

Section 6.1 Amendment of Declaration. This Declaration, including the Plat and Plan, may be amended or modified in accordance with the following procedure, except as otherwise provided in this Declaration or in the Condominium Act:

(a) The notice of any regular or special meeting of the Association at which a proposed amendment to this Declaration is to be considered shall contain the text of the proposed amendment. Notice shall also be sent to Eligible Mortgage Holders if required pursuant to ARTICLE XII.

(b) At the meeting, the resolution shall be adopted if it receives the affirmative vote or written consent of unit owners holding more than sixty-six percent (66%) of the votes in the Association in all cases and such Eligible Mortgage Holders as required pursuant to ARTICLE XII. Unit owners and Eligible Mortgage Holders, if required by ARTICLE XII, may express their approval in writing or by proxy.

(c) An amendment shall be effective when recorded. The Association shall endeavor to forward a copy of the amendment to each unit owner and Eligible Mortgage Holders in the manner elsewhere provided for the giving of notices, but receipt of such notices shall not constitute a condition precedent to the effectiveness of such amendment.

Section 6.2 Amendment to Comply with Secondary Market Mortgagee Requirements. It is Declarant's intent that this Declaration comply with the underwriting requirements of Federal Home Loan Mortgage Corporation (Freddie Mac), the Federal National Mortgage Association (Fannie Mae), the Veterans' Administration, the Federal Housing Administration or other recognized institutional mortgage programs. In the event that this Declaration does not comply with such underwriting requirements, Declarant or the Association shall have the right to amend this Declaration to make this Declaration conform to such underwriting requirements.

ARTICLE VII

INSURANCE; DAMAGE OR DESTRUCTION

Section 7.1 General. To the extent reasonably available, the Condominium Association shall obtain and maintain insurance coverage as set forth herein. All insurance affecting the Condominium shall be governed by and in accordance with the provisions of this Article and Section 1603-113 of the Act. In any event, the Association shall maintain insurance which meets the then current Condominium Master Insurance Policy requirements of the Federal National Mortgage Association "FNMA". All insurance policies shall have, as the named insured, "72 Munjoy Street Condominium Association", for the use and benefit of the unit owners of "72 Munjoy Street Condominium", shall provide that it shall be primary insurance even if other insurance is available to cover any insured loss, shall contain a waiver of subrogation endorsement or clause prohibiting subrogation against individual unit owners, and shall contain an endorsement providing that the coverage is not avoided, nullified or in any other way prejudiced by acts or omissions of unit owners which acts or omissions are not controlled by the Association. All policies of insurance shall provide that the insurer shall notify the Association, any insurance trustee other than the Association, and each first mortgage holder in writing at least thirty (30) days before it cancels or substantially changes any insurance policy or coverage.

Section 7.2 Casualty Insurance. The Association shall maintain casualty insurance in an amount of not less than one hundred (100%) percent of the current replacement cost of the Building, common elements, limited common elements and units, including agreed amount, inflation guard and special condominium endorsements covering the Building and all improvements on the Property including the units and all fixtures, equipment, improvements, betterments, whether or not part of a unit or a common element or a limited common element and such personal property of unit owners as is normally insured under building coverage and all personal property owned by the Association, but excluding land, excavations, portions of foundations below the undersurfaces or lowest basement or its underground pilings, piers, pipes, flues and drains and other items normally excluded from property casualty insurance policies. The policy must also contain the standard mortgage clause and must name as mortgagee either FNMA or the servicers for the mortgages on units in the project. When a servicer is named as mortgagee, its name should be followed by the phrase "its successors and assigns, as their interest may appear."

Section 7.3 Repair. Any portion of the Property damaged or destroyed shall be repaired or replaced promptly by the Association unless: (a) the Condominium is terminated under ARTICLE VIII hereof; or (b) such repair or replacement would be illegal under any state or local health or safety statute or ordinance; or (c) unit owners holding one-hundred percent (100%) of the votes in the Association vote not to rebuild. Insurance deductibles and the cost of repair or replacement in excess of insurance proceeds and reserves or not covered by any insurance shall be a common expense.

Section 7.4 Application of Insurance Proceeds. Subject to the rights of any Eligible Mortgage Holders, if the entire Condominium is not completely repaired or replaced: (a) the insurance proceeds attributable to the damaged units and common elements shall be used to restore the damaged areas to a condition compatible with the remainder of the Condominium; (b) the insurance proceeds actually received by the Association and attributable to units that are not rebuilt, including without limitation the interest in the common elements and in limited common elements, shall be distributed to such unit owners and their mortgagees; and (c) the remainder of the proceeds shall be held in trust to be distributed to the unit owners and their mortgagees in accordance with the Act.

Section 7.5 General Liability Insurance. The Association shall also maintain comprehensive commercial general liability insurance, including medical payments insurance insuring the unit owners, in their capacity as unit owners and Association members and any managing agent retained by the Association, relating in any way to the ownership and/or use of the common elements, public ways and any other areas under the supervision of the Association and any part thereof. Such insurance policy shall contain a "severability of interest endorsement" or equivalent coverage which precludes the insurer from denying the claim of a unit owner because of the negligent acts of the Association or another unit owner. Such insurance shall include coverage for bodily injury and property damage that results from the operation, maintenance or use of the common elements, any liability resulting from law suits related to employment contracts in which the Association is a party, other than standard workers compensation and employment practices exclusions, and such other risks as the Association determines are appropriate. The amount of coverage of such liability

insurance, and the deductibles therefor, shall be as determined by the Association. The scope and amount of coverage of all liability insurance policies shall be reviewed at least once each year by the Association and may be changed in the Association's discretion.

ARTICLE VIII

REMOVAL FROM THE CONDOMINIUM ACT

Section 8.1 The submission of the Property to the Act herein shall not be terminated unless (i) unit owners holding one-hundred percent (100%) of the votes in the Association and (ii) the percentage of the Eligible Mortgage Holders required by ARTICLE XII hereof shall agree to such revocation or removal of the Property from the provisions of the Act, their agreement to be established by written instrument duly recorded.

Section 8.2 Upon removal of the Property from the Act, the unit owners shall hold the Property and any proceeds thereof as tenants in common in accordance with the Act, with any mortgages or liens affecting a unit to attach in order of priority against the resulting common ownership interest. Removal shall not bar the subsequent re-submission of the Property to the Act.

ARTICLE IX

EMINENT DOMAIN

Section 9.1 If a unit is acquired by eminent domain, to the extent the award is paid to the Association or is controlled by this Declaration or the Association, the award shall be applied to compensate the unit owner and his/her/their mortgagee(s), if any, for the unit and the unit's percentage interest in the common elements, whether or not any common elements are acquired. Upon acquisition of the unit, the unit's allocated interests shall be automatically reallocated to the remaining unit and the Association shall promptly prepare, execute, and record an instrument reflecting the reallocation.

Section 9.2 If part of a unit is acquired by eminent domain, to the extent the award is paid to the Association or is controlled by this Declaration or the Association, the award shall be applied to compensate the unit owner and his/her/their mortgagee(s), if any, for the reduction in value of the unit and its interest in the common elements, whether or not any common elements are acquired.

Section 9.3 If part of the common elements are acquired by eminent domain, the Association shall be entitled to payment of the award, subject to the Act; generally the portion of the award attributable to the common elements taken shall be distributed to the unit owners and their mortgagee(s) in accordance with the Act, unless the Association rebuilds or acquires comparable common elements. Any portion of an award attributable to the acquisition of all or a portion of a limited common element must be distributed to the owner of the unit to which that limited common element is allocated at the time of acquisition.

Section 9.4 In the event of a proposed acquisition by eminent domain, the Association shall have the right but not the obligation to act and to intervene on behalf of the unit owners. As such, each unit owner hereby irrevocably constitutes and appoints the Association its true and lawful attorney, with full power of substitution, to represent such unit owner in any proceedings, negotiations, settlements, or agreements in connection with a proposed acquisition by eminent domain. The foregoing power of attorney conferred upon the Association by this Declaration, being coupled with an interest, shall be irrevocable so long as any such person owns a unit. This power of attorney shall not be affected by the disability or incompetence of such a unit owner. Nothing contained in this Section or this Declaration, however, shall entitle any unit owner or other person to priority over a first mortgagee of a unit pursuant to its mortgage instrument in the right to receive eminent domain awards for the taking of units and/or common elements.

ARTICLE X

EASEMENTS

Section 10.1 Access. Appurtenant to each unit is a perpetual right, subject to the rules and regulations established by the Association, of ingress and egress from such unit through the common elements to the public streets adjoining the Property.

Section 10.2 Association. The Association and/or any other person authorized by the Association shall have a right of access to any unit and any limited common elements to the full extent as provided in the Act and the Bylaws. In case of emergency, such entry may be gained immediately whether or not the unit owner is present at the time or notified in advance of such entry.

Section 10.3 Utilities. Each unit shall have an easement in common with all other units to use all pipes, wires, ducts, cables, conduits, meters, utility and/or gas lines and other common elements serving such unit and located in any of the other units or on the common elements.

Section 10.4 Party Wall. Each unit sharing a party wall with the adjacent unit shall have an easement for support from such other unit, and an easement for driving and removing nails, screws, bolts and other attachment devices into the unit side surface of the party wall, whether concrete or framing which supports the dry wall, to the extent such nails, screws, bolts and other attachment devices may encroach into the adjoining unit or common areas; provided, however, that any such action shall not adversely affect either the structural, thermal or acoustical character of the party wall.

Section 10.5 Support. Each unit shall have an appurtenant easement to the extent necessary for structural and lateral support over the other unit and over the common elements and limited common elements; each unit, the common elements and limited common elements shall be subject to an easement for structural and lateral support in favor of the other unit. If any portion of the common elements or limited common elements hereafter encroaches upon any unit, or if any unit hereafter encroaches upon any other unit or upon any portion of the common elements or limited common elements, as a result of settling or shifting of any Building in which they are located or other than as a result of the purposeful or negligent act or omission of the owner of the encroaching unit or of the Association in the case of encroachments by the common elements or limited common elements, a valid easement appurtenant to the encroaching units, common elements or limited common elements for said encroachment and for the maintenance of the same shall exist for so long as the encroachment shall exist. In the event that any Building shall be partially destroyed as a result of fire or other casualty or as a result of a taking in the nature of eminent domain or by an action or deed in lieu of condemnation, and then is rebuilt, encroachments of a portion or portions of the common elements or limited common elements upon any unit or of any unit upon any other unit or upon any portion of the common elements or limited common elements due to such rebuilding, shall be permitted, and valid easements appurtenant to the encroaching units, common elements or limited common elements for such encroachments and the maintenance thereof shall exist so long as that Building as so rebuilt shall stand.

ARTICLE XI

LEASING

All leases of units must be in writing. No unit shall be rented for transient or hotel purposes or in any event for an initial term of less than six (6) months. The written lease of any unit must: (a) require the lessee to comply with this Declaration, the Bylaws and any rules and regulations of the Association; (b) provide that failure to comply therewith constitutes a default under the lease; and (c) provide that the Association has the power to terminate the lease and to bring summary proceedings to evict the tenant in the name of the lessor thereunder after thirty (30) days prior written notice to the unit owner, in the event of a default by the lessee in the performance of the lease. Each unit owner, promptly following the execution of any lease of a unit, shall forward a conformed copy thereof to the Association.

ARTICLE XII

RIGHTS OF MORTGAGEES

Section 12.1 Eligible Mortgage Holder. Any first mortgagee of a unit may file with the Association a request identifying itself as a first mortgage holder and the number of the unit encumbered by its mortgage with the Association by certified or registered first-class mail, return receipt requested or by delivery in hand securing receipt therefore and thereby shall become an "Eligible Mortgage Holder"; the Secretary of the Association shall maintain such information. After the filing of a request by the Eligible Mortgage Holder, the Association shall cause notice to be sent to the Eligible Mortgage Holders of any one or more of the following events affecting the mortgaged unit(s), if so requested.

(a) Default by the owner of a mortgaged unit in the payment of quarterly common charges, assessments, service charges, or other amounts due the Association that continues for sixty (60) days or as required by the Act;

(b) The lapse, cancellation, expiration or material modification of insurance required to be maintained under this Declaration or the Bylaws of the Association;

(c) A material amendment to the Declaration requiring the consent of Eligible Mortgage Holders as provided in Section 12.2 below;

(d) Any condemnation proceeding against any portion of the Property;

(e) Material destruction of any portion of the common elements or limited common elements or any improvements thereon; or

(f) Such other events specified in the Act.

If in said request to the Association forwarded by an Eligible Mortgage Holder, the mortgage is identified as being subject to the requirements of the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, the Veterans' Administration, the Federal Housing Administration or other recognized institutional mortgage programs, then the Association shall maintain such hazard and other insurance policies and coverage required under said mortgage programs and identified in said notice from the institutional mortgage holder, to the extent such insurance is available to the Association.

Section 12.2 Material Amendments. For a material amendment to the Declaration but subject in any event to the provisions of the Act, approval must be obtained from Eligible Mortgage Holders representing in the aggregate at least eighty-five percent (85%) of the votes of units subject to mortgages held by Eligible Mortgage Holders. An amendment affecting any of the following shall be deemed material:

(a) Voting rights in the Association;

(b) Change in percentage liability for common expenses, assessment liens for common expenses, or the subordination of assessment liens;

(c) Reallocation of pro rata interests in the common elements or limited common elements or rights to their use;

(d) Boundaries of any unit;

(e) Convertibility of units into common elements or vice versa;

(f) Expansion or contraction of the Condominium, or the addition, annexation or withdrawal of property to or from the Condominium;

(g) Insurance or fidelity bonds;

(h) The rights to lease units;

(i) Imposition of any restrictions on a unit owner's right to sell or transfer his or her unit;

(j) Restoration or repair of the Property (after damage or destruction, partial taking by eminent domain or condemnation) in a manner other than that specified in this Declaration;

(k) Any action to terminate the Condominium;

(l) Any provisions of this Article or any other provision of this Declaration that expressly benefits mortgage holders, insurers or guarantors;

(m) The merger or consolidation of the Condominium with another condominium or the subjection of the Condominium to a master association; and

(n) Any change in the Association's right to lien a unit for unpaid common expense assessments or a change in the priority of such liens.

The approval of any Eligible Mortgage Holder to such a material amendment to the Declaration shall be presumed when an Eligible Mortgage Holder fails to submit a response to any written proposal for an amendment within thirty (30) days after the proposal is made.

Section 12.3 Records. An Eligible Mortgage Holder may, at it sole expense, examine the books, records and accounts of the Association at reasonable times with reasonable advance notice to the Treasurer of the Association.

Section 12.4 Dispositions by Mortgagees. In the event the Association adopts any right of first refusal or purchase option arising in the event of the sale or transfer of a unit, it shall not impair the right of an institutional mortgage lender to foreclose its mortgage, to accept a deed in lieu of foreclosure after written notice of default to Mortgagee, which deed identifies the circumstances classifying it as such a deed, or to dispose of, advertise, sell or lease a unit acquired under the procedures set forth above, and any such foreclosure or deed shall convey title free and clear of any such right of first refusal or purchase option with respect to such conveyance, but only with respect to such conveyance.

ARTICLE XIII

ASSESSMENT FOR COMMON EXPENSES AND SERVICE CHARGES.

Section 13.1 Common Expense Assessments. The total amount of common expenses incurred by the Association shall be assessed equally against both units, subject to the following:

(a) A limited common expense shall be assessed solely against the unit benefited.

(b) Assessments to pay a judgment against the Association shall be made as a common expense against both units.

(c) Costs of electricity, gas, water and sewer shall be assessed equally against both units, unless such services are separately metered, in which case each unit owner shall be required to pay the bills for such services consumed or used in his/her/their unit.

Section 13.2 Common Expenses. "Common expenses" shall be any and all expenses incurred by the Association to pay for insurance premiums, taxes, and to operate, maintain, repair, and replace portions of the

units that are the Association's responsibility pursuant to this Declaration (if any), the common elements and limited common elements as necessary to keep the same a first-class condition with respect to appearance, operation and function and utilities used in connection with the operation and maintenance of the common elements and limited common elements. Notwithstanding the foregoing, each unit owner shall be responsible for the repair, maintenance and upkeep of his/her/their respective limited common elements including the removal of ice, snow, leaves and debris therefrom (as applicable). In the event a particular unit owner fails to repair, maintain or upkeep his/her/their limited common elements in a first class condition, the Association shall have the right to do so and shall assess the unit owner for all costs and expenses incurred in connection therewith pursuant to Section 13.5 below.

Section 13.3 Lien Rights. Each unit is subject to a lien in favor of the Association for the unpaid common expense assessments, interest and costs of collection as provided in the Act, which lien may be foreclosed in like manner as a mortgage on real estate. No foreclosure of the Association's lien shall release the unit owner from any personal liability for any unpaid portion of the lien. The recordation of this Declaration constitutes record notice of the lien. Such lien for common expense assessments shall not have priority over a first mortgage securing a loan to purchase a unit, and upon the closing of a foreclosure sale of such first mortgage, any liens for then-existing common expense assessments automatically shall be released but without releasing the responsible unit owner from any personal liability for the liability secured by the released lien.

Section 13.4 Working Capital Fund. Contemporaneous with the conveyance of each unit by Declarant, the unit purchaser shall pay to the Association an amount equal to the estimated common expense charges for two months' operation of the Condominium for each such unit for funding a working capital fund. Within sixty (60) days after the closing of the sale of the first unit, Declarant shall pay to the Association his pro rata share of the working capital fund for any unsold Units of the Condominium. Such working capital fund shall be established by the Association at the time of the conveyance of the first unit, as a segregated account, owned by and in the name of the Association, established at a Maine financial institution insured by the Federal Deposit Insurance Corporation or other equivalent federally-sponsored insurance (the "Working Capital Account"). The Working Capital Account shall contain a dual signature provision requiring the signature of both unit owners (or their respective duly designated representatives) on any checks, withdrawal slips or automatic withdrawal requests, and shall not allow for ATM withdrawals.

Section 13.5 Service Charges and Fines. The Association shall have the power to separately charge a unit and the owner thereof for services rendered to that unit, and interest and costs of collection in connection with service charges, and for fines assessed against a unit owner for violation of this Declaration, the Bylaws and the rules and regulations of the Association (if any). Such charges and fines shall be a lien on the unit with the same status as a lien for common expense assessments under the Act, this Declaration and the Bylaws of the Association, which lien for service charges may be foreclosed in like manner as a mortgage on real estate. The recordation of this Declaration constitutes record notice of the lien.

Service charges shall include without limitation:

(a) If a unit owner requests the Association to perform repair or maintenance work on the unit other than as required by this Declaration, or if a unit owner or a member of a unit owner's household, or a unit owner's guests or tenants, damage the common elements or if a unit owner fails to perform maintenance or repair work required by this Declaration, and the Association performs such work pursuant to ARTICLE XIV below, the expense thereof as determined by the Association may be assessed against such unit owner as a service charge.

(b) Fees, if any, which may be established by the Association for the use and maintenance of water, sewer/septic and/or other utility services and equipment. The expense of charges for water and sewer/septic services and of equipment maintenance and repair and reasonable reserve allowances may also be calculated by the Association in their discretion and assessed quarterly as a service charge to each unit. At the election of the Association, the expense of capital improvements, major repairs or renovations to the water and sewers/septic systems may be assessed either as a common expense or as a service charge.

(c) Insurance premiums on permanent improvements to units installed by unit owners and insured by the request of the unit owner with the Association's hazard insurance carrier.

Section 13.6 Liability; Re-Sale Certificate. Multiple owners of a unit shall each be jointly and severally liable with one another for all unpaid common expense assessments, service charges, interest, penalties and costs of collection during their period of unit ownership up to the time of the grant or conveyance. A grantee shall not be prevented from exercising any right to recover from the grantor such amounts paid for those common expenses assessments, service charges, etc. arising prior to the conveyance. A grantee or proposed purchaser under a purchase and sale contract for a unit may obtain, upon request and the payment of such fee as may be established from time to time by the Association, a statement from the Association setting forth the amount of unpaid common expense assessments and service charges, interest, penalties and costs of collection against the unit as of the date of grant or conveyance and such other information required by the Act. The grantee shall not be liable for, and the unit conveyed shall not be subject to a lien for any unpaid amounts due from the grantor before the statement date in excess of the amount set forth in the statement except interest and costs of collection accruing thereafter.

Section 13.7 Budget. The proposed budget approved by the Association shall be adopted unless rejected by the vote of unit owners holding more than seventy percent (70%) of the votes in the Association. After the first conveyance of an individual unit, the budget must contain funding for an adequate reserve for replacements of improvements to the common elements and to those limited common elements that the Association is obligated to maintain.

Section 13.8 Violations. Any unit owner in default in the payment of any amount due the Association or in violation of any provision of the Act, this Declaration, the Bylaws, or the rules and regulations of the Association, which violation continues after reasonable notice to cure by the Association to the unit owner, may be prohibited by the Association from the use and enjoyment of any and all of the common elements that are not essential to access to the unit or for the provision of necessary utilities, in addition to all other remedies available to the Association.

ARTICLE XIV

USE; MAINTENANCE AND REPAIR; IMPROVEMENTS

Section 14.1 Use.

(a) Single Family Use. Each unit may be used and occupied subject to all restrictions contained in this Declaration, the Bylaws, and the rules and regulations of the Association, as promulgated and amended from time to time. The units are restricted to single-family residential use, and unit owners may use their units as home offices; provided, however, that, no walk-ins or regular client or customer meetings shall be conducted in the units and no employees other than persons living in unit shall occupy such unit. No unit owner shall be allowed to install a sign visible from the common elements or limited common elements indicating or advertising a commercial use or home office use in any unit. Each unit shall be used by the owner or other occupant(s) thereof in compliance with all applicable laws, ordinances and regulations, and each unit owner agrees to indemnify, defend and hold the Association and other unit owner and occupants harmless from all fines, penalties, costs and prosecutions for any violation thereof. Garages are restricted to use by the unit owners and their tenants as storage and as parking space for vehicles.

(b) Offensive Activities. Nothing shall be done in any unit which will increase the rate of insurance of the Building beyond the rates applicable for residential apartments without consent of the other unit owner. Notwithstanding anything in this ARTICLE XIV to the contrary, nothing shall be done or kept in any unit or in the limited common elements that will increase the rate of insurance for the Property or any part thereof without the prior written consent of the Association. No unit owner shall permit anything to be done or kept in this unit or in the limited common elements that will result in the cancellation of insurance on the common elements or limited common elements or any part thereof or that would be in violation of any law,

regulation, ordinance or administrative ruling.

(c) Pets. The keeping, boarding and/or raising of farm animals, laboratory animals, livestock, poultry or reptiles of any kind, regardless of number, shall be and is prohibited within any unit or upon the common elements or limited common elements, except that the keeping of domestic pets such as dogs, cats or caged birds and reptiles, aquarium fish or other domesticated species of animals is permitted subject to regulation by the Association. Each unit owner is responsible for the clean up of his/her/their pet's excrement. The Association shall have the power to further regulate pets and animals under the Bylaws or rules and regulations of the Association as promulgated or amended from time to time, including without limitation the power to regulate the number, size and species of pets allowed, to establish behavior requirements and to expel any offending pets and animals from the Property. In no event shall any pet be deemed "grandfathered" and/or exempt from future amendments to the Declaration, Bylaws and/or rules and regulations of the Association.

(d) Rubbish. No unit owner shall rake, sweep or throw, or permit to be raked, swept or thrown, from his unit or limited common elements onto the other unit owners unit or limited common elements, any leaves, dirt, debris, trash or other substance, all of which shall be placed or left in receptacles designated for such purposes.

(e) Nuisance. No unit owner shall use his unit in such a manner as to create a nuisance or disturbance of other unit owners. No unit owner shall play or operate any electronic or mechanical, sound-producing machinery, appliance or device outside his unit between the hours of 11:00 p.m. and 8:00 a.m., whether inside or outside, if such playing or operation shall unreasonably disturb or annoy the occupants of any other unit. No unit owner shall erect or maintain an outside television or radio antenna, except for small satellite dishes not in excess of 18 inches in diameter which may be installed with the prior written consent of, and pursuant to any conditions imposed by, the Association, and which nevertheless must be installed (i) such that they are not visible from the parking areas and driveways of the Condominium and (ii) otherwise in the most visually discrete manner possible.

(f) Access. Common elements and limited common elements providing access to the units shall be used only for access to and from units by vehicles and pedestrians and shall not be blocked by any personal property of unit owners, their tenants, families and guests.

Section 14.2 Maintenance and Repair of Units. Except as expressly provided in this Declaration, the maintenance of the units and limited common elements shall be allocated between the unit owners and the Association in accordance with the Section 1603-107(a) of the Act. Each unit owner shall keep his or her unit and all systems therein in good order, condition and repair and in a clean and sanitary condition, all at the unit owner's sole cost and expense, whether such maintenance and repair shall be ordinary or extraordinary, which shall include without limitation all interior portions of the unit, the windows and doors of the unit, the interior floors and ceilings of the unit, and all fixtures and appliances within the unit; provided, however, that maintenance and repair of the exterior, and exterior features and fixtures, supporting structure, foundation, roof, and decks of the Building (not designated as limited common elements), and the exterior paint, shall be the responsibility of the Association and the costs and expenses of such maintenance and repair shall be assessed against both of the unit owners as a common expense as though such maintenance and repair were being made to common elements. If any owner fails to maintain his/her/their unit or limited common elements as provided above within ninety (90) days of written notice from the Association or, immediately and without notice, in the event of emergency, the Association through its officers or managing agent shall have the right, but not the obligation, to enter the unit and perform such maintenance or repair in the name of the owner. The Association shall be entitled to assess the expense thereof as a service charge due in full at the time of the next regular quarterly payment of assessments. Each unit owner shall promptly report to the Association or the managing agent any defect or need for repairs to the unit, common elements and limited common elements for which the Association is responsible pursuant to this Declaration and the Act.

Section 14.3 Maintenance of Common Elements. The Association and its designees shall maintain, repair and replace the portions of the units that are the Association's responsibility under this Declaration, the

common elements including the limited common elements (except as otherwise specifically provided herein) and shall establish reasonable reserves for such purposes.

Section 14.4 Liability for Damage. Each unit owner shall be liable for the expense of maintenance, repair or replacement of (i) any damage to his unit and (ii) any damage to the common elements, limited common elements or to another unit caused by such unit owner's act, neglect or carelessness or by that of any member of such unit owner's family, or such unit owner's tenants, guests, invitees, employees, agents, contractors, or their pets. Such liability shall include any increase in insurance rates occasioned by use, misuse, occupancy, or abandonment of any unit or its appurtenances. Nothing herein contained, however, shall be construed so as to modify any waiver by insurance companies of rights of subrogation against such unit owner.

Section 14.5 Improvements. Nothing will be done to any unit which will impair the structural integrity of the Building or decrease the support in the party walls. Reasonable structural changes to a unit not affecting the support of the adjoining unit may be undertaken without consent. There may be no change to the exterior siding material or color thereof unless authorized by the Association. Unit owners may make interior or exterior non-structural improvements to the Building or any improvements within a unit, or to any limited common elements associated therewith, including without limitation, adding sunrooms, stairs, painting and staining, adding architectural detailing, changing doors and installing architectural conceits of any nature provided the color, siding and general architectural style remains the same, without consent of the other unit owners or the Association. With respect to any improvements installed, built, or made by a unit owner, the Association shall have no obligation for maintenance, repair or replacement thereof unless expressly and in writing assumed by the Association. In the event such improvements become unsightly, deteriorated, dilapidated, or otherwise in violation of the conditions imposed by the Association, the Association shall have the right to enter the unit or limited common element, remove, repair or restore the deteriorated improvement, and assess the cost thereof to the unit owner.

ARTICLE XV

MISCELLANEOUS

Section 15.1 Interpretation. In the event of any inconsistency between or among the Act, this Declaration, the Bylaws or rules or regulations of the Association, the Act shall control; provided that a provision in this Declaration which is permissible under the Act shall not be considered to be inconsistent with the Act.

Section 15.2 Captions. The captions herein are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of this Declaration or the intent of any provisions hereof.

Section 15.3 Context. The use of the singular number in this Declaration shall be deemed to include the plural, the plural the singular, and the use of any one gender shall be deemed applicable to all genders.

Section 15.4 No Waiver. No provision contained in this Declaration shall be deemed to have been abrogated or waived by reason of any failure to enforce the same irrespective of the number of violations or breaches that may occur.

Section 15.5 Invalidity. If any term, covenant, provision, phrase or other element of this Declaration, the Bylaws, any deed to a unit, or the rules and regulations of the Association is held to be invalid or unenforceable for any reason whatsoever, such holdings shall not affect, alter, modify, or impair in any manner, any other term, covenant or provision, phrase or other element of such documents.

Section 15.6 Notice. Any notices required or permitted to be given under this Agreement shall be sufficient if in writing and if sent: (i) by first class mail, postage prepaid, registered or certified, return receipt requested; (ii) by hand delivery; or (iii) by FedEx, or similar overnight express mail service, prepaid, each to the

unit owner's unit address or if sent to the Association, to the Association president's address. All such communication shall be deemed made upon the earlier of three (3) business days following deposit with the U.S. Mail or the date of receipt as disclosed on the return receipt (if sent by registered or certified mail), or upon delivery (if hand delivered), or upon delivery as indicated on the proof of delivery (if sent via FedEx or similar overnight express mail service). With respect to any of the above-referenced methods of delivery, rejection or other refusal to accept or the inability to deliver because of a change of address of which no notice was given shall be deemed to be receipt of the notice sent. Either party may change its address for purposes of this paragraph by giving the other party notice of the new address or in the manner described herein.

Section 15.7 Dispute Resolution.

(a) Negotiation. The unit owners agree to attempt in good faith to resolve by negotiation any disagreement, language interpretation, legal controversy or claim arising out of or relating to this Declaration (a "dispute"). To invoke this procedure, the disputing unit owner shall give each other relevant party written notice of the dispute, citing this section of the Declaration. Within ten (10) days, each receiving party shall submit to the others a written response. Each notice and response shall include a statement of the party's position and a summary of the evidence and arguments supporting such party's position. The parties to the dispute shall thereafter meet promptly at a mutually acceptable place to attempt to resolve the dispute.

(b) Mediation. In the event the dispute has not be resolved within thirty (30) days of the disputing party's original notice, the unit owners agree to then attempt in good faith to settle the dispute by mediation, through a neutral, mutually acceptable mediator located in Cumberland County, Maine.

(c) Mandatory Arbitration. In the event the dispute has not been resolved within ninety (90) days after the disputing party's original notice, any unit owner may serve on the relevant parties written demand for arbitration of the dispute. Thereafter, the dispute shall be settled by arbitration before a single arbitrator in accordance with the Expedited Procedures under the Commercial Arbitration Rules of the American Arbitration Association, or such other rules and procedures as the parties to the dispute may hereafter consent to in writing. Any such arbitration shall occur in Cumberland County, Maine, or such other location as is mutually acceptable to the parties. Except as the parties may hereafter consent to in writing, the arbitrator (or a majority thereof, if more than one) shall be licensed to practice law in Maine and experienced in real estate and contract law, and the arbitrator(s) shall be required to decide each claim in accordance with applicable law and to set forth in writing the award and a summary of those facts considered by the arbitrator(s) to be material to such decision. This agreement to arbitrate shall be enforceable under the Uniform Arbitration Act. In any judicial action to compel arbitration under this subsection or to enforce an arbitral award, the prevailing party shall be entitled to an award of the reasonable expenses (including attorneys' fees) incurred in bringing such action.

(d) Ancillary Proceedings. A unit owner may seek a preliminary injunction or other preliminary judicial relief if in his or its judgment such action is necessary to avoid irreparable damage. Despite any such action the parties will continue to participate in good faith in the procedures specified in this Section. All applicable statutes of limitation shall be tolled during the pendency of any mediation or arbitration hereunder, and the parties agree to take such action, if any, required to effectuate such tolling.

IN WITNESS WHEREOF, the Declarant has caused this Declaration to be executed as of this _____ day of _____, 2015.

PENINSULA PROPERTY DEVELOPMENT LLC

_____ By:_____

Witness Robert P. Leblanc, Jr., Its Member

STATE OF MAINE
COUNTY OF CUMBERLAND _____, 2006

Personally appeared before me the above-named Robert P. Leblanc, Jr., Member of Peninsula Property Development LLC, as aforesaid, and acknowledged the foregoing to be his free act and deed in said capacity.

_____
Attorney-at-Law/Notary Public
Print name: _____

EXHIBIT A

(legal description)

EXHIBIT B

REDUCED SIZE COPIES OF THE PLAT & PLAN

EXHIBIT C

BYLAWS

EXHIBIT D

PERCENTAGE INTEREST
OF UNITS IN
72 MUNJOY STREET CONDOMINIUM*

UNIT #	PERCENTAGE INTEREST	VOTES
Unit 1	___%	1
Unit 2	___%	1
TOTAL	100%	2

***** Adjusted as additional units are added to the Condominium from time to time.

o:\lawoffice\realty\leblanc, robert & carrie\condo conversion - munjoy street\declaration of condominium - phasing.doc

EXHIBIT C

BYLAWS
OF
72 MUNJOY STREET CONDOMINIUM ASSOCIATION

ARTICLE I

GENERAL PROVISIONS

A. Applicability. These Bylaws provide for the governance of 72 Munjoy Street Condominium Association pursuant to the requirements of Article 3 of the Maine Condominium Act ("the Act") of Title 33, Chapter 31 of the Maine Revised Statutes Annotated of 1964, as amended, for 72 Munjoy Street Condominium, created under the Declaration of 72 Munjoy Street Condominium dated even date, to be recorded at the Cumberland County Registry of Deeds. All unit owners, mortgagees, lessees and occupants of the units are subject to these Bylaws.

B. Office. The office of the Association and the Executive Board shall be located at the Condominium or at such other place as may be designated from time to time by the Executive Board.

ARTICLE II

THE ASSOCIATION

A. Membership. The Association shall consist exclusively of all of the unit owners, or following termination of the Condominium of all former unit owners entitled to distributions of proceeds under Section 1602-118 of the Act, or their heirs, successors or assigns, acting as a group in accordance with the Act, the Declaration and these Bylaws. The owner or owners of each unit shall be entitled to one (1) vote per unit in the Association. Membership is transferable only as provided in the Declaration or these Bylaws. The membership of a unit owner shall terminate upon the conveyance, transfer or other disposition of his/her interest in the unit, whereupon his/her membership and any interest in the assets of the Association shall automatically transfer to and be vested in the successor in ownership. Membership is otherwise non-transferable.

B. Responsibility. The Association shall have the responsibility of administering the Condominium, maintaining and repairing the Common Elements and Limited Common Elements of the Condominium, establishing the means and methods of collecting assessments and charges, arranging for the management of the Condominium and performing all of the other acts that may be required or permitted to be performed by the Association pursuant to the Act and the Declaration. The foregoing responsibilities shall be performed by the Executive Board as more particularly set forth in these Bylaws.

C. Annual Meetings. The annual meetings of the Association shall be held on the 1st Monday of August of each year unless such date shall occur on a holiday, in which event the meeting shall be held on the succeeding day that is not a holiday. At annual meetings the Executive Board shall be elected by ballot of the unit owners in accordance with the requirements of Article III.C of these Bylaws (subject to the provisions of the Declaration) and such other business as may properly come before the meeting may be transacted.

D. Place of Meetings. Meetings of the Association shall be held at the Condominium or at such other suitable place convenient to the unit owners as may be designated by the Executive Board.

E. Special Meetings. The President or Secretary shall call a special meeting of the Association if so directed by resolution of the Executive Board or upon a petition signed and presented to the Secretary by unit owners holding at least fifty percent (50%) of the votes in the Association.

F. Notice of Meetings. The Secretary shall give to each unit owner a written notice of each annual, regularly scheduled or special meeting of the Association at least ten (10) but not more than sixty (60) days, prior to such meeting. The notice of any meeting must state the time and place of the meeting and the items on the agenda, including the general nature of any proposed amendment to the Declaration or Bylaws, any budget changes and any proposal to remove a member of the Executive Board or officer. The giving of a notice of meeting shall be in the manner provided for in Article IX.A of these Bylaws.

G. Quorum. Except as set forth above, the presence in person, by conference telephone, or by proxy of unit owners holding more than fifty percent (50%) of the votes in the Association at the commencement of a meeting shall constitute a quorum at all meetings of the Association. If a meeting is adjourned pursuant to Article II-I below, the quorum at such second meeting shall be deemed present throughout any meeting of the Association if persons holding more than fifty percent (50%) of the votes in the Association are present in person or by proxy at the beginning of the meeting.

H. Voting. Voting at all meetings of the Association shall be on the basis of one (1) vote per unit. If the unit owner is a corporation, joint venture, partnership or unincorporated association, the person who shall be entitled to cast the vote for such unit shall be the person named in a certificate executed by such entity pursuant to its governing documents. If the unit owner is a trust, the trustee or trustees shall be deemed to be the owner for voting purposes. Where the ownership of a unit is in more than one person, the person who shall be entitled to cast the vote of such unit shall be the person named in a certificate executed by all of the owners of such unit and filed with the Secretary, or in the absence of such named person from the meeting, the person who shall be entitled to cast the vote of such unit shall be the person owning such unit who is present. If more than one person owning such unit is present, then such vote shall be cast only in accordance with the agreement of a majority in interest of the owners pursuant to Section 1603-110(a) of the Act. There shall be deemed to be majority agreement if any one of the multiple owners casts the vote allocated to that unit without protest being made promptly to the person presiding over the meeting by any of the other owners of the unit. Such certificate shall be valid until revoked by a subsequent certificate similarly executed. Subject to the requirements of the Act, wherever the approval or disapproval of a unit owner is required by the Act, the Declaration or these Bylaws, such approval or disapproval shall be made only by the person who would be entitled to cast the vote of such unit at any meeting of the Association. Except with respect to election of members of the Executive Board and except where a greater number is required by the Act, the Declaration or these Bylaws, the vote of unit owners holding more than fifty percent (50%) of the votes present at one time at a duly convened meeting at which a quorum is present is required to adopt decisions at any meeting of the Association. No votes allocated to a unit owned by the Association may be cast. There shall be no cumulative or class voting.

I. Proxies. Votes allocated to a unit may be cast pursuant to a proxy duly executed by a unit Owner. If a unit is owned by more than one person, each owner of the unit may vote or register protest to the casting of votes by other owners of the unit through a duly executed proxy. A unit owner may not revoke a proxy given pursuant to this Section except by actual notice of revocation to the person presiding over a meeting of the Association. A proxy is void if it is not dated or purports to be revocable without notice. A proxy terminates eleven (11) months after its date, unless it specifies a shorter term.

J. Adjournment of Meetings. If at any meeting of the Association a quorum is not present, the unit owners entitled to cast a majority of the votes represented at such meeting may adjourn the meeting to such time after the time for which the original meeting was called as they shall agree.

K. Conduct of Meetings. The President (or in his absence, the Secretary) shall preside over all meetings of the Association and the Secretary shall keep the minutes of the meeting and record in a minute book all resolutions adopted at the meeting as well as a record of all transactions occurring at such meeting.

L. Powers. The Association shall have all powers provided to such associations by law and by the Act, including, without limitation, the power to:

(1) Adopt and amend these Bylaws and rules and regulations regarding the Condominium (the "Rules and Regulations");

(2) Adopt and amend budgets for revenues, expenditures and reserves and collect assessments for Common Expenses from unit owners;

(3) Hire and terminate managing agents and other employees, agents and independent contractors;

(4) Institute, defend or intervene in litigation or administrative proceedings in its own name on matters affecting the Condominium;

(5) Make contracts and incur liabilities;

(6) Regulate the use, maintenance, repair, replacement and modification of Common Elements, except as set forth in the Declaration;

(7) Cause additional improvements to be made as a part of the Common Elements, except as set forth in the Declaration;

(8) Acquire, hold, encumber and convey in its own name any right, title or interest to real or personal property, provided that Common Elements may be conveyed or subjected to a security interest only pursuant to Section 1603-112 of the Act;

(9) Grant easements, leases, licenses and concessions through or over the Common Elements;

(10) Impose charges for late payment of assessments and, after notice and an opportunity to be heard, levy reasonable fines for violations of the Declaration, Bylaws and Rules and Regulations of the Association;

(11) Impose reasonable charges for the preparation and recordation of amendments to the Declaration or statements of unpaid assessments;

(12) Provide for the indemnification of its officers and Executive Board and maintain liability insurance for them;

(13) Operate, maintain and repair the Common Elements and the Limited Common Elements except as set forth in the Declaration;

(14) Exercise any other powers conferred by the Declaration;

(15) Exercise all other powers that may be exercised in this State by legal entities of the same type as the Association; and

(16) Exercise any other powers necessary and proper for the governance and operation of the Association and the Condominium.

ARTICLE III

EXECUTIVE BOARD

A. Number and Qualification. The affairs of the Association shall be governed by an Executive Board. The Executive Board shall be composed of three (3) persons, a majority of whom shall be unit owners as required by Section 1603-103(e) of the Act, or such other number as determined from time to time by a majority of the Members.

B. Powers. Upon the affirmative vote or written consent of unit owners holding more than fifty percent (50%) of the votes in the Association, the Executive Board may act on behalf of the Association and exercise any powers of the Association described in Articles II through V of the Bylaws except as provided for in the Declaration and the Act (including, without limitation, Section 1603-103(b)).

C. Election and Term of Office. The Declarant shall be entitled initially to appoint the members to the Three (3) person Executive Board and, thereafter the Declarant, or after the expiration of the Declarant Control Period, if any, as defined in Article V of the Declaration, each unit owner shall be entitled to appoint one (1) member per unit to fill any vacancies in the respective positions initially appointed, at the annual meetings of the Association, subject to the provisions of the Declaration. In other words, Unit 1 shall control one (1) seat on the Executive Board and Unit 2 shall control one (1) seat on the Executive Board. The term of office of any Executive Board member to be elected (except as set forth herein) shall be fixed at three (3) years. The members of the Executive Board shall hold office until the earlier to occur of the election of their respective successors, their death, adjudication of incompetency, removal, or resignation. An Executive Board member may serve an unlimited number of terms and may succeed himself.

D. Removal or Resignation of Members of the Executive Board. At any regular or special meeting of the Association duly called, any one or more of the members of the Executive Board may be removed with or without cause by a majority of votes in the Association and a successor may then and there be elected to fill the vacancy thus created. Any unit owner proposing removal of a Board member shall give notice thereof to the Secretary. Any Board member whose removal has been proposed by a unit owner shall be given at least ten (10) days' notice by the Secretary of the time, place and purpose of the meeting and shall be given an opportunity to be heard at the meeting. A member of the Executive Board may resign at any time and, if he is a unit owner shall be deemed to have resigned upon transfer of title to his unit.

E. Vacancies. Vacancies in the Executive Board caused by any reason other than the removal of a member by a vote of the unit owners shall be filled by a vote of a majority of the remaining members at a special meeting of the Executive Board held for such purpose promptly after the occurrence of any such vacancy, provided however, that the Owners of each Unit shall be entitled to fill one (1) of the Executive Board positions if they so desire. Each person so elected shall be a member of the

Executive Board for the remainder of the term of the member being replaced and until a successor shall be elected at the next annual meeting of the Association at which such seat is to be filled.

F. Regular Meetings. Regular meetings of the Executive Board shall be held on a regular basis at such time and place as shall be determined from time to time by a majority of the Executive Board members. Notice of regular meetings of the Executive Board shall be given to each Executive Board member, by mail or hand delivery, at least seven (7) days prior to the day named for such meeting.

G. Special Meetings. Special meetings of the Executive Board may be called by the President on at least five (5) days' notice to each Board member, given by mail or hand delivery, which notice shall state the time, place and purpose of the meeting. Special meetings of the Executive Board shall be called by the President or Secretary in like manner and on like notice on the written request of at least two (2) members of the Executive Board.

H. Waiver of Notice. Any Executive Board member may at any time, in writing, waive notice of any meeting of the Executive Board, and such waiver shall be deemed equivalent to the giving of such notice. Attendance by an Executive Board member at any meeting of the Executive Board shall constitute a waiver of notice by him of the time, place and purpose of such meeting. If all Executive Board members are present at any meeting of the Executive Board, no notice shall be required and any business may be transacted at such meeting. Any action by the Executive Board required or permitted to be taken at any meeting may be taken without a meeting if all of the Executive Board members shall individually or collectively consent in writing to such action. Any such written consent shall be filed with the minutes of the proceedings of the Executive Board.

I. Quorum of the Executive Board. At all meetings of the Executive Board, all Executive Board members shall constitute a quorum for the transaction of business, and the votes of a majority of the Executive Board members present at a meeting at which a quorum is present shall constitute the decision of the Executive Board. If at any meeting of the Executive Board there shall be less than a quorum present, the Executive Board members present must adjourn the meeting to a later time. At any reconvened meeting at which a quorum is present, any business which might have been transacted at the meeting originally called may be transacted without further notice. One or more members of the Executive Board may participate in and be counted for quorum purposes at any meeting by means of conference telephone or similar communication equipment by means of which all persons participating in the meeting can hear each other.

J. Compensation. No member of the Executive Board shall receive any compensation from the Association for acting as such, but may be reimbursed for any expenses incurred in the performance of his duties; provided, however, that all such expenses must be authorized in advance by the Executive Board.

K. Conduct of Meetings. The President shall preside over all meetings of the Executive Board and the Secretary shall keep a minute book of the Executive Board meetings, recording therein all resolutions adopted by the Executive Board and all transactions and proceedings occurring at such meetings.

ARTICLE IV

OFFICERS

A. Designation. The principal officers of the Association shall be the President, the Secretary and the Treasurer. The officers shall be elected by the Executive Board. The Executive Board may appoint an assistant treasurer, an assistant secretary and such other officers as in its judgment may be necessary. The President and Secretary shall be unit owners and members of the Executive Board. Any other officers may, but need not be, unit owners or members of the Executive Board. An officer other than the President may hold more than one office.

B. Election of Officers. The officers of the Association shall be elected annually by a majority of all the Executive Board members at a regular meeting of the Executive Board and shall hold office at the pleasure of the Executive Board.

C. Removal of Officers. Upon the affirmative vote of a majority of all members of the Executive Board, any officer may be removed, either with or without cause, and a successor may be elected at any meeting of the Executive Board called for such purpose.

D. President. The President shall be the chief executive officer of the Association and shall preside at all meetings of the Association and of the Executive Board.

E. Secretary. The Secretary shall take the place of the President and perform the duties of the President whenever the President shall be absent or unable to act. If neither the President nor the Secretary is able to act, the Executive Board shall appoint some other member of the Executive Board to act in the place of the President, on an interim basis. The Secretary shall also perform such other duties as shall from time to time be delegated or assigned him/her by the Executive Board or by the President. The Secretary shall keep the minutes of all meetings of the Association and of the Executive Board, and have charge of such books and papers as the Executive Board may direct.

F. Treasurer. The Treasurer shall be responsible for financial and fiscal matters and shall maintain all books, records, ledgers, and checking accounts relative thereto. The Treasurer need not be a unit owner.

ARTICLE V

COMMON EXPENSES AND BUDGETS

A. Fiscal Year. The fiscal year of the Association shall be the calendar year unless otherwise determined by the Executive Board.

B. Preparation and Approval of Budget. On or before the first day of November of each year (or sixty (60) days before the beginning of the fiscal year if the fiscal year is other than the calendar year), the Executive Board shall adopt an annual budget for the Association containing an estimate of the total amount considered necessary to pay the cost of maintenance, management, operation, repair and replacement of the Common Elements and those parts of the units as to which it is the responsibility of the Association to maintain, repair and replace, and the cost of wages, materials, insurance premiums, services, supplies and other expenses that may be declared to be Common Expenses by the Act, the Declaration, these Bylaws or a resolution of the Association and which will be required during the ensuing fiscal year for the administration, operation, maintenance and repair of the Condominium and the

rendering to the unit owners of all related services. Such budget shall also include such reasonable amounts as the Executive Board considers necessary to provide working capital, a general operating reserve and reserves for contingencies and replacements. The budget shall segregate and allocate Limited Common Expenses among applicable unit owners. Within thirty (30) days after adoption of any proposed budget for the Condominium, the Executive Board shall provide a summary of the budget to all the unit owners, and shall set a date for a meeting of the unit owners to consider ratification of the budget not less than fourteen (14) nor more than thirty (30) days after mailing of the summary. Unless at the ratification meeting unit owners holding fifty-one percent (51%) of the votes in the Association reject the budget, the budget is ratified, whether or not a quorum is present. In the event the proposed budget is rejected, the budget last ratified by the unit owners shall be continued until such time as the unit owners ratify a subsequent budget proposed by the Executive Board. The budget shall constitute the basis for determining each unit owners' assessments for Common Expenses and Limited Expenses of the Association and shall automatically take effect at the beginning of the fiscal year for which it is adopted, subject to Article V.C(6) below. The Executive Board shall make reasonable efforts to meet the deadlines set forth above, but compliance with such deadlines shall not be a condition precedent to the effectiveness of any budget.

C. Assessment and Payment of Common Expenses.

(1) Common Expenses. The Executive Board shall calculate the monthly assessments for Common Expenses against each unit by multiplying the total amount of the estimated funds required for the operation of the Condominium set forth in the budget adopted by the Executive Board for the fiscal year in question by fifty percent (50%) and dividing the resultant product by the number of calendar months in such fiscal year. Such assessments shall be deemed to have been adopted and assessed on a monthly basis and not on an annual basis payable in monthly installments, shall be due and payable on the first day of each calendar month and shall be a lien against each unit owner's unit as provided in the Act and Declaration. The assessments shall be made no later than thirty (30) days after the budget is adopted, except that the first assessment shall be made no later than sixty (60) days after the first conveyance of a unit to a Purchaser. Within ninety (90) days after the end of each fiscal year, the Executive Board shall prepare and deliver to each unit owner and to each record holder of a mortgage on a unit who has registered an address with the Secretary an itemized accounting of the Common Expenses and funds received during such fiscal year less expenditures actually incurred and sums paid into reserves. Any net shortage with regard to Common Expenses, after application of such reserves as the Executive Board may determine, shall be equally assessed promptly against the unit owners and shall be payable in one or more monthly assessments, as the Executive Board may determine.

(2) Limited Common Expenses. Limited Common Expenses are those Common Expenses associated with the maintenance, repair or replacement of a Limited Common Element and shall be assessed against the unit or units to which that Limited Common Element has been assigned, except as otherwise provided in the Declaration.

(3) Reserves. The Association shall build up and maintain reasonable reserves for working capital, operations, contingencies and replacements. Extraordinary expenditures not originally included in the annual budget which may become necessary during the year may be charged first against such reserves. If the reserves are deemed to be inadequate for any reason, including non-payment of any unit owner's assessments, the Executive Board may at any time levy further assessments for Common Expenses which shall be assessed equally against the unit

owners and shall be payable in one or more monthly assessments as the Executive Board may determine.

(4) Further Assessments. The Executive Board shall serve notice on all unit owners of any further assessments as permitted or required by the Act. The further assessments shall, unless otherwise specified in the notice, become effective with the next monthly assessment which is due more than ten (10) days after the delivery of such notice of further assessments. All unit owners so assessed shall be obligated to pay the amount of such monthly assessments. Such assessments shall be a lien as of the effective date as set forth in the preceding Sections.

(5) Initial Budget. At or prior to the time assessment of Common Expenses commences, the Executive Board shall adopt the budget, as described in this Article, for the period commencing on the date the Executive Board determines that assessments shall begin and ending on the last day of the fiscal year during which such commencement date occurs. Assessments shall be levied and become a lien against the unit during such period as is provided in Article V.C above.

(6) Effect of Failure to Prepare or Adopt Budget. The failure or delay of the Executive Board to prepare or adopt a budget for any fiscal year shall not constitute a waiver or release in any manner of a unit owner's obligation to pay his allocated share of the Common Expenses as herein provided whenever the same shall be determined and, in the absence of any annual budget or adjusted budget, each unit owner shall continue to pay each monthly assessment at the rate established for the previous fiscal year until the new annual or adjusted budget shall have been adopted.

(7) Accounts and Audits. All sums collected by the Executive Board with respect to assessments against the unit owners or from any other source may be commingled into a single fund. All books and records of the Association shall be kept in accordance with good and accepted accounting practices.

(8) Limitations on Expenditure and Borrowing. The power of the Executive Board to expend funds, incur expenses or borrow money on behalf of the Association is subject to the requirement that the consent of unit owners holding at least fifty-one (51%) percent of the votes in the Association obtained at a meeting duly called and held for such purpose in accordance with the provisions of these Bylaws, or the unanimous written consent of unit owners holding all of the votes in the Association shall be required to (a) expend funds or incur expenses that it is reasonably anticipated will cause the aggregate amount of actual expenses (including reserves) to exceed the approved budget by more than ten percent (10%) after taking into account any projected increase in income, and (b) to borrow money.

(9) Payment of Common Expenses. Each unit owner shall pay the Common Expenses assessed by the Executive Board pursuant to the provisions of this Article V. No unit owner may exempt himself from liability for his contribution toward Common Expenses by waiver of the use or enjoyment of any of the Common Elements or by abandonment of his unit. No unit owner shall be liable for the payment of any part of the Common Expenses assessed against his unit subsequent to the date of recordation of a conveyance by him in fee of such unit. All assessments against a unit shall be the personal obligation of the Owner of that unit at the time the assessment becomes due, and liability for such assessments shall not pass to the purchaser of the unit unless the purchaser agrees to assume the obligation. Any such purchaser shall be entitled to a statement setting forth the amount of the unpaid assessments against the

selling unit owner within five (5) days following a written request therefor to the Executive Board. Such purchaser shall not be liable for, nor shall the unit conveyed be subject to a lien for, any unpaid assessments in excess of the amount set forth in such statements. Subject to the Act, each record holder of a mortgage on a unit who comes into possession of a unit by virtue of foreclosure or any purchaser at a foreclosure sale, shall take the unit free of any claims for unpaid assessments or charges against such unit which accrue prior to the time such holder comes into possession thereof, except for claims for a pro rata share of such assessments or charges resulting from a pro rata reallocation of such assessments or charges to all units including the mortgaged unit.

(10) Lien for Assessments. The total monthly assessment levied against each unit for Common Expenses including Limited Common Expenses, revised Common Expenses including Limited Common Expenses, or any special assessment, and any other sums duly levied against the unit pursuant to the Declaration, these Bylaws or the Act, all interest thereon and charges for late payment thereof and legal fees and other costs of collection thereof and fines, penalties and fees as provided in the Declaration or these Bylaws shall constitute the personal liability of the Owner of the unit so assessed and also shall, until fully paid, constitute a lien against the unit in favor of the Association from the date upon which such assessment or other such sum becomes due as provided in Section 1603-116 of the Act. Such lien shall, with respect to monthly assessments and revised monthly assessments, be effective on the first day of each month as to the full amount of the monthly assessment or revised monthly assessment, and, as to special assessments and other sums duly levied including Limited Common Expenses assessed against unit owners for maintenance repair or replacement of a Limited Common Element, on the first day of the next month which begins more than ten (10) days after delivery to the unit owner of notice of such special assessment or levy. Such lien is prior to all other liens and encumbrances on a unit except (a) liens and encumbrances recorded before the recordation of this Declaration, (b) a first mortgage recorded before or after the date which the assessments sought to be enforced becomes delinquent, and (c) liens for real estate taxes and other governmental assessments or charges against the units; provided, however, that such lien is not subject to the provisions of 14 M.R.S.A. Section 4561 and 18-A M.R.S.A. Sections 2-201, et. seq., as they or their equivalents may be amended or modified from time to time. Any assessment not paid within five days after its due date shall accrue interest at the rate of 18% per annum.

(11) Statement of Common Expenses. The Executive Board shall promptly provide any unit owner, contract purchaser or proposed mortgagee so requesting the same in writing with a written statement of all unpaid assessments for Common Expenses due from each unit owner as required by the Act, or the resale certificate and documents required by the terms of the Act.

(12) Mortgage Liability. Any first mortgagee who obtains title to a condominium unit pursuant to the remedies in the mortgage or through foreclosure will not be liable for more than six months of the unit's unpaid regularly budgeted dues accrued before the acquisition of the title to the unit by the mortgagee.

ARTICLE VI

COMPLIANCE AND DEFAULT

Each unit owner shall be governed by, and shall comply with all of the terms of the Declaration, these Bylaws, the Rules and Regulations and the Act, as any of the same may be amended from time to time.

A. Actions by Owners. No unit owner shall have the right to object, challenge, commence any suit at law or in equity or take any other action against the Association or other unit owner(s) under any act, power or authority now in force or hereafter to be enacted except after following such procedures as are established in the Declaration and as may be established by the Executive Board by rule or regulation consistent with the provisions of the Declaration.

B. Actions by Association. Subject to prior compliance with the procedures established in Article VI.A hereof, the failure of a unit owner to comply with the Declaration, these Bylaws and the Rules and Regulations (if any) shall entitle the Association and Executive Board to the remedies provided herein, in the Declaration and in the Act, none of which shall be exclusive of any other remedies.

C. Suits. Failure to comply with the terms of the Declaration, By-Laws and the Rules and Regulations (if any), as the same may be amended from time to time, shall entitle the Association or any aggrieved unit owner, subject to the dispute resolution provisions of the Declaration, to sue for the recovery of damages or for injunctive relief, or both. Such relief shall not be exclusive of other remedies provided by law.

D. Costs and Attorney's Fees. In any proceeding arising because of an alleged failure of a unit owner to comply with the terms of the Declaration, Bylaws or Rules and Regulations (if any), the prevailing party shall be entitled to recover the costs of the proceeding and reasonable attorney's fees.

ARTICLE VII

AMENDMENTS

A. Amendments to Bylaws. These Bylaws may be modified or amended only by vote of unit owners holding at least fifty-one percent (51%) of the votes in the Association, except as otherwise expressly set forth herein or in the Act.

B. Approval of Mortgagees. The Declaration contains provisions concerning various rights and interests of record holders of mortgages on units. Such provisions are to be construed as covenants for the protection of such holders on which they may rely in making loans secured by such mortgages. Accordingly, no amendment or modification of the Declaration or these Bylaws impairing or affecting such rights, priorities, remedies or interests of such a holder shall be adopted without the prior written consent of such holders who have registered an address with the Secretary.

C. Amendments to the Declaration. Any two officers or Executive Board members of the Association may prepare, execute, certify and record amendments to the Declaration on behalf of the Association.

ARTICLE VIII

INSURANCE

A. Policies. The Association shall purchase, for the benefit of itself and the unit owners, those policies of insurance required by the Act and the Declaration and shall cause all such policies of insurance to remain in effect at all times.

ARTICLE IX

MISCELLANEOUS

A. Notices. All notices, demands, bills, statements or other communications under these Bylaws shall be in writing and shall be deemed to have been duly given if delivered personally or if sent by certified mail, return receipt requested, postage prepaid, (i) if to a unit owner, at the address of the unit owner, or (ii) if to the Association or the Executive Board, at such address as shall be designated by notice in writing to the unit owners pursuant to this Section. If a unit is owned by more than one Person, each such Person who so designates a single address in writing to the Secretary shall be entitled to receive all notices hereunder.

B. Captions. The captions herein are inserted only as a matter of convenience and for reference, and in no way define, limit or describe the scope of these Bylaws or the intent of any provision thereof. The use of the masculine gender in these Bylaws shall be deemed to include the feminine and neuter genders and the use of the singular shall be deemed to include the plural, and vice versa, whenever the context so requires.

Date Adopted _____, 2015

o:\lawoffice\realty\leblanc, robert & carrie\condo conversion - munjoy street\bylaws of condominium association.doc

72 MUNJOY STREET CONDOS

Plan 1

72 MUNJOY STREET
PORTLAND, MAINE
SITE PLANS

JULY 20, 2015

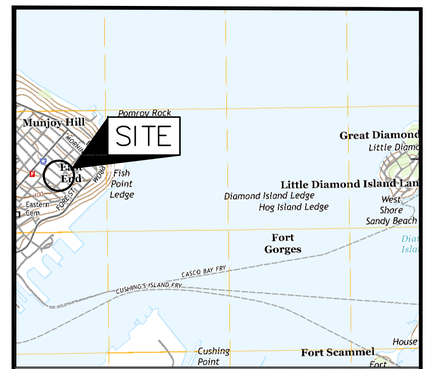
LAST REVISED: AUGUST 28, 2015

APPLICANT: PENINSULA PROPERTY DEVELOPMENT
59 MOODY STREET
PORTLAND, MAINE 04101

PREPARED BY: Tighe&Bond
Consulting Engineers
177 CORPORATE DRIVE
PORTSMOUTH, NEW HAMPSHIRE 03801
(603) 433-8818 info@tighebond.com

ARCHITECT: J. CALL DESIGN
151 ROOSEVELT TRAIL
WINDHAM, MAINE

SURVEYOR: Titcomb Associates
133 Gray Road, Falmouth, Maine 04105
(207)797-9199 www.titcombsurvey.com



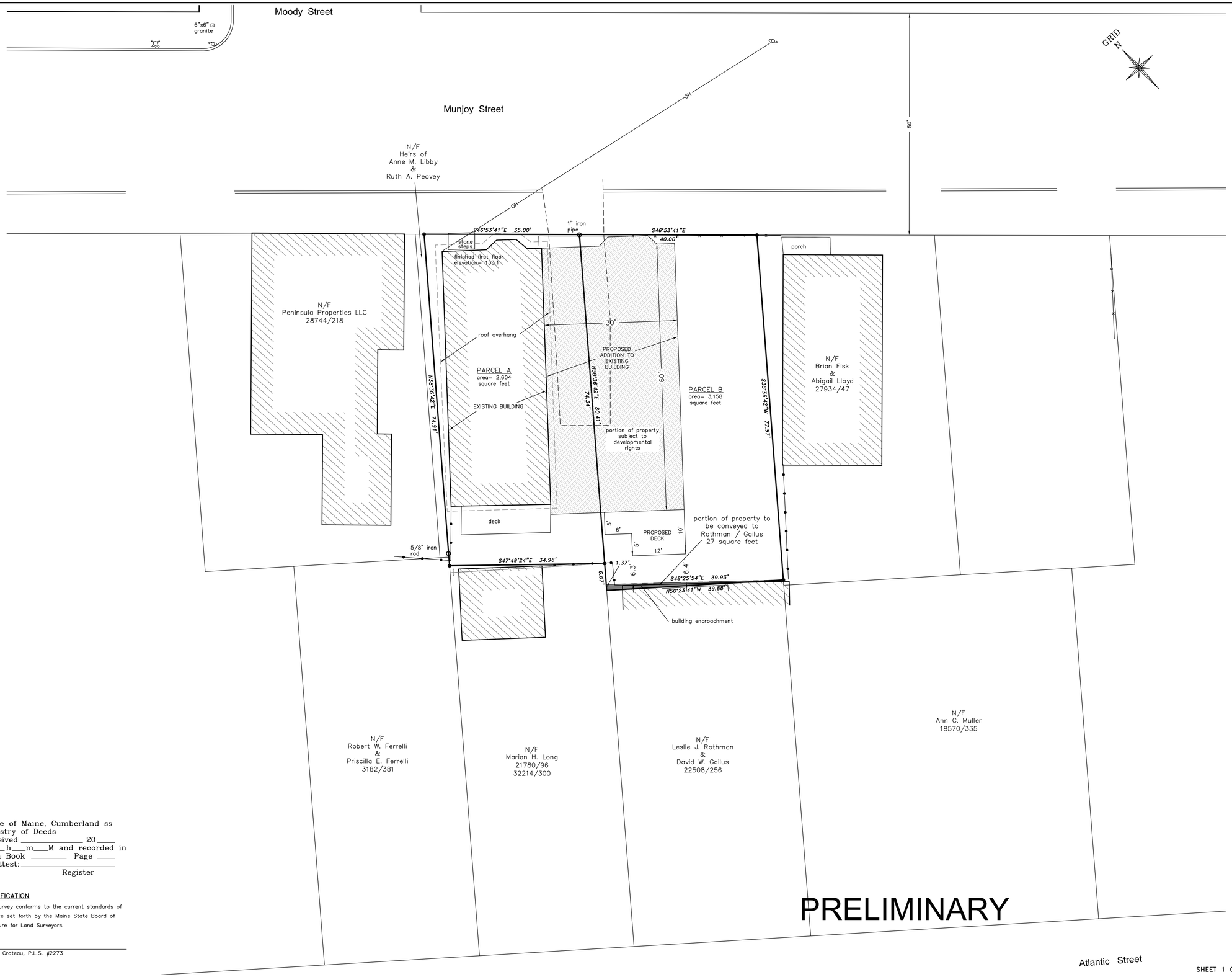
Location Map (1" = 2,000')

LIST OF DRAWINGS		
SHEET NO.	TITLE	LAST REVISED
	COVER SHEET	08/28/2015
1 OF 2	BOUNDARY PLAN OF 72 MUNJOY STREET CONDOMINIUMS	02/11/2015
C-1	EXISTING CONDITIONS AND DEMOLITION PLAN	08/28/2015
C-2	SITE PLAN	08/28/2015
C-3	GRADING, DRAINAGE, EROSION CONTROL, AND UTILITIES PLAN	08/28/2015
C-4	EROSION CONTROL NOTES AND DETAILS SHEET	08/28/2015
C-5	DETAILS SHEET	08/28/2015
P-1	FRONT AND REAR ELEVATIONS	05/2015
P-2	LEFT ELEVATION	05/2015
P-3	RIGHT ELEVATION	05/2015

STATE OF MAINE
WILLIAM J. DAWSON
19754
REGISTERED PROFESSIONAL ENGINEER

811 DigSafe MA-ME-NH-RI-VT

Aug 28, 2015-8:55am Plotted By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-CS.dwg Layout: 24X36_COVER SHEET



LEGEND

○	Iron marker – found
●	Iron marker – set (#5 rebar)
⊡	Monument – found
	Property line (locus)
	Property line (abutter)
	Stockade fence
	Curb
OH	Overhead utility line
	Chainlink fence
	Edge of pavement
	Utility pole
N/F	Now or formerly of
1234/567	Deed reference (Book/Page)
	Fire hydrant
	Existing building

NOTES

1) Book and Page references are to the Cumberland County Registry of Deeds.

2) Bearings are referenced to grid north, Maine State Plane Coordinate System, NAD83, West Zone.

3) Elevations are based on City of Portland datum.

4) Utility information on this plan is approximate, based on location of visible features. DigSafe and/or the appropriate utilities should be contacted prior to any construction.

5) Project area was covered by snow and ice at the time of the survey and some features may have been obscured and not shown on this plan.

PLAN REFERENCES

1) City of Portland street right of way plans.

2) Condominium Plat, Moody Street Condominium made for Moody Street Development, LLC by Northeast Civil Solutions dated May 22, 2007 and revised October 22, 2007 recorded in Plan Book 207, Page 645.

3) Recording Plat on Moody Street, Vesper Street, Wilson Street and Munjoy Street made for Avesta Housing Development Corp. by Owen Haskell, Inc. dated April 30, 2012 recorded in Plan Book 212, Page 210.

AREA

As noted

OWNERS OF RECORD

C and B Realty LLC
(currently known as Peninsula Property Development)
71 West Street Portland, Maine

Parcel A: Book 31834, Page 265
Parcel B: Book 31834, Page 263

SCALE IN FEET

10 0 10 20

1" = 10'

State of Maine, Cumberland ss
Registry of Deeds
Received _____ 20____
at ___h___m___M and recorded in
Plan Book _____ Page ____
Attest: _____
Register

CERTIFICATION

This survey conforms to the current standards of practice set forth by the Maine State Board of Licensure for Land Surveyors.

Rex J. Croteau, P.L.S. #2273

PLAN OF
Boundary Survey
72 Munjoy Street Condominiums
68 and 72 Munjoy Street Portland, Maine

MADE FOR
Peninsula Property Development LLC
71 West Street Portland, Maine

JOB #215007	DATE: February 11, 2015	SCALE: 1" = 10'
BOOK #887	Titcomb Associates	
2015/215007.dwg	133 Gray Road, Falmouth, Maine 04105	
FILE #9766	(207)797-9199 www.titcombsurvey.com	

SHEET 1 OF 2

NOTES

1) BOOK AND PAGE REFERENCES ARE TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.

2) BEARINGS ARE REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, NAD83, WEST ZONE.

3) ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM.

4) UTILITY INFORMATION ON THIS PLAN IS APPROXIMATE, BASED ON LOCATION OF VISIBLE FEATURES. DIGSAFE AND/OR THE APPROPRIATE UTILITIES SHOULD BE CONTACTED PRIOR TO ANY CONSTRUCTION.

5) PROJECT AREA WAS COVERED BY SNOW AND ICE AT THE TIME OF THE SURVEY AND SOME FEATURES MAY HAVE BEEN OBSCURED AND NOT SHOWN ON THIS PLAN.

PLAN REFERENCES

1) CITY OF PORTLAND STREET RIGHT OF WAY PLANS.

2) CONDOMINIUM PLAT, MOODY STREET CONDOMINIUM MADE FOR MOODY STREET DEVELOPMENT, LLC BY NORTHEAST CIVIL SOLUTIONS DATED MAY 22, 2007 AND REVISED OCTOBER 22, 2007 RECORDED IN PLAN BOOK 207, PAGE 645.

3) RECORDING PLAT ON MOODY STREET, VESPER STREET, WILSON STREET AND MUNJOY STREET MADE FOR AVESTA HOUSING DEVELOPMENT CORP. BY OWEN HASKELL, INC. DATED APRIL 30, 2012 RECORDED IN PLAN BOOK 212, PAGE 210.

4) "BOUNDARY SURVEY 72 MUNJOY STREET CONDOMINIUMS", PREPARED BY TITCOMB ASSOCIATES, DATED FEBRUARY 11, 2015.

5) EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND BASED ON INFORMATION PROVIDED BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES AND PORTLAND WATER DISTRICT.

6) EXISTING 2' CONTOURS ARE BASED ON INFORMATION OBTAINED FROM THE MAINE OFFICE OF GIS.

OWNERS OF RECORD

C AND B REALTY LLC
(CURRENTLY KNOWN AS PENINSULA PROPERTY DEVELOPMENT)
71 WEST STREET PORTLAND, MAINE

PARCEL A: BOOK 31834, PAGE 265
PARCEL B: BOOK 31834, PAGE 263

DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.

2. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.

3. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

4. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

5. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

6. SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.

8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.

10. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.

11. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE PADS, UTILITIES AND PAVEMENT WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ITEMS TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, CURBS, TREES AND LANDSCAPING.

12. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTLAND.

13. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

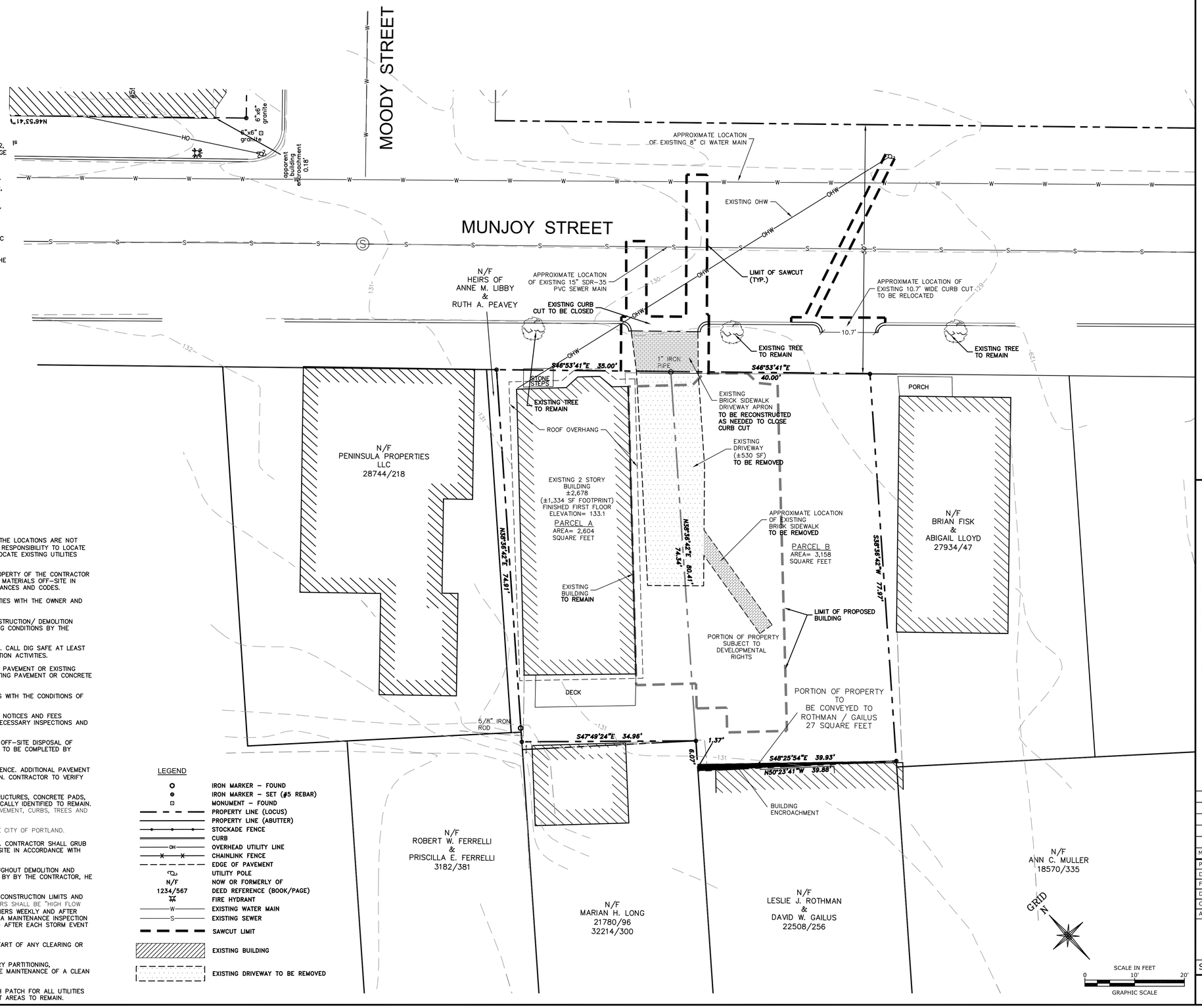
14. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY BY THE CONTRACTOR, HE SHALL EMPLOY A LICENSED SURVEYOR TO REPLACE IT.

15. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

16. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

17. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

18. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.



LEGEND

- IRON MARKER – FOUND
- IRON MARKER – SET (#5 REBAR)
- MONUMENT – FOUND
- PROPERTY LINE (LOCUS)
- PROPERTY LINE (ABUTTER)
- STOCKADE FENCE
- CURB
- OVERHEAD UTILITY LINE
- CHAINLINK FENCE
- EDGE OF PAVEMENT
- UTILITY POLE
- N/F NOW OR FORMERLY OF
- 1234/567 DEED REFERENCE (BOOK/PAGE)
- FIRE HYDRANT
- EXISTING WATER MAIN
- EXISTING SEWER
- SAWCUT LIMIT
- EXISTING BUILDING
- EXISTING DRIVEWAY TO BE REMOVED

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Plan 3

STATE OF MAINE WILLIAM J. DAWSON 15764 REGISTERED PROFESSIONAL ENGINEER

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	8/28/15	REV. PER CITY COMMENT

PROJECT NO:	P-0765
DATE:	2015/07/20
FILE:	P0765-SITE.dwg
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 10'

C-1

Last Saved: 8/28/2015
Last Plotted: 2015-08-28 7:10:45am By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg

NOTES

1) BOOK AND PAGE REFERENCES ARE TO THE CUMBERLAND COUNTY REGISTRY OF DEEDS.

2) BEARINGS ARE REFERENCED TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, NAD83, WEST ZONE.

3) ELEVATIONS ARE BASED ON CITY OF PORTLAND DATUM.

4) UTILITY INFORMATION ON THIS PLAN IS APPROXIMATE, BASED ON LOCATION OF VISIBLE FEATURES. DIGSAFE AND/OR THE APPROPRIATE UTILITIES SHOULD BE CONTACTED PRIOR TO ANY CONSTRUCTION.

5) PROJECT AREA WAS COVERED BY SNOW AND ICE AT THE TIME OF THE SURVEY AND SOME FEATURES MAY HAVE BEEN OBSCURED AND NOT SHOWN ON THIS PLAN.

PLAN REFERENCES

1) CITY OF PORTLAND STREET RIGHT OF WAY PLANS.

2) CONDOMINIUM PLAT, MOODY STREET CONDOMINIUM MADE FOR MOODY STREET DEVELOPMENT, LLC BY NORTHEAST CIVIL SOLUTIONS DATED MAY 22, 2007 AND REVISED OCTOBER 22, 2007 RECORDED IN PLAN BOOK 207, PAGE 645.

3) RECORDING PLAT ON MOODY STREET, VESPER STREET, WILSON STREET AND MUNJOY STREET MADE FOR AVESTA HOUSING DEVELOPMENT CORP. BY OWEN HASKELL, INC. DATED APRIL 30, 2012 RECORDED IN PLAN BOOK 212, PAGE 210.

4) "BOUNDARY SURVEY 72 MUNJOY STREET CONDOMINIUMS", PREPARED BY TITCOMB ASSOCIATES, DATED FEBRUARY 11, 2015.

5) EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND BASED ON INFORMATION PROVIDED BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES AND PORTLAND WATER DISTRICT.

6) EXISTING 2' CONTOURS ARE BASED ON INFORMATION OBTAINED FROM THE MAINE OFFICE OF GIS.

OWNERS OF RECORD

C AND B REALTY LLC
(CURRENTLY KNOWN AS PENINSULA PROPERTY DEVELOPMENT)
71 WEST STREET PORTLAND, MAINE

PARCEL A: BOOK 31834, PAGE 265
PARCEL B: BOOK 31834, PAGE 263

SITE DATA

LOCATION: 72 MUNJOY STREET, PORTLAND, MAINE, CHART 16 LOTS B-8/9

OWNER: C AND B REALTY LLC, 71 WEST STREET, PORTLAND, MAINE 04102

CIVIL ENGINEER: TIGHE & BOND, 177 CORPORATE DRIVE, PORTSMOUTH, NH 03801, WILLIAM J. DAWSON, P.E.

SURVEYOR: TITCOMB ASSOCIATES, 133 GRAY ROAD, FALMOUTH, ME 04105

ZONING DISTRICT: R-6 RESIDENTIAL ZONE

PROPOSED USE: MULTI-FAMILY RESIDENTIAL

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROVIDED
MINIMUM LOT AREA:	2,000 SF	5,762 SF
MINIMUM STREET FRONTAGE:	20 FT	75 FT
MINIMUM FRONT YARD SETBACK:	0.25 FT*	0.25 FT
SIDE SETBACK:	5 FT	18.6 FT
REAR SETBACK:	10 FT	10 FT
MAXIMUM BUILDING LOT COVERAGE:	60 %	54.5 %
LANDSCAPED OPEN SPACE:	20%	25%
MAXIMUM HEIGHT:	45 FT	43.5 FT

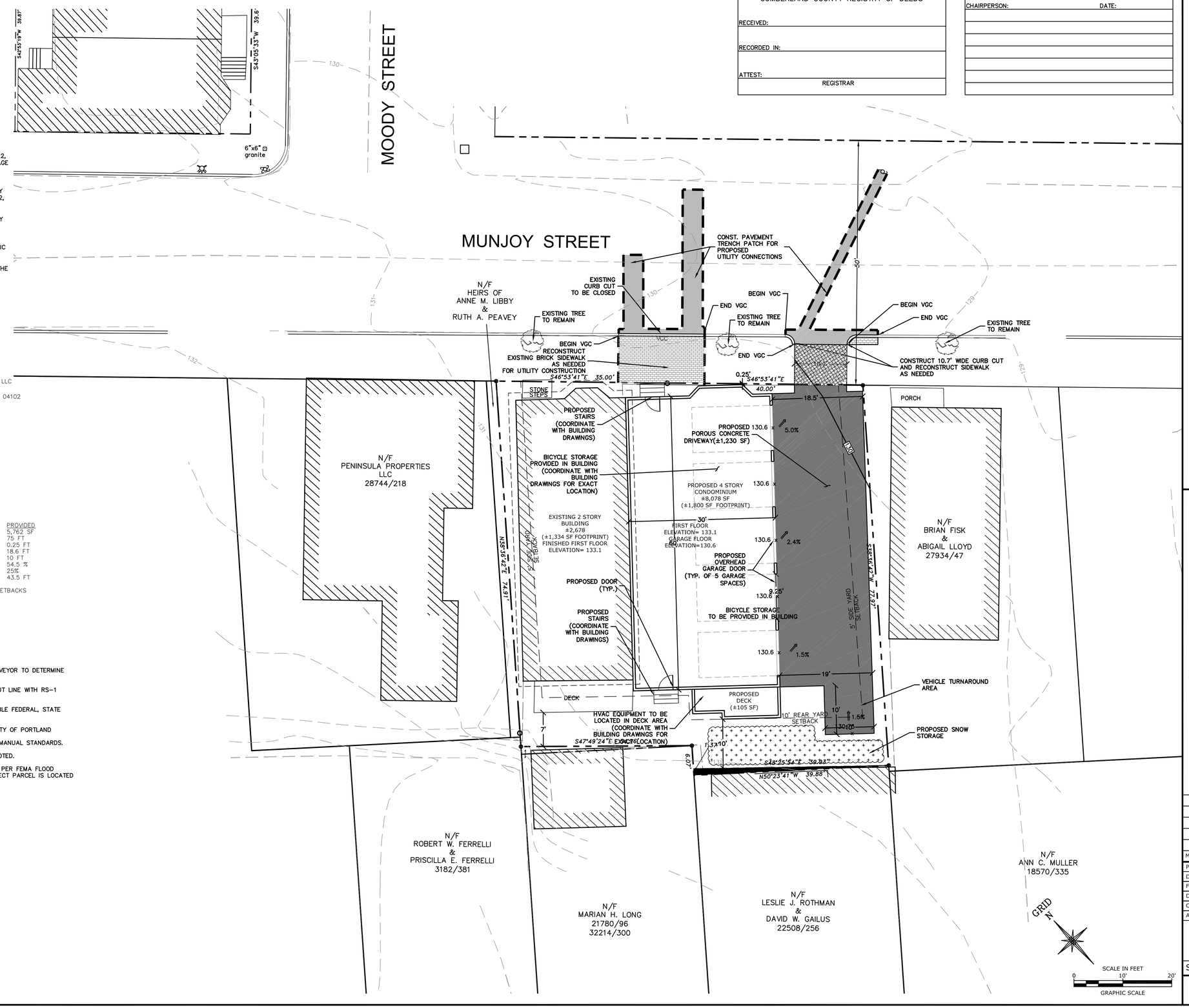
*CAN BE REDUCED TO THE AVERAGE DEPTH OF ADJACENT FRONT YARD SETBACKS

SITE NOTES:

1. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED ENGINEER/SURVEYOR TO DETERMINE ALL LINES AND GRADES.
2. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
3. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
4. WORK WITHIN MUNJOY STREET AND SHALL BE COORDINATED WITH CITY OF PORTLAND
5. ALL WORK SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
6. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
7. PARCEL IS NOT LOCATED IN A SPECIAL FLOOD ZONE HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP 230051 0014 B, DATED JULY 17, 1986. THE SUBJECT PARCEL IS LOCATED IN ZONE C.

LEGEND

- PROPERTY LINE
- ABUTTER LOT LINE
- BUILDING SETBACK
- PROPOSED DRIVEWAY
- EXISTING BUILDING
- EXISTING UTILITY POLE
- N/F NOW OR FORMERLY
- 1234/567 DEED REFERENCE (BOOK/OAGE)
- EXISTING FIRE HYDRANT
- PROPOSED BRICK SIDEWALK
- PROPOSED SNOW STORAGE
- EXISTING TREE



RECORDING INFORMATION STATE OF MAINE
CUMBERLAND COUNTY REGISTRY OF DEEDS

RECEIVED:

RECORDED IN:

ATTEST:
REGISTRAR

APPROVED BY PORTLAND PLANNING BOARD

CHAIRPERSON: DATE:

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Plan 4

STATE OF MAINE WILLIAM J. DAWSON 19764 REGISTERED PROFESSIONAL ENGINEER

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	9/23/15	PLANNING BOARD SUBMISSION

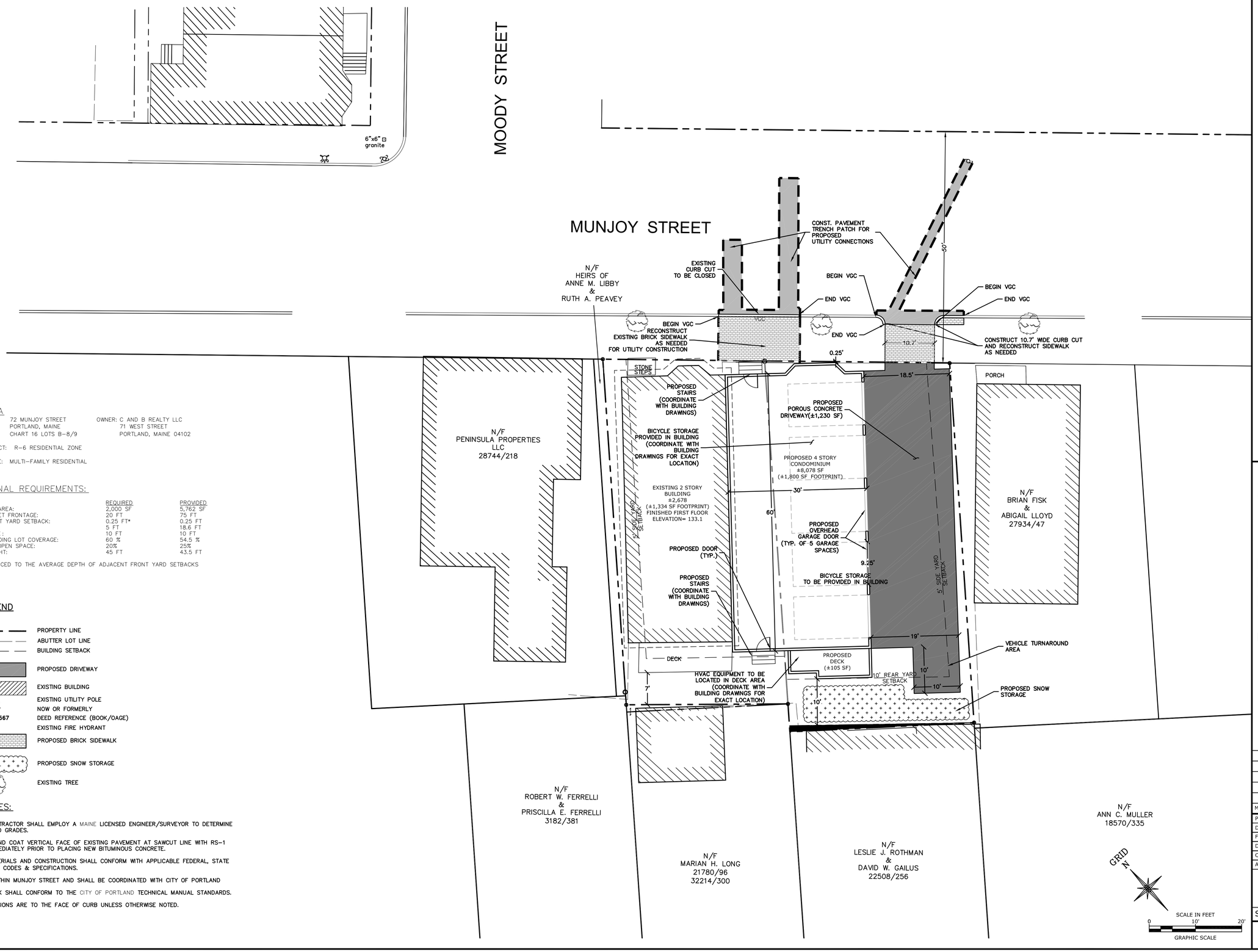
PROJECT NO:	P-0765
DATE:	2015/07/20
FILE: P0765-SITE.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

SUBDIVISION PLAT

SCALE: 1" = 10'

1 OF 1

Last Saved: 9/23/2015
Plotted On:Sep 23, 2015-2:50pm By: GWH
Tighe & Bond, Inc.: J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg



SITE DATA

LOCATION: 72 MUNJOY STREET
PORTLAND, MAINE
CHART 16 LOTS B-8/9

OWNER: C AND B REALTY LLC
71 WEST STREET
PORTLAND, MAINE 04102

ZONING DISTRICT: R-6 RESIDENTIAL ZONE

PROPOSED USE: MULTI-FAMILY RESIDENTIAL

DIMENSIONAL REQUIREMENTS:

	REQUIRED	PROVIDED
MINIMUM LOT AREA:	2,000 SF	5,762 SF
MINIMUM STREET FRONTAGE:	20 FT	75 FT
MINIMUM FRONT YARD SETBACK:	0.25 FT*	0.25 FT
SIDE SETBACK:	5 FT	18.6 FT
REAR SETBACK :	10 FT	10 FT
MAXIMUM BUILDING LOT COVERAGE:	60 %	54.5 %
LANDSCAPED OPEN SPACE:	20%	25%
MAXIMUM HEIGHT:	45 FT	43.5 FT

*CAN BE REDUCED TO THE AVERAGE DEPTH OF ADJACENT FRONT YARD SETBACKS

LEGEND

- PROPERTY LINE
- ABUTTER LOT LINE
- BUILDING SETBACK
- PROPOSED DRIVEWAY
- EXISTING BUILDING
- EXISTING UTILITY POLE
- N/F — NOW OR FORMERLY
- 1234/567 — DEED REFERENCE (BOOK/OAGE)
- EXISTING FIRE HYDRANT
- PROPOSED BRICK SIDEWALK
- PROPOSED SNOW STORAGE
- EXISTING TREE

SITE NOTES:

1. THE CONTRACTOR SHALL EMPLOY A MAINE LICENSED ENGINEER/SURVEYOR TO DETERMINE ALL LINES AND GRADES.
2. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
3. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND/OR TOWN CODES & SPECIFICATIONS.
4. WORK WITHIN MUNJOY STREET AND SHALL BE COORDINATED WITH CITY OF PORTLAND
5. ALL WORK SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
6. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

Last Saved: 8/28/2015
Plotted On:Aug 28, 2015-9:45am By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg

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Plan 5

STATE OF MAINE
WILLIAM J. DAWSON
#9764
REGISTERED PROFESSIONAL ENGINEER

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	8/28/15	REV. PER CITY COMMENT

PROJECT NO:	P-0765
DATE:	2015/07/20
FILE:	P0765-SITE.dwg
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

SITE PLAN

SCALE: 1" = 10'

C-2

GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:

BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREAS	90%

* ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.

1. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.

2. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCHBASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.

3. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.

4. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.

5. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.

6. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND CITY OF PORTLAND DEPARTMENT OF PUBLIC WORKS AND CONSTRUCTION SPECIFICATIONS, LATEST REVISIONS.

7. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.

8. CONTRACTOR SHALL COORDINATE WITH BUILDING DRAWINGS FOR ROOF LEADER SIZE AND MATERIAL. ROOF LEADER INLETS SHALL BE SCREENED TO PREVENT CLOGGING AND TRANSFER OF DEBRIS INTO POROUS CONCRETE RESERVOIR COURSE. ROOF LEADERS SHALL HAVE A CLEAN-OUT LOCATED NEAR FINISHED GRADE TO ALLOW ACCESS TO PIPE FOR MAINTENANCE.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.

2. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEETS.

3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCHBASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.

4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.

5. INSPECT INLET PROTECTION AND SILT FENCES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.

6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.

7. CONSTRUCT EXCELSIOR MAT ON ALL SLOPES STEEPER THAN 3:1.

8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.

9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.

10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.

11. ALL CATCHBASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN PAVED.

12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED BY SILT FENCE AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLAND.

UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.

2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   NATURAL GAS -UNITIL
   WATER -PORTLAND WATER DISTRICT
   SEWER -CITY OF PORTLAND SEWER DEPARTMENT
   ELECTRIC -CENTRAL MAINE POWER
   TELEPHONE -FAIRPOINT COMMUNICATIONS

3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.

4. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.

5. ALL WORK WITHIN CITY ROWS SHALL BE COORDINATED WITH CITY OF PORTLAND.

6. CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED TO PORTLAND WATER DISTRICT STANDARDS.

7. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.

8. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.

9. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.

10. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

11. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.

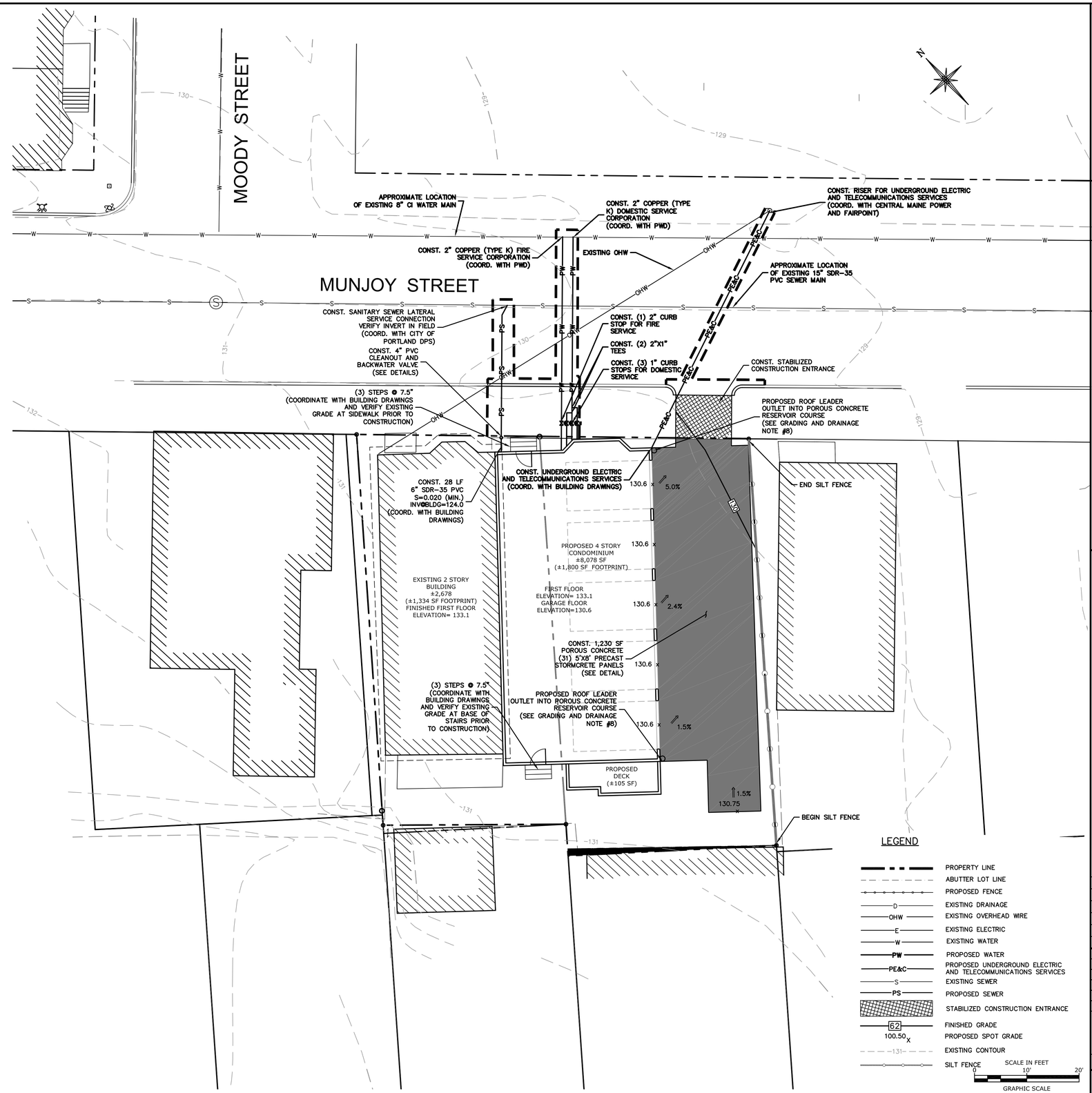
12. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.

13. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.

14. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.

15. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN

16. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTLAND SEWER DEPARTMENT.



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Plan 6

STATE OF MAINE WILLIAM J. DAWSON #9784 REGISTERED PROFESSIONAL ENGINEER

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	8/28/15	REV. PER CITY COMMENT

PROJECT NO:	P-0765
DATE:	2015/07/20
FILE: P0765-SITE.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

GRADING, DRAINAGE, EROSION CONTROL, AND UTILITIES PLAN

SCALE: 1" = 10'

C-3

Last Saved: 8/28/2015
Plotted On:Aug 28, 2015-4:57pm By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE.dwg

PROJECT NAME AND LOCATION
72 MUNJOY STREET CONDOS — 43°-39'-29.87"N
72 MUNJOY STREET — 70°-17'-43.50"W
PORTLAND, MAINE 04103

DESCRIPTION
THE PROJECT CONSISTS OF THE DEMOLITION OF EXISTING FEATURES ON SITE FOR A PROPOSED 4-STORY 1,800 SF (FOOTPRINT) MULTI-FAMILY BUILDING WITH ASSOCIATED SITE IMPROVEMENTS INCLUDING SIDEWALK, STORMWATER MANAGEMENT, UTILITIES AND LANDSCAPING.

DISTURBED AREA
THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 3,700 SF.

SOIL CHARACTERISTICS
BASED ON NATIONAL RESOURCES CONSERVATION SERVICE (NRCS) SOILS MAP THE SOILS CONSIST OF HINCKLEY GRAVELLY SANDY LOAM, WHICH IS IN HYDROLOGIC GROUP A SOILS.

SEQUENCE OF MAJOR ACTIVITIES
1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
   - NEW CONSTRUCTION
   - DEVELOPMENT OF BORROW PIT AREAS
   - DISPOSAL OF SEDIMENT SPOIL, STUMP AND OTHER SOLID WASTE
   - CONTROL OF DUST
   - CONSTRUCTION OF SITE ACCESS
   - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
   - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. CLEAR AND DISPOSE OF DEBRIS.
5. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
6. GRADE AND GRAVEL DRIVES AND PARKING AREAS – ALL DRIVES AND PARKING AREA SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
7. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES HALL BE SEEDED AND MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION.
8. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES, SILT SOCKS, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
9. FINISH PAVING ALL DRIVES AND PARKING AREAS.
10. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
12. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

NOTE: THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.

NAME OF RECEIVING WATERS
THE STORM WATER RUNOFF FLOWS OFFSITE INTO MUNJOY STREET AND EVENTUALLY REACHES THE CITY OF PORTLAND'S CLOSED DRAINAGE SYSTEM.

EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

A. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES AND DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR MORE THAN TWENTY ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
   1. TEMPORARY SEEDING
   2. MULCHING
B. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.
C. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
   1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
   2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
   3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED.
   4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
D. WINTER STABILIZATION PRACTICES:
   1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY NOVEMBER 15TH, OR WHICH ARE DISTURBED AFTER NOVEMBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 4:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURE WITH ANCHOR NETTING, ELSEWHERE.
   2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITION.
   3. AFTER NOVEMBER 15TH, INCOMPLETE DRIVE OR PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.

OFF SITE VEHICLE TRACKING
THE CONTRACTOR SHALL CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO ANY EXCAVATION ACTIVITIES.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS
A. GENERAL:
THESE ARE THE GENERAL INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO IMPLEMENT THE PLAN.
   1. ALL SWALES SHALL BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
   2. THE SMALLEST PRACTICAL PORTION OF THE SITE WILL BE DENUDED AT ONE TIME.
   3. ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
   4. ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
   5. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT SOCK WHEN IT HAS REACHED ONE THIRD THE HEIGHT OF THE SILT SOCK.
   6. ALL DIVERSION DIKES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
   7. TEMPORARY SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.
   8. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION.
   9. A REPRESENTATIVE OF THE SITE CONTRACTOR, WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
   10. THE EROSION CONTROL PROCEDURES SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL MANUAL.
      A. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES OR SPECIFICATIONS.
      B. THE USE OF SAND FOR THE PURPOSE OF PEDESTRIAN SAFETY AND SAFE DRIVING CONDITION SHALL BE MINIMIZED.
      C. THE OWNER SHALL CLEAN ALL CATCH BASINS, DRAIN MANHOLES AND SWEEP THE PARKING LOT ON AN ANNUAL BASIS.
B. FILTERS:
   1. SILT SOCK
      A. APPLICATION
         I. SILT SOCK ARE TO BE INSTALLED DOWN SLOPE OF ANY DISTURBED AREA REQUIRING EROSION AND SEDIMENT CONTROL AND FILTRATION OF SOLUBLE POLLUTANTS FROM RUNOFF. SILT SOCK ARE EFFECTIVE WHEN INSTALLED PERPENDICULAR TO SHEET OR LOW CONCENTRATED FLOW.
      A. INSTALLATION DETAILS
         II. SILT SOCK USED FOR PERIMETER CONTROL OF SEDIMENT AND SOLUBLE POLLUTANTS IN STORM RUNOFF SHALL MEET FILTREXX SOXX MATERIAL SPECIFICATIONS, OR APPROVED EQUAL, AND USE CERTIFIED FILTREXX FILTER MEDIA, OR APPROVED EQUAL.
         III. CONTRACTOR IS REQUIRED TO BE FILTREXX CERTIFIED AS DETERMINED BY FILTREXX INTERNATIONAL, LLC., OR APPROVED EQUAL. CERTIFICATION SHALL BE CONSIDERED CURRENT IF APPROPRIATE IDENTIFICATION IS SHOWN DURING TIME OF BID OR AT TIME OF APPLICATION. LOOK FOR THE FILTREXX CERTIFIED SEAL, OR APPROVED EQUAL.
         IV. SILT SOCK WILL BE PLACED AT LOCATIONS INDICATED ON PLANS AS DIRECTED BY THE ENGINEER.
         V. SILT SOCK SHOULD BE INSTALLED PARALLEL TO THE BASE OF THE SLOPE OR OTHER DISTURBED AREA. IN EXTREME CONDITIONS (i.e. 2:1 SLOPES), A SECOND SILT SOCK SHALL BE CONSTRUCTED AT THE TOP OF THE SLOPE.
         VI. STAKES SHALL BE INSTALLED THROUGH THE MIDDLE OF THE SILT SOCK ON 10 FT CENTERS, USING 2 INCH BY 2 INCH BY 3 FEET WOODEN STAKES. IN THE EVENT STAKING IS NOT POSSIBLE, I.E., WHEN SILT SOCK ARE USED ON PAVEMENT, HEAVY CONCRETE BLOCKS SHALL BE USED BEHIND THE SILT SOCK TO HELP STABILIZE DURING RAINFALL/RUNOFF EVENTS.
         VII. STAKING DEPTH FOR SAND AND SILT LOAM SOILS SHALL BE 12 INCHES, AND 8 INCHES FOR CLAY SOILS.
         VIII. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE SILT SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.
         IX. IF THE SILT SOCK IS TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, IT MAY BE SEEDED AT TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
         X. SILT SOCK ARE NOT TO BE USED IN PERENNIAL, EPHEMERAL, OR INTERMITTENT STREAMS.
         XI. SEE DETAIL FOR CORRECT SILT SOCK INSTALLATION.
   2. SEQUENCE OF INSTALLATION:
      A. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
   3. MAINTENANCE:
      A. SILT SOCK BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHALL BE REPAIRED IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM.
      B. SHOULD THE FABRIC ON A SILT SOCK BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
      C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD (1/3) THE HEIGHT OF THE BARRIER.
      D. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT SOCK BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
C. MULCHING:
   1. TIMING:
      A. IN ORDER FOR MULCH TO BE EFFECTIVE, IT MUST BE IN PLACE PRIOR TO MAJOR STORM EVENTS. THERE ARE TWO (2) TYPES OF STANDARDS WHICH SHALL BE USED TO ASSURE THIS:
         I. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS, USUALLY BY CONTACTING THE NATIONAL WEATHER SERVICE IN CONCORD, TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
         II. REQUIRED MULCHING WITHIN A SPECIFIED TIME PERIOD. THE TIME PERIOD CAN RANGE FROM 14 TO 21 DAYS OF INACTIVITY ON A AREA, THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
   2. APPLICATION RATE:
      A. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 90 TO 100 POUNDS PER 1000 SQUARE FEET. THE MINIMUM MULCH REQUIREMENT, REGARDLESS OF APPLICATION RATE IS THAT SOIL MUST NOT BE VISIBLE.
   3. GUIDELINES FOR WINTER MULCH APPLICATION:
      A. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 6,000 POUNDS OF HAY OR STRAW PER ACRE. A TACKIFIER MAY BE ADDED TO THE MULCH. NO MULCH IS TO BE APPLIED OVER MORE THAN TWO (2) INCHES OF SNOW. IF SNOW DEPTH IS GREATER THAN TWO (2) INCHES IT SHALL BE REMOVED BEFORE MULCHING.
   4. MAINTENANCE:
      A. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
   5. EXCELSIOR MATTING:
      A. EXCELSIOR MATTING SHALL BE USED IN PLACE OF MULCH ON ALL SLOPES STEEPER THAN 3:1.
   6. SLOPES:
      A. ALL SLOPES GREATER THAN 15% DURING THE REGULAR CONSTRUCTION SEASON ARE TO HAVE NETTING OVER MULCH OR COMBINATION EROSION CONTROL MAT USED (MULCH AND NET). THIS APPLIES TO ALL SLOPES GREATER THAN 8% AFTER OCTOBER 1. MULCHING IS REQUIRED OVER HYDROSEEDING.
D. TEMPORARY GRASS COVER:
   1. SEEDBED PREPARATION:
      A. APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10 FERTILIZER.
      B. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE.
   2. SEEDING:
      A. UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE.
      B. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
      C. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH,MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.
   3. MAINTENANCE:
      A. TEMPORARY SEEDINGS SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
E. PERMANENT MULCHING
   1. TIMING:
      A. APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS THAT RESIST DECOMPOSITION SUCH AS WOOD CHIPS OR CRUSHED STONE TO THE SOIL SURFACE WHERE VEGETATION STABILIZATION IS EITHER IMPRACTICAL OR DIFFICULT TO ESTABLISH.
      B. WINTER STABILIZATION SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS.
   2. CONSIDERATIONS:
      A. PERMANENT MULCHING SHALL BE USED TO STABILIZE CHRONIC EROSION AREAS WHICH RECEIVE HEAVY FOOT OR VEHICLE TRAFFIC. NOT INTENDED FOR AREAS OF CONCENTRATED FLOWS.
      B. IF WOOD CHIPS ARE USED IN LANDSCAPED AREAS (TREES & SHRUBS), A SUPPLEMENTAL APPLICATION OF CHEMICAL FERTILIZER SHOULD BE APPLIED AT A RATE OF TWO POUNDS OF 5-10-5 PER 100 SQUARE FEET OF MULCH.
      C. IF CRUSHED STONE IS USED, A PLASTIC FILTER CLOTH SHALL BE PLACED BETWEEN THE GROUND AND THE STONE.
   3. SPECIFICATIONS
      A. WOOD CHIPS OR AGGREGATE SHALL BE USED ON SLOPES NO STEEPER THAN 3 HORIZONTALLY ON 1 VERTICALLY.
      B. PERMANENT MULCH SHALL BE **3** INCHES OR MORE IN DEPTH.
      C. WOOD CHIPS SHALL BE APPLIED AT A RATE OF 500-900 POUNDS PER 1,000 SQUARE FEET OR 10-20 TONS PER ACRE. WOOD CHIPS SHALL BE GREEN OR AIR-DRIED AND FREE OF OBJECTIONABLE COARSE MATERIALS.
      D. AGGREGATE COVER (GRAVEL, CRUSHED STONE OR SLAG) SHALL BE WASHED, 0.25 INCHES TO 2.5 INCHES AND APPLIED AT A RATE OF 9 CUBIC YARDS PER 1,000 SQUARE FEET.
   4. MAINTENANCE
      A. WOOD CHIPS SHALL BE MONITORED FOR DECOMPOSITION AND NEW APPLICATIONS MADE.
      B. CRUSHED STONE SHALL BE MONITORED FOR WASH OUT AND SLIPPING DOWN SLOPE. IF EITHER OCCUR, NEW MATERIAL SHALL BE PROVIDED ON THE BARREN AREAS.
F. VEGETATIVE PRACTICE:
   1. FOR PERMANENT MEASURES AND PLANTINGS.
      A. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 3 TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
      B. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER.
      C. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4.5 POUNDS AND 5.5 POUNDS PER INCH OF WIDTH.
      D. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
      E. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE.
      F. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.
      G. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED.
      H. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEEDING RATE:	
CREEPING RED FESCUE	XX LBS/ACRE
TALL FESCUE	XX LBS/ACRE
REDTOP	X LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

G. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL)
FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.
H. STORM DRAIN INLET PROTECTION:
   1. SILT SACK
      A. SACK SHALL BE INSTALLED WITHIN CATCH BASIN, MAKING SURE EMPTY STRAPS ARE LAID FLAT OUTSIDE THE BASIN.
      B. SACK SHALL FIT TIGHTLY WITHIN THE BASIN TO PREVENT SEDIMENT FROM GOING THROUGH ANY GAPS.
      C. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINSTORM AND REPAIRS MADE AS NECESSARY.
      D. SEDIMENT SHOULD BE REMOVED FROM THE DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE-THIRD THE DEPTH OF THE TRAP.
      E. SILT SACK SHALL BE REMOVED UPON THE COMPLETION OF PROJECT.
I. STABILIZED CONSTRUCTION ENTRANCE:
   1. SPECIFICATIONS
      A. AGGREGATE SIZE: USE TWO (2) INCHES STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
      B. AGGREGATE THICKNESS: NOT LESS THAN SIX (6) INCHES.
      C. WIDTH: TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS.
      D. LENGTH: AS REQUIRED, BUT NOT LESS THAN FIFTY (50) FEET
      E. GEOTEXTILE: TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
      F. CRITERIA FOR GEOTEXTILE: THE FABRICS SHALL BE TREVIA SPUNBOND 1135, MIRAFI 600X OR APPROVED EQUAL.
   2. MAINTENANCE
      A. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES OR WATERWAYS.

TIMING OF CONTROLS/MEASURES
A. THE MAXIMUM AREA TO BE DISTURBED AT ONE TIME SHALL BE KEPT UNDER FIVE (5) ACRES. A PHASING PLAN DESCRIBING THE AREAS TO BE DISTURBED SHALL BE SUBMITTED TO THE DESIGN ENGINEER AND NHDES. AN INDEPENDENT MONITORING COMPANY SHALL BE HIRED BY THE CONTRACTOR TO MONITOR ALL EROSION CONTROL DEVICES.
B. AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF ANY WETLAND OR STREAM, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND HAYBALE BARRIERS AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

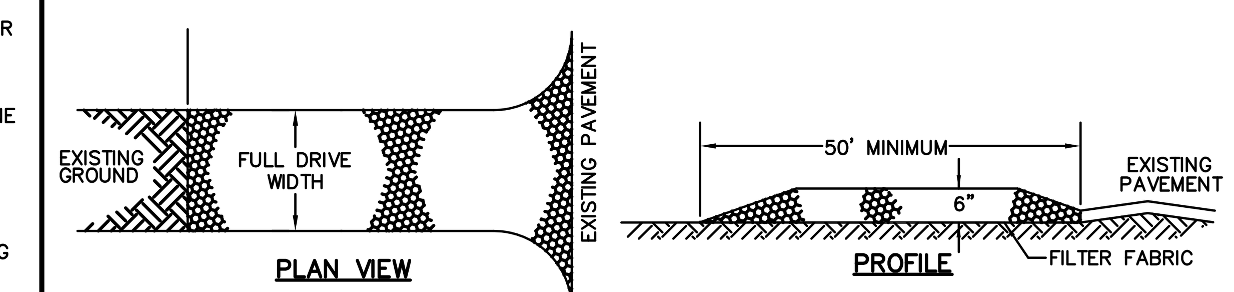
WASTE DISPOSAL
A. WASTE MATERIALS:
   1. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
B. HAZARDOUS WASTE:
   1. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
C. SANITARY WASTE:
   1. ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION
A. MATERIAL MANAGEMENT PRACTICES:
THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
   1. GOOD HOUSEKEEPING:
   THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:
      A. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
      B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
      C. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
      D. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
      E. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
      F. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
   2. HAZARDOUS PRODUCTS:
   THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
      A. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
      B. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
      C. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
   3. PRODUCT SPECIFICATION PRACTICES:
   THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:
      A. PETROLEUM PRODUCTS:
      ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
      B. FERTILIZERS:
      FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
      C. PAINTS:
      ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
   4. SPILL CONTROL PRACTICES:
   IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
      A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
      B. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
      C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
      D. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
      E. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
      F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT RECURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
      G. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
   5. VEHICLE FUELING AND MAINTENANCE PRACTICE:
      A. EFFORTS SHOULD BE MADE TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY.
      B. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY.
      C. IF POSSIBLE KEEP AREA COVERED.
      D. KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA.
      E. VEHICLES SHALL BE INSPECTED REGULARLY FOR LEAKS AND DAMAGE.
      F. USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

DUST CONTROL:
THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

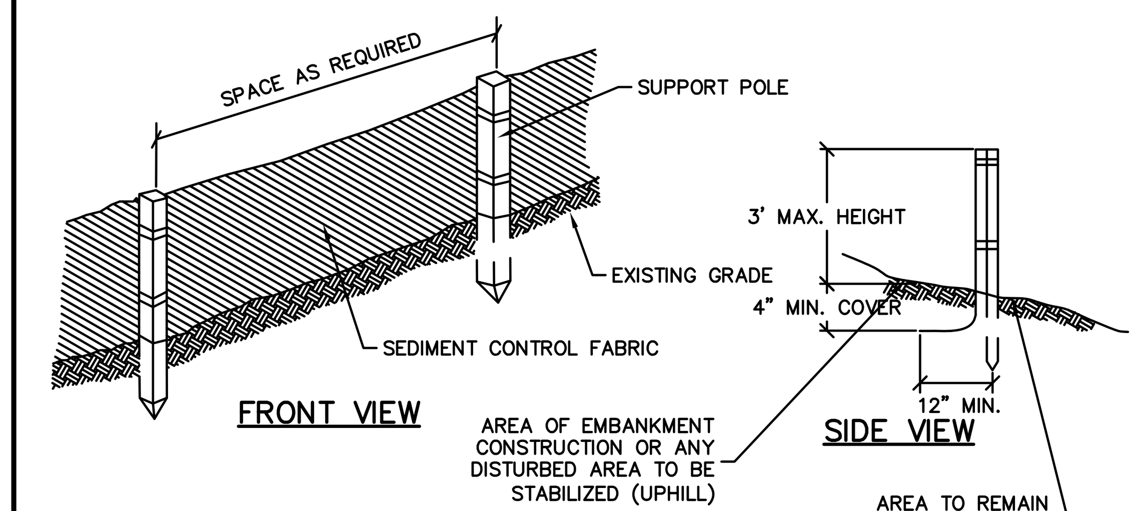
CONCRETE WASHOUT AREA:
1. THE CONCRETE CONTRACTOR SHOULD BE ENCOURAGED WHERE POSSIBLE, TO USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY.
2. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER.
3. WASHOUT AREAS SHOULD ALSO BE PROVIDED FOR PAINT AND STUCCO OPERATIONS.
4. ATTEMPTS SHOULD BE MADE TO LOCATE WASHOUT AREA A LEAST 50 YARDS AWAY FROM STORM DRAINS AND WATER WAYS WHENEVER POSSIBLE.
5. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:
1. DISCHARGES FROM FIRE-FIGHTING ACTIVITIES
2. FIRE HYDRANT FLUSHINGS
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
4. WATER USED TO CONTROL DUST
5. POTABLE WATER INC. UNCONTAMINATED WATER LINE FLUSHINGS
6. ROUTINE EXTERNAL BUILDING WASH DOWN -NO DETERGENTS
7. PAVEMENT WASH WATERS -NO SPILLS OR DETERGENTS
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATE
9. UNCONTAMINATED GROUND WATER OR SPRING WATER
10. FOUNDATION OR FOOTING DRAINS -NOT CONTAMINATED
11. UNCONTAMINATED EXCAVATION DEWATERING
12. LANDSCAPE IRRIGATION



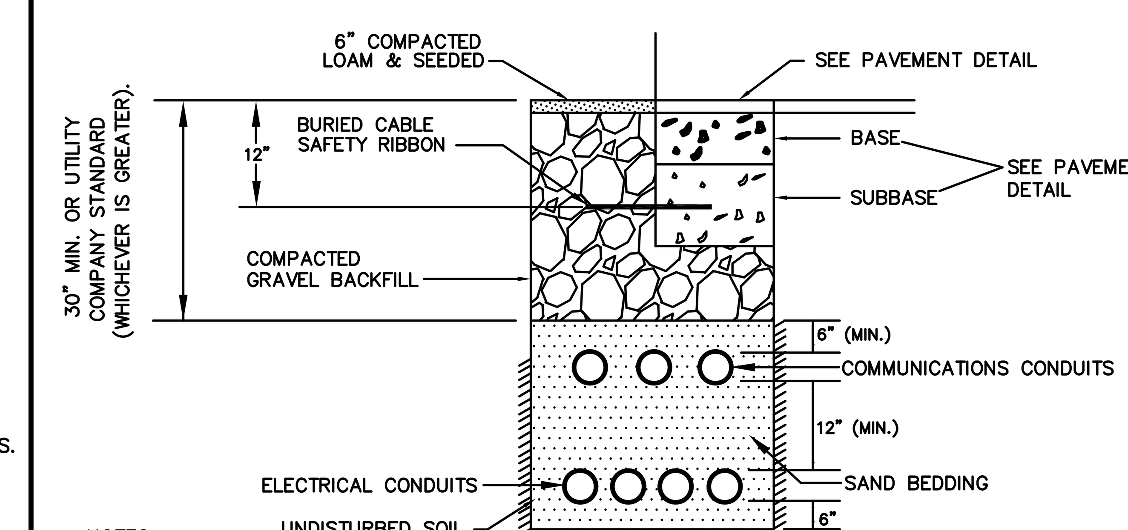
NOTE:
1. SEE EROSION CONTROL NOTES FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



NOTE:
1. SEE EROSION CONTROL NOTES FOR MATERIAL, INSTALLATION AND MAINTENANCE REQUIREMENTS.

SILT FENCE
NOT TO SCALE

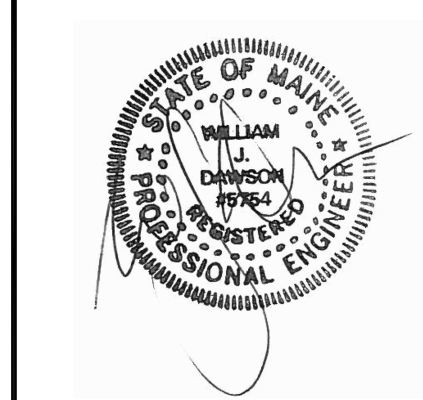


NOTES:
1. NUMBER, MATERIAL & SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDU AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.

ELECTRICAL AND COMMUNICATION CONDUIT
NOT TO SCALE

Tighe&Bond
www.tighebond.com

Plan 7



72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 ▬▬ 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	8/28/15	REV. PER CITY COMMENT

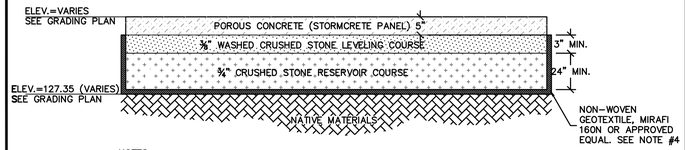
PROJECT NO:	P-0765
DATE:	2015/07/20
FILE: P0765-DETAILS.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

EROSION CONTROL NOTES AND DETAILS SHEET

SCALE: AS SHOWN

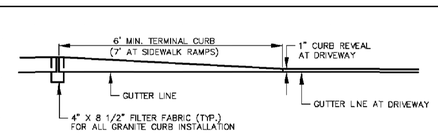
C-4

Last Saved: 8/28/2015
Plotted On:Aug 28, 2015-8:42am By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-DETAILS.dwg

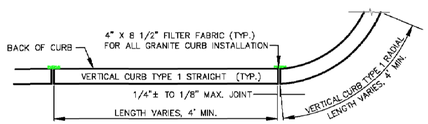


NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. POROUS CONCRETE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
4. THE CONTRACTOR SHALL COORDINATE WITH ENGINEER DURING EXCAVATION OF THE POROUS CONCRETE SECTION TO DETERMINE IF A GEOTEXTILE FABRIC IS NECESSARY TO PREVENT THE MIGRATION OF FINE GRAINED SOILS INTO THE CRUSHED STONE RESERVOIR COURSE.

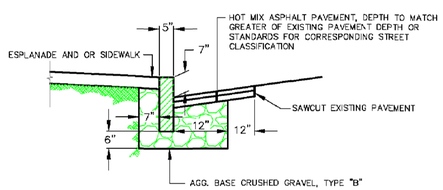
POROUS CONCRETE DRIVEWAY SECTION
NOT TO SCALE



TERMINAL CURB PROFILE



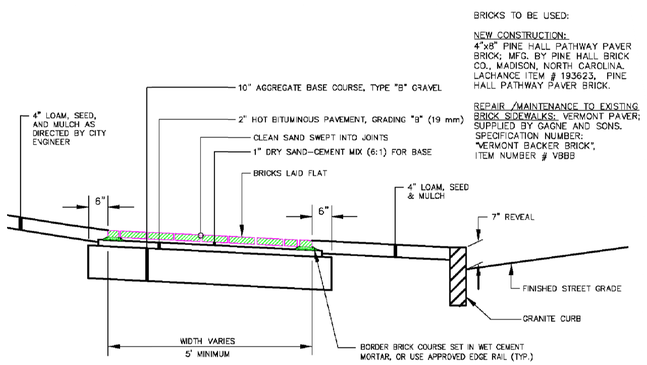
VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION

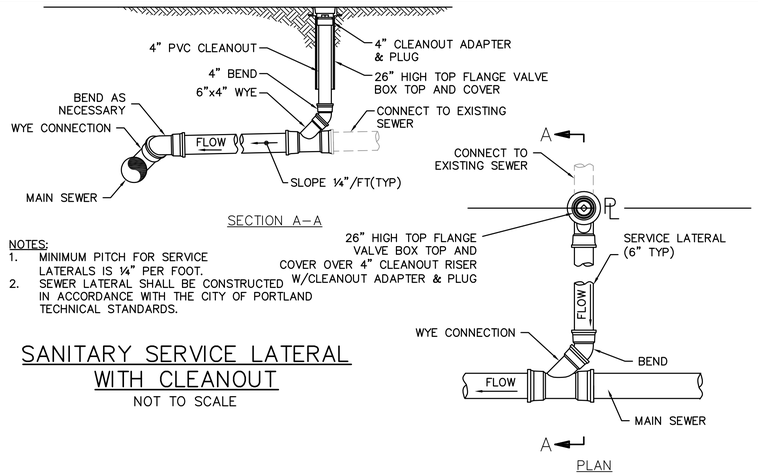
NOTE:
1. DETAIL TAKEN FROM THE CITY OF PORTLAND TECHNICAL MANUAL. ALL WORK IN THE CITY ROW SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTLAND TECHNICAL MANUAL, LATEST EDITION.

CITY OF PORTLAND – VERTICAL GRANITE CURB IN EXISTING STREETS
NOT TO SCALE



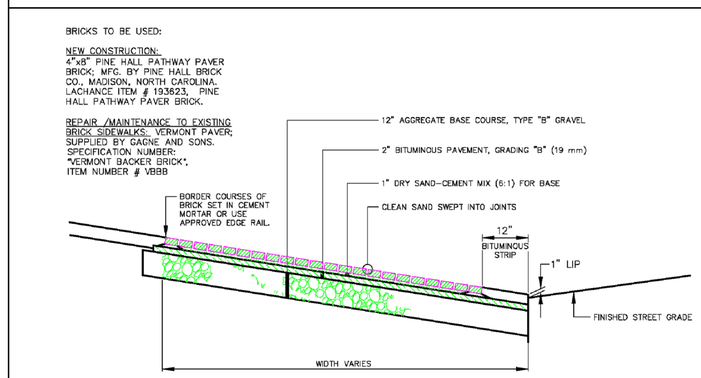
NOTE:
1. DETAIL TAKEN FROM THE CITY OF PORTLAND TECHNICAL MANUAL. ALL WORK IN THE CITY ROW SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTLAND TECHNICAL MANUAL, LATEST EDITION.

CITY OF PORTLAND – BRICK SIDEWALK DETAIL
NOT TO SCALE



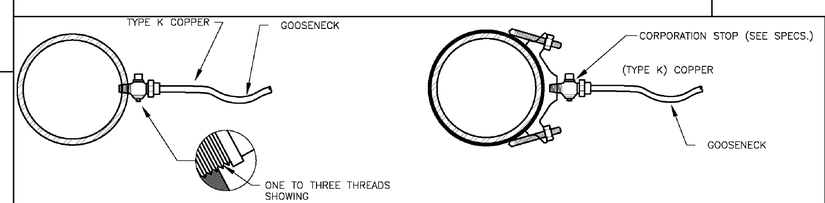
NOTES:
1. MINIMUM PITCH FOR SERVICE LATERALS IS 1/4" PER FOOT.
2. SEWER LATERAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL STANDARDS.

SANITARY SERVICE LATERAL WITH CLEANOUT
NOT TO SCALE



NOTE:
1. DETAIL TAKEN FROM THE CITY OF PORTLAND TECHNICAL MANUAL. ALL WORK IN THE CITY ROW SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTLAND TECHNICAL MANUAL, LATEST EDITION.

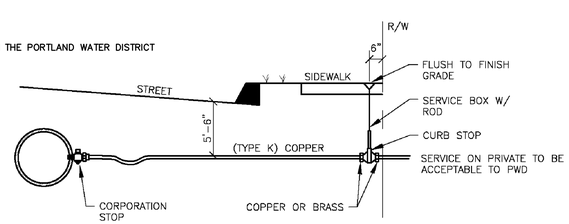
CITY OF PORTLAND – BRICK DRIVEWAY APRON WITH BITUMINOUS BASE
NOT TO SCALE



SERVICE TAP
(3/4" AND 1" C.C. THREAD)

SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)

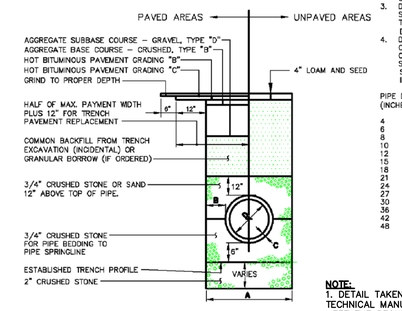
NOTE:
1. DETAIL TAKEN FROM THE PORTLAND WATER DISTRICT STANDARD DETAILS.



PORTLAND WATER DISTRICT – TYPICAL SERVICE CONNECTION
NOT TO SCALE

NOTES:
DEPTH OF BITUMINOUS PAVEMENT AND AGGREGATE COURSES SHALL BE DETERMINED BY STREET CLASSIFICATION.

ANY ALTERNATE TRENCHING OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY OF PORTLAND, DEPARTMENT OF PUBLIC SERVICES..



NOTES
1. ALTERNATIVE CONSTRUCTION METHODS OR PAYMENT METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
2. IN PAVED AREAS, DEPTHS OF GRAVEL AND HOT MIX ASPHALT PAVEMENT SHALL MATCH THE GREATER OF EXISTING CONDITIONS OR THE REQUIREMENTS FOR THE CORRESPONDING STREET CLASSIFICATION.
3. DIMENSION **B** SHALL BE SUFFICIENT TO ALLOW CRUSHED STONE BEDDING TO BE PLACED AND COMPACTED UNDER THE HAUNCHES OF THE PIPE, BUT IN ALL CASES DIMENSION **B** SHALL BE AT LEAST 9".
4. DIMENSION **A** IS THE MAXIMUM WIDTH ALLOWED FOR CALCULATING PAY QUANTITIES UNDER GRANULAR BORROW, CRUSHED STONE, STRUCTURAL EARTH EXCAVATION, AND STRUCTURAL ROCK EXCAVATION. DIMENSION **A** SHALL BE BASED ON PIPE DIAMETER **D**, AS SET FORTH IN THE FOLLOWING TABLE.

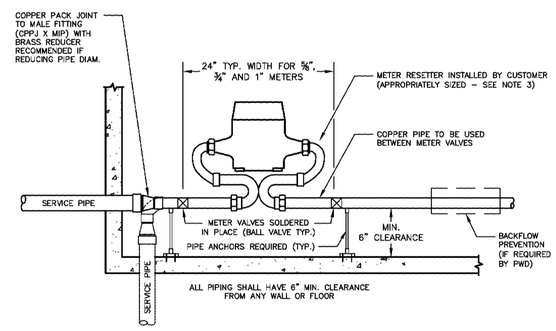
PIPE DIAMETER, **D** (INCHES)	MAX. TRENCH WIDTH, **A** (FEET)
4	4.0
6	4.0
8	4.0
10	4.0
12	5.0
15	5.0
18	5.0
21	5.0
24	6.0
27	6.0
30	6.0
36	6.0
42	7.0
48	7.0

NOTE:
1. DETAIL TAKEN FROM THE CITY OF PORTLAND TECHNICAL MANUAL. ALL WORK IN THE CITY ROW SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTLAND TECHNICAL MANUAL, LATEST EDITION.

TYPICAL PIPE TRENCH INSTALLATION
NOT TO SCALE

TYPICAL PIPE INSTALLATION – NOTES
NOT TO SCALE

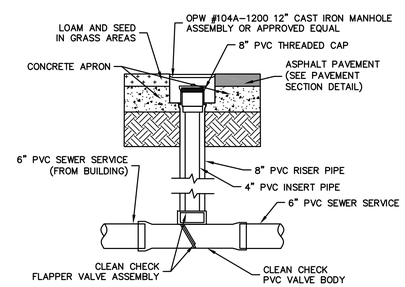
CITY OF PORTLAND – TYPICAL PIPE TRENCH DETAIL
NOT TO SCALE



NOTES
1. PORTLAND WATER DISTRICT (PWD) WILL SUPPLY THE WATER METER. ALL OTHER MATERIALS, INCLUDING VALVES AND METER RESETTER, TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER.
2. THE METER WILL BE INSTALLED BY PWD PERSONNEL. ONLY PWD PERSONNEL SHALL OPERATE SERVICE VALVES.
3. THE SIZE OF THE METER RESETTER SHOULD MATCH THE SIZE OF THE METER TO BE INSTALLED. IF THE RESETTER IS A DIFFERENT SIZE, CUSTOMER WILL INSTALL ALL NECESSARY ADDITIONAL FITTINGS.
4. THE METER MUST BE LOCATED DIRECTLY AFTER THE SERVICE PIPE ENTERS THE BUILDING. AT THE METER SET LOCATION CUSTOMER WILL INSTALL A METER RESETTER AND TWO METER VALVES AS SHOWN, WITH 6" MINIMUM CLEARANCE BETWEEN THE SERVICE PIPE AND ANY WALL OR FLOOR.
5. THE METER SHALL NOT BE PERMANENTLY ENCLOSED WITHOUT SUFFICIENT ACCESS FOR FUTURE SERVICE. THERE SHALL BE A MINIMUM OF 36" OF WORKING SPACE TO ENABLE SERVICING OF THE METER.
6. ACCEPTABLE MANUFACTURERS OF METER RESETTERS INCLUDE: MUELLER, FORD OR MCDONALD; UNLESS OTHERWISE AGREED TO BY PWD.
7. BACKFLOW PREVENTION MAY BE REQUIRED BY PWD DEPENDING ON TYPE OF SERVICE AND DEGREE OF CROSS-CONNECTION HAZARD. IF REQUIRED, AN APPROPRIATE DEVICE SHALL BE INSTALLED DOWNSTREAM OF METER AND METER VALVES PRIOR TO METER SET.

NOTE:
1. DETAIL TAKEN FROM THE PORTLAND WATER DISTRICT STANDARD DETAILS.

PORTLAND WATER DISTRICT – TYPICAL WATER METER
NOT TO SCALE



NOTE:
1. BACKWATER VALVE SHALL BE LOCATED OUT OF THE CITY RIGHT OF WAY ON PRIVATE PROPERTY.
2. BACKWATER VALVE FLAPPER ASSEMBLY, VALVE BODY AND RISER TO BE CLEAN CHECK BY RECTORSEAL OR APPROVED EQUAL.

SEWER BACKWATER VALVE
NOT TO SCALE

Tighe&Bond
www.tighebond.com

Plan 8

STATE OF MAINE
WILLIAM J. DAWSON
REGISTERED PROFESSIONAL ENGINEER

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
1	8/28/15	REV. PER CITY COMMENT

PROJECT NO:	P-0765
DATE:	2015/07/20
FILE:	P0765-DETAILS.dwg
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

DETAILS SHEET

SCALE: AS SHOWN

C-5

Last Saved: 8/28/2015
Plotted On:Aug 28, 2015-2:25pm By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-DETAILS.dwg

PENINSULA PROPERTY DEV.

Plan 9

SCALE

1' 3' 6' 8'

STATE OF MAINE
ERIC N. GRONDAHL
No. 3826
LICENSED
PROFESSIONAL ENGINEER

72 MUNJOY STREET CONDOS
016 B008 - 016 B009

J. CALL DESIGN
PLANNING AND DESIGN SERVICES FOR
RESIDENTIAL AND COMMERCIAL
151 ROOSEVELT TRAIL, WINDHAM, ME. 207-892-2810

SCALE	DRAWN BY
1/4" = 1'	J. CALL
5/2015	A-1
DATE	PAGE

THESE DRAWINGS ARE DONE UNDER THE DIRECTION OF AN ENGINEER. IT IS THE BUILDER OR GENERAL CONTRACTOR'S RESPONSIBILITY TO SEE THAT THIS PROJECT IS BUILT ACCORDING TO ALL STATE AND LOCAL BUILDING CODES THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. THE OWNERS AND THE BUILDER, WILL GO OVER THESE DRAWINGS BEFORE CONSTRUCTION STARTS TO VERIFY THAT THEY ARE SUITABLE FOR THEIR NEEDS, AND TO VERIFY THAT ALL MEASUREMENTS ARE WHAT THEY WANT. IF ANY QUESTIONS ARISE PLEASE CONTACT J CALL DESIGN

PENINSULA PROPERTY DEV.
robertleblanc1@me.com

DRAWING **FRONT AND REAR ELEVATIONS**

PENINSULA PROPERTY DEV.

Plan 10

SCALE

1' 3' 6' 8'

STATE OF MAINE
ERIC N GRONDAHL
No. 3328
LICENSED
PROFESSIONAL ENGINEER

72 MUNJOY STREET CONDOS
016 B008 - 016 B009

J. CALL DESIGN

PLANNING AND DESIGN SERVICES FOR RESIDENTIAL AND COMMERCIAL

151 ROOSEVELT TRAIL, WINDHAM, ME. 207-892-2810

SCALE	DRAWN BY
1/4" = 1'	J. CALL
5/2015	2
DATE	PAGE

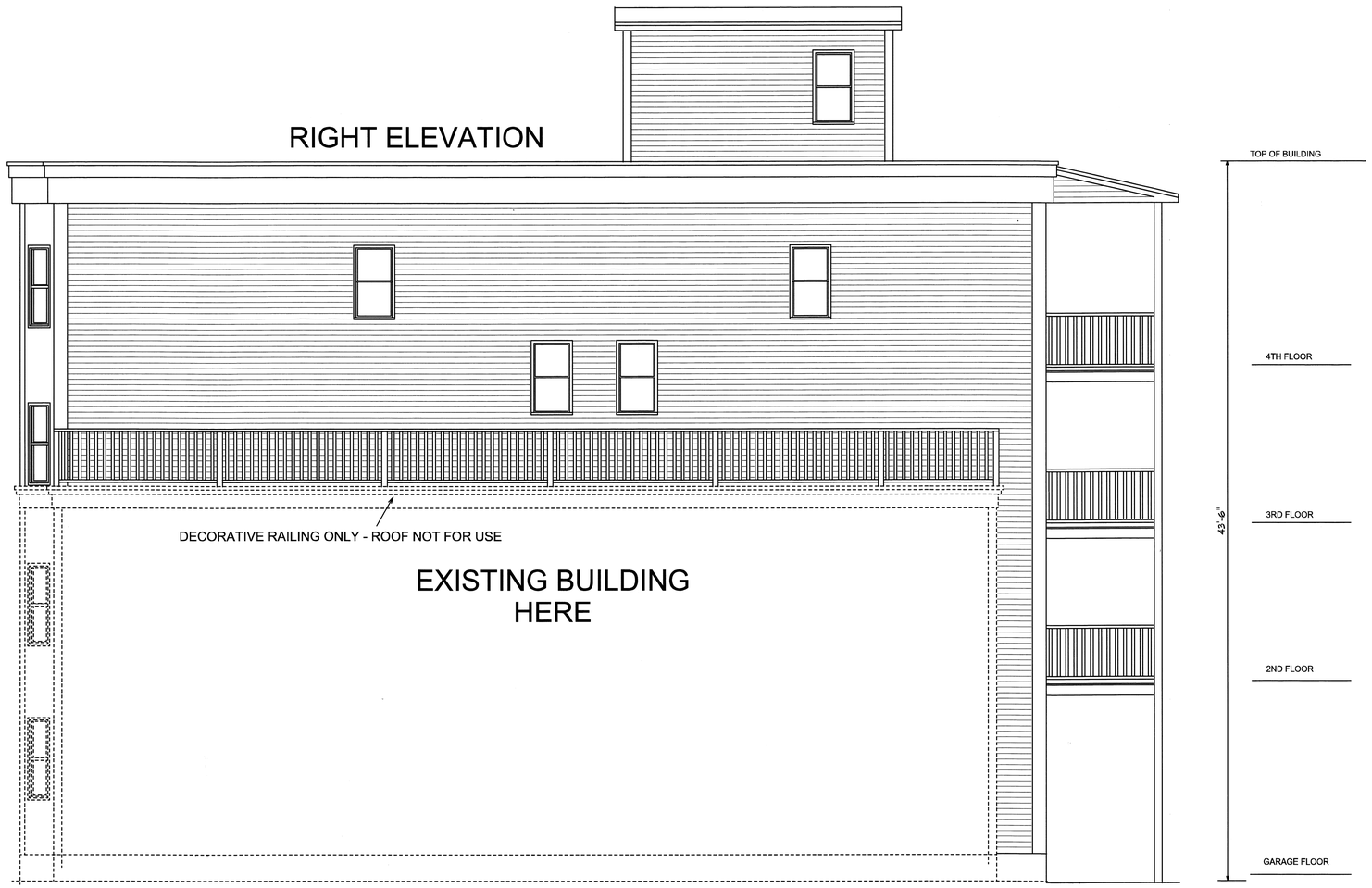
THESE DRAWINGS ARE DONE UNDER THE DIRECTION OF AN ENGINNER, IT IS THE BUILDER OR GENERAL CONTRACTOR'S RESPONSIBILITY TO SEE THAT THIS PROJECT IS BUILT ACCORDING TO ALL STATE AND LOCAL BUILDING CODES THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. THE OWNERS AND THE BUILDER, WILL GO OVER THESE DRAWINGS BEFORE CONSTRUCTION STARTS TO VERIFY THAT THEY ARE SUITABLE FOR THEIR NEEDS, AND TO VERIFY THAT ALL MEASUREMENTS ARE WHAT THEY WANT. IF ANY QUESTIONS ARRISE PLEASE CONTACT, J CALL DESIGN.

PENINSULA PROPERTY DEV.

robertleblanc1@me.com

DRAWING **LEFT ELEVATION**

Plan 11



SCALE
1' 3' 6' 8'

STATE OF MAINE
ERIC N. GRONDAHL
No. 3328
LICENSED
PROFESSIONAL ENGINEER

72 MUNJOY STREET CONDOS
016 B008 - 016 B009

J. CALL DESIGN
PLANNING AND DESIGN SERVICES FOR
RESIDENTIAL AND COMMERCIAL
151 ROOSEVELT TRAIL, WINDHAM, ME. 207-892-2810

SCALE	DRAWN BY
1/4" = 1'	J. CALL
5/2015	3
DATE	PAGE

THESE DRAWINGS ARE DONE UNDER THE DIRECTION OF AN ENGINNER, IT IS THE BUILDER OR GENERAL CONTRACTOR'S RESPONSIBILITY TO SEE THAT THIS PROJECT IS BUILT ACCORDING TO ALL STATE AND LOCAL BUILDING CODES THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. THE OWNERS AND THE BUILDER, WILL GO OVER THESE DRAWINGS BEFORE CONSTRUCTION STARTS TO VERIFY THAT THEY ARE SUITABLE FOR THEIR NEEDS, AND TO VERIFY THAT ALL MEASUREMENTS ARE WHAT THEY WANT. IF ANY QUESTIONS ARRISE PLEASE CONTACT, J CALL DESIGN.

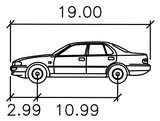
PENINSULA PROPERTY DEV.
robertleblanc1@me.com

DRAWING **RIGHT ELEVATION**

FOR SALE

THIS
SIDE
OF
& 3RD
TUESDAY OF
THE MONTH
10:00AM TO 2PM

Google



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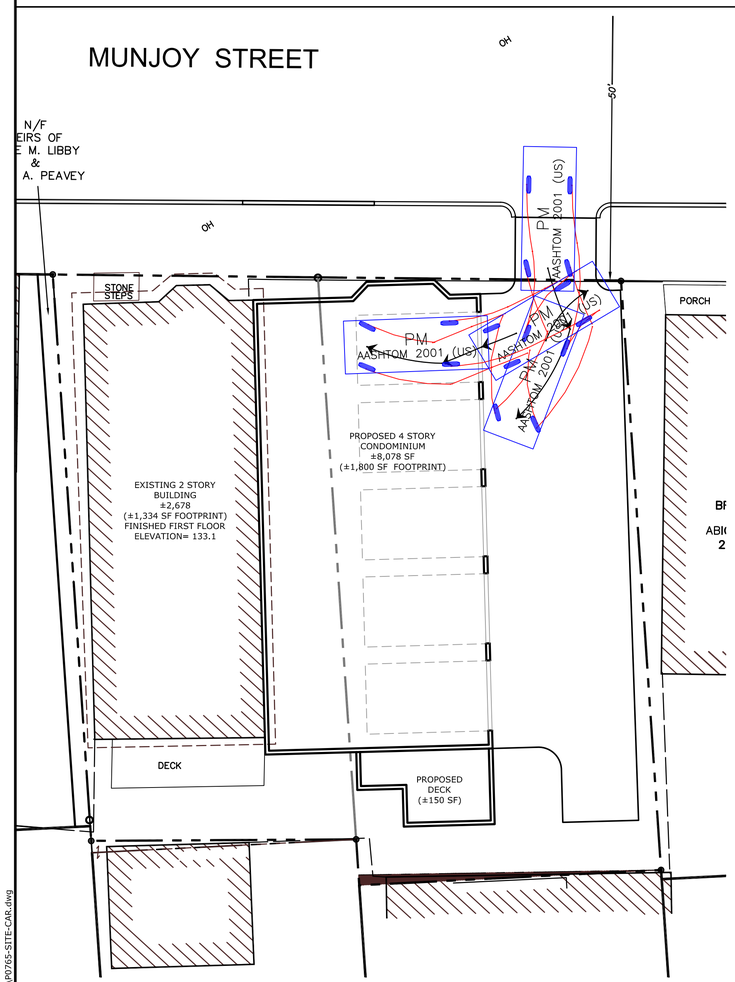

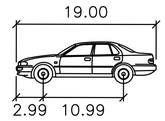

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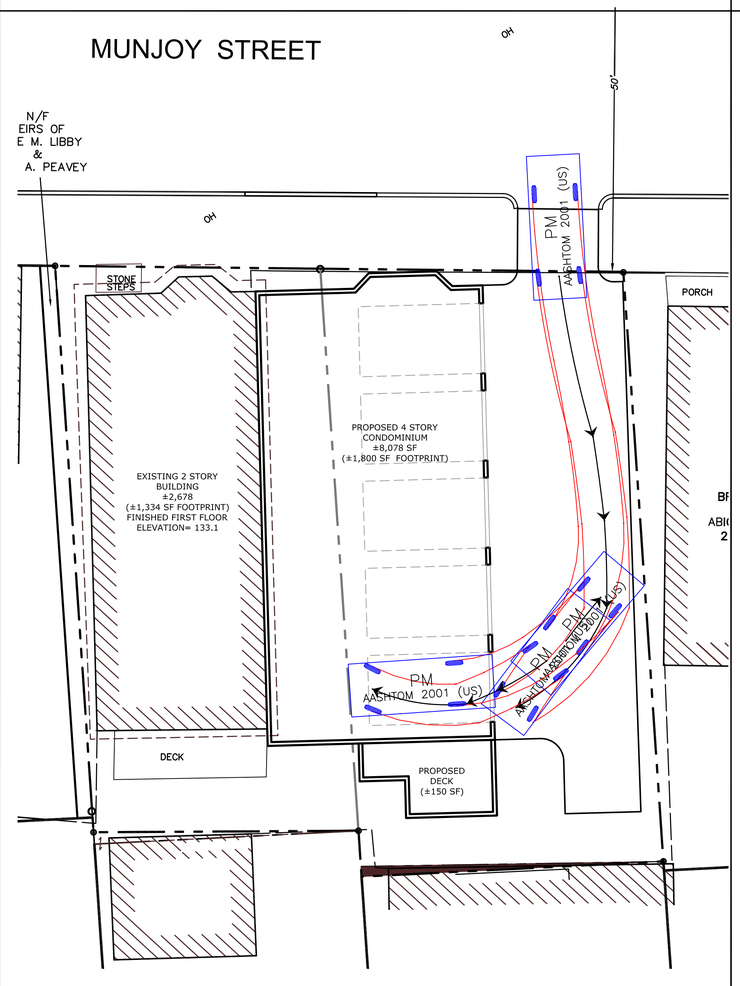

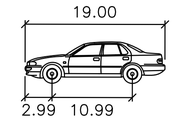

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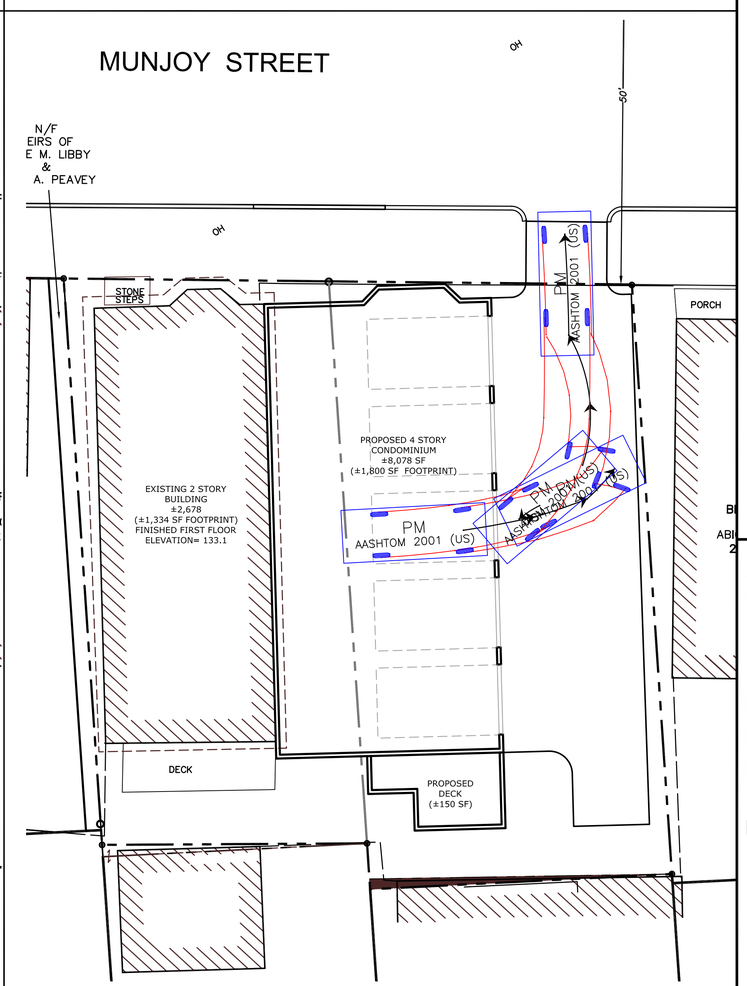

Tighe&Bond
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Plan 19

72 Munjoy Street Condos

Peninsula Property Development

Portland, Maine

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 — 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
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PROJECT NO:	P-0765
DATE:	2015/07/20
FILE: P0765-SITE-CAR.dwg	
DRAWN BY:	GWH
CHECKED:	WJD
APPROVED:	WJD

CAR TURNING EXHIBIT

SCALE:

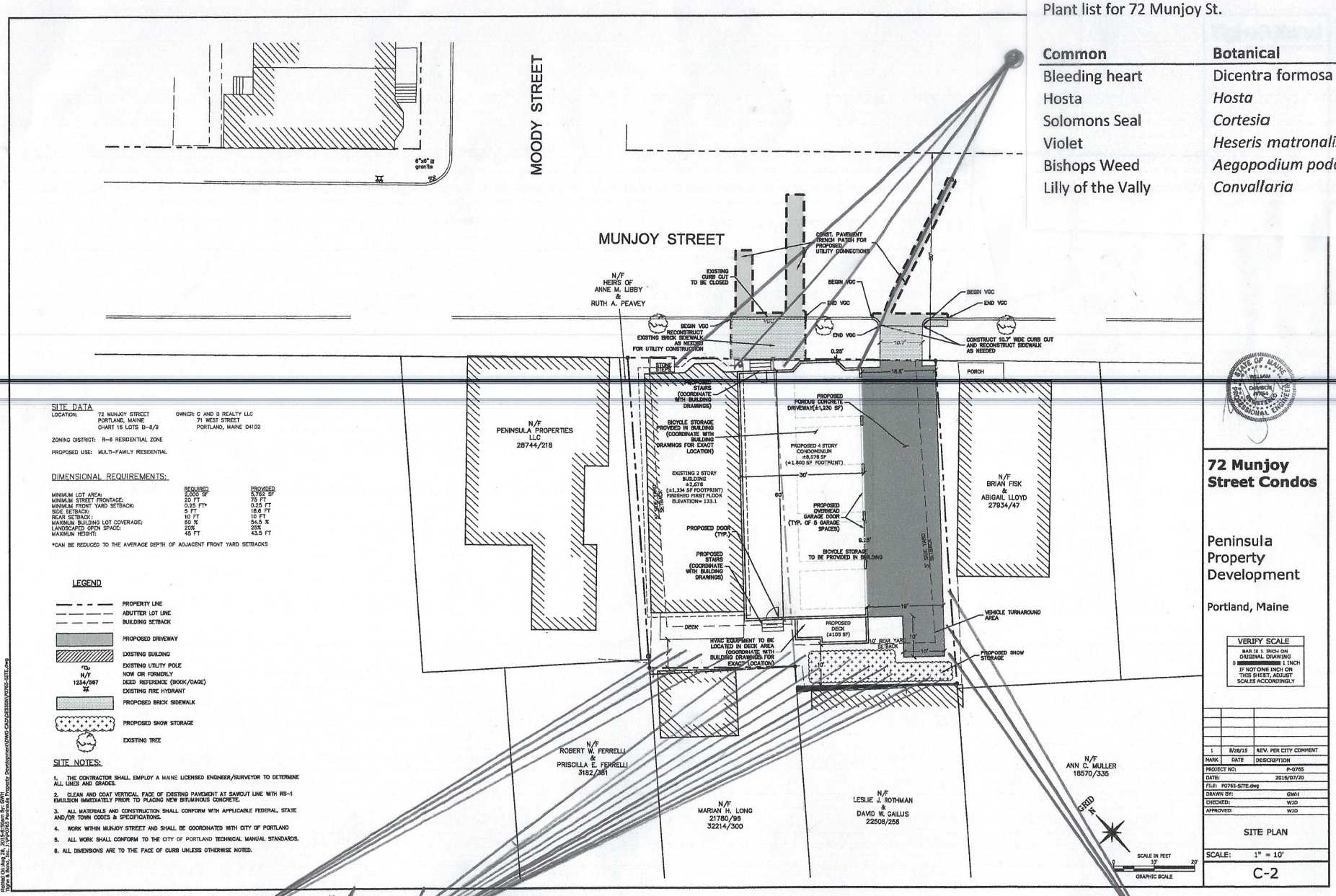
1 OF 1

Last Saved: 8/28/2015
Plotted On:Aug 28, 2015-4:00pm By: GWH
Tighe & Bond, Inc. J:\P\P0765 Peninsula Property Development\DWG-CAD\DESIGN\P0765-SITE-CAR.dwg

Plan 20

Plant list for 72 Munjoy St.

Common	Botanical
Bleeding heart	Dicentra formosa
Hosta	*Hosta*
Solomons Seal	*Cortesia*
Violet	*Heseris matronalis*
Bishops Weed	*Aegopodium podagrara*
Lilly of the Vally	*Convallaria*



EXISTING NEW

Common	Botanical
Eastern White Cedar	*Thuga occidentalis*

Common	Botanical
Hydrangea, climbing	*Hydranga anomala petiolaris*

Plant list for 72 Munjoy St.

sort	Common	Botanical	Flower Color	Foliage	win	spr	sum	fal
side	Hydrangea, climbing	*Hydranga anomala petiolaris*	white	g	x	x	x	x
front	Bleeding heart	Dicentra formosa	white/pink	g		x	x	
front	Hosta	*Hosta*	light purple	verigated		x	x	x
front	Solomons Seal	*Cortesia*	cream	verigated		x	x	x
front	Violet	*Heseris matronalis*	purple	g		x	x	
front	Bishops Weed	*Aegopodium podagrara*	white	verigated		x	x	
front	Lilly of the Vally	*Convallaria*	white	g		x	x	
front	Daylilly	*Hemerocallis*	red orange	g		x	x	
back	Eastern White Cedar	*Thuga occidentalis*		g	x	x	x	x

PLANNING BOARD REPORT
PORTLAND, MAINE

St. Lawrence Street Subdivision: Four Units Apartments
93 St. Lawrence Street
Level III Subdivision and Site Plan Review
2015-120
Laurence Gross, Applicant

Submitted to: Portland Planning Board: Public Hearing Date: September 29, 2015	Prepared by: Shukria Wiar, Planner Date: September 25, 2015

I. INTRODUCTION

Dan Diffin of Sevee and Maher Engineers on behalf of Laurence Gross has submitted a Level III Site Plan and Subdivision application for the construction of a four-unit residential building on a 5,000 square feet site at 93 St. Lawrence Street in the East End. The site is currently a surface parking area. It is surrounded by single and multifamily houses. The site is in the Residential R-6 and B-1 zone.

This proposal is being reviewed as a final plan and subject to the Site Plan and Subdivision Ordinance of Land Use Code. The project will also be reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) and the *Two-Family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters Standards* (Sections (d) and (I), and Appendix 2 of the Design Manual).

Notices were sent upon receipt of the application and two hundred and sixty (260) notices were sent to area residents within 500 feet of the site and the interested party list for the public hearing. A notice also appeared in the July 21st and 22nd editions of the *Portland Press Herald.*

Applicant Name	Laurence Gross
Consultants	
Engineer	Dan Diffin, Seveee and Maher Engineers, Inc.
Surveyor	Owen Haskell, Owen Haskell, Inc.
Architect	David Lloyd, Archetype Architects

Project Review

Review	*Applicable Standards*
Site Plan	14-526
Subdivision	14-491
Design Manual	R-6 Small Infill Development Design Principles & Standards (Appendix 7 of the Design Manual) and the Two-Family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters Standards (Sections (d) and (I), and Appendix 2 of the Design Manual)

Requests for Waivers

Waiver Request	*Applicable Standards*
Street tree Requirement – Sec. 14-526 2.b.iii. a The street tree requirement is one tree per unit. The applicant is proposing to install one tree and the waiver request would be for the remaining three trees. The total contribution would be $600.	*Sec. 14-526 2.b.iii* (b) Waiver. Where the applicant can demonstrate that site constraints prevent the planting of required street trees in the City right of way, the Reviewing Authority may permit the planting of street trees in the front yard, within ten feet of the property line. Existing preserved healthy trees that are six (6) inches or more in caliper and are on the site within ten (10) feet of the property line may be counted towards this requirement. If planting street trees is neither feasible in the City right of way nor within the site, the applicant shall contribute to the City of Portland Tree Fund an amount proportionate to the cost of required street trees.

II. PROJECT DATA

Existing Zoning	R-6 Residential and B-1
Tax Map	CBL: 057 J029 and 031
Existing Use	Vacant Lot/ surface parking lot
Proposed Use	Apartments for Rental
Parcel Size	5,000 SF
Number of Units to be Demolished	None
Number of Affordable Units	The proposed units will be market rate.
Proposed Bedroom Mix	A two-bedroom unit on first floor, three two bedroom on 2nd and 3rd floors
Building Footprint	2,024 SF
Building Floor Area	6,012 SF
Impervious Surface Area	3,332 SF
Parking Spaces	4 spaces on the first level
Bicycle Parking Spaces	2 spaces
Estimated Cost of Project	$1,276,000

III. EXISTING CONDITIONS

The property is currently developed with a 1,310-square-foot paved surface parking area along the street frontage and a maintained lawn area to the rear of the property. The proposed building, paved vehicle maneuvering area, walks and patios will increase the on-site impervious area to approximately 3,300 square feet.

The site has no existing curb cut and one will be introduced; due to this, one on-street parking space will be lost.

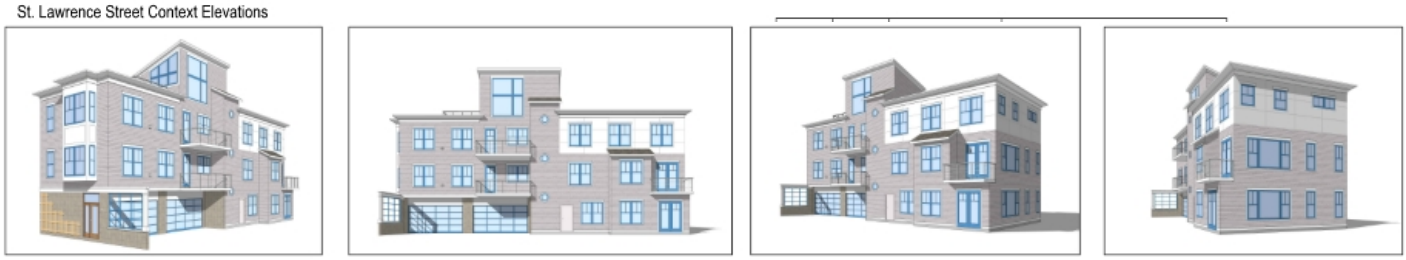
IV. PROPOSED DEVELOPMENT

The proposal, including floor plans and elevations, are included in the final plan set and have been revised to address staff concerns. The development project is proposed as new construction of a four-unit apartment building with each unit having living space and two bedrooms. The building will be four stories high with a building height of 44 feet and 2,024 SF footprint. At four stories high, the scale of this apartment building will be in balance the residential uses of the street and neighborhood.

The new R-6 text amendments do not require parking spaces for the first three units. However, the applicant is proposing four parking spaces. The parking spaces will be under the building. Vehicle access is proposed from St. Lawrence Street. The parking area is not visible from the street since it is tucked-away in in the building. Two bicycle parking spaces are also proposed as part of this project. A designated area for snow storage is located adjacent to the proposed building.

The building main entrance is not proposed at the sidewalk but the building will have a walkway and steps that will lead to the entrance.

St. Lawrence Street Context Elevations



Perspective Views of Proposed Building

V. PUBLIC COMMENT

As of the writing of this report, there has been one public comment submitted. The concerns that the abutter had about the project, were addressed by the Applicant.

The applicant was not required to hold a neighborhood meeting since the subdivision is for four units only; project developments that have five or greater units or lots are required to hold a neighborhood meeting. Even though, they were not required to hold a neighborhood meeting, the applicant held a voluntary meeting on June 25, 2015, see Attachment K for the meeting minutes.

VI. RIGHT, TITLE AND INTEREST AND FINANCIAL/TECHNICAL CAPACITY

a. The owner of the property is Laurence Gross. The applicant has provided a copy of a quitclaim deed of sale, recorded at the Cumberland County Registry of Deeds (Book 17303 Page 310), which demonstrates their right,

title and interest in the property.

b. The estimated cost of the development is $1,276,000. The applicant has submitted a letter from Saco and Biddeford Savings Institution, dated July 1, 2015, as demonstration of their financial and technical capacity to complete the proposed development.

VII. ZONING ASSESSMENT

The proposed project is to build a three-story four unit apartment building. The property is located predominantly in the R-6 Residential Zone with about fifteen feet of the north end of the lot located in the B-1 Neighborhood Business Zone. Section 14-51 allows the less restricted zone (B-1) to extend up to thirty feet into the more restrictive zone (R-6) since the B-1 zone has at least twenty (20) feet of street frontage. Since there is the B-1 zone does not have the required 20 feet of frontage, the applicant will need to adhere to the R-6 standards.

The proposed four unit apartment building is a permitted use in the Residential R-6 zone. Under the R-6 zone all of the dimensional requirements are being met. For off street parking, Division 20 requires no parking for the first three units and one parking space per unit for residential uses after the first three in the R-6 zone. Even though parking is not required, the applicant is proposing four parking spaces as shown on the site plan.

VIII. DEVELOPMENT REVIEW

A. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

The applicant has submitted a recording plat. The final plat will need to be revised to reflect any waivers and conditions of approval that relate to the subdivision plan. Any waivers granted must be recorded at the Registry of Deeds within 90 days of a Planning Board decision. As writing of this report, there is one waiver request.

B. SUBDIVISION (Section 14-497)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's Subdivision Ordinance and applicable regulations. Staff comments are listed below.

1. *Will Not Result in Undue Water and Air Pollution (Section 14-497 (a) 1), and Will Not Result in Undue Soil Erosion (Section 14-497 (a) 4)*
   David Senus, P.E. with Woodard and Curran Engineering, has reviewed the erosion and sediment control plan and is satisfied with the proposed plans. Confirmation of ability to serve from PWD for water should be forwarded to the Planning Authority upon receipt.

2. *Sufficient Water Available (Section 14-497 (a) 2 and 3)*
   The project will be served by the existing utility services located in St. Lawrence Street. The Applicant has contacted the Portland Water District and the City Department of Public Services requesting ability to serve letters for water and sewer demand. A capacity letter from PWD has been provided. Confirmation of ability to serve from DPS for the sewer should be forwarded to the Planning Authority upon receipt. A potential condition of approval:

   > *Confirmation of ability to serve letters for water and sewer from PWD and DPS shall be submitted to the Planning Division prior to the issuance of a building permit.*

3. *Will Not Cause Unreasonable Traffic Congestion (Section 14-497 (a) 5)*
   Tom Errico, P.E. Ty Lin reviewed the proposal's details including the access, parking, and vehicle circulation (Attachment 1). Mr. Errico finds the project to be acceptable.

The proposed project is not anticipated to cause unreasonable traffic congestion. The staff finds the proposed project is in conformance with this standard.

4. *Will Provide for Adequate Sanitary Sewer and Stormwater Disposal (Section 14-497 (a) 6), and Will Not Cause an Unreasonable Burden on Municipal Solid Waste and Sewage (Section 14-497 (a) 7)*
Please refer to Paragraph VIII (B) 2, above.

5. *Scenic Beauty, Natural, Historic, Habitat and other Resources (Section 14-497 (a) 8)*
The proposal site is not within an historic district. It is in an urban neighborhood surrounded by a variety of residential building types. The proposed building does not impact the natural beauty of the area or adversely affect any significant wildlife habitat, rare or irreplaceable natural areas, or any public access to the shoreline. The staff finds the proposal in conformance with this standard.

6. *Comprehensive Plan (Section 14-497 (a) 9)*
The staff has identified the following goals and policies which are relevant to the proposed housing development and finds the proposal in conformance with the Comprehensive Plan:

Portland Housing Goal: Ensure that an adequate supply of housing is available to meet the needs, preferences, and financial capabilities of all Portland households, now and in the future.
Policies
- Ensure the construction of a diverse mix of housing types that offers a continuum of options across all income levels, which are both renter and owner-occupied, including but not limited to the following:
  ii. Housing units for decreasing household size, such as young professionals, empty nesters, single-parent households, and senior citizens.
- Encourage higher density housing for both rental and home ownership opportunities, particularly located near services, such as schools, businesses, institutions, employers, and public transportation.
- Increase Portland's rental housing stock to maintain a reasonable balance between supply and demand yielding consumer choice, affordable rents, and reasonable return to landlords.
- Identify vacant land and redevelopment opportunities throughout the City to facilitate the construction of new housing.

Portland Housing Goal: Maintain and enhance the livability of Portland's neighborhoods as the City grows and evolves through careful land use regulations, design and public participation that respect neighborhood integrity.
Policies
- Encourage innovative new housing development, which is designed to be compatible with the scale, character, and traditional development patterns of each individual residential neighborhood.

- Encourage new housing development in proximity to neighborhood assets such as open space, schools, community services and public transportation.
- Ensure the integrity and economic value of Portland's neighborhoods.

7. *Financial Capability (Section 14-497 (a) 10)*
The estimated cost of the development is $1,276,000. The applicant has submitted a letter from Saco and Biddeford Savings Institution, dated July 1, 2015, as demonstration of their financial and technical capacity to complete the proposed development.

C. SITE PLAN STANDARDS (Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant review standards of Portland's site plan ordinance and applicable regulations. Staff comments are listed below.

1. *Transportation Standards*

a. Impact on Surrounding Street Systems and Access and Circulation- see Subdivision, Paragraph VIII (B) (3), above.

b. Construction Management Plan

A description of the construction management plan has been submitted by the applicant. A site plan that shows the construction management on the site will have to be submitted for review. All the construction is proposed within the limits of the property lines.

c. Sidewalks

The applicant is proposing to install new brick sidewalk along their frontage on St. Lawrence Street. This site is in the brick district.

d. Public Transit Access

The public transit requirements do not apply to this project.

e. Parking

There are four parking spaces and these are located in inside the building property and away from the street view.

f. Bicycle Parking

The proposals include 2 bicycle parking spaces in the garage of the building, which meets the ordinance standard of 2 bicycle spaces per 5 vehicle spaces.

2. *Environmental Quality Standards*

a. Preservation of Significant Natural Features

There are no known significant natural features on the site.

b. Landscaping and Landscape Preservation

The applicant is proposing one street tree on St. Lawrence Street, in front of the building. Due to site restrictions, the remaining three streets cannot be planted on the site. Therefore the applicant will need to contribute to the City's Tree Fund for the three trees.

The site will have landscaping along the front of the building as well as on the side of the property.

c. Water Quality, Storm Water Management and Erosion Control

The proposed development disturbs approximately 4,800 square feet (approximately 0.1 acres). According to Section 4 of the City of Portland Technical Manual any site disturbing less than one acre is exempt from complying with the Basic and General Standards, and acquiring a Stormwater Permit.

However, the staff has requested that treatment for the net increase in impervious area be treated for the first 1", or first flush, of all stormwater events. The applicant proposes capturing and infiltrating the runoff from the roof of the new building and north portion of the property in a

shallow infiltration basin on the northeast corner of the property. David Senus, Consultant Engineer has reviewed the stormwater information and states that the applicant has adequately addressed all comments.

3. *Public Infrastructure and Community Safety Standards*

a. Consistency with Master Plans

See Subdivision, Paragraph VIII (B)6 above.

b. Public Safety and Fire Prevention

The Crime Prevention through Environmental Design (CPTED) standards in the site plan ordinance address the principles of natural surveillance, access control and territorial reinforcement so that the design of developments enhance the security of public and private spaces and reduce the potential for crime.

The applicant has introduced wall mounted lighting at all entrance ways and along the balcony of each unit. Wall mounted lighting will also be provided for the area by the parking garage. The entrances to the building will be well-lit and visible from the street and adjacent walkways to provide natural surveillance.

c. Availability and Adequate Capacity of Public Utilities

The project will be served by the existing utility services located in Briggs Street. The Applicant has contacted the Portland Water District and the City Department of Public Services requesting ability to serve letters for water and sewer demand. A capacity letter from PWD has been provided. Confirmation of ability to serve letters for sewer from DPS should be forwarded to the Planning Authority upon receipt.

4. *Site Design Standards*

a. Snow and Ice Loading

The applicant is proposing on-site snow storage; the area for storage is to the east of the parking lot (Attachment Plan3). Snow storage will be provided on site and will be hauled away as necessary.

b. View Corridors

This site is not within a Protected View Corridor as per the "View Corridor Protection Plan" approved by the Portland City Council in 2001.

c. Historic Resources

The site is outside the 100 foot setback of the West End historic district, therefore the project does not have to be reviewed by Historic Preservation.

d. Exterior Lighting

The proposal has noted wall mounted lighting along all the entrances and at the balconies. According to the applicant, any proposed lighting will be full cutoffs.

e. Noise and Vibration

The mechanical equipment will be on the roof of the proposed building and will be screened from St. Lawrence Street by the proposed Mezzanine.

All heating, ventilation and air conditioning equipment (HVAC), air handling units (AHU), emergency generators, and similar equipment will have to be shown on the plans and meet state and federal emissions requirements. These mechanical equipment should be located to the

interior of the site, away from abutting residential properties and be screened from view from any public street and from adjacent sites by structure walls, evergreen landscaping, fencing, masonry wall or a combination thereof. This information will have to be submitted for review as part of the building permit.

f. Signage and Wayfinding
This standard does not apply to the proposal.

g. Zoning Related Design Standards
On Thursday, September 17, a design review according to the *City of Portland Design Manual* Standards was performed for the proposed new construction. The review was performed by Caitlin Cameron, Urban Designer, Nell Donaldson, Planner, and Shukria Wiar, Planner. The project was reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) and also the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual).

Design Review Criteria:
The project was reviewed with the *R-6 Alternative Design Review* which has the following criteria:

a. Proposed design is consistent with all of the Principle Statements
b. The majority of the Standards within each Principle are met
c. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two-block radius in terms of size, scale, materials, and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.
d. The design plan is prepared by an architect registered in the State of Maine.

The project must also meet the design standards of the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters.*

Findings of the Design Review:
The proposed design **passes** all of the criteria of the *R-6 Alternate Design Review* – some comments are provided below. The proposed design **passes** all of the *Multi-family design standards* – see comments below.

Comments for the specific standards are provided in Attachment 4.

The building has 4 units and therefore Fair Housing applies and the Maine Human Rights Act applies (4582-C, 1.c. (1) & (2). Only the ground floor unit must comply to meet these standards. According to David Lloyd, the Applicant's architect, the ground floor unit and the route into the building to reach the unit will be designed to meet the requirement of both codes, see Attachment L for the full memo.

IX. STAFF RECOMMENDATION

Subject to the proposed motions and conditions of approval listed below, Planning Division staff recommends that the Planning Board approve the proposed development.

X. PROPOSED MOTIONS

WAIVERS

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations, contained in the Planning Board Report for the proposed site plan and subdivision (application 2015-120), including but not limited to the report and the staff reviews relevant to Portland's Technical and Design Standards and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearing.

1. The Planning Board (**finds/does not find**) that the applicant has demonstrated that due to the site constraints preventing the planting of required street trees along St. Lawrence Street, thus the Planning Board **(waives/does not waive)** Section 14-526 (b) (2) (b) (iii) *Street Trees* to allow for a contribution of $600 to the City's Street Tree Fund to be substituted for the provision on site of three of the required street trees.

SUBDIVISION PLAT

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application 2015-120 relevant to the Subdivision Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the following:

That the plan **(is/is not)** in conformance with the subdivision standards of the land use code, subject to the following conditions:

1. The recording plat shall be revised noting all waivers and conditions for review and approval by the Planning Authority prior to recording. All waivers shall be recorded within 90 days of the Planning Board approval.

LEVEL III SITE PLAN

On the basis of the application, plans, reports, and other information submitted by the applicant, findings and recommendations contained in Planning Board Report for application 2015-120 relevant to the Site Plan Ordinance, and other regulations, as well as the Planning Board deliberations and the testimony presented at the Planning Board hearings, the Planning Board finds the following:

That the plan **(is/is not)** in conformance with the site plan standards and all other applicable provisions of the land use code, subject to the following conditions:

1. The applicant shall submit confirmation of ability to serve letters sewer from Department of Public Service to the Planning Division prior to the issuance of a building permit.

2. The developer/contractor/subcontractor must comply with conditions of the construction stormwater management plan and sediment and erosion control plan based on City standards and state guidelines. The owner/operator of the approved stormwater management system and all assigns shall comply with the conditions of Chapter 32 Stormwater including Article III, Post Construction Stormwater Management, which specifies the annual inspections and reporting requirements. A maintenance agreement for the stormwater drainage system, as attached, or in substantially the same form with any changes to be approved by Corporation Counsel, shall be submitted, signed, and recorded prior to the issuance of a building permit with a copy to the Department of Public Services.

3. A construction management plan shall be submitted for review and approval by the Planning Authority and Department of Public Services prior to the issuance of a building permit.

4. The proposed specifications for the mechanical equipment shall be reviewed and approved by the Planning Authority and Zoning Administrator prior to the issuance of a building permit.

ATTACHMENTS:

Staff Review Comments
1. Traffic Engineering Review (Tom Errico, T Y Lin), comments dated 09.17.2015
2. Department of Public Services Review, David Margolis-Pineo, dated 09.25.2015
3. Civic Engineer Review, David Senus, dated 07.06.2015 and 09.21.2015
4. Urban Designer Review, Caitlin Cameron, dated 09.21.2015
5. Fire Department Review, Capt. Keith Gautreau, dated 09.17.2015

Public Comments
PC1 Susan Koen

Applicant's Submittal
A. Application Dated 07.21.2015
B. Project Description
C. Site Location Map
D. Title, Right and Interest
E. Financial Capacity
F. City of Portland GIS Map
G. FEMA Floodplain Map
H. Stormwater Management Report
I. City Wastewater Capacity Application
J. Portland Water District Capacity to Serve Letter
K. Neighborhood Meeting Certification
L. 93 St. Lawrence Street Accessibility Review
M. Response to Staff Comments Dated 09.14.2015
N. Updated Stormwater Calculations
O. Post Construction Stormwater Management Plan

Plans
Plan1 Title Sheet
Plan2 Existing Conditions and Demolition Plans
Plan3 Site Plan
Plan4 Subdivision Recording Plat
Plan5 Erosion Control Notes and Details
Plan6 Sections and Details
Plan7 Stormwater Management Plan
Plan8 A1.01- First Floor Plan
Plan9 A1.02- Second Floor Plan
Plan10 A1.03- Third Floor Plan
Plan11 A1.04- Roof and Mezzanine Plan
Plan12 A2.00- Renderings
Plan13 A2.01- Elevations
Plan14 A2.02- Elevations

Plan15	A2.03- Elevations
Plan16	Boundary Survey
Plan17	Landscaping Plan

Att. 1

From: Tom Errico <thomas.errico@tylin.com>
To: Shukria Wiar <SHUKRIAW@portlandmaine.gov>
CC: David Margolis-Pineo <DMP@portlandmaine.gov>, Katherine Earley <KAS@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, "Tarling, Jeff" <JST@portlandmaine.gov>
Date: 9/17/2015 4:32 PM
Subject: 93 St. Lawrence Street Project

Hi Shukria - I have reviewed the application materials for the above project and I find it to be acceptable from a traffic perspective. Please contact me if you have any questions.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
[T.Y. Lin International]T.Y. Lin International
12 Northbrook Drive
Falmouth, ME 04105
207.781.4721 (main)
207.347.4354 (direct)
207.400.0719 (mobile)
207.781.4753 (fax)
thomas.errico@tylin.com<mailto:thomas.errico@tylin.com>
Visit us online at www.tylin.com<http://www.tylin.com>
Twitter | Facebook | LinkedIn | YouTube

"One Vision, One Company"

Please consider the environment before printing.

Att. 2

From: David Margolis-Pineo
To: Barbara Barhydt; Shukria Wiar
CC: DEVELOPMENT REVIEW GROUP
Date: 9/25/2015 12:52 PM
Subject: Final Comments for 93 St. Lawrence St

August 21, 2015
September 25, 2015

Memo To: Shukria Wiar
Barbara Barhydt
From: David Margolis-Pineo
Re: Development Review Comments for 93 St. Lawrence Street (2015-120)

The Department of Public has the following comments on the above mentioned project.

1. Please add note to sheet C-100 stating that all work within the street right of way shall meet City of Portland Technical Manual standards.
Status: Note has been added to plans.
2. The plans propose connecting the development's sanitary sewer lateral into a manhole in the street. No manhole exists at that location. Please show the lateral connecting directly into the sewer main in the street using acceptable City standards.
3. Status: Plans now show sewer lateral connecting directly to sewer main. No further comments.
4. The existing sidewalk a curbing abutting this project is in poor condition. The applicant is request to re-set the granite curbing and replace the brick walk meeting all City standards where possible.
Status: Curbing will be reset and sidewalk replaced. No further comment.
5. Survey comments will be submitted under a separate cover.
Status: Survey comments will be forwarded under a separate cover.
6. The Wastewater Capacity Application is currently being reviewed and will be acted on shortly.
Status: Wastewater Capacity Application has been reviewed and approved.

This Department has no further comments at this time.

COMMITMENT & INTEGRITY
DRIVE RESULTS

41 Hutchins Drive
Portland, Maine 04102
www.woodardcurran.com

T 800.426.4262
T 207.774.2112
F 207.774.6635

Att. 3

MEMORANDUM

TO: Shukria Wiar, Planner
FROM: David Senus, PE
DATE: September 21, 2015
RE: 93 Saint Lawrence Street, Final Level III Site Plan Application

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Woodard & Curran has reviewed the response to comments submittal for the Final Level III Site Plan Application for the proposed apartment building located at 93 Saint Lawrence Street in Portland, Maine. The project involves the construction of a new multi-family apartment building with a four car garage.

Documents Reviewed by Woodard & Curran

- Response to Comments Letter and Attachments dated September 14, 2015, prepared by SME, Inc., on behalf of Larry Gross and Barbara Colby.
- Engineering Plans, Sheets C-100, C-101, C101A, C-300, C-301, and D-100, REV dated September 15, 2015, prepared by SME, Inc., on behalf of Larry Gross and Barbara Colby.

Comments

1) The Applicant has noted that they will forward the letter for capacity to serve wastewater from the Department of Public Services once received.
2) The re-sized infiltration basin and the supporting calculations provide a sufficient means of satisfying the City's stormwater management standards for the project.

Planning and Urban Development Department
Planning Division

Subject: R-6 Small Infill & Multi-family Design Review – 93 St. Lawrence Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Thursday, September 17, 2015

On Thursday, September 17, a design review according to the *City of Portland Design Manual* Standards was performed for the proposed new construction of a four unit dwelling at 93 St. Lawrence Street. The review was performed by Caitlin Cameron, Urban Designer, Nell Donaldson, Planner, and Shukria Wiar, Planner, within the Planning Division of the Planning & Urban Development Department. The project was reviewed against the *R-6 Small Infill Development Design Principles & Standards* (Appendix 7 of the Design Manual) and also the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters* (Section I of the Design Manual).

Design Review Criteria:
The project was reviewed with the *R-6 Alternative Design Review* which has the following criteria:

A. Proposed design is consistent with all of the Principle Statements
B. The majority of the Standards within each Principle are met
C. The guiding principle for new construction under the alternative design review is to be compatible with the surrounding buildings in a two-block radius in terms of size, scale, materials, and siting, as well as the general character of the established neighborhood, thus Standards A-1 through A-3 shall be met.
D. The design plan is prepared by an architect registered in the State of Maine.

The project must also meet the design standards of the *Two-family, Special Needs Independent Living Units, Multiple-family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters.*

Findings of the Design Review:
The proposed design **passes** all of the criteria of the *R-6 Alternate Design Review* – some comments are provided below.

The proposed design **passes** all of the *Multi-family design standards* – see comments below.

Design Review Comments *(red text denotes principles or standards that are not met)**:***

Principle A Overall Context – Met – The mass and height of the proposal at the street is consistent and compatible with the surrounding residential context. The building's scale and form transitions between the large multi-family building and the smaller two-family residential building.

- *A-1 Scale and Form:* The scale of the project is compatible with the existing context with three stories at the street. The more contemporary forms of the building are set back so as to be recessive.
- *A-2 Composition of Principal Facades:* The composition of the front façade has a vertical proportion consistent with the residential character of the neighborhood. The flat roof, two-bay composition, and use of bay windows provide a composition referential to neighborhood architectural character.
- *A-3 Relationship to the Street:* The building has a relationship to the street consistent with the neighborhood which is setback a few feet to accommodate the bay projection but still provides a street wall.

Principle B Massing – Met – Most aspects of the building reflect the principle and the majority of the Standards are met by the proposed design.

- *B-1 Massing:* The proposed massing is generally consistent with the neighborhood using a vertical proportion and a projection on the front façade. The portion of the building that is at the street is three stories with a flat roof providing a scale and massing perceived at the street consistent with the neighborhood.
- *B-2 Roof Forms:* The proposed roof form at the street is consistent with the surrounding context and the building type.
- *B-3 Main Roofs and Subsidiary Roofs:* There is a clear main roof form.
- *B-4 Roof Pitch:* The roof pitch for the mezzanine level is shallower than allowed by the standard.
- *B-5 Façade Articulation:* The project employs balconies and bay projection.
- *B-6 Garages:* Garage doors face side lot line.

Principle C Orientation to the Street –Met – The project appropriately reflects the private/public relationship of residential buildings in this neighborhood.

- *C-1 Entrances:* The main entry, which is on the side of the building, is emphasized at the street using a bollard and the building number placed at the building corner to indicate the walkway leading to the main entrance. More of a canopy or porch would have been preferred but the amount of side yard available precludes this strategy.
- *C-2 Visual Privacy:* Visual privacy is adequately addressed; all ground floor windows appear to be higher than 48” above adjoining sidewalk grade.
- *C-3 Transition Spaces:* The project shows a transition between the street and the front door that allows for privacy.

Principle D Proportion and Scale – Met – The proportion and scale of the building overall is harmonious and human-scaled.

- *D-1 Windows:* The majority of windows are rectangular with vertical proportion.
- *D-2 Fenestration:* The percent of fenestration on the front façades appear to meet the minimum 12% requirement.
- *D-3 Porches:* Not applicable.

Principle E Balance –Met – The building façade composition creates a sense of balance with good use of overall and local symmetry and articulation of façade materials.

- *E-1 Window and Door Height:* The majority of window and door head heights align along a common horizontal datum.

- *E-2 Window and Door Alignment:* The majority of windows shall stack so that centerlines of windows are in vertical alignment.
- *E-3 Symmetricality:* Primary window compositions are arranged symmetrically around discernable vertical axes.

Principle F Articulation – Met – The project employs visually interesting facades.

- *F-1 Articulation:* Project employs a cornice, expression lines, materials with texture and scale, and details that provide shadow lines.
- *F-2 Window Types:* Window types are consistent proportion and within a family.
- *F-3 Visual Cohesion:* The visual cohesion of the façade is good; materials are appropriately placed.
- *F-4 Delineation between Floors:* Floors are delineated with expression lines and balconies.
- *F-5 Porches, etc.:* The balconies are well integrated into the overall design.
- *F-6 Main Entries:* The main entry is not emphasized or visible from the street. Provide elements such as a canop
- *F-7 Articulation Elements:* Project includes trim and a pronounced cornice.

Principle G Materials – Met – The dominant neighborhood materials are small-scale residential choices such as clapboard, shingle, and brick. The project uses a shingle on the right-of-way facing portions of the building.

- *G-1 Materials:* The shingles are in keeping with the residential context. The fiber cement panels are at the rear of the building away from the right-of-way.
- *G-2 Material and Façade Design:* The materials are appropriately placed according to their nature.
- *G-3 Chimneys:* Not applicable
- *G-4 Window Types:* Window types are consistent proportion and within a family.
- *G-5 Patios and Plazas:* Side path to the main entry is durable stone materials. Applicant was encouraged to emphasize the side entry using the design of the walkway and to make walkway with high accessibility and visibility.

(i) Two-family, Special Needs Independent Living Units, Multiple-Family, Lodging Houses, Bed and Breakfasts, and Emergency Shelters *(red text denotes standards that are not met)****:***

Standard 1 – Met – The form, scale, roof line at the street, and building orientation are consistent with and complement the surrounding residential context. The ground floor at the street has fenestration and a small-scale, textural material to create visual interest and activity on the street. Material choices visible from the street are in keeping with the surrounding residential context.

Standard 2 – Met – The building sits close to the street with a slight front yard setback buffer consistent with residential architecture in this neighborhood. The principal building entry is on the side of the building and landscaping is used to indicate access to the building.

Standard 3 – Met – The project provides balcony space for each dwelling unit.

Standard 4 – Met – The project has a high level of fenestration and the provision of balconies also contributes to residents' access to light and air. Storage is provided within each unit.

Standard 5 – Met – Garage doors and drive are located on side of building and away from the street.

Standard 6 – Not Applicable

MEMORANDUM

To: FILE

From: Shukria Wiar

Subject: Application ID: 2015-120

Date: 9/22/2015

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Hydrant is close by at St. Lawrence & Congress. All new construction shall be sprinkled in accordance with NFPA 13R.

All construction and installation shall comply with City Code Chapter 10.
http://www.portlandmaine.gov/citycode/chapter010.pdf

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Site access is good to two side of the proposed structure.

Comments Submitted by: Keith Gautreau/Fire on 8/18/2015

Premises Identification
The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address.
Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer.
If the building entry faces a different street, both the street name and number should be large enough to read from the street.
Address numbers must be a minimum of 4 inches high.

CITY OF PORTLAND, MAINE
PLANNING BOARD
LEVEL III SITE PLAN REVIEW APPLICATION

Prepared for

LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING

93 St. Lawrence Street
Portland, Maine

July 2015

STATE OF MAINE
GUY COTÉ, JR.
No. 5144
LICENSED
PROFESSIONAL ENGINEER

SME
Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, ME 04021 • Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

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Att. A

Portland, Maine — Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☒ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

Laurene Gron — July 21,2015

Applicant Signature: — Date:

I have provided digital copies and sent them on: — Date:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.

Level III – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

Updated: April 23, 2014

PROJECT NAME: 93 Saint Lawrence Street

PROPOSED DEVELOPMENT ADDRESS:

93 Saint Lawrence St, Portland, ME

PROJECT DESCRIPTION:

A new multi-family apartment building with a 4 car garage on a 5,000 square foot lot.

CHART/BLOCK/LOT: G10NE/16D/10

PRELIMINARY PLAN _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Laurence Gross and Barbara Colby Business Name, if applicable: Address: 91 Saint Lawrence St. City/State :Portland, ME Zip Code: 04101	**Applicant Contact Information** Work # Home# Cell # (207) 232-1619 Fax# e-mail:
Owner – (if different from Applicant) Name: Address: City/State : Zip Code:	**Owner Contact Information** Work # Home# Cell # Fax# e-mail:
Agent/ Representative Name: Sevee & Maher Engineers, Inc. Address: 4 Blanchard Road City/State : Cumberland, ME Zip Code: 04021	**Agent/Representative Contact information** Work # (207) 829-5016 Cell # (207) 240-3315 e-mail: dpd@smemaine.com
Billing Information Name: Address: City/State : Zip Code:	**Billing Information** Work # Cell # Fax# e-mail:

Engineer	Engineer Contact Information
Name: Daniel P. Diffin, P.E. (SME) Address: 4 Blanchard Rd City/State : Cumberland, ME Zip Code: 04021	Work # (207) 829-5016 Cell # (207) 240-3315 Fax# (207) 829-5692 e-mail: dpd@smemaine.com
Surveyor	**Surveyor Contact Information**
Name: Owen Haskell Address: 390 U.S. Route 1 City/State : Falmouth, ME Zip Code: 04105	Work # (207) 774-0424 Cell # Fax# (207) 774-0511 e-mail:
Architect	**Architect Contact Information**
Name: David Lloyd, Archetype Address: 48 Union Wharf City/State : Portland, ME Zip Code: 04101	Work # (207) 772-6022 Cell # (207) 831-8627 Fax# (207) 772-4056 e-mail: lloyd@archetypepa.com
Attorney	**Attorney Contact Information**
Name: Address: City/State : Zip Code:	Work # Cell # Fax# e-mail:

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews)	Other Reviews (check applicable reviews)
X Less than 50,000 sq. ft. ($500.00) ___ 50,000 - 100,000 sq. ft. ($1,000) ___ 100,000 – 200,000 sq. ft. ($2,000) ___ 200,000 – 300,000 sq. ft. ($3,000) ___ over $300,00 sq. ft. ($5,000) ___ Parking lots over 11 spaces ($1,000) ___ After-the-fact Review ($1,000.00 plus applicable application fee) **Plan Amendments (check applicable reviews)** ___ Planning Staff Review ($250) ___ Planning Board Review ($500) _____ The City invoices separately for the following: • Notices ($.75 each) • Legal Ad (% of total Ad) • Planning Review ($40.00 hour) • Legal Review ($75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	___ Traffic Movement ($1,000) ___ Stormwater Quality ($250) ___ Subdivisions ($500 + $25/lot) # of Lots ___ x $25/lot = _____ ___ Site Location ($3,000, except for residential projects which shall be $200/lot) # of Lots ___ x $200/lot = _____ ___ Other _____ ___ Change of Use ___ Flood Plain ___ Shoreland ___ Design Review ___ Housing Replacement ___ Historic Preservation

Updated: April 23, 2014

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. **In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.**

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. **One (1) full size site plans** that must be **folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
   a. Application form that is completed and signed.
   b. Cover letter stating the nature of the project.
   c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level II Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant: Lawrence Gorr	**Date:** July 21, 2015

PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site	5,000	sq. ft.
Proposed Total Disturbed Area of the Site	4,800	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
Impervious Surface Area		
Impervious Area (Total Existing)	1,310	sq. ft.
Impervious Area (Total Proposed)	3,332	sq. ft.
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	0	sq. ft.
Building Footprint (Total Proposed)	2,024	sq. ft.
Building Floor Area (Total Existing)	0	sq. ft.
Building Floor Area (Total Proposed)	6,012	sq. ft.
Zoning		
Existing	Residential 6 (R6)	
Proposed, if applicable		
Land Use		
Existing	Paved parking	
Proposed	Multi-family apartments	
Residential, If applicable		
# of Residential Units (Total Existing)	0	
# of Residential Units (Total Proposed)	4	
# of Lots (Total Proposed)	1	
# of Affordable Housing Units (Total Proposed)	0	
Proposed Bedroom Mix		
# of Efficiency Units (Total Proposed)	0	
# of One-Bedroom Units (Total Proposed)	0	
# of Two-Bedroom Units (Total Proposed)	4	
# of Three-Bedroom Units (Total Proposed)	0	
Parking Spaces		
# of Parking Spaces (Total Existing)	0	
# of Parking Spaces (Total Proposed)	4 - Garage	
# of Handicapped Spaces (Total Proposed)	0	
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	2	
Estimated Cost of Project	$1,276,000	

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Completed Application form
X		1	* Application fees
X		1	* Written description of project
X		1	* Evidence of right, title and interest
X		1	* Evidence of state and/or federal permits
X		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
X		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
X		1	* Evidence of financial and technical capacity
X		1	Construction Management Plan
X		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
X		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
X		1	Stormwater management plan and stormwater calculations
X		1	Written summary of project's consistency with related city master plans
X		1	Evidence of utility capacity to serve
X		1	Written summary of solid waste generation and proposed management of solid waste
X		1	A code summary referencing NFPA 1 and all Fire Department technical standards
X		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
X		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Final Site Plans including the following:**
X			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
X			Existing and proposed structures on parcels abutting site;
X			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
X			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
X			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
X			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
X			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
X			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
X			Location of all snow storage areas and/or a snow removal plan;
X			A traffic control plan as detailed in Section 1 of the Technical Manual;
X			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
X			Location and proposed alteration to any watercourse;
X			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
X			Proposed buffers and preservation measures for wetlands;
X			Existing soil conditions and location of test pits and test borings;
X			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
X			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
X			Grading plan;
X			Ground water protection measures;
X			Existing and proposed sewer mains and connections;

- Continued on next page -

X		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
X		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
X		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
X		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
X		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
X		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
X		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
X		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
X		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
X		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
X		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant Larry Gross, 91 Saint Lawrence St. Portland, ME 207-232-1619
2.
3. Name address, telephone number of architect David Lloyd, 48 Union Wharf, Portland, ME 207-831-8627
4. Proposed uses of any structures [NFPA and IBC classification]
5.
6. Square footage of all structures [total and per story] 6,012 square feet
7. Elevation of all structures 189 FSL (43.5 foot floor to roof)
8. Proposed fire protection of all structures
   - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***
9. Hydrant locations 120 feet away in St. Lawrence Street
10. Water main[s] size and location 8" main in the street
11. Access to all structures [min. 2 sides] Yes
12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

PROJECT DESCRIPTION

Larry Gross and Barbara Colby (Owners) propose to construct a 2,024-square-foot apartment building on a 5,000 square foot parcel located at 93 St. Lawrence Street in Portland, Maine see Figure 1 – Site Location Map included in Appendix A. The building will be a three-story, four-unit apartment building with dedicated on-site parking in the garage located on the first floor. The property is located within the Residential 6 (R6) Zoning District and will comply with the City's vision of multifamily dwellings at a high density within this area.

The Owners are residents of the abutting property at 91 St. Lawrence Street and intend to construct a three-story rental property to include; a two-bedroom unit and garage on the first floor and three two-bedroom units between the second and third floors.

The property is currently fully disturbed with a 1,310-square-foot paved parking area along the street frontage and a maintained lawn area to the rear of the property. The proposed building, paved vehicle maneuvering area, walks and patios will not result in an increase in developed area on the property, but will increase the on-site impervious area to approximately 3,300 square feet.

The number of dwelling units proposed requires a Level III Site Plan Development Review permit through the City. The following demonstrates the project's compliance with the applicable City of Portland Land Use Ordinance.

FINAL PLAN – LEVEL III SITE PLAN CHECKLIST REQUIREMENTS

This application package has been prepared in accordance with the City of Portland Land Use Ordinance and the Level III Site Plan Development Review Application. To address the submission requirements, the Applicant has provided the following:

Right, Title and Interest – See copies of Deed included in Appendix B.

State and/or Federal Permits – Not required for this project.

Evidence of Financial Capacity – See letter of financing provided in Appendix C.

Evidence of Technical Capacity – The Owners have hired qualified professionals to assist in the design, bidding and construction administration for this project as detailed on the application form.

City of Portland GIS Map – See copy of map included in Appendix D.

FEMA Map – See FEMA firmette in Appendix E

ARTICLE V. - SITE PLAN

The following demonstrate the project's compliance with Section 14-526 Site Plan Standards.

14-526 (a) Transportation Standards

St. Lawrence Street is directly off of Congress Street which is classified as a Major Collector. Four additional housing units would have an insignificant impact on the surrounding street systems. St. Lawrence Street is only 0.3 miles long and has a total travel time of less than 1 minute. The proposed development will not reduce the Level of Service below level "D" as required in in Section 14-526 of the City of Portland Code of Ordinance.

The property will be accessed through one curb cut off St. Lawrence Street. The driveway will be greater than twenty feet from adjacent driveways and has a proposed width of ten feet, in accordance with Section 1.7 of the Portland Technical Manual. A sidewalk exists along the entire length of property's frontage with St. Lawrence Street.

The off-street parking space standards in Section 14-332.1(k) of the City of Portland Code of Ordinances require one parking space per dwelling unit in the Residential 6 (R-6) District. The proposed development provides four parking spots in the first-floor garage, one for each dwelling unit. Section 14-526 of the same document requires two bicycle parking spaces for developments with zero to ten vehicle parking spaces. Two bike hangers will be provided within the garage as shown on the First Floor Plan, Ddrawing A1.01.

Section 14-526 of the City of Portland Code of Ordinances requires provisions be made for snow storage. The open space north of the driveway will provide sufficient space for snow storage, without encroaching on any of the required parking spaces.

14-526 (a) Environmental Quality Standards

A. Preservation of Significant Natural Features

The site is currently fully developed with a paved parking area on the southern third of the property and a manicured lawn area over the rest of the property. In addition, the property is in a highly urbanized neighborhood with little to no stands of trees, wetlands or wildlife habitat. Therefore, it is expected that there are no protected natural resources within the property footprint.

B. Landscaping and Landscape Preservation

There is limited landscaping on the existing property. With the exception of a narrow row of trees along the northeast property line, the site is generally lawn or paved. The project will result in the cutting of three small trees in this area.

The proposed site landscaping is shown on the Landscape Plan, Drawing L.1. The landscaping is designed to buffer the abutting properties to the northeast and west. In addition, planting areas are designed to enhance the view lines of the new building in accordance with the Ordinance requirements. There will be no exterior servicing areas, dumpsters or on-site utility structures; therefore, screening is not required. There are no required landscaped islands required based on only four (4) proposed parking spaces.

Section 4 of the City of Portland Technical Manual requires that one street tree be planted per unit, unless otherwise approved and spaced thirty (30) to forty five (45) feet on center. The site has a total of fifty (50) feet of street frontage and there are street trees to the east and the west, therefore only one street tree is proposed at the frontage of the property, as shown on the Landscape Plan L.1.

C. Water Quality, Stormwater Management, and Erosion Control

The proposed development disturbs approximately 4,800 square feet (approximately 0.1 acres). According to Section 4 of the City of Portland Technical Manual any site disturbing less than one acre is exempt from complying with the Basic and General Standards, and acquiring a Stormwater Permit.

However, the City Engineer requested that treatment for the net increase in impervious area be treated for the first 1", or first flush, of all stormwater events. The applicant proposes capturing and infiltrating the runoff from the roof of the new building and north portion of the property in a shallow infiltration basin on the northeast corner of the property. The details of the proposed stormwater management measures are included on the drawings and the Stormwater Management Report in Appendix F.

The proposed erosion control measures are detailed on the drawing set provided.

14-526 (c) Public Infrastructure and Community Safety Standards

A. Consistency with City Master Plans

St. Lawrence Street is considered part of Munjoy Hill, and is included in the Master Plan for Redevelopment of the Eastern Waterfront. The proposed development takes into account the recommendations laid out in the master plan.

B. Public Safety and Fire Prevention

The entrances to the building will be well-lit and visible from the street and adjacent walkways to provide natural surveillance as described in Section 3 of the City of Portland Technical Manual.

There is a fire hydrant located at the corner of Congress Street and St. Lawrence Street, within one hundred twenty (120) feet of the proposed building. The City of Portland Technical Manual requires a fire hydrant within five hundred (500) feet of all structures.

C. Availability and Adequate Capacity of Public Utilities

The proposed development is within two hundred (200) feet of the public sanitary collection and treatment system and is therefore required to connect. A City of Portland Wastewater Capacity Application is included as Appendix G. Water service to the building will be provided from the 8-inch water main in St. Lawrence Street. A Capacity to Serve letter from PWD is included as Appendix H. The electrical and communication services to the building will be underground from the existing utility pole on the opposite side of the street.

14-526 (d) Site Design Standards

A. Massing, Ventilation and Wind Impact

The building will be consistent with the height and mass of the new multi-unit development to the west and existing residential structure to the east. The HVAC equipment will be located on the roof and will not negatively affect the abutting properties.

B. Shadows

The building will be oriented such that there are no impacts to public open space or existing vegetation.

C. Snow and Ice Loading

Snow storage will be provided on site where available and hauled away as necessary. Ice from the building is not in danger of falling onto abutting properties.

D. View Corridors

Site is outside of Downtown Vision View Corridor Protection Plan.

E. Historic Resources

Does not apply to this application.

F. Exterior Lighting

The site lighting has been detailed on the Architectural drawing A1.01 and will consist of full cut-off wall mounted lights at the building entrances and above the garage area. The

utility pole on the south side of St. Lawrence Street has an existing street light to illuminate the streets and walks in front of the property.

G. Noise and Vibration

The mechanical equipment will be on the roof of the proposed building and will be screened from St. Lawrence Street by the proposed Mezzanine as shown on the Architectural elevations.

H. Signage and Wayfinding

Does not apply to this application.

I. Zone Related Design Standards

The proposed multi-family development in the R6 zone will be architecturally compatible with the surrounding neighborhood. The orientation and placement in relationship to the street of the building is consistent with the neighboring structures.

J. Solid Waste Generation and Management

Disposal of construction waste will be the responsibility of the selected contractor. Domestic waste will be stored in the trash bin area off the Garage as shown on A1.01.

CONSTRUCTION MANAGEMENT PLAN

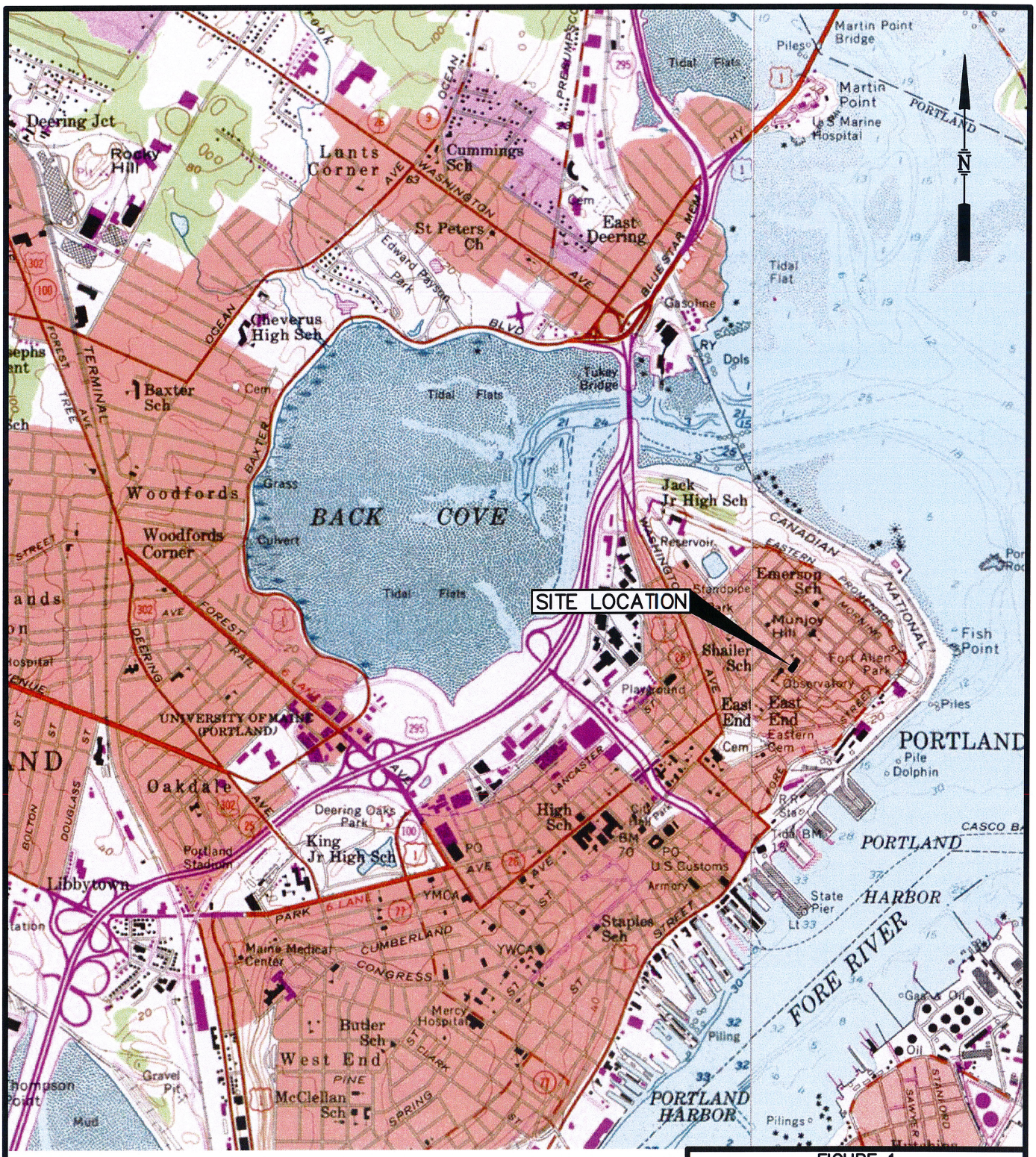
The proposed development will have minimal impacts on the surrounding traffic patterns. During construction there will be additional truck and construction vehicle traffic, but two-lane traffic will not be interrupted. Due to the proximity to the sidewalk on St. Lawrence Street, foot traffic will be redirected by signs at the nearest intersections during building construction.

The installation of water service, sanitary sewer, and utilities will require a new opening in St. Lawrence Street. The resulting lane closers will be coordinated with the City and controlled by the contractor.

APPENDIX A

FIGURE 1 – SITE LOCATION MAP

Att. C



BASE MAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
PORTLAND EAST, ME – 1975
PORTLAND WEST, ME – 1978

1000 0 2000 FEET

DWG: SITELOC LMN: NONE CTB: SME-STD REV: 7/15/2015

FIGURE 1
SITE LOCATION MAP
4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

\\Nserver\cfs\Archetype\St Lawrence Street\Acad\Figures\SITELOC.dwg, 7/15/2015 7:19:58 AM, sjm

APPENDIX B

TITLE, RIGHT OR INTEREST

Att. D

1

0011710

BK17303PG310

QUITCLAIM DEED

Know All Men By These Presents That Hilltop Housing, a Maine General Partnership
of 10 Amherst Street, Portland,
County of Cumberland and State of Maine,

for consideration paid, grant to Laurence W. Gross

of 91 St. Lawrence Street, Portland,
County of Cumberland and State of Maine

with **QUITCLAIM COVENANTS:**

A certain lot or parcel of land together with any buildings thereon situated in Portland County of Cumberland and State of Maine, more particularly described in Exhibit A attached hereto and incorporated herein by reference.

In Witness Whereof, I/we have hereunto set my/our hand(s) this 31st day of January, 2002.

Hilltop Housing

Wendy L Swan
Witness

By: Laurence Gross
Laurence W. Gross,
General Partner
Duly authorized

State of Maine
County of Cumberland ss.

On this 31st day of January, 2002 personally appeared before me the above named Laurence W. Gross, General Partner, of Hilltop Housing

and acknowledged the foregoing to be his/her/their free act and deed in his/her/their said capacity and the free act and deed of said Corporation.

Wendy L Swan
Notary Public/Attorney at Law

Return to: Laurence W. Gross

Wendy L Swan
10/13/04

BK 17303 PG 311

File No: 02030146

Exhibit A - Deed

A certain lot or parcel of land, with the buildings thereon, situated on the northeasterly sideline of St. Lawrence Street adjoining the northwesterly sideline of land now or formerly of Frederick Rozzi and Patricia J. Rozzi, in the City of Portland, County of Cumberland and State of Maine, and being more particularly described as follows:

Beginning at a point on the northeasterly sideline of St. Lawrence Street, said point being distant 145 feet southerly from the intersection formed by said northeasterly sideline of St. Lawrence Street and the southeasterly sideline of Congress Street, said point also marking the northwesterly corner of land now or formerly of Frederick Rozzi and Patricia J. Rozzi, thence in a general easterly direction by the northwesterly sideline of land of said Frederick Rozzi, et al, 100 feet to land now or formerly of Robert S. Morrow and Mary V. Morrow; thence in a general northerly dirction by the westerly sideline of said Robert S. Morrow, et al, 50 feet to a point which is distant southerly 85 feet 8 inches from the southeasterly corner of land now or formerly of Bantam Realty Co., thence in a general westerly direction 100 feet to the northeasterly sideline of St. Lawrence Street; thence in a general southerly direction by said northeasterly sideline of St. Lawrence Street 50 feet to land now or formerly of Frederick Rozzi et al, and the point of beginning.

Also, all right title and interest, if any, and to all passageways, lanes , streets or alleys adjoining, abutting and/or running with the above described premises.

This conveyance is subject to all of the restrictions, covenants, and agreements contained in the Indenture by which said premises were conveyed to Frederick Rozzi and Patricia J. Rozzi by Portland Renewal Authority. Said indenture is dated October 15, 1970 and recorded in said Registry of Deeds in Book 3147, Page 321.

The foregoing, as all tthe other covenants contained in the aforesaid indenture to Frederick Rozzi and Patricia J. Rozzi from Portland Renewal Authority, shall be a covenant running with the land and shall be enforceable in the same manner as prescribed in said Indenture for the enforcement of the covenants therein contained.

RECEIVED
RECORDED REGISTRY OF DEEDS
2002 FEB -8 AM 11: 31
CUMBERLAND COUNTY
John B O'Brien

Assessor's Office | 389 Congress Street | Portland, Maine 04101 | Room 115 | (207) 874-8486

City Home Departments City Council E-Services Calendar Jobs

This page contains a detailed description of the Parcel ID you selected.

New Search!

Services

Applications

Doing Business

Maps

Tax Relief

Tax Roll

Q & A

browse city services a-z

browse facts and links a-z

Best viewed at 800x600, with Internet Explorer

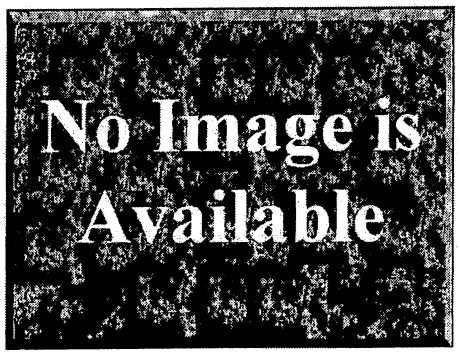
Current Owner Information:

CBL	016 D010001
Land Use Type Verify legal use with Inspections Division	VACANT LAND
Property Location	93 ST LAWRENCE ST
Owner Information	GROSS LAURENCE W PO BOX 10152 PORTLAND ME 04104
Book and Page	17303/310
Legal Description	16-D-10 ST LAWRENCE ST 93-95
	5000 SF
Acres	0.1148

Current Assessed Valuation:

TAX ACCT NO.	2558	**OWNER OF RECORD AS OF APRIL 2014**
LAND VALUE	$47,400.00	GROSS LAURENCE W
BUILDING VALUE	$0.00	
NET TAXABLE - REAL ESTATE	$47,400.00	PO BOX 10152 PORTLAND ME 04104
TAX AMOUNT	$948.00	

Any information concerning tax payments should be directed to the Treasury office at 874-8490 or e-mailed.



View Map

Sales Information:

Sale Date	Type	Price	Book/Page
2/8/2002	LAND	$0.00	17303/310
10/30/1986	LAND + BUILDING	$0.00	7458/345

New Search!

APPENDIX C

FINANCIAL CAPACITY

Att. E

SACO & BIDDEFORD SAVINGS INSTITUTION

MAILING ADDRESS • 50 Industrial Park Rd, Saco, ME 04072 • 1-877-SACO-BID

July 1, 2015

City of Portland
389 Congress Street
Portland, Maine 04101

Property: 93 St. Lawrence Street, Portland, Maine 04101

To Whom It May Concern:

Please be advised that Laurence "Larry" Gross and Barbara Colby have been preapproved for construction loan financing by Saco & Biddeford Savings Institution reference the construction of a 4 unit owner occupied property located at 93 St. Lawrence Street in Portland, Maine.

The loan is contingent upon final underwriting and approval by Saco & Biddeford Savings Institution and the City of Portland issuing a building permit.

I may be contacted at our South Portland Office at (207) 602-7657 or via email at decourceyp@sbsavings.com.

Sincerely,

Patrick DeCourcey
AVP-Loan Officer
Saco & Biddeford Savings Institution/South Portland
Mailing: 50 Industrial Park Road
Saco, ME 04072
Phone: 207-602-7657
Fax: 207-504-8049
Email: decourceyp@sbsavings.com

APPENDIX D

CITY OF PORTLAND GIS MAP

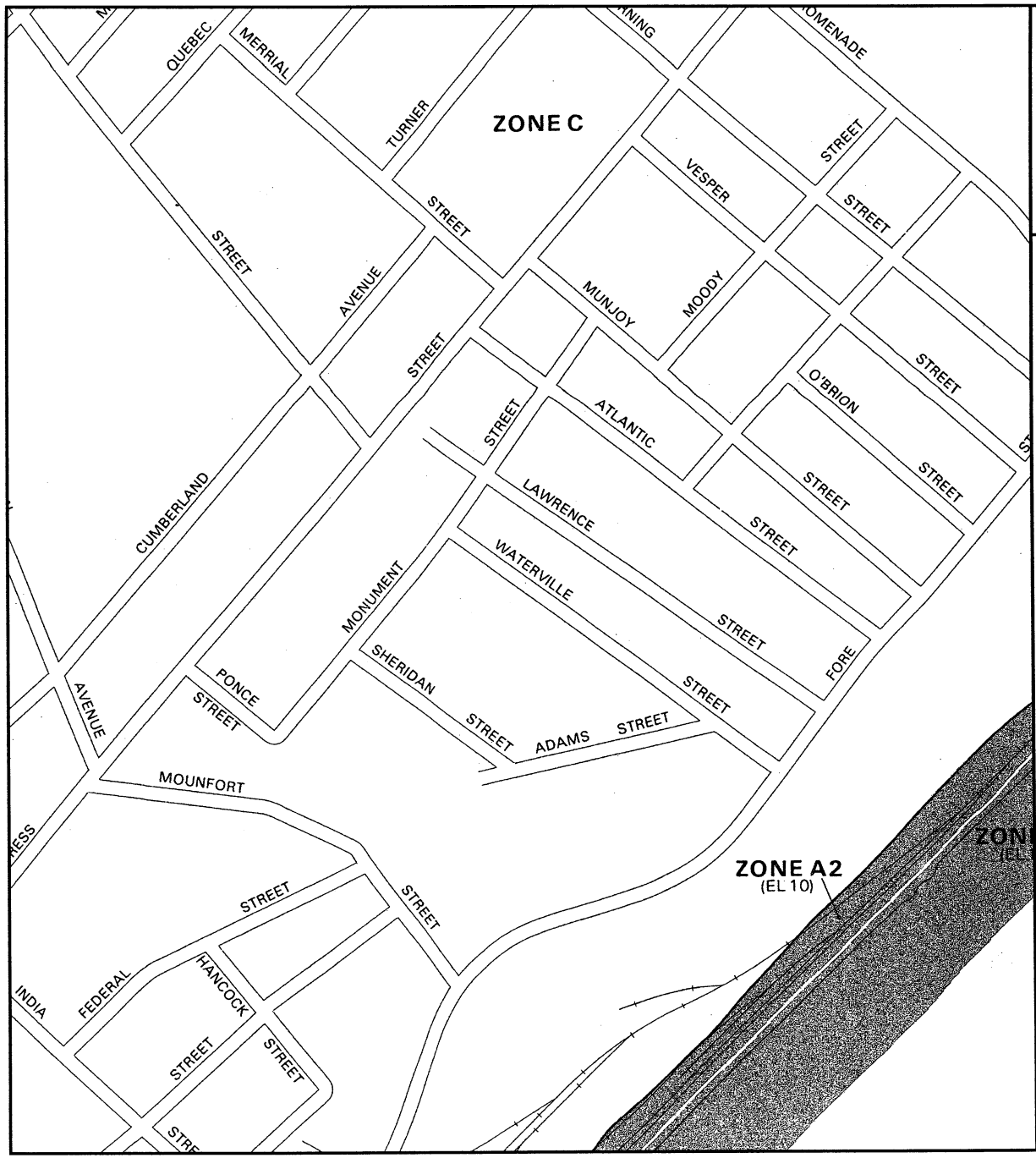
Att. F

More...
Legend
Flood Zones
Flood Zones 2014
AE
X500
VE
AH
A
0.2 PCT Annual Chance Flood Hazard
Zoning
sde.PORTGIS.Zoning
IR-1 Island Residential
IR-2 Island Residential
IR-3 Island Residential
I-B Island Business
I-TS Island Transfer Station
R1 Residential
R2 Residential
R3 Residential
R4 Residential
R5 Residential
R6 Residential
91 Saint Lawrence St
ROS
RPZ
VE
WSUZ
EWPZ
B1b
C58
C46
R6
B1
B4
C52
B5b
B6
Fort Summer Park
Fort Allen Park
Amethyst Parking Lot
Eastern Promenade
EASTERN PROM
CUTTER ST
Openspace

APPENDIX E

FEMA FLOODPLAIN MAP

Att. G



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
PORTLAND, MAINE
CUMBERLAND COUNTY

PANEL 14 OF 17
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230051 0014 B

EFFECTIVE DATE:
JULY 17, 1986

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX F

STORMWATER MANAGEMENT REPORT

Att. H

CITY OF PORTLAND, MAINE
PLANNING BOARD
STORMWATER MANAGEMENT REPORT

Prepared for

LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING

93 St. Lawrence Street
Portland, Maine

July 2015

STATE OF MAINE
GUY H. COTÉ JR.
No. 5144
LICENSED
PROFESSIONAL ENGINEER
7/30/15

SME
Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, ME 04021 • Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

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2.0	**PROJECT DESCRIPTION**	1
3.0	**SITE WATERSHED**	1
4.0	**STORMWATER QUANTITY ANALYSIS**	3
5.0	**SUMMARY**	3

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APPENDIX A NRCS SOIL REPORT
APPENDIX C PRE-DEVELOPMENT HYDROCAD CALCULATIONS
APPENDIX D POST-DEVELOPMENT HYDROCAD CALCULATIONS

LIST OF TABLES

Table No.	Title	Page No.
1	PROPOSED INCREASE OF IMPERVIOUS AREA	2
2	STORMWATER QUANTITY SUMMARY	3

STORMWATER MANAGEMENT REPORT

1.0 INTRODUCTION

The following outlines the stormwater management design for the proposed apartment building and associated site improvements at 93 St. Lawrence Street in Portland, Maine. The stormwater design prepared by Sevee & Maher Engineers, Inc. (SME) is based on the water quality and quantity objectives identified in the City Ordinances and by the City of Portland Engineer during the pre-application meeting.

2.0 PROJECT DESCRIPTION

Larry Gross proposes to construct a three-story, 2,042-square-foot multifamily apartment building on the existing 5,000 square foot lot. The site is currently fully developed with 1,310 square feet of paved parking along St. Lawrence Street and manicured lawn on the remainder of the site. The project will include the building, 1,150 square feet of paved vehicular access and sidewalks, plantings, utility connections and an infiltration basin to address stormwater. The project will result in no increase in developed area and an increase in impervious area of 1,864 square feet.

3.0 SITE WATERSHED

On-site soils were identified using the Natural Resources Conservation Service (NRCS) soil information for Cumberland County, Maine. A copy of the custom Soil Resource Report is included in Appendix B. The soil within the area of work consists of Hinckley gravelly sandy loam (HIB) which is classified as "excessively drained" and hydrologic soil group (HSG) A soils.

In existing conditions, the north portion of the site drains to the east and onto the abutting property. The majority of the site drains to the southeast and then flows onto the street. For the purposes of this analysis, the low point in the sidewalk to the south of the property was identified as Analysis Point (AP) 1, and the eastern property line near the abutter's backyard was identified as Analysis Point (AP) 2.

In developed conditions, the flow to the abutter's backyard has been removed and the north portion of the lot and the entire building will drain to a proposed infiltration basin on the eastern corner of the site. An emergency overflow has been provided so that if the infiltration basin overtops during larger storms, the flow will drain across the paved traffic area and flow into the St. Lawrence Street road drainage. The southern portion of the site will sheet flow to St. Lawrence Street similar to existing conditions.

Pre-development and post-development stormwater management plans identify the on-site drainage patterns before and after development (See Drawings D-100 and D-101) and are included in the plan set. Appendices B and C provide pre- and post-development calculations using TR-20 methodologies prepared with the HydroCAD computer stormwater modeling system by Applied Microcomputer Systems of Chocorua, New Hampshire.

4.0 STORMWATER QUALITY ANALYSIS

The City of Portland has requested as a form of stormwater quality and quantity control that the first inch of rain water be collected and treated for the net increase of impervious area on the property. Table 1 provides more detail on the proposed increase of impervious area.

TABLE 1

PROPOSED INCREASE OF IMPERVIOUS AREA

	Existing (sf)	Post Development (sf)	Difference (sf)
Total Impervious	1,310	3,174	1,864
Pavement/Sidewalks	1,310	1,150	-160
Building	0	2,024	2,024
Open Space	3,690	1,826	1,864

The additional 1,864 square feet (sf) of impervious area will be treated by collecting the runoff from the proposed building roof area (2,024 sf) in a gutter system and directing it into the proposed infiltration basin. Therefore, the basin will treat in excess of the net increase of impervious area through infiltration.

The infiltration basin has been designed in accordance with the MEDEP Stormwater BMP Manual. The post-development analysis provided in Appendix C demonstrates that the infiltration basin will collect and infiltrate the runoff directed to it during a 2-year storm without overtopping.

5.0 STORMWATER QUANTITY ANALYSIS

Stormwater quantity is managed to the maximum extent practicable through minimizing the amount of impervious area on the site and through the proposed infiltration basin on the east portion of the property. Table 2 below demonstrates peak flow rates from the subwatershed areas at the two analysis points shown on Drawings D-100 and D-101.

TABLE 2

STORMWATER QUANTITY SUMMARY

	2-yr Storm		10-yr Storm		25-yr Storm	
AP	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)
1	0.01	0.05	0.11	0.14	0.17	0.24
2	0.00	0.00	0.00	0.00	0.00	0.00

The post-development flows have been analyzed for the 2-year, 10-year and 25-year storms using HydroCAD (see Appendices C and D). The infiltration qualities of the soil for the infiltration basin were conservatively estimated at 1.42 inches/hour, based on the National Resources Conservation Service's characterization of the soils on site (Hinckley gravelly sandy loam). Using the higher infiltration rates for Hinckley soils would greatly reduce the post development peak flows. In addition, based on the size of the area draining to the existing storm drains, the increased peak flows would have an insignificant impact on the existing stormwater infrastructure.

6.0 SUMMARY

The stormwater management for the 93 St. Lawrence Street project will have no adverse impact to the downstream drainage or abutting properties and the required treatment is provided for the net increase in impervious area.

APPENDIX A

NRCS SOIL REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine

July 8, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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Soil Map.....5
Soil Map.....6
Legend.....7
Map Unit Legend.....8
Map Unit Descriptions.....8
Cumberland County and Part of Oxford County, Maine.....10
HIB—Hinckley gravelly sandy loam, 3 to 8 percent slopes.....10
References.....11

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 9, Sep 13, 2014

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

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

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

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
HIB	Hinckley gravelly sandy loam, 3 to 8 percent slopes	2.9	100.0%
Totals for Area of Interest		**2.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

HlB—Hinckley gravelly sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: blhp
Elevation: 10 to 2,000 feet
Mean annual precipitation: 30 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy-skeletal glaciofluvial deposits derived from granite and gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
H1 - 1 to 8 inches: gravelly sandy loam
H2 - 8 to 11 inches: gravelly sandy loam
H3 - 11 to 25 inches: gravelly loamy sand
H4 - 25 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A

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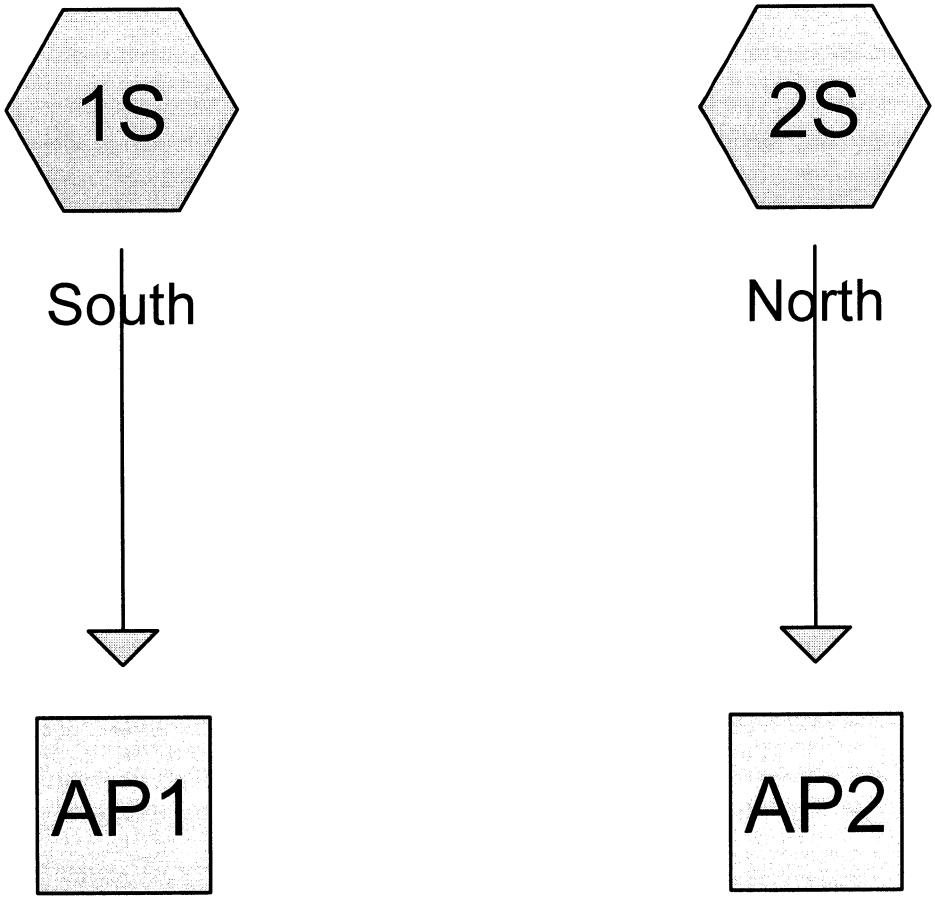
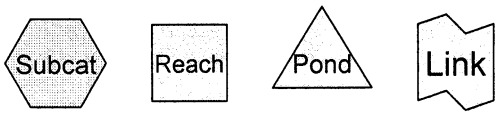
APPENDIX B

PRE-DEVELOPMENT HYDROCAD CALCULATIONS



St. Lawrence Street Drainage

Abutter's Backyard



Routing Diagram for Archetype- 93 Saint Lawrence Existing
Prepared by Sevee & Maher Engineers, Inc., Printed 7/16/2015
HydroCAD® 10.00 s/n 01260 © 2012 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: South

Runoff = 0.01 cfs @ 12.34 hrs, Volume= 0.003 af, Depth= 0.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
3,576	39	>75% Grass cover, Good, HSG A
1,754	98	Paved parking, HSG A
5,330	58	Weighted Average
3,576		67.09% Pervious Area
1,754		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	95	0.0250	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.1	5	0.0250	0.80		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	33	0.0250	3.21		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
9.2	133	Total			

Summary for Subcatchment 2S: North

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
815	39	>75% Grass cover, Good, HSG A
815		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	54	0.0250	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.122 ac, 32.91% Impervious, Inflow Depth = 0.27" for 2-Year event
Inflow = 0.01 cfs @ 12.34 hrs, Volume= 0.003 af
Outflow = 0.01 cfs @ 12.34 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: Abutter's Backyard

Inflow Area = 0.019 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: South

Runoff = 0.11 cfs @ 12.15 hrs, Volume= 0.010 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
3,576	39	>75% Grass cover, Good, HSG A
1,754	98	Paved parking, HSG A
5,330	58	Weighted Average
3,576		67.09% Pervious Area
1,754		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	95	0.0250	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.1	5	0.0250	0.80		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	33	0.0250	3.21		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
9.2	133	Total			

Summary for Subcatchment 2S: North

Runoff = 0.00 cfs @ 13.75 hrs, Volume= 0.000 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
815	39	>75% Grass cover, Good, HSG A
815		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	54	0.0250	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.122 ac, 32.91% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 0.11 cfs @ 12.15 hrs, Volume= 0.010 af
Outflow = 0.11 cfs @ 12.15 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach AP2: Abutter's Backyard

Inflow Area =	0.019 ac,	0.00% Impervious,	Inflow Depth =	0.14"	for 10-Year event
Inflow =	0.00 cfs @	13.75 hrs,	Volume=	0.000 af	
Outflow =	0.00 cfs @	13.75 hrs,	Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Subcatchment 1S: South

Runoff = 0.17 cfs @ 12.14 hrs, Volume= 0.015 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
3,576	39	>75% Grass cover, Good, HSG A
1,754	98	Paved parking, HSG A
5,330	58	Weighted Average
3,576		67.09% Pervious Area
1,754		32.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	95	0.0250	0.18		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.1	5	0.0250	0.80		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	33	0.0250	3.21		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
9.2	133	Total			

Summary for Subcatchment 2S: North

Runoff = 0.00 cfs @ 12.39 hrs, Volume= 0.000 af, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
815	39	>75% Grass cover, Good, HSG A
815		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	54	0.0250	0.16		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.122 ac, 32.91% Impervious, Inflow Depth = 1.45" for 25-Year event
Inflow = 0.17 cfs @ 12.14 hrs, Volume= 0.015 af
Outflow = 0.17 cfs @ 12.14 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

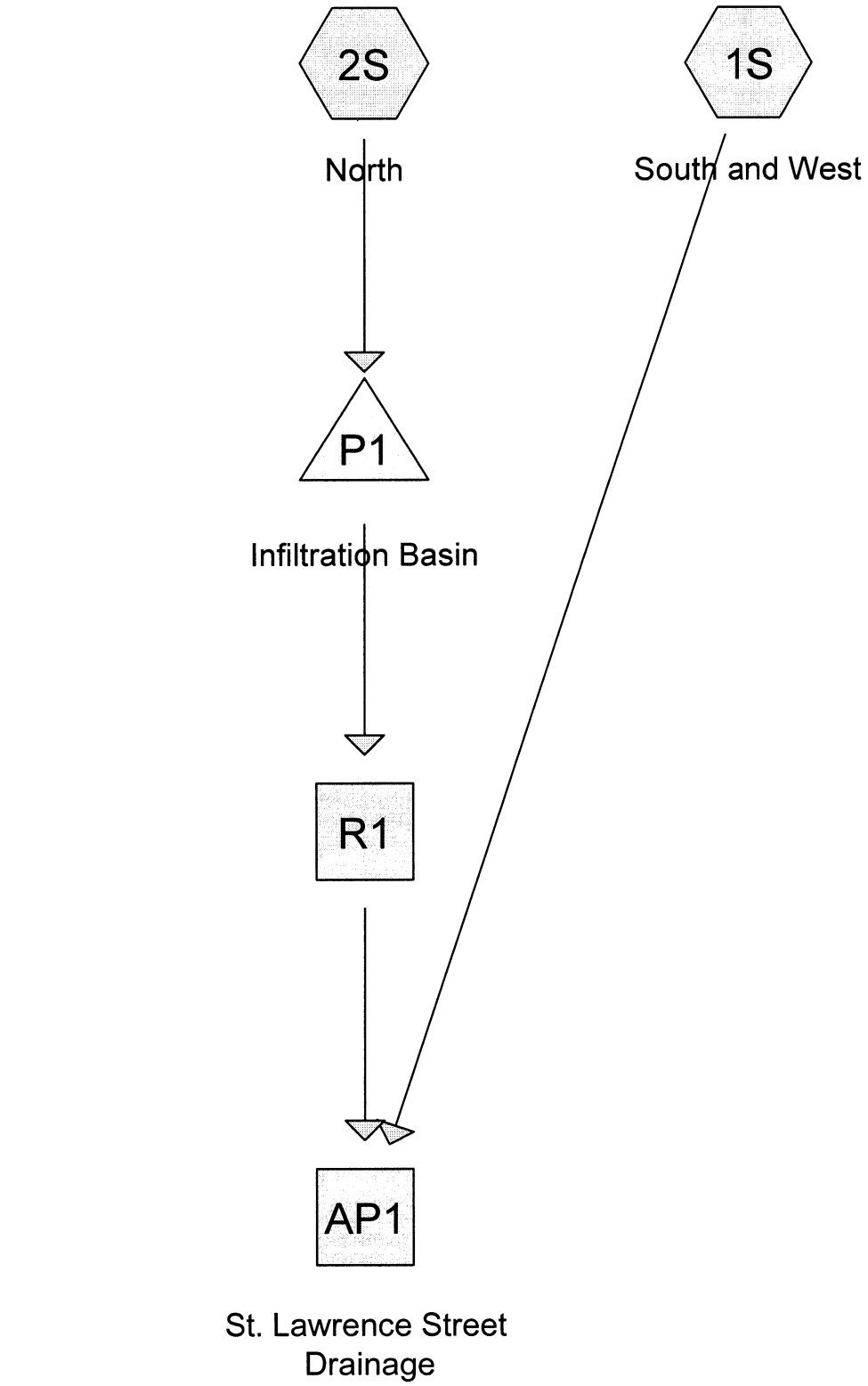
Summary for Reach AP2: Abutter's Backyard

Inflow Area = 0.019 ac, 0.00% Impervious, Inflow Depth = 0.31" for 25-Year event
Inflow = 0.00 cfs @ 12.39 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 12.39 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

APPENDIX C

POST-DEVELOPMENT HYDROCAD CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Archetype- 93 Saint Lawrence Proposed
Prepared by Sevee & Maher Engineers, Inc., Printed 7/16/2015
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Summary for Subcatchment 1S: South and West

Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,125	39	>75% Grass cover, Good, HSG A
1,451	98	Paved parking, HSG A
2,576	72	Weighted Average
1,125		43.67% Pervious Area
1,451		56.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	40	0.0250	0.15		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.7	60	0.0333	1.47		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	45	0.0220	3.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.3	145	Total			

Summary for Subcatchment 2S: North

Runoff = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-Year Rainfall=3.00"

Area (sf)	CN	Description
1,501	39	>75% Grass cover, Good, HSG A
2,024	98	Unconnected roofs, HSG A
27	98	Paved parking, HSG A
3,552	73	Weighted Average
1,501		42.26% Pervious Area
2,051		57.74% Impervious Area
2,024		98.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE 5 MIN OR GREATER**

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.141 ac, 57.15% Impervious, Inflow Depth = 0.34" for 2-Year event
Inflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Outflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

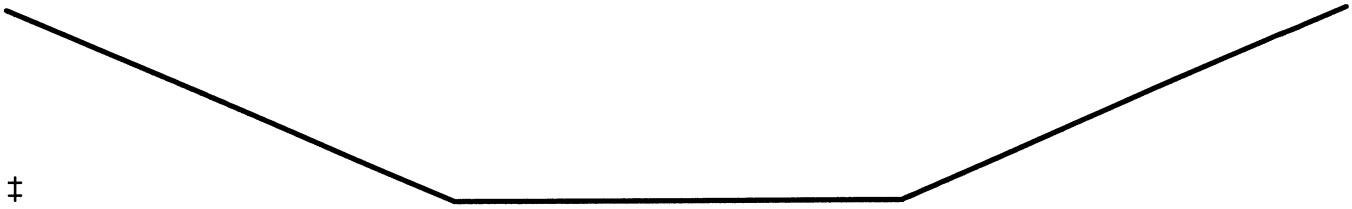
Summary for Reach R1:

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 80.40 cfs

10.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 30.00'
Length= 70.0' Slope= 0.0214 '/'
Inlet Invert= 144.50', Outlet Invert= 143.00'



‡

Summary for Pond P1: Infiltration Basin

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 0.86" for 2-Year event
Inflow = 0.08 cfs @ 12.08 hrs, Volume= 0.006 af
Outflow = 0.01 cfs @ 13.58 hrs, Volume= 0.006 af, Atten= 90%, Lag= 89.9 min
Discarded = 0.01 cfs @ 13.58 hrs, Volume= 0.006 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 144.10' @ 13.58 hrs Surf.Area= 235 sf Storage= 98 cf

Plug-Flow detention time= 149.5 min calculated for 0.006 af (100% of inflow)
Center-of-Mass det. time= 149.5 min (1,018.3 - 868.8)

Volume	Invert	Avail.Storage	Storage Description
#1	143.50'	525 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
143.50	96	0	0
144.00	206	76	76
144.50	346	138	214
145.00	900	312	525

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**9.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	143.50'	**1.420 in/hr Exfiltration over Surface area above 143.40'** Conductivity to Groundwater Elevation = 0.00' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.01 cfs @ 13.58 hrs HW=144.10' (Free Discharge)
└─**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=143.50' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment 1S: South and West

Runoff = 0.14 cfs @ 12.08 hrs, Volume= 0.010 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
1,125	39	>75% Grass cover, Good, HSG A
1,451	98	Paved parking, HSG A
2,576	72	Weighted Average
1,125		43.67% Pervious Area
1,451		56.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	40	0.0250	0.15		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.7	60	0.0333	1.47		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	45	0.0220	3.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.3	145	Total			

Summary for Subcatchment 2S: North

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
1,501	39	>75% Grass cover, Good, HSG A
2,024	98	Unconnected roofs, HSG A
27	98	Paved parking, HSG A
3,552	73	Weighted Average
1,501		42.26% Pervious Area
2,051		57.74% Impervious Area
2,024		98.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE 5 MIN OR GREATER**

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.141 ac, 57.15% Impervious, Inflow Depth = 1.01" for 10-Year event
Inflow = 0.14 cfs @ 12.08 hrs, Volume= 0.012 af
Outflow = 0.14 cfs @ 12.08 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach R1:

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 0.31" for 10-Year event
Inflow = 0.06 cfs @ 12.37 hrs, Volume= 0.002 af
Outflow = 0.06 cfs @ 12.43 hrs, Volume= 0.002 af, Atten= 4%, Lag= 3.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.70 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 2.3 min

Peak Storage= 6 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 80.40 cfs

10.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 30.00'
Length= 70.0' Slope= 0.0214 '/'
Inlet Invert= 144.50', Outlet Invert= 143.00'

‡

Summary for Pond P1: Infiltration Basin

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 2.05" for 10-Year event
Inflow = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af
Outflow = 0.07 cfs @ 12.37 hrs, Volume= 0.014 af, Atten= 64%, Lag= 17.7 min
Discarded = 0.01 cfs @ 12.37 hrs, Volume= 0.012 af
Primary = 0.06 cfs @ 12.37 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 144.52' @ 12.37 hrs Surf.Area= 368 sf Storage= 221 cf

Plug-Flow detention time=203.1 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time=203.1 min (1,045.3 - 842.2)

Volume	Invert	Avail.Storage	Storage Description
#1	143.50'	525 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
143.50	96	0	0
144.00	206	76	76
144.50	346	138	214
145.00	900	312	525

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**9.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	143.50'	**1.420 in/hr Exfiltration over Surface area above 143.40'** Conductivity to Groundwater Elevation = 0.00' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.01 cfs @ 12.37 hrs HW=144.52' (Free Discharge)
└**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.06 cfs @ 12.37 hrs HW=144.52' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.06 cfs @ 0.33 fps)

Summary for Subcatchment 1S: South and West

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 2.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,125	39	>75% Grass cover, Good, HSG A
1,451	98	Paved parking, HSG A
2,576	72	Weighted Average
1,125		43.67% Pervious Area
1,451		56.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	40	0.0250	0.15		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.7	60	0.0333	1.47		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	45	0.0220	3.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.3	145	Total			

Summary for Subcatchment 2S: North

Runoff = 0.26 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
1,501	39	>75% Grass cover, Good, HSG A
2,024	98	Unconnected roofs, HSG A
27	98	Paved parking, HSG A
3,552	73	Weighted Average
1,501		42.26% Pervious Area
2,051		57.74% Impervious Area
2,024		98.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE 5 MIN OR GREATER**

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.141 ac, 57.15% Impervious, Inflow Depth = 1.54" for 25-Year event
Inflow = 0.24 cfs @ 12.21 hrs, Volume= 0.018 af
Outflow = 0.24 cfs @ 12.21 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

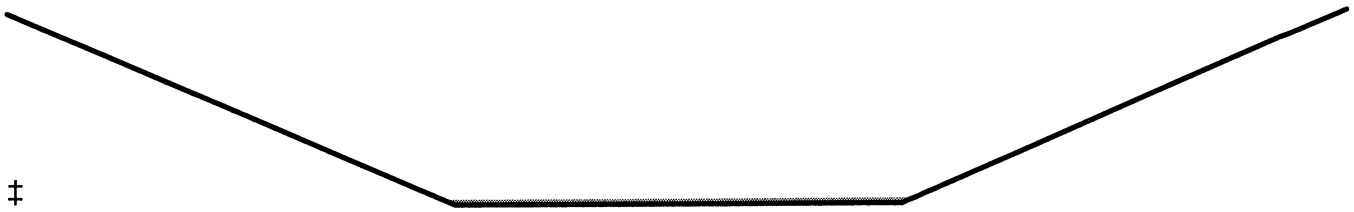
Summary for Reach R1:

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 0.78" for 25-Year event
Inflow = 0.15 cfs @ 12.17 hrs, Volume= 0.005 af
Outflow = 0.14 cfs @ 12.21 hrs, Volume= 0.005 af, Atten= 5%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.98 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 2.2 min

Peak Storage= 10 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.01'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 80.40 cfs

10.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 30.00'
Length= 70.0' Slope= 0.0214 '/'
Inlet Invert= 144.50', Outlet Invert= 143.00'



‡

Summary for Pond P1: Infiltration Basin

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 2.68" for 25-Year event
Inflow = 0.26 cfs @ 12.08 hrs, Volume= 0.018 af
Outflow = 0.16 cfs @ 12.17 hrs, Volume= 0.018 af, Atten= 38%, Lag= 5.7 min
Discarded = 0.01 cfs @ 12.17 hrs, Volume= 0.013 af
Primary = 0.15 cfs @ 12.17 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 144.54' @ 12.17 hrs Surf.Area= 387 sf Storage= 227 cf

Plug-Flow detention time= 172.6 min calculated for 0.018 af (100% of inflow)
Center-of-Mass det. time= 172.6 min (1,007.0 - 834.4)

Volume	Invert	Avail.Storage	Storage Description
#1	143.50'	525 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
143.50	96	0	0
144.00	206	76	76
144.50	346	138	214
145.00	900	312	525

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**9.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	143.50'	**1.420 in/hr Exfiltration over Surface area above 143.40'** Conductivity to Groundwater Elevation = 0.00' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.01 cfs @ 12.17 hrs HW=144.54' (Free Discharge)
└**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.15 cfs @ 12.17 hrs HW=144.54' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.15 cfs @ 0.45 fps)

APPENDIX G

CITY WASTEWATER CAPACITY APPLICATION

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: 6/25/205

Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail:fjb@portlandmaine.gov

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 93 Saint Lawrence Street

Chart Block Lot Number: G10NE/16D/10

Proposed Use: Multi-Family Housing

Previous Use: Parking

Existing Sanitary Flows: 0 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to receive the proposed building sewer lateral.

18" line located in Saint Lawrence St. south of the lot.

Site Category	
Commercial *(see part 4 below)*	
Industrial *(complete part 5 below)*	
Governmental	
Residential	X
Other *(specify)*	

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: Larry Gross

Owner/Developer Address: 91 Saint Lawrence St, Portland, ME

Phone: 207-232-1619 Fax: E-mail:

Engineering Consultant Name: Daniel P. Diffin, P.E.

Engineering Consultant Address: 4 Blanchard Rd, Cumberland, ME 04021

Phone: 207-829-5016 Fax: _____ E-mail: dpd@smemaine.com

(Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review)

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 630 GPD

Peaking Factor/ Peak Times: 6

Specify the source of design guidelines: *(i.e.__"Handbook of Subsurface Wastewater Disposal in Maine," __ "Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, X Other (specify)*

TR-16

(Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet)

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: _____

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: 0 GPD

Do you currently hold Federal or State discharge permits? Yes ____ No X

Is the process wastewater termed categorical under CFR 40? Yes ____ No X

OSHA Standard Industrial Code (SIC): *http://www.osha.gov/oshstats/sicser.html*

Peaking Factor/Peak Process Times: _____

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

Number of Bedrooms: 7
Daily Water Demand: 7 x 90 gallons/ day= 630 gallons/day
Peak Flow: 630 gallons/day x 6 = 3,780 gallons/ day 2.625 gal/min

APPENDIX H

PORTLAND WATER DISTRICT CAPACITY TO SERVE LETTER

Att. J

Portland Water District

From Sebago Lake To Casco Bay

June 11, 2015

Sevee & Maher Engineers, Inc.
4 Blanchard Road
P.O. Box 85A
Cumberland Center, ME 04021

Attn: Daniel Diffin, P.E.
Re: 91 St. Lawrence Street - Portland
Ability to Serve with PWD Water

Dear Mr. Diffin:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on May 13, 2015. Based on the information provided, we can confirm that the District will be able to serve the proposed project as further described in this letter.

Conditions of Service

The following conditions of service apply:

- New service(s) may be installed through the properties frontage on St. Lawrence Street. A single service line may be used to serve both domestic and fire protection needs. The split for the sprinkler service must be located after the water meter, and must include a non-testable backflow prevention device. The meter must be appropriately sized to accommodate the necessary flows for fire protection. Prior to activation of the water service, the sprinkler system designer must provide documentation of the sprinkler system demands.

- Please note that only one meter and one bill will be associated to each domestic service line. This one master meter would be located in a common space that all tenants could gain access to if necessary.

- Water District approval of water infrastructure plans will be required for the project prior to construction. As your project progresses, we advise that you submit any preliminary design plans to MEANS for review of the water main and water service line configuration. We will work with you to ensure that the design meets our current standards.

Existing Site Service

According to District records, the project site does not currently have existing water service.

225 Douglass Street . P.O. Box 3553 . Portland, Maine 04104-3553
Phone: 207.774.5961 . Fax: 207.761.8307 . Web: www.pwd.org

Water System Characteristics

According to District records, there is an 8-inch diameter cast iron water main on the southerly side of Saint Lawrence Street and a public fire hydrant located 100 feet from the site.

The current data from the nearest hydrant with flow test information is as follows:

Hydrant Location:	Saint Lawrence Street near Congress
Hydrant Number:	POD-HYD00406
Last Tested:	9/5/2014
Static Pressure:	50 psi
Residual Pressure:	Not Measured
Flow:	919 GPM

Public Fire Protection

It is not anticipated that this project will include the installation of new public hydrants to be accepted into the District water system. It is your responsibility to contact the Portland Fire Department to ensure that this project is adequately served by existing and/or proposed hydrants.

Domestic Water Needs

The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project.

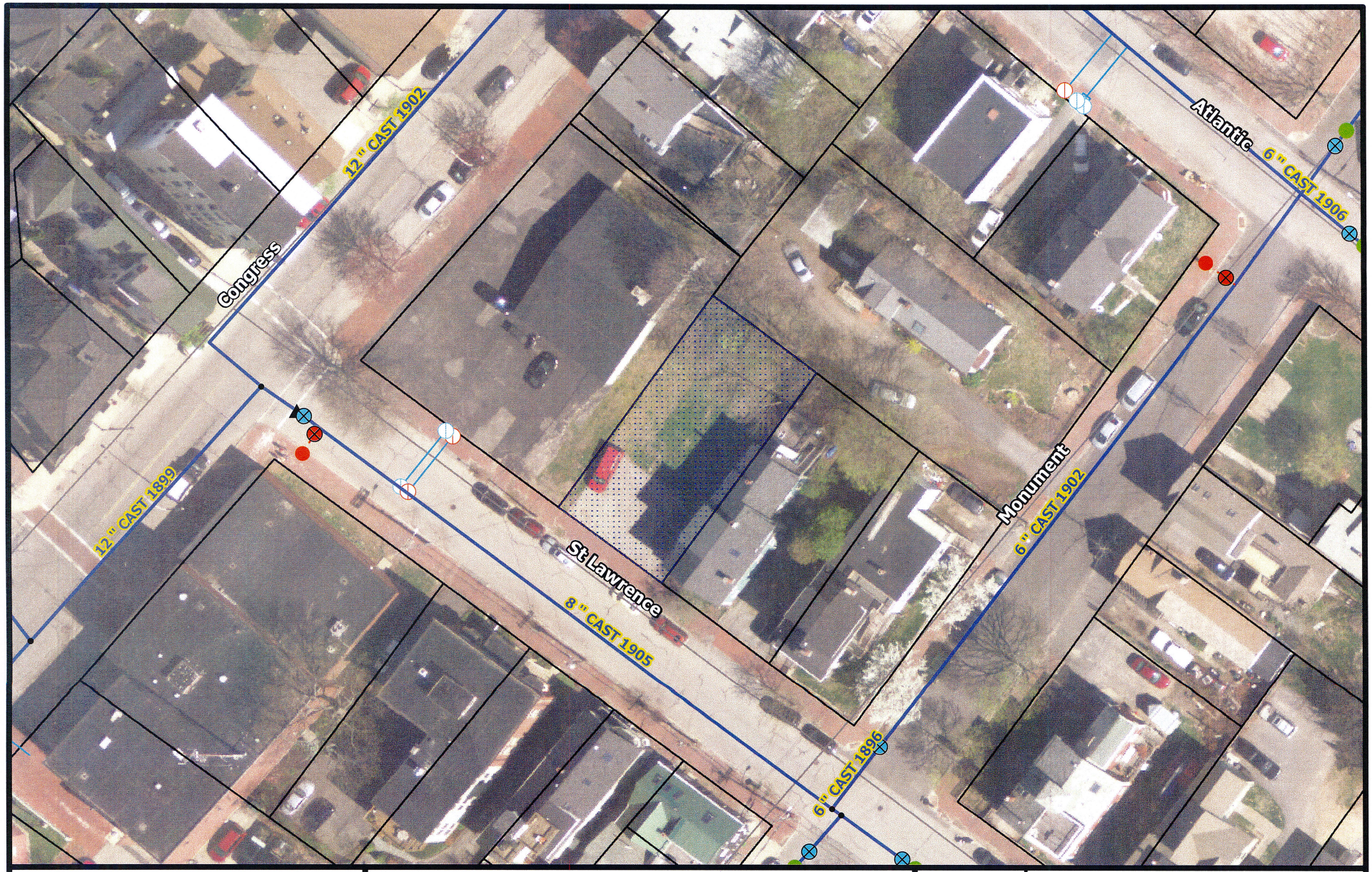
Private Fire Protection Water Needs

It is anticipated that this project will require water service to provide private fire protection to the site. Please note that the District does not guarantee any quantity of water or pressure through a fire protection service. Please share these results with your sprinkler system designer so that they can design the fire protection system to best fit the noted conditions. If the data is out of date or insufficient for their needs, please contact the MEANS Division to request a hydrant flow test and we will work with you to get more complete data.

If the District can be of further assistance in this matter, please let us know.

Sincerely,
Portland Water District

Glissen Havu, E.I.
Design Engineer



91 Saint Lawrence Street

Portland

PORTLAND WATER DISTRICT
225 Douglass Street
Portland, ME 04104

Scale 0 25 50 100 Feet — 1 inch = 50 feet

Legend

Air Valve	Connection	Combined Service	Manhole
Blow Off	Attribute Change	Domestic Service	CSO
By Pass	Reducer	Fire Service	Gravity
Distribution	Hydrant	Private Hydrants	Force
Transmission	Hydrant Control	Meter Pits	

N

Disclaimer: This map is suitable for preliminary study and analysis and is based on PWD record information. PWD is not liable for any damages whatsoever resulting from inaccurate data or from errors made in the location and marking of its infrastructure.

Drawn By: GJH	Prepared For: SME
Scale: As Noted	Date: June 12, 2015

Att. K

93 St. Lawrence Street – Voluntary Neighborhood Meeting – June 25, 2015

Meeting Notes

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1. Neighbors at the newly completed 118 Congress street property were surprised that this was a buildable lot. Architect explained how it met zoning under the R6 Zone.

2. Susan Koen expressed concern about balcony at rear of building, subsequent to meeting architect moved balcony to other side of building out of neighbors site line.

3. Neighbor Don Head expressed concern of roof height on upper mezzanine level. Owner would consider negotiating lowering of roof line.

4. Architect reviewed design with neighbors, no concerns with the exception of items noted above.

5. Owner explained that he would be living in upper unit and others would be rental units.

93 St. Lawrence Street - Voluntary Neighborhood Meeting - June 25, 2015

Sign In Sheet

Leslie Moore	91 St. Lawrence St. #2 Portland, ME 04101
SUSAN L. KOEN	118 CONGRESS ST #204 PORTLAND, ME 04101
Greg Wilbert Francine O'Donnell	90/92 ST. Lawrence st Portland, ME 04101
Caron Zand / Don Head	118 Congress St. #403 Portland, ME
Larry & Jill Nixon	118 Congress St #402 Portland, ME 04101
Philip Saucier	203 Cole Street, Portland
Christopher Lee	91 St Lawrence Street
Deidre Nice	

Neighbors invited to the June 25,2015 meeting at the St Lawrence Arts Center

St Lawrence Street

Christopher Coose and Lisa Silverman (#85)
Gregory Wilfert and Francine O'Donnell (#90/92)
Gina Tanguay (#94)
Peter Edwards (#94-2)
Robert Tate and Elke Muller (#94-3)
William and Eliza Ginn (#96-1&2)
Christopher Lee (#91-4)
Leslie Moore (#91-2)
Roger Freedman (#91-1)

Monument Street

Esther Morrow (#25)
Matthew Anderson and Esmeralda Ulloa (#43)
Christopher Akerlind (#44)

Congress Street

Chip Newell and Susan Morris (#118, unit 401)
Donald Head and Caron Zand (#118, unit 403)
Susan Koen and Barbara Beckelman (#118, unit 204)
118 Condo LLC (addressed to "occupants")

We also met privately on June 7th with the 118 Congress Street developers, Chip Newell, Susan Morris and Ed Theriault at the Newell/Morris residence to review our concept drawings and obtain their advice for reaching the other 118 tenants, since most units were unoccupied. We were instructed to send our invitation to the developers to forward to tenants.

Att. L

From: David Lloyd <lloyd@archetypepa.com>
To: Shukria Wiar <SHUKRIAW@portlandmaine.gov>
Date: 9/8/2015 2:05 PM
Subject: 93 st Lawrence St accessibility review

Shukria

I would like to submit our code review in regards to handicap accessibility for the 93 St Lawrence St project for your records . They are as follow:

The building has 4 units and therefore Fair Housing applies and the Maine Human Rights Act applies (4582-C, 1.c. (1) & (2).

Both Fair Housing and Maine Human Rights Act stipulate that in a new apartment building of 4 or more units, the Ground Floor units, or all the units if there is an elevator, must comply with the provisions of Fair Housing and ANSI 117.1 Type B units.

The ground floor units must comply regardless of there being an elevator. The elevator provided is not a commercial elevator but is a Residential Elevator and serves only the single Third Floor unit. This Residential Elevator does not provide an accessible route as it is too small for a person in a wheelchair to enter and exit (no wheelchair turning space) and too small for a wheelchair and an assistant to both fit in. Therefore the building cannot be considered to have an elevator and only the Ground Floor units need to comply with the provisions of Fair Housing and the Maine Human Rights Act.

The Ground Floor unit - Unit 1, and the route into the building to reach the unit, will be designed to meet the requirements of both codes. This will entail the following:

(1) Access to the unit and within the unit is readily accessible to and usable by people with physical or mental disabilities;

(2) All the doors designed to allow passage into and within the unit are sufficiently wide to allow passage by persons in wheelchairs; and

(3) The unit contains the following features of adaptive design:

(a) An accessible route into and through the unit;

(b) Light switches, electrical outlets, thermostats and other environmental controls in accessible locations;

(c) Reinforcements in bathroom walls to allow later installation of grab bars; and

(d) Usable kitchens and bathrooms such that an individual in a wheelchair can maneuver about the space

Respectfully submitted

David

David Lloyd

Architect
Archetype, P.A.
48 Union Wharf
Portland, ME 04101
Tele: (207) 772-6022
Fax: (207) 772-4056

Cell: (207) 831-8627
lloyd@archetypepa.com
http://www.archetype-architects.com

SME
Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

September 14, 2015

15086.00
20150911resp

Shukria Wiar
Planning Division
City of Portland
389 Congress Street
Portland, Maine 04101

Subject: Application ID 2015-120
93 St. Lawrence Street
Larry Gross and Barbara Colby
Response to City Staff Comments

Dear Ms. Wiar:

On behalf of Larry Gross and Barbara Colby (Applicants), Sevee & Maher Engineers, Inc. (SME) has prepared this response to comments made by City staff in regards to the multi-family building proposed at 93 St. Lawrence Street. Comments from City Staff were provided in an email dated August 27, 2015. The comments and associated responses are detailed below.

PLANNING DEPARTMENT – Shukria Wiar

1. **Subdivision Plat shall be submitted for review. The Plat shall show all easements (existing and proposed) on site.**

   SME Response: A Subdivision Plat has been prepared and is included on Drawing C-101A in the drawing set.

2. **Photometric and lighting plan needs to be replaced, as well as catalogue cuts.**

   SME Response: Site lighting will be provided with light fixtures near the building entryways as shown on the Architectural Plans.

3. **Landscaping Plan will need to be submitted.**

4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021 • Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

SME Response: The Landscaping Plan L.1 is included in the resubmitted drawing set.

4. **Sidewalks will need to be replaced along the whole frontage.**

   SME Response: Drawing C-101 has been revised to indicate new sidewalk pavers and curbing along the whole frontage of the property.

5. **Street trees will need to be installed; requirement is one tree per unit, therefore fours streets are required. If there is not space along the frontage, then the applicant can request a waiver and make a contribution to the City's Tree Fund of $200 per tree. The preference is that there be attempt to plant the trees.**

   SME Response: There is inadequate spacing along the front of the property to accommodate four street trees. The Applicant requests a waiver from the installation of four street trees and proposes to provide one street tree and $600 to the City's Tree Fund.

6. **Why is the tree box being removed in front of the proposed building?**

   SME Response: The tree box in front of the proposed building is being replaced with a new tree box better centered on the building and to provide more consistent spacing between existing street trees.

7. **There seems to be curbing missing in front of the proposed building; this will need to be replaced.**

   SME Response: Curbing will be provided along the whole frontage of the property as revised on Drawing C-101.

8. **The site plan reference a landscaping plan, a landscaping plan has not been submitted.**

   SME Response: The Landscaping Plan L.1 is included in the resubmitted drawing set.

9. **The following zoning notes are incorrect and needs to be corrected:**
   #2: correct the CBL number
   #3: zoning district is Residential R-6 not RG

#8; "...existing services in School Street..." This project in on St. Lawrence and the services is coming off of this street.
Front yard setback is 5 feet not 4 feet.
Minimum street frontage-provide what is being proposed. The frontage is not > 20 feet, as stated on the plans.

SME Response: The CBL number has been revised per the City's parcel viewer, the Zoning District has been revised and the street name has been corrected. The Front Yard has been revised as 5-feet and the proposed frontage has been added to the notes.

FIRE DEPARTMENT – Keith Gautreau:

1. **Premises Identification - The main entrance of the building must be the address for the property. This should be consistent with 911, tax assessor, Inspections Division and future mailing address. Street addresses shall be marked on the structure and shall be as approved by the City E-911 Addressing Officer. If the building entry faces a different street, both the street name and number should be large enough to read from the street. Address numbers must be a minimum of 4 inches high.**

   SME Response: Large lettering demarcating the street number (93) has been added to the Front (West) Elevation as shown on Drawing A2.01.

2. **Hydrant is close by at St. Lawrence & Congress. All new construction shall be sprinkled in accordance with NFPA 13R. All construction and installation shall comply with City Code Chapter 10. http://www.portlandmaine.gov/citycode/chapter010.pdf**

   SME Response: The building will be sprinkled in accordance with City Code Chapter 10.

3. **Site access is good to two side of the proposed structure.**

   SME Response: No response necessary.

DEPARTMENT OF PUBLIC SERVICES/ENGINEERING – Dave Margolis-Pineo:

1. **Please add note to sheet C-100 stating that all work within the street right of way shall meet City of Portland Technical Manual standards.**

   SME Response: General Site Note #5 was added to Drawing C-100 in accordance with the comment.

2. **The plans propose connecting the development's sanitary sewer lateral into a manhole in the street. No manhole exists at that location. Please show the lateral connecting directly into the sewer main in the street using acceptable City standards.**

   SME Response: The sewer lateral connection was revised on Drawing C-101 to tie into the sewer main with a tee/wye connection.

3. **The existing sidewalk a curbing abutting this project is in poor condition. The applicant is request to re-set the granite curbing and replace the brick walk meeting all City standards where possible.**

   SME Response: Drawing C-101 has been revised to indicate new sidewalk pavers and curbing along the whole frontage of the company.

4. **Survey comments will be submitted under a separate cover.**

   SME Response: No response necessary.

5. **The Wastewater Capacity Application is currently being reviewed and will be acted on shortly.**

   SME Response: No response necessary.

CIVIL ENGINEERING PEER REVIEW – David Senus:

1. **The Applicant has provided a letter from the Portland Water District confirming capacity to serve the proposed development and awaits a response from the Department of Public Services related to capacity to serve wastewater; confirmation of capacity to serve wastewater should be forwarded to the Planning Office upon receipt.**

SME Response: SME will forward the letter to the Planning Office when received.

2. **In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We offer the following comments:**
   a. **Basic Standard: Plans, notes, and details have been provided to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B, & C of MaineDEP Chapter 500.**
   b. **General Standards: The project will result in a net increase in impervious area of approximately 1,864 square feet. As such, the project is required to include stormwater management features for stormwater quality control. The Applicant has proposed an infiltration basin to treat a sufficient amount of impervious area; however, the following comments should be addressed per Chapter 6 of Volume III of the MaineDEP Stormwater BMP Manual:**
      i. **The Applicant should provide calculations demonstrating that the proposed basin has been properly designed and sized to accommodate one inch of runoff over the impervious area, including water quality volume calculations and the storage depth for a required recovery time.**

      SME Response: The Water Quality Volume calculations that demonstrate the sizing of the infiltration basin are attached to this comment response letter. The basin is appropriately sized following the design guidelines in Chapter 6 of Volume III of the Maine Department of Environmental Protections Stormwater BMP Manual. The infiltration basin will completely drain within 72 hours of a runoff event. Calculations are attached to this comment response letter.

   c. **Flooding Standard: The project will result in a net increase in impervious area of approximately 1,864 square feet and is located in an area that drains to the City's combined sewer. As such, the project is required to include stormwater management features to control the rate of stormwater runoff from the site. The Applicant is proposing to infiltrate some of the stormwater that falls on the site; however, their stormwater model predicts a slight increase in the rate of runoff being directed towards St. Lawrence Street. We request that he Applicant evaluate**

additional storage capacity for the infiltration basin, potentially below grade, to further reduce runoff potential from the site (to at least match existing conditions), or conduct a soil infiltration test at the site and reevaluate the model based on potentially higher infiltration rates.

SME Response: The infiltration basin has been enlarged to reduce the quantity of stormwater runoff towards St. Lawrence Street. The results are included in Table 1.

TABLE 1

STORMWATER QUANTITY SUMMARY

AP	2-yr Storm		10-yr Storm		25-yr Storm	
	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)	Pre- (cfs)	Post- (cfs)
1	0.01	0.05	0.11	0.14	0.17	0.18

SME revised the HydroCAD model and the post-development peak flows during the 25-year storm have been reduced to an insignificant 0.01 cubic feet per second (cfs) increase at Analysis Point 1 (AP1). The post-development peak flows during the 2- and 10-year storms have not changed as a result of the additional infiltration area and still show an increase of 0.04 cfs and 0.03 cfs, respectively.

The flows during the 2- and 10-year storms are from the parking area near the front of the property not captured in the infiltration basin. SME feels that these minor increases in runoff to St. Lawrence Street will not adversely affect the City's stormwater infrastructure. A revised stormwater quantity summary from the Stormwater Management Plan is located in Table 1. Updated stormwater calculations are included in this comment response letter.

3. **The Stormwater Management Plan should include a stormwater inspection and maintenance plan developed in accordance with and in reference to MaineDEP Stormwater BMP Manual Maintenance Criteria and Chapter 32 of the City of Portland Code of Ordinances.**

   SME Response: A Post Construction Stormwater Management Plan has been prepared and is attached to this comment response letter.

4. **In accordance with Section 2.3.4 of the City of Portland Technical Manual, service laterals shall not connect to sanitary manholes; in accordance**

with Section 2.6.7, building sewers shall be connected to the main sanitary sewer line by the use of wyes, tee/wyes, Inserta-Tees or similar approved methods as determined by the Department of Public Services.

SME Response: The sewer lateral connection was revised on Drawing C-101 to tie into the sewer main with a tee/wye connection. A connection detail was added to Drawing C-301 in accordance with City of Portland Technical Standards.

5. **In accordance with Section 2.6.9 of the City's Technical Manual, all new (sewer) laterals connecting to a combined sewer system shall have a back water valve. The back water valve should be located on private property and a detail should be provided.**

   SME Response: A back water valve was added to Drawing C-101 on the Applicant's property.

6. **The Applicant should provide details for the pavement repair work in St. Lawrence Street and brick sidewalk in accordance with the City of Portland Technical Manual for work within the Right-of-Way; additionally, the Vertical Granite Curb Section and Brick Driveway Apron with Bituminous Base details should comply with the City of Portland Technical Manual.**

   SME Response: Details for the pavement repair and brick sidewalk have been added to Drawing C-301. The Vertical Granite Curb Section and Brick Driveway Apron with Bituminous Base details have been updated to comply with the City of Portland Technical Manual.

7. **The Applicant should provide details for the proposed patio and site walkway.**

   SME Response: Details for the proposed patio and site walkway are included on the Landscape Plan L.1.

R-6 DESIGN REVIEW – Caitlin Cameron:

David Lloyd from Archetype met with Caitlin Cameron, city planner to review design comments. Per our discussion we removed the front door leading to the garage, separated the lattice from the building so that it is now free standing, redesigned street façade with clearstory windows into garage space and eliminated horizontal band trim, added a

distinguishing bollard at walkway entry to side door and reviewed walkway details from street to side entry showing the granite slab at entry to walkway.

The comments and further design development of the building have led to revisions to the preliminary plans, therefore, a revised drawing set is attached. If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Daniel P. Diffin, P.E., LEED AP BD+C
Project Manager

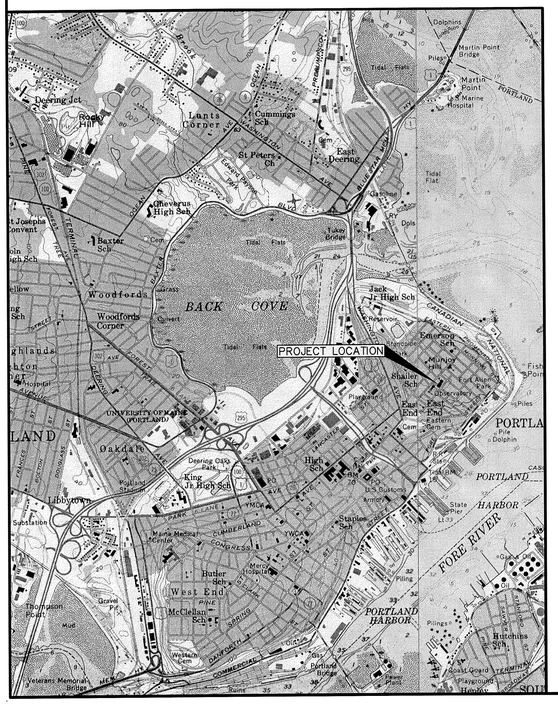
Attachments: Revised Drawings
Updated Stormwater Calculations
Post Construction Stormwater Management Plan

REVISED DRAWINGS

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND AND ABBREVIATIONS AND EXISTING CONDITIONS AND DEMOLITION PLAN	C-100
SITE PLAN	C-101
SUBDIVISION PLAT	C-101A
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
STORMWATER MANAGEMENT PLAN	D-100
1st FLOOR PLAN	A1.01
2nd FLOOR PLAN	A1.02
3rd FLOOR PLAN	A1.03
ROOF & MEZZANINE PLAN	A1.04
REAR (EAST) ELEVATION / FRONT(WEST) ELEVATION	A2.01
SIDE (SOUTH) ELEVATION	A2.02
SIDE (NORTH) ELEVATION	A2.03
BOUNDARY & TOPOGRAPHIC SURVEY	1
LANDSCAPE PLAN	L.1

LOCATION MAP



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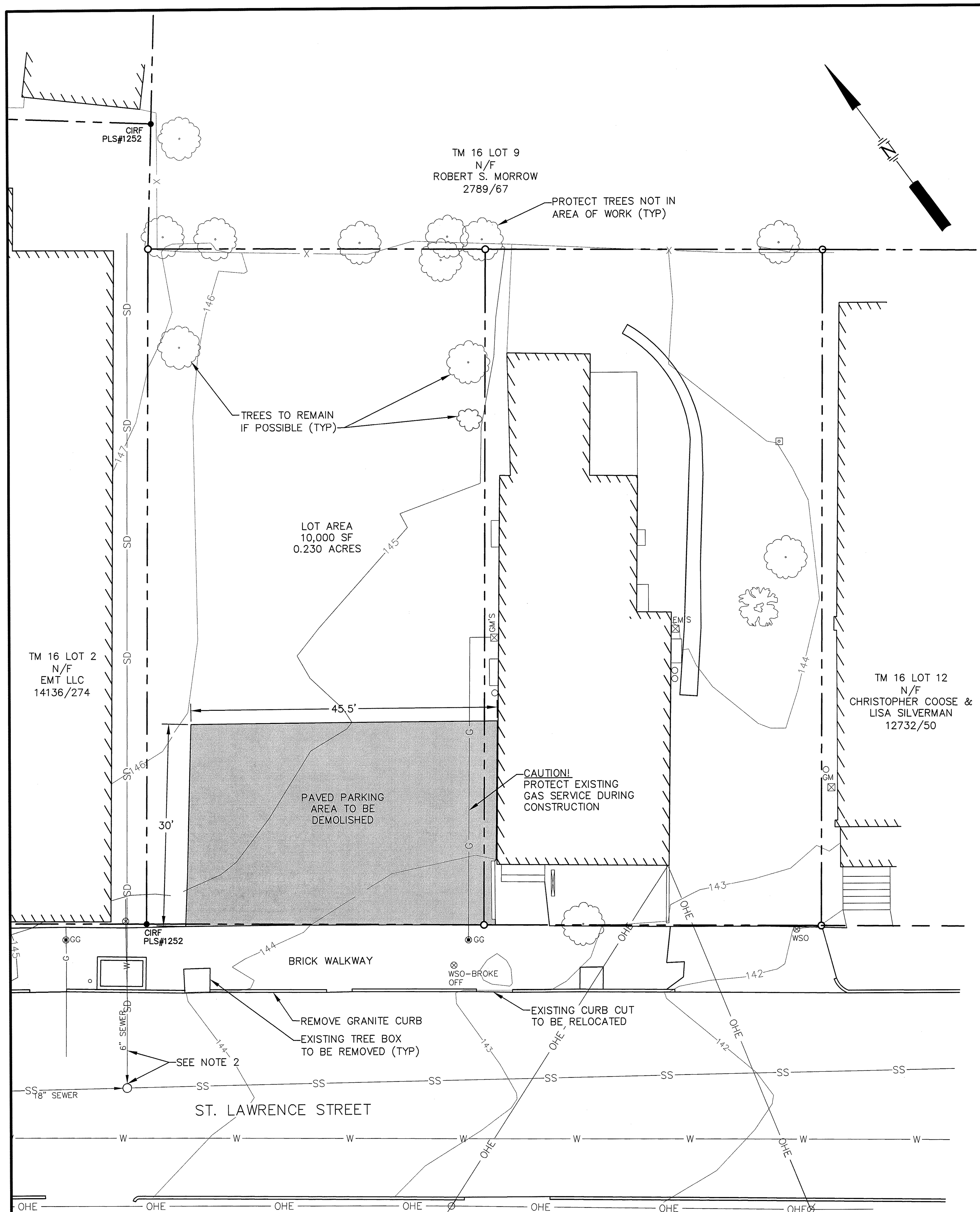


NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014.
2. SITE FEATURES FROM PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

5 0 10 20 FEET

GENERAL SITE NOTES:

1. RELOCATE EXISTING TBM INFORMATION ONTO NEW TBM OF CONTRACTORS CHOICE FOR CONSTRUCTION USE PRIOR TO REMOVAL OF EXISTING TBM.
2. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION, AND SHALL NOT BE REMOVED FROM THE SITE. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR.
3. DIMENSIONS ARE TO FACE OF CURB AND TO FACE OF FOUNDATION UNLESS OTHERWISE INDICATED.
4. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS PROVIDE TACK COAT LAYER AS SPECIFIED.
5. ALL WORK WITHIN STREET RIGHT-OF-WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.

GRADING NOTES:

1. ADD 6" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE, EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

UTILITY NOTES:

1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. PLACE 4 FOOT WIDE BY 2 INCH THICK TRENCH INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 4 FEET. PLACE INSULATION ALSO BETWEEN SEWER LINE AND STORM DRAIN OR BETWEEN WATER LINE AND STORM DRAIN WHERE SEPARATION IS LESS THAN 5 FEET.
3. PROVIDE AT LEAST 5 FEET OF SOIL COVER OVER WATER LINES. SURROUND WATER PIPE WITH 6 INCHES OF CONCRETE ENCASEMENT, REINFORCED WITH WWF, AT CROSSINGS OF SEWER LINES UNLESS WATER IS ABOVE BY 18 INCH CLEARANCE. ENCASEMENT TO EXTEND 10 FEET BEYOND SEWER LINE IN BOTH DIRECTIONS.
4. PROVIDE CONCRETE THRUST BLOCKING FOR WATER LINES ACCORDING TO THE TABLE ON THE DETAIL SHEET.
5. CLEAN SEDIMENTS FROM NEW AND EXISTING STORM DRAIN PIPES AND CATCH BASINS.
6. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND CITY ROAD DEPARTMENT.
7. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
8. RESET RIMS OF EXISTING UTILITY STRUCTURES, MANHOLES AND CATCH BASINS TO NEW GRADE.

TYPICAL ABBREVIATIONS:

ACCMP	ASPHALT COATED CMP
ACP	ASBESTOS CEMENT PIPE
AC	ACRE
AGG	AGGREGATE
ALUM	ALUMINUM
APPD	APPROVED
APPROX	APPROXIMATE
ARMH	AIR RELEASE MANHOLE
ASB	ASBESTOS
ASP	ASPHALT
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AZ	AZIMUTH
BCCMP	BITUMINOUS COATED CMP
BM	BENCH MARK
BIT	BITUMINOUS
BLDG	BUILDING
BOT	BOTTOM
BRG	BEARING
BV	BALL VALVE
CB	CATCH BASIN
CEN	CENTER
CEM LIN	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CS	CURB STOP
CTR	CENTER
CU	COPPER
CY	CUBIC YARD
D	DEGREE OF CURVE
DBL	DOUBLE
DEG OR °	DEGREE
DEPT	DEPARTMENT
DI	DUCTILE IRON
DIA OR ø	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DN	DOWN
DR	DRAIN
DWG	DRAWING

EA	EACH
EG	EXISTING GROUND OR GRADE
ELEC	ELECTRIC
EL	ELEVATION
ELB	ELBOW
EOP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EST	ESTIMATED
EXC	EXCAVATE
EXIST	EXISTING
FI	FIELD INLET
FG	FINISH GRADE
FBRGL	FIBERGLASS
FDN	FOUNDATION
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPS	FEET PER SECOND
FT OR '	FEET
FTG	FOOTING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HYD	HYDRANT
ID	INSIDE DIAMETER
IN OR "	INCHES
INV	INVERT
INV EL	INVERT ELEVATION
LB	POUND
LC	LEACHATE COLLECTION
LD	LEAK DETECTION
LF	LINEAR FEET
LOC	LOCATION
LT	LEACHATE TRANSPORT
MH	MANHOLE
MJ	MECHANICAL JOINT
MATL	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT

NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/F	NOW OR FORMERLY
NO OR #	NUMBER
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	POINT OF CURVE
PD	PERIMETER DRAIN
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PT	POINT OF TANGENT
PERF	PERFORATED
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RAD	RADIUS
REQD	REQUIRED
RT	RIGHT
RTE	ROUTE
S	SLOPE
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SMH	SANITARY MANHOLE
ST	STREET
STA	STATION
SY	SQUARE YARD
TAN	TANGENT
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPORARY
TYP	TYPICAL
UD	UNDERDRAIN
V	VOLTS
VA TEE	VALVE ANCHORING TEE
VGC	VERTICAL GRANITE CURB
VERT	VERTICAL
WG	WATER GATE
W/	WITH
W/O	WITHOUT
YD	YARD

DIG SAFE NOTES:

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

1. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
2. CALL DIG SAFE AT 811 AT LEAST THREE BUSINESS DAYS – BUT NO MORE THAN 30 CALENDAR DAYS – BEFORE STARTING WORK. DO NOT ASSUME SOMEONE ELSE WILL MAKE THE CALL.
3. IF BLASTING, NOTIFY DIG SAFE AT LEAST ONE BUSINESS DAY IN ADVANCE.
4. WAIT THREE BUSINESS DAYS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
5. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.) FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
6. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS OF INITIAL NOTIFICATION, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
7. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
8. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
9. FOR COMPLETE DIG SAFE REQUIREMENTS, CALL THE PUBLIC UTILITIES COMMISSION (PUC) OR VISIT THEIR WEBSITE.
10. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
11. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED OR IF LINES ARE IMPROPERLY MARKED, YOU MUST FILE AN INCIDENT REPORT WITH THE PUC FOR AN INCIDENT REPORT FORM VISIT WWW.STATE.ME.US/MPUC OR CALL THE PUC AT 1-800-452-4699.

LEGEND

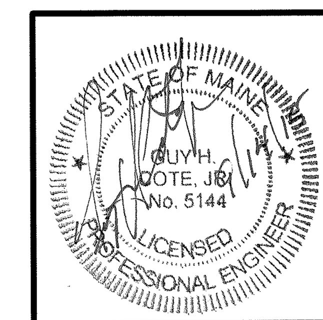
EXISTING / PROPOSED

PROPERTY LINE
BUILDING
EDGE OF PAVEMENT
CURB
CONTOUR (100)
SPOT GRADE (114.23)
FENCE (X)
STORM DRAIN (SD)
UNDERDRAIN (UD)
CATCH BASIN
DRAINAGE MANHOLE
SANITARY SEWER LINE (SS)
SANITARY SEWER MANHOLE
UTILITY POLE
UNDERGROUND UTILITY (UGU)
OVERHEAD UTILITY (OHE)
LIGHT POLE
WALL MOUNTED LIGHT
WATER LINE (W)
WATER GATE VALVE.
HYDRANT
GAS LINE (G)
SIGN
RIPRAP
HEADWALL
RETAINING WALL
TREELINE
TEST PIT (TP12-11)
BORING (SB13-102)
AUGER PROBE (A13-108)
CONCRETE
CRUSHED STONE

EROSION CONTROL LEGEND

CATCH BASIN PROTECTION WITH SILTSACK
SILT FENCE (SF)
CHECK DAM
STABILIZED ENTRANCE

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW



4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

GENERAL NOTES, LEGEND AND ABBREVIATIONS AND EXISTING CONDITIONS AND DEMOLITION PLAN

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Sevee & Maher Engineers, Inc.
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Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: EXCON
CTB: SME-STD

JOB NO. 15086.00 DWG FILE BASE

C-100

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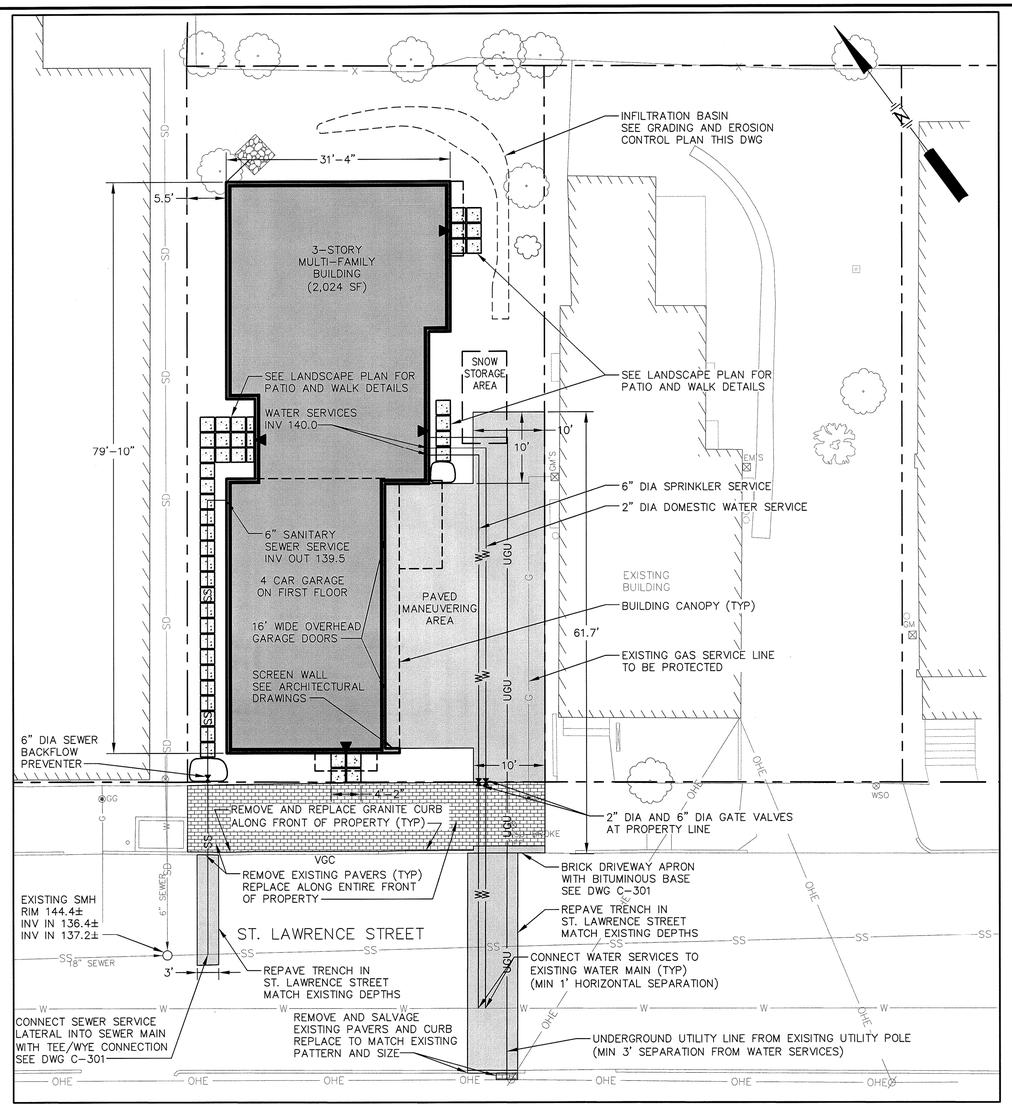
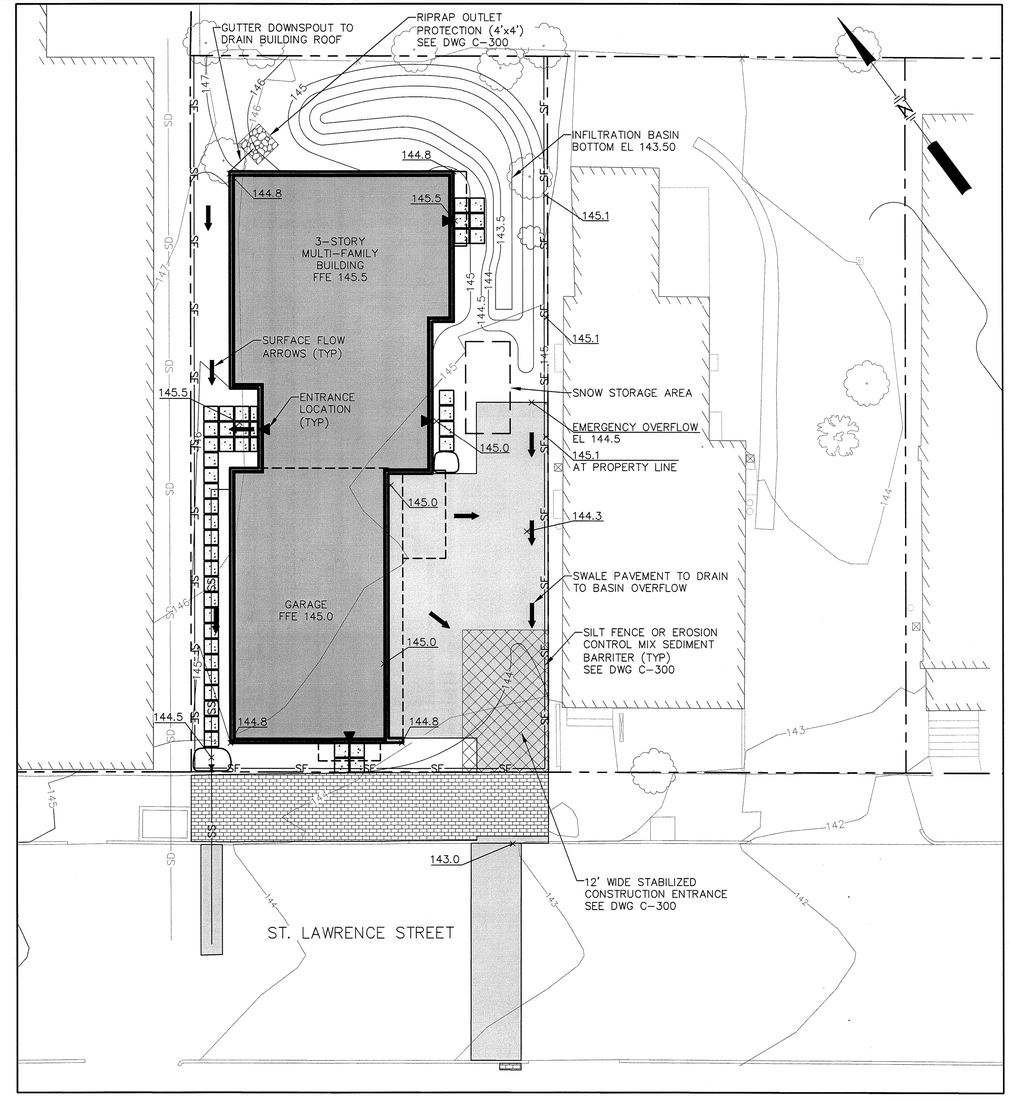


SITE AND UTILITY PLAN

5 0 10 20 FEET



GRADING AND EROSION CONTROL PLAN

5 0 10 20 FEET

NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014 AND PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE
GUY H. COTE JR.
No. 5144
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SITE PLAN

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DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: SITE/GRADING
CTB: SME-STD

JOB NO. 15086.00 DWG FILE BASE

C-101

ZONING NOTES:

1. PROPERTY OWNER/APPLICANT:
   LARRY GROSS AND BARBARA COLBY
   91 SAINT LAWRENCE STREET
   PORTLAND, MAINE

2. LOT INFORMATION – CHART/BLOCK/LOT: 016D010

3. ZONING DISTRICT: R6 – RESIDENTIAL 6 AND B–1 NEIGHBORHOOD BUSINESS ZONE

4. ZONING REQUIREMENTS: DIMENSIONAL STANDARDS TO BE IN ACCORDANCE WITH THE APPROVED ZONE AS SHOWN BELOW:

DIMENSIONAL STANDARDS

	REQUIRED (R6)	REQUIRED (B–1)	PROVIDED
MINIMUM LOT SIZE	2,000 SF	NONE	5,000 SF
MINIMUM LOT AREA PER DWELLING	725 SF	725 SF	1,250 SF
MINIMUM STREET FRONTAGE	20 FEET	20 FEET	>50 FEET
MINIMUM FRONT YARD SETBACK	5 FEET	10 FEET OR AVG OF ADJACENT BUILDING	5 FEET
MINIMUM SIDE SETBACK	5 FEET	NONE	5.5 FEET
MINIMUM REAR SETBACK	10 FEET	NONE	16 FEET
MAXIMUM BUILDING HEIGHT	45 FEET	45 FEET	43.5 FEET
MAXIMUM LOT COVERAGE	60%	90%	40%

BUILDING	2,024 SF (40%)
PAVEMENT	1,150 SF (23%)
OPEN SPACE	1,826 SF (37%)
TOTAL LOT SIZE	5,000 SF (100%)

5. PROPOSED USE: 4–UNIT APARTMENT BUILDING WITH 4 CAR GARAGE

6. THERE ARE NO WETLANDS, FLOODPLAINS OR SHORELAND ZONING ON THE PROPERTY.

7. PARKING SUMMARY:

   REQUIRED PARKING
   PARKING RATIO: 1 SPACES/UNIT

TOTAL: 4 SPACES

   PROVIDED PARKING
   PARKING GARAGE: 4 SPACES

8. SITE UTILITIES WILL BE PROVIDED FROM EXISTING SERVICES IN ST. LAWRENCE STREET AS FOLLOWS:

ELECTRIC/COMMUNICATIONS:	EXISTING SERVICE
WATER SUPPLY:	PORTLAND WATER DISTRICT
SEWER SERVICE:	CITY OF PORLAND
NATURAL GAS:	MAINE NATURAL GAS

SURVEYOR'S NOTES

1. OWNER OF RECORD: LAWRENCE W. GROSS
   C.C.R.D. BOOK 17303 PAGE 310, BOOK 30580 PAGE 89

2. LOCUS IS SHOWN AT LOT 16–D–10 & 11 ON THE CITY OF PORTLAND'S ASSESSORS MAPS.

3. BEARINGS ARE MAGNETIC 1926, PER PLAN REFERENCE #2.

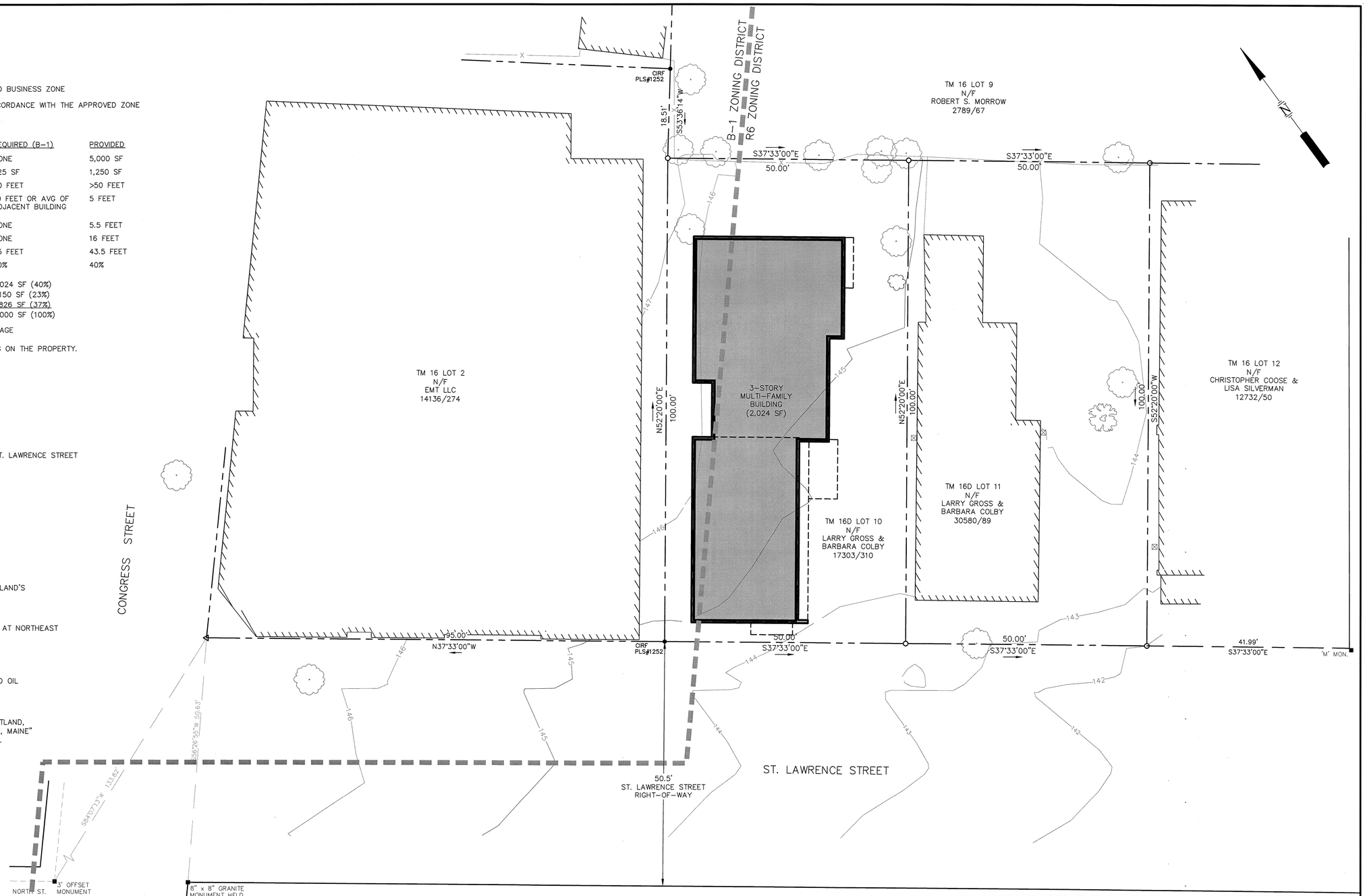
4. ELEVATIONS ARE BASED ON CITY DATUM, BASED ON MONUMENT AT NORTHEAST CORNER OF NORTH AND CONGRESS STREETS, ELEV. 146.69'.

PLAN REFERENCE

1. "PLAN OF LAND IN PORTLAND, MAINE" SURVEYED FOR STANDARD OIL COMPANY OF NEW YORK DECEMBER 1926 BY E.C. JORDAN CO.

2. CITY WORKING PLANS 25, 140, 148, DATED 1924 AND 1925.

3. "STANDARD BOUNDARY SURVEY ON 118 CONGRESS STREET, PORTLAND, MAINE MADE FOR THERIAULT/LANDMANN ASSOCIATES, PORTLAND, MAINE" DATED JULY 13, 1998 REV. 3 10–31/13 BY OWEN HASKELL, INC.



CITY OF PORTLAND PLANNING BOARD

DATE

5 0 10 20 FEET

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS

STATE OF MAINE
GARY W. LOTE JR.
No. 5140
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SUBDIVISION PLAT

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LMN:	SUBDIVISION
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JOB NO. 15086.00 DWG FILE BASE

C–101A

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A. GENERAL

1. All soil erosion and sediment control will be done in accordance with: (1) the Maine Erosion and Sediment Control Handbook: Best Management Practices, Maine Department of Environmental Protection (MEDEP), March 2003

2. The site contractor (to be determined) will be responsible for the repair/replacement/maintenance of all erosion control measures until all disturbed areas are stabilized.

3. Disturbed areas will be permanently stabilized within 7 days of final grading. Disturbed areas not to be worked upon within 14 days of disturbance will be temporarily stabilized within 7 days of the disturbance.

4. In all areas, removal of trees, bushes and other vegetation, as well as disturbance of topsoil will be kept to a minimum while allowing proper site operations.

5. Any suitable topsoil will be stripped and stockpiled for reuse as directed by the owner. Topsoil will be stockpiled in a manner such that natural drainage is not obstructed and no off-site sediment damage will result. In any event, stockpiles will not be located within 100 feet of wetlands and will be at least 50 feet upgradient of the stockpile's perimeter silt fence. The sideslopes of the topsoil stockpile will not exceed 2:1. Silt fence will be installed around the perimeter of all topsoil stockpiles. Topsoil stockpiles will be surrounded with siltation fencing and will be temporarily seeded with Aroostook rye, annual or perennial ryegrass within 7 days of formation, or temporarily mulched.

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

A crushed stone stabilized construction entrance/exit will be placed at any point of vehicular access to the site, in accordance with the detail shown on this sheet.

2. SILT FENCE

a. Silt fence will be installed prior to all construction activity, where soil disturbance may result in erosion. Silt fence will be erected at locations shown on the plans and/or downgrading of all construction activity.

b. Silt fences will be removed when they have served their useful purpose, but not before the upgradient areas have been permanently stabilized.

c. Silt fences will be inspected immediately after each rainfall and at least daily during prolonged rainfall. They will be inspected if there are any signs of erosion or sedimentation below them. Any required repairs will be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind them, they will be replaced with a temporary crushed stone check dam.

d. Sediment deposits will be removed after each storm event if significant build-up has occurred or if deposits exceed half the height of the barrier.

3. STONE CHECK DAMS

Stone check dams will be installed in grass-lined swales and ditches during construction.

4. BARK MULCH SEDIMENT BARRIER

a. Where approved, bark mulch sediment barriers may be used as a substitute for silt fence. See the details in this drawing set for specifications.

b. Rock Filter Berms: To provide more filtering capacity or to act as a velocity check dam, a berm's center can be composed of clean crushed rock ranging in size from the french drain stone to riprap.

5. TEMPORARY SEEDING

Stabilize disturbed areas that will not be brought to final grade for a year or less and reduce problems associated with mud and dust production from exposed soil surface during construction with temporary vegetation.

6. TEMPORARY MULCHING

Use temporary mulch in the following locations and/or circumstances:
- In sensitive areas (within 100 feet of streams, wetlands and in lake watersheds) temporary mulch will be applied within 7 days of exposing spill or prior to any storm event.
- Apply temporary mulch within 14 days of disturbance or prior to any storm event in all other areas.
- Areas, which have been temporarily or permanently seeded, will be mulched immediately following seeding.
- Areas which cannot be seeded within the growing season will be mulched for over-winter protection and the area will be seeded at the beginning of the growing season.
- Mulch can be used in conjunction with tree, shrub, vine, and ground cover plantings.
- Mulch anchoring will be used on slopes greater than 5 percent in late fall (past October 15), and over-winter (October 15 - April 15).

The following materials may be used for temporary mulch:

a. Hay or Straw material shall be air-dried, free of seeds and coarse material. Apply 2 bales/1,000 sf or 1.5 to 2 tons/acre to cover 90% of ground surface.

b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
- on slopes 2 horizontal to 1 vertical or less;
- on frozen ground or forested areas; and
- at the edge of gravel parking areas and areas under construction.

c. Erosion control mix alone is not suitable:
- on slopes with groundwater seepage;
- at low points with concentrated flows and in gullies;
- at the bottom of steep perimeter slopes exceeding 100 feet in length;
- below culvert outlet aprons; and
  around catch basins and closed storm systems.

d. Chemical Mulches and Soil Binders: Wide ranges of synthetic spray-on materials are marketed to protect the soil surface. These are emulsions that are mixed with water and applied to the soil. They may be used alone, but most often are used to hold wood fiber, hydro-mulches or straw to the soil surface.

e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15 to October 15) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
- the base of grassed waterways;
- steep slopes (15 percent or greater); and
- any disturbed soil within 100 feet of lakes, streams, or wetlands.

During the late fall and winter (October 15 to April 15) use heavy grade mats indicated on drawings for NAG SC250 on all areas noted above plus use lighter grade mats NAG S75 (or mulch and netting) on:
- sideslopes of grassed waterways; and
- moderate slopes (between 8 and 15 percent).

7. TEMPORARY DUST CONTROL

To prevent the blowing and movement of dust from exposed soil surfaces, and reduce the presence of dust, use water or calcium chloride to control dusting by preserving the moisture level in the road surface materials.

8. CONSTRUCTION DE-WATERING

a. Water from construction de-watering operations shall be cleaned of sediment before reaching wetlands, water bodies, streams or site boundaries. Utilize temporary sediment basins, erosion control soil filter berms backed by staked hay bales, A Dirt Bag 55" sediment filter bag by ACF Environmental, or other approved Best Management Practices (BMP's).

b. In sensitive areas, near streams or ponds, discharge the water from the de-watering operation into a temporary sediment basin created by a surrounding filter berm of uncompacted erosion control mix immediately backed by staked hay bales (see the site details). Locate the temporary sediment basin at lease 100 feet from the nearest water body, such that the filtered water will flow through undisturbed vegetated soil areas prior to reaching the water body or property line.

C. PERMANENT MEASURES

1. Riprapped Aprons: All storm drain pipe outlets and the inlet and outlet of culverts will have riprap aprons to protect against scour and deterioration.

2. Topsoil, Seed, and Mulch: All areas disturbed during construction, but not subject to other restoration (paving ,riprap, etc.) will be loamed, limed, fertilized, seeded, and mulched.

a. Seeded Preparation: Use stockpiled materials spread to the depths shown on the plans, if available. Approved topsoil substitutes may be used. Grade the site as needed.

b. Seeding will be completed by August 15 of each year. Late season seeding may be done between August 15 and October 15. Areas not seeded or which do not obtain satisfactory growth by October 15, will be seeded with Aroostook Rye or mulched. After November 1, or the first killing frost, disturbed areas will be seeded at double the specified application rates, mulched, and anchored.

PERMANENT SEEDING SPECIFICATIONS

Mixture:	Roadside (lbs/acre)	Lawn (lbs/acre)
Kentucky Bluegrass	20	55
White Clover	5	0
Creeping Red Fescue	20	55
Perennial Ryegrass	5	15

c. Mulch in accordance with specifications for temporary mulching.

d. If permanent vegetated stabilization cannot be established due to the season of the year, all exposed and disturbed areas not to undergo further disturbance are to have dormant seeding applied and be temporarily mulched to protect the site.

3. Ditches and Channels: All ditches on-site will be lined with North American Green S75 erosion control mesh (or an approved equal) upon installation of loam and seed.

D. WINTER CONSTRUCTION AND STABILIZATION

1. Winter excavation and earthwork will be completed so as to minimize exposed areas while satisfactorily completing the project. Limit exposed areas to those areas in which work is to occur during the following 15 days and that can be mulched in one day prior to any snow event. All areas will be considered denuded until the subbase gravel is installed in roadway areas or the areas of future loam and seed have been loamed, seeded, and mulched.

Install any added measures necessary to control erosion/sedimentation. The particular measure used will be dependent upon site conditions, the size of the area to be protected, and weather conditions.

To minimize areas without erosion control protection, continuation of earthwork operations on additional areas will not begin until the exposed soil surface on the area being worked has been stabilized.

2. Natural Resource Protection: During winter construction, a double-row of sediment barriers (i.e., silt fence backed with hay bales or erosion control mix) will be placed between any natural resource and the disturbed area. Projects crossing the natural resource will be protected a minimum distance of 100 feet on either side from the resource.

3. Sediment Barriers: During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

4. Mulching: All areas will be considered to be denuded until seeded and mulched. Hay and straw mulch will be applied at a rate of twice the normal accepted rate.

Mulch will not be spread on top of snow.

After each day of final grading, the area will be properly stabilized with anchored hay or straw or erosion control matting.

Between the dates of November 1 and April 15, all mulch will be anchored by either mulch netting, emulsion chemical, tracking or wood cellulose fiber.

5. Soil Stockpiling: Stockpiles of soil or subsoil will be mulched for over-winter protection with hay or straw at twice the normal rate or with a 4-inch layer of erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpiles shall not be placed (even covered with mulch) within 100 feet from any natural resources.

6. Seeding: Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas will receive 4 inches of loam and seed at an application rate of three times the rate for permanent seeding. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) will be revegetated by replacing loam, seed, and mulch.

If dormant seeding is not used for the site, all disturbed areas will be revegetated in the spring.

7. Maintenance: Maintenance measures will be applied as needed during the entire construction season. After each rainfall, snow storm, or period of thawing and runoff, the site contractor will perform a visual inspection of all installed erosion control measures and perform repairs as needed to ensure their continuous function.

Following the temporary and/or final seeding and mulching, the contractor will, in the spring, inspect and repair any damages and/or bare spots. An established vegetative cover means a minimum of 85 to 90 percent of areas vegetated with vigorous growth.

E. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

1. Stabilization of Disturbed Soil: By October 15, all disturbed soils on areas having a slope less than 15 percent will be seeded and mulched. If the contractor fails to stabilize these soils by this date, then the contractor shall stabilize the soil for late fall and winter, by using either temporary seeding or mulching.

2. Stabilization of Disturbed Slopes: All slopes to be vegetated will be completed by October 15. The owner will consider any area having a grade greater than 15 percent (6.5H:1V) to be a slope. Slopes not vegetated by October 15 will receive one of the following actions to stabilize the slope for late fall and winter:

a. Stabilize the soil with temporary vegetation and erosion control mesh.
b. Stabilize the slope with erosion control mix.
c. Stabilize the slope with stone riprap.

3. Stabilization of Ditches and Channels: All stone-lined ditches and channels to be used to convey runoff through the winter will be constructed and stabilized by November 15. Grass-lined ditches and channels will be complete by September 15. Grass-lined ditches not stabilized by September 15 shall be lined with either sod or riprap.

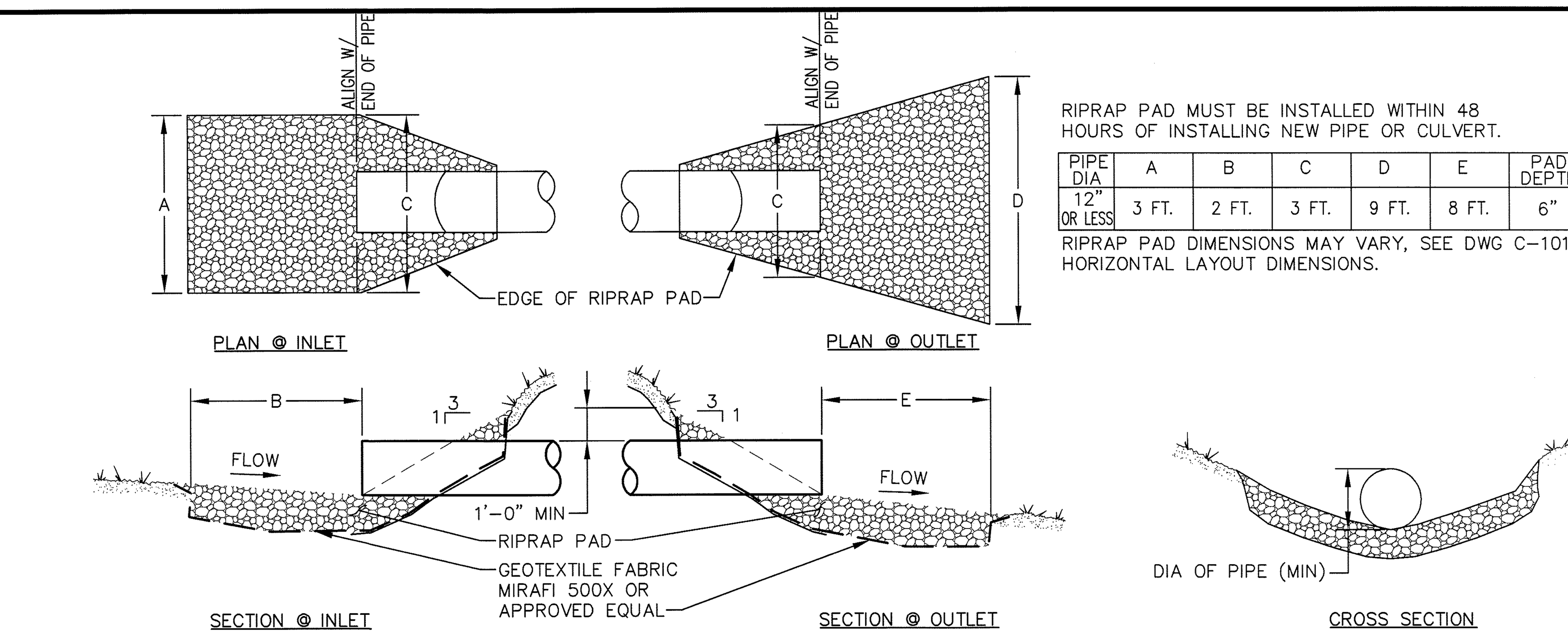
F. MAINTENANCE PLAN

1. Routine Maintenance: Inspection will be performed as outlined in the project's Erosion Control Plan. Inspection will be by a qualified person during wet weather to ensure that the facility performs as intended. Inspection priorities will include checking erosion controls for accumulation of sediments.

G. CONSTRUCTION SEQUENCE

In general, the expected sequence of construction for each phase is provided below. Construction is proposed to start in September 2013 and be complete in August of 2014.

- Site preparation.
- Install temporary erosion control measures.
- Stockpile topsoil onsite.
- Construct stormwater management facilities to be used as sedimentation structures.
- Install culverts, ditches, storm drains, culverts, utilities, and construct subgrade of roadways and parking areas.
- Prepare the building and equipment sites and construct foundations.
- Perform site stabilization (complete roadway and parking area gravel and bituminous pavement; loam, seed, and mulch) and other miscellaneous items (fencing and gates; plantings).
- Clean sediment from temporary collection structures; complete construction of stormwater management structures
- Remove temporary erosion control measures after all disturbed areas are stabilized.

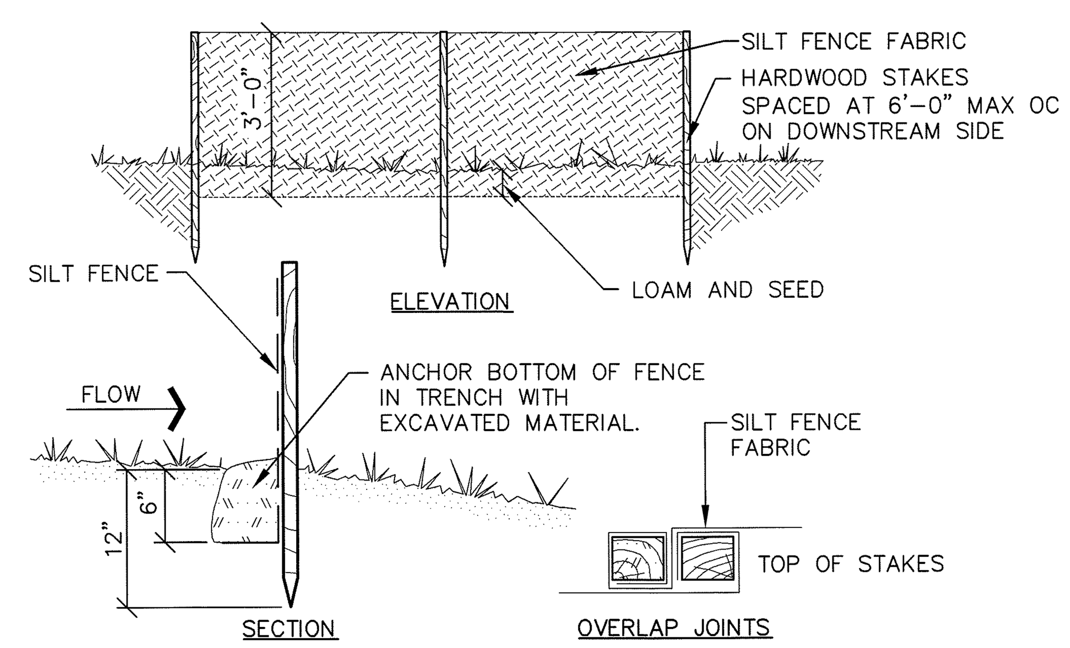


RIPRAP PAD MUST BE INSTALLED WITHIN 48 HOURS OF INSTALLING NEW PIPE OR CULVERT.

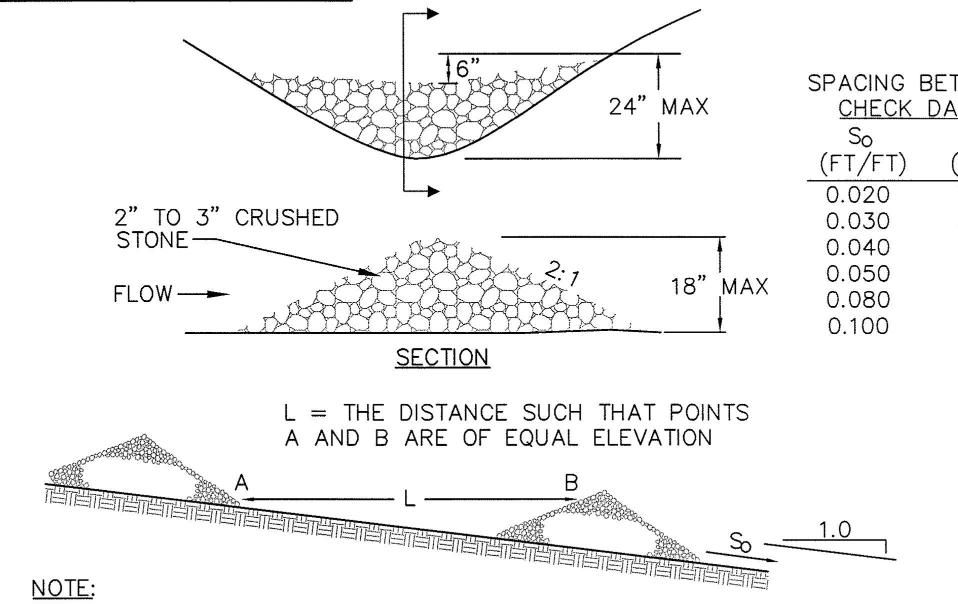
PIPE DIA	A	B	C	D	E	PAD DEPTH	D_{50}
12" OR LESS	3 FT.	2 FT.	3 FT.	9 FT.	8 FT.	6"	4"

RIPRAP PAD DIMENSIONS MAY VARY, SEE DWG C-101 FOR HORIZONTAL LAYOUT DIMENSIONS.

RIPRAP INLET/OUTLET PROTECTION
NTS



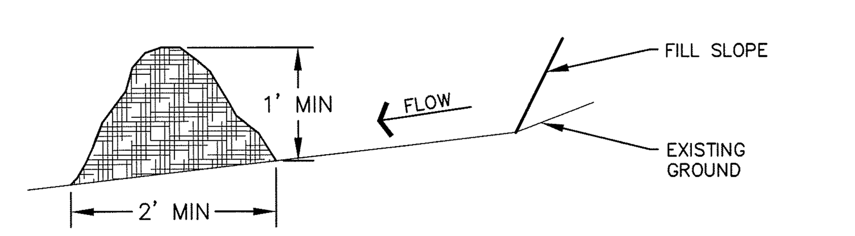
SILT FENCE
NTS



SPACING BETWEEN CHECK DAMS	
S_o (FT/FT)	L (FT)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

NOTE:
USE AT ALL NEWLY CONSTRUCTED GRASS LINED DITCHES AS A TEMPORARY EROSION CONTROL MEASURE AND WHERE OTHERWISE NOTED ON PLANS.

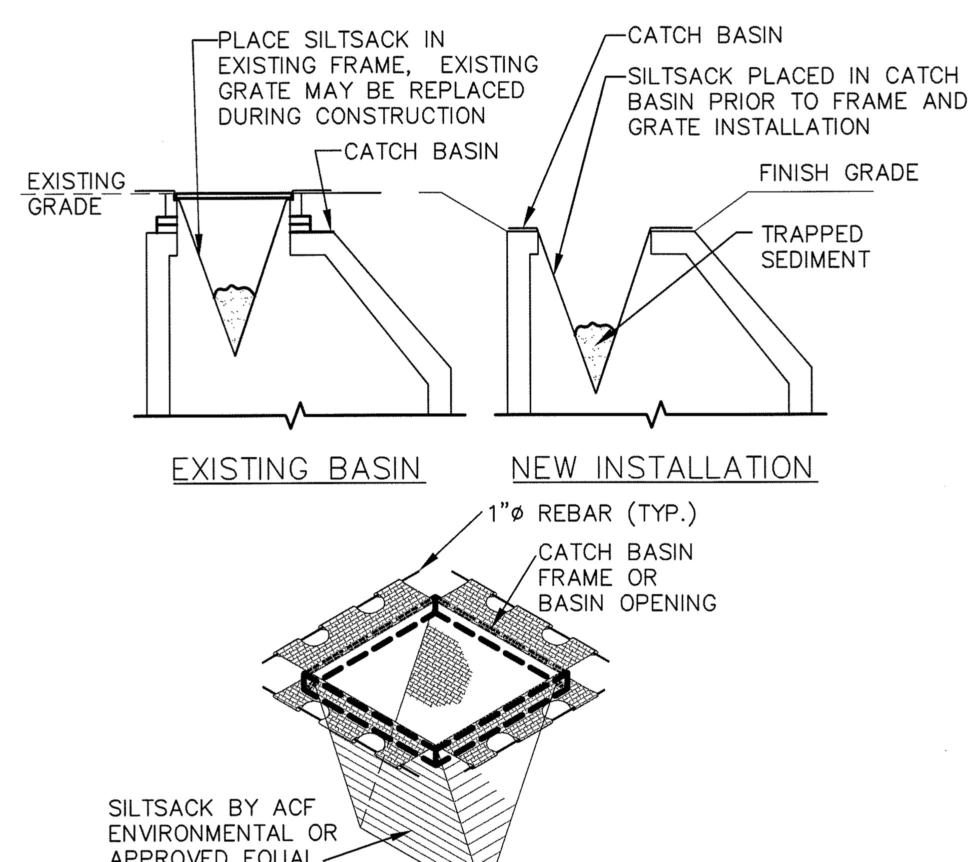
STONE CHECK DAM
NTS



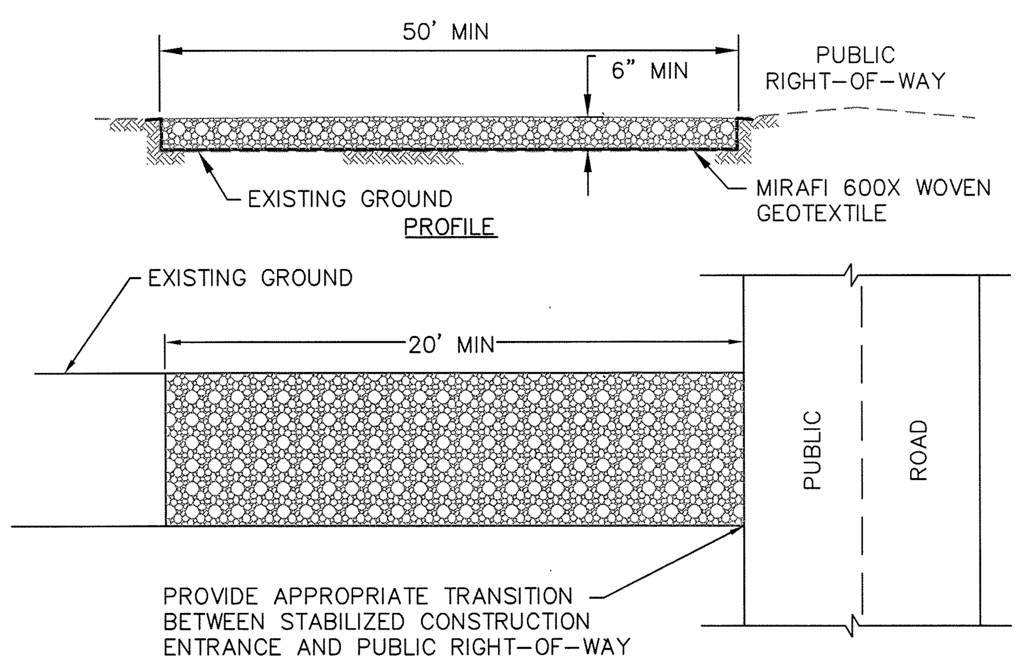
NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS.
WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.
EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% – 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70–85% PASSING 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 – 8.0
2. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES 2:1 OR LESS UP TO 20 FEET LONG, THE BARRIER MUST CONFORM TO THE ABOVE DIMENSIONS. ON THE LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL FLOW.
3. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL ELEVATION. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
4. LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
   A. AT LOW POINTS OF CONCENTRATED FLOW
   B. BELOW CULVERT OUTLET APRONS
   C. WHERE A PREVIOUS STAND-ALONE EROSION CONTROL MIX APPLICATION HAS FAILED
   D. AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (LARGE UPGRADIENT WATERSHED)
   E. AROUND CATCH BASINS AND CLOSED STORM DRAIN SYSTEMS.
5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.
6. IT MAY BE NECESSARY TO REINFORCE THE BARRIER WITH SILT FENCE OR STONE CHECK DAMS IF THERE ARE SIGNS OF UNDERCUTTING OR THE IMPOUNDMENT OF LARGE VOLUMES OF WATER.
7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.
9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.

EROSION CONTROL MIX SEDIMENT BARRIER
NTS



SILTSACK CATCH BASIN PROTECTION
NTS

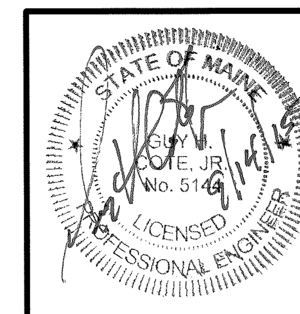


CONSTRUCTION SPECIFICATIONS

NOTES:
1. STONE SIZE – 2" TO 3" STONE OR RECLAIMED OR RECYCLED CONCRETE, OR EQUIVALENT.
2. LENGTH – AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 10 FEET MINIMUM, OR NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC REPAIR AND TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE/EXIT
NTS

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW



4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

EROSION CONTROL NOTES AND DETAILS

SME
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ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
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DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: NONE
CTB: SME-STD

JOB NO. 15086.00 DWG FILE DETAILS

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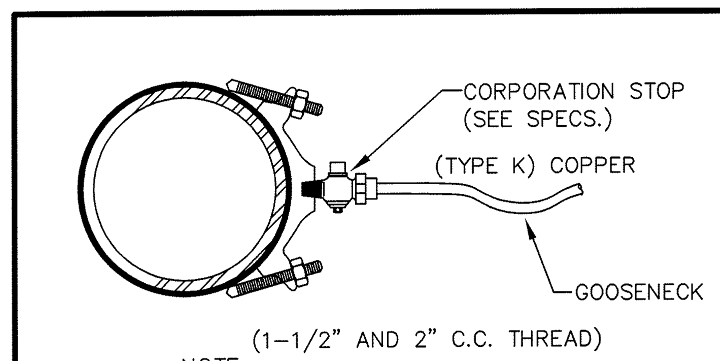
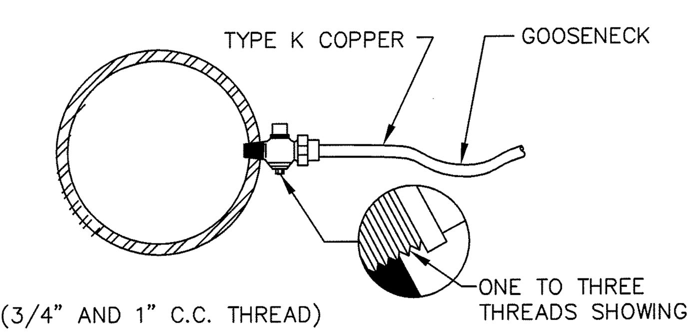


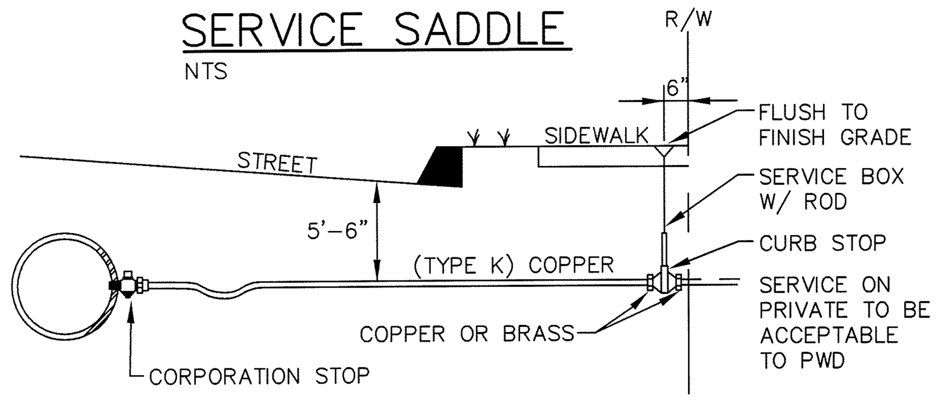
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

SERVICE SADDLE
NTS



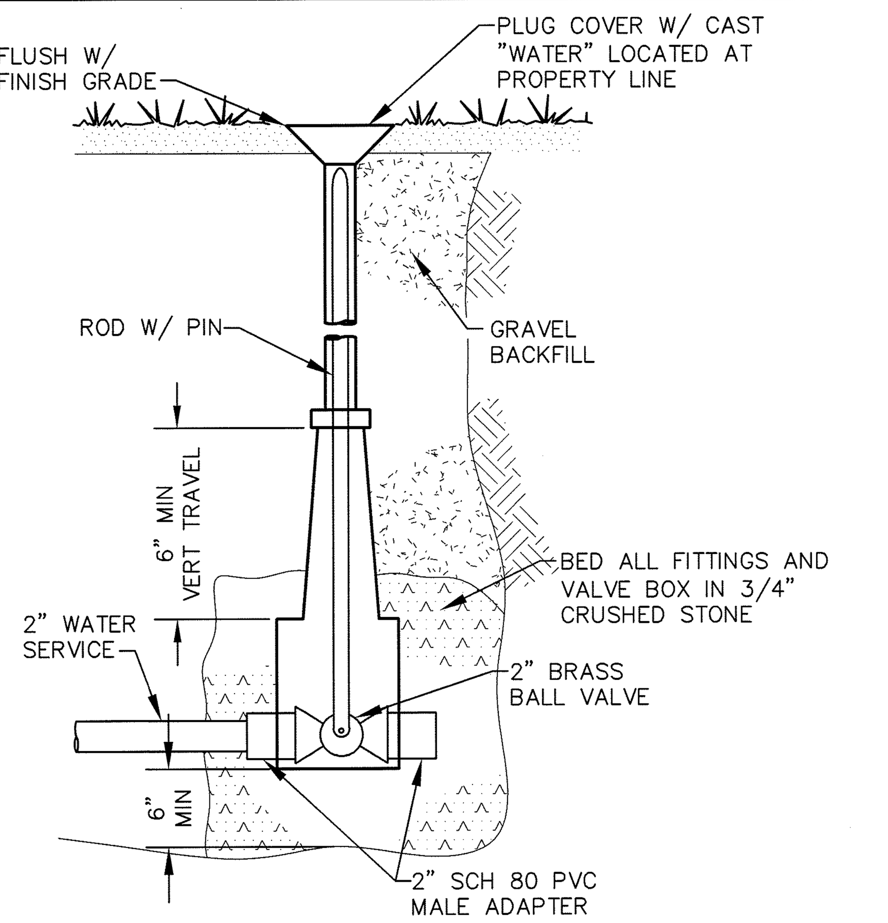
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

SERVICE TAP
NTS



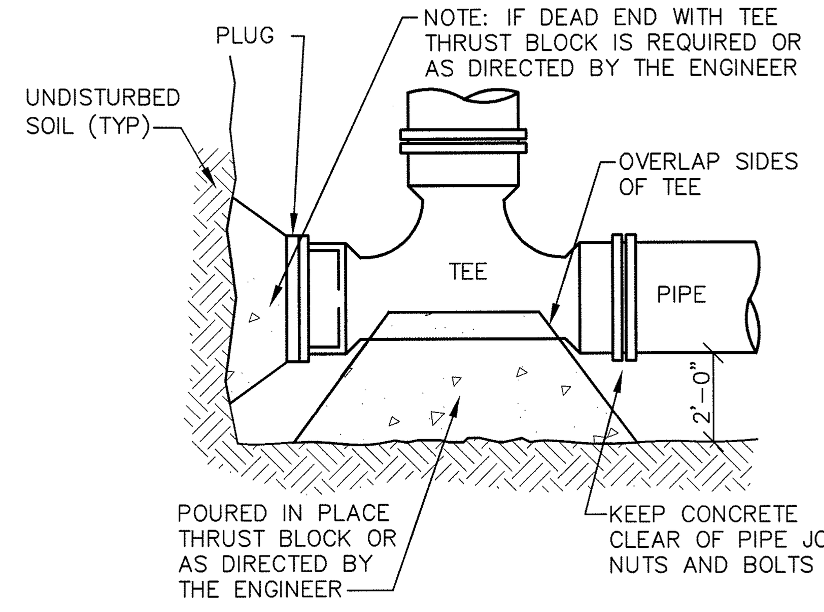
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

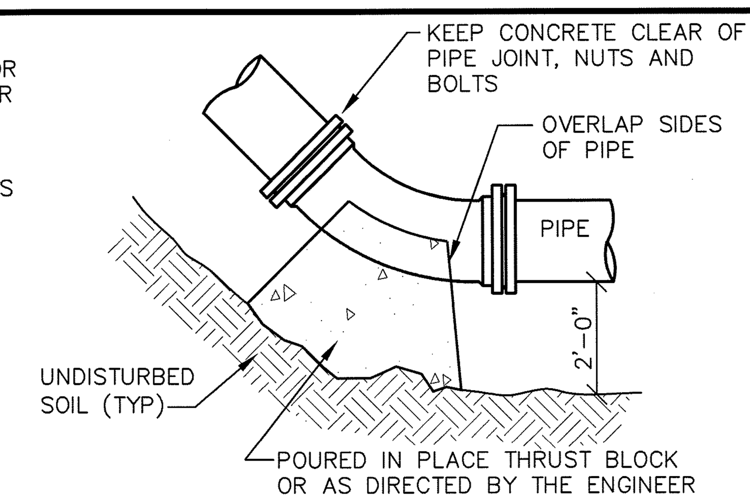
TYPICAL SERVICE CONNECTION
NTS



NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

WATERMAIN CURB STOP SECTION
NTS





STANDARD TEE BLOCKING			
THRUST AT FITTINGS IN Lbs. AT 100 Lbs PER SQUARE INCH WATER PRESSURE			
PIPE SIZE IN	90° ELBOW	45° ELBOW	VALVES, TEES AND DEAD ENDS
4"	2,600	1,420	1,850
6"	5,400	2,900	3,800
8"	9,300	5,000	6,500
10"	13,900	7,550	10,850
12"	19,700	10,800	13,900

STANDARD BEND BLOCKING					
MINIMUM THRUST BLOCK BEARING AREA REQ'D AGAINST UNDISTURBED MATERIAL (SQFT)					
PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	22 1/2° AND SMALLER
16"	28	22	20	15	8
12"	16	14	11	9	4
8"	7	6	5	4	2
6"	5	4	3	2	2

1. SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.
2. FOR PIPES 6" OR SMALLER USE THRUST BLOCK FOR 6" PIPE.

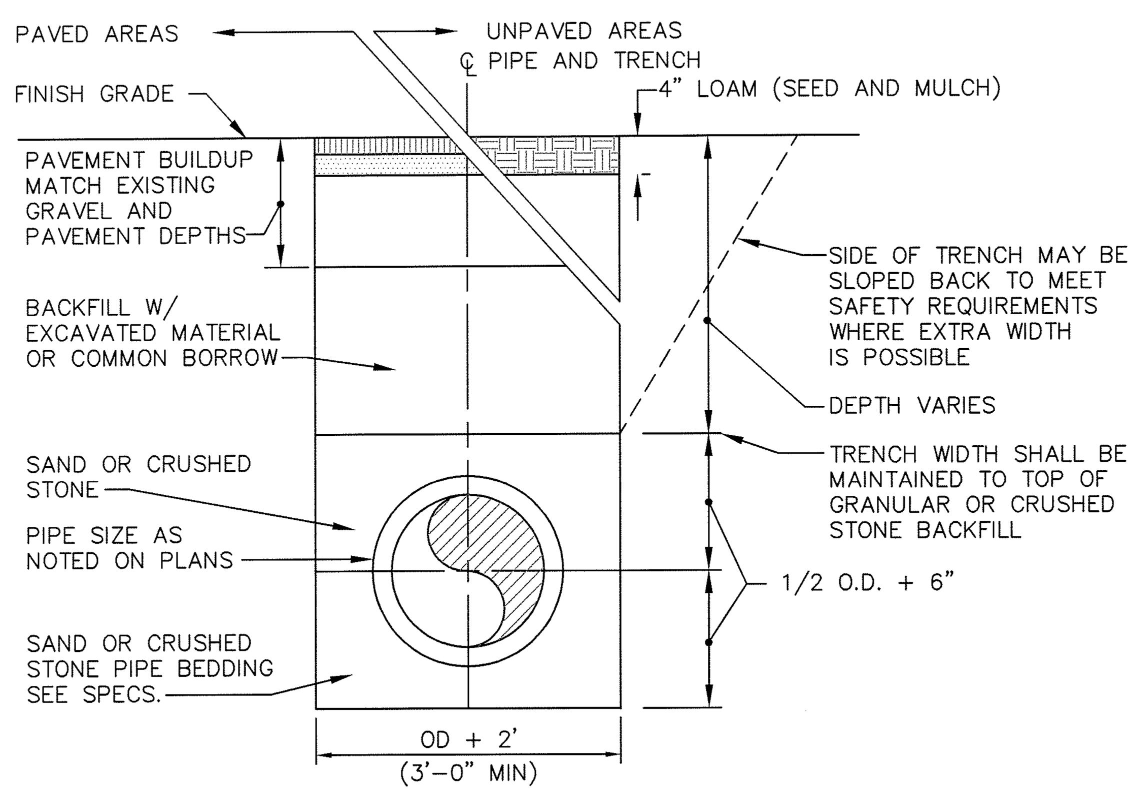
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

THRUST BLOCK DETAIL
NTS

CONSTRUCTION	USE
1 1/4" HMA MDOT 9.5mm 2 1/4" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	BITUMINOUS ACCESS ROAD SERVICE AREA PARKING LOT
1 1/2" HMA MDOT 9.5mm 2" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A MATCH EXISTING THICKNESS COMPACTED AGGREGATE SUBBASE MDOT 703.06 (c) TYPE F	BITUMINOUS ST. LAWRENCE STREET REPAIR
6" TOPSOIL, NO STONES OVER 3/4" DIA. GRANULAR MATERIAL IN FILL AREAS COMPACTED SUBGRADE	GRASS ALL DISTURBED AREAS

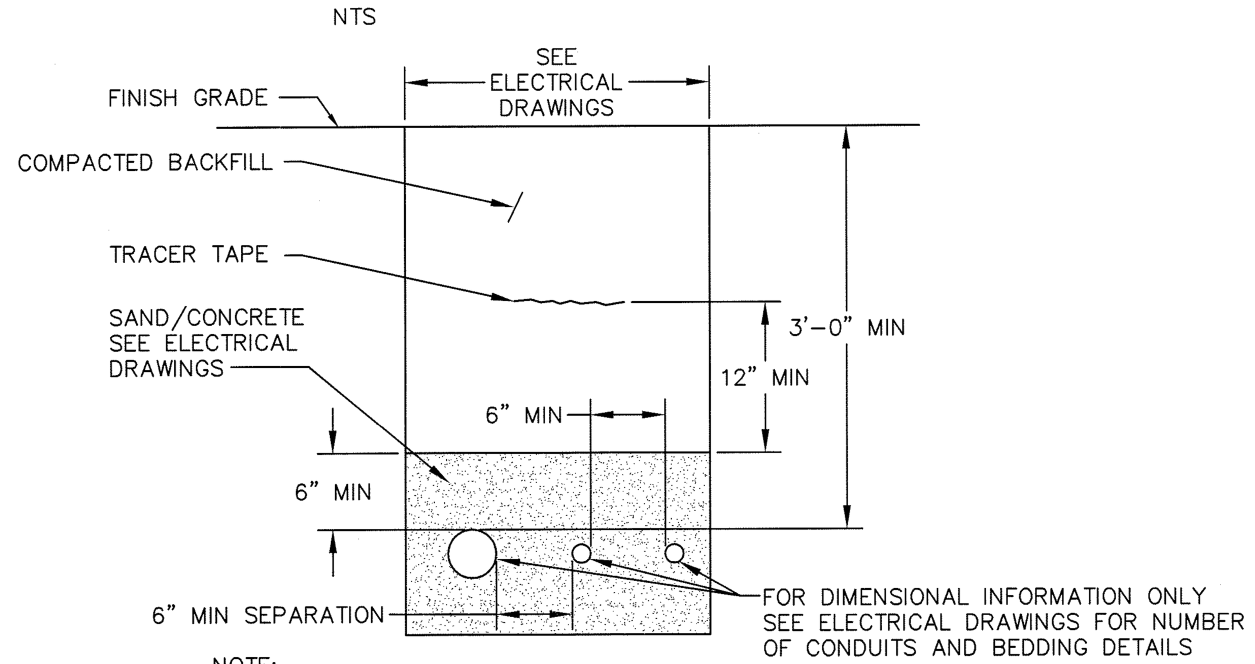
NOTES:
1. HMA = HOT MIX ASPHALT
   MDOT = MAINE DEPARTMENT OF TRANSPORTATION.
2. ALL COURSE THICKNESS AFTER FINAL COMPACTION.
3. SEE LANDSCAPE PLANS FOR SIDEWALK AND PATIO DETAILS

SCHEDULE OF SURFACE FINISHES
NTS



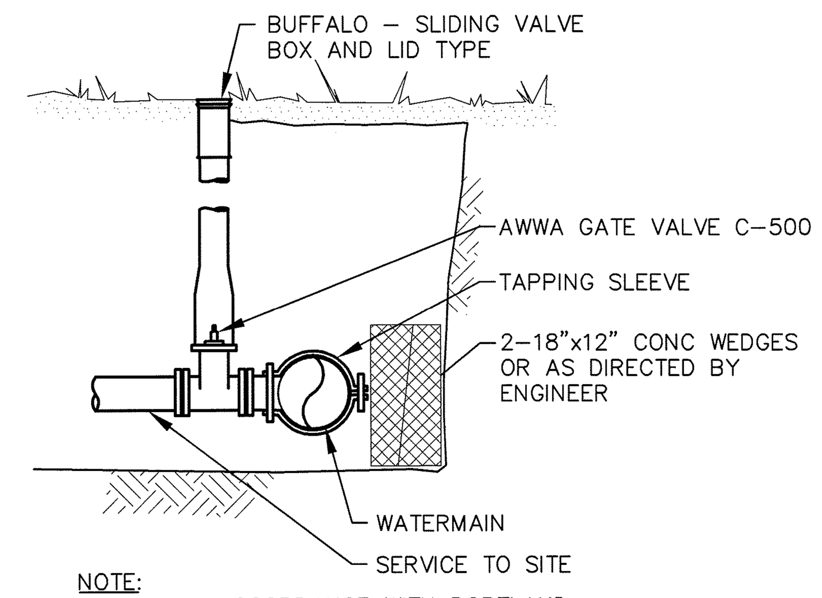
TRENCH DETAIL
NTS

NOTE:
LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.



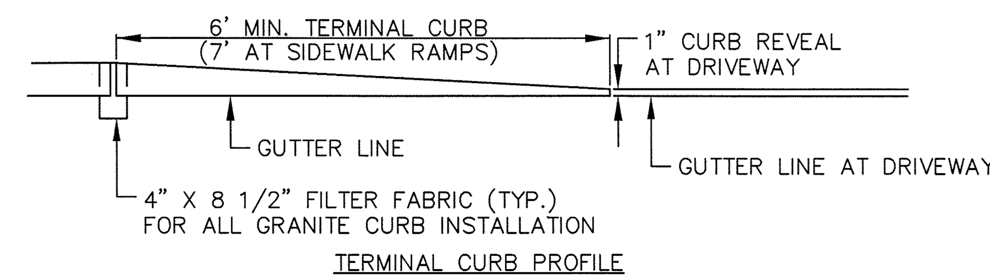
NOTE:
SITE CONTRACTOR SHALL INSTALL CONDUIT IN ELECTRICAL AND TELEPHONE CONDUIT TRENCH. COORDINATE WITH ELECTRICAL DRAWINGS.

UNDERGROUND ELECTRICAL & TELEPHONE CONDUIT TRENCH
NTS

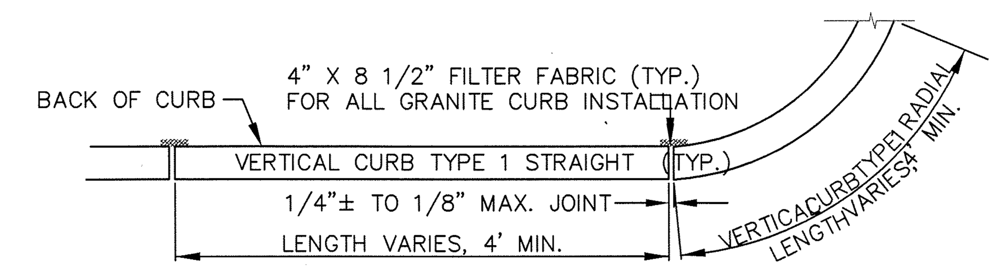


NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

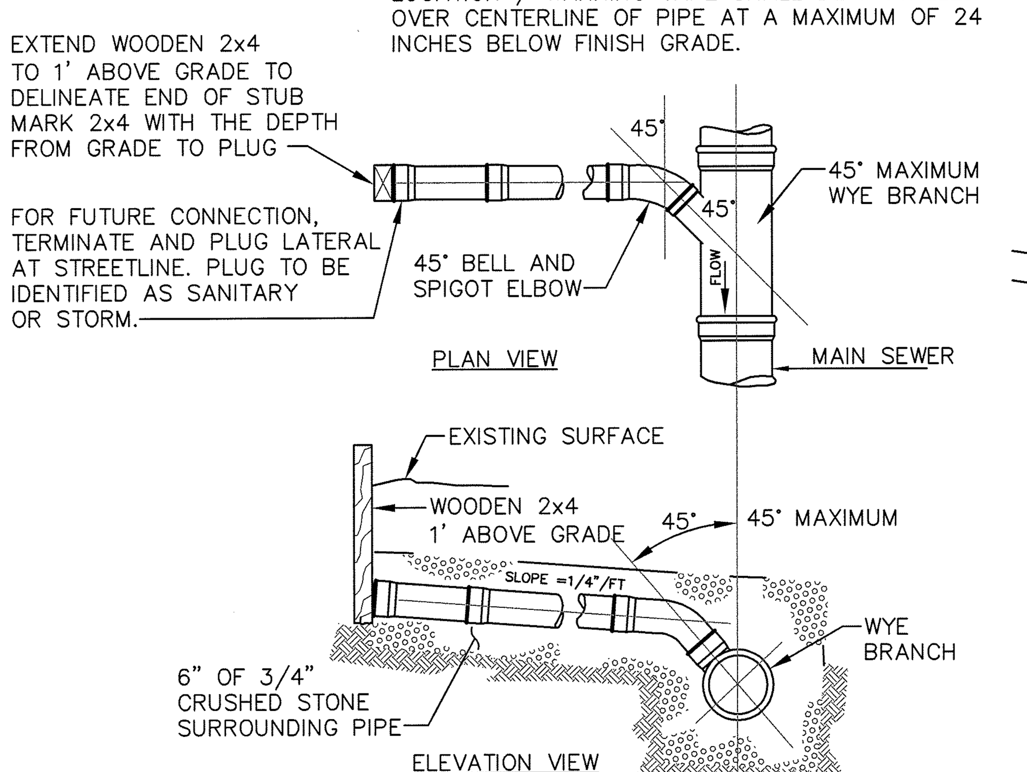
TYPICAL TAPPING SLEEVE AND GATE VALVE
NTS



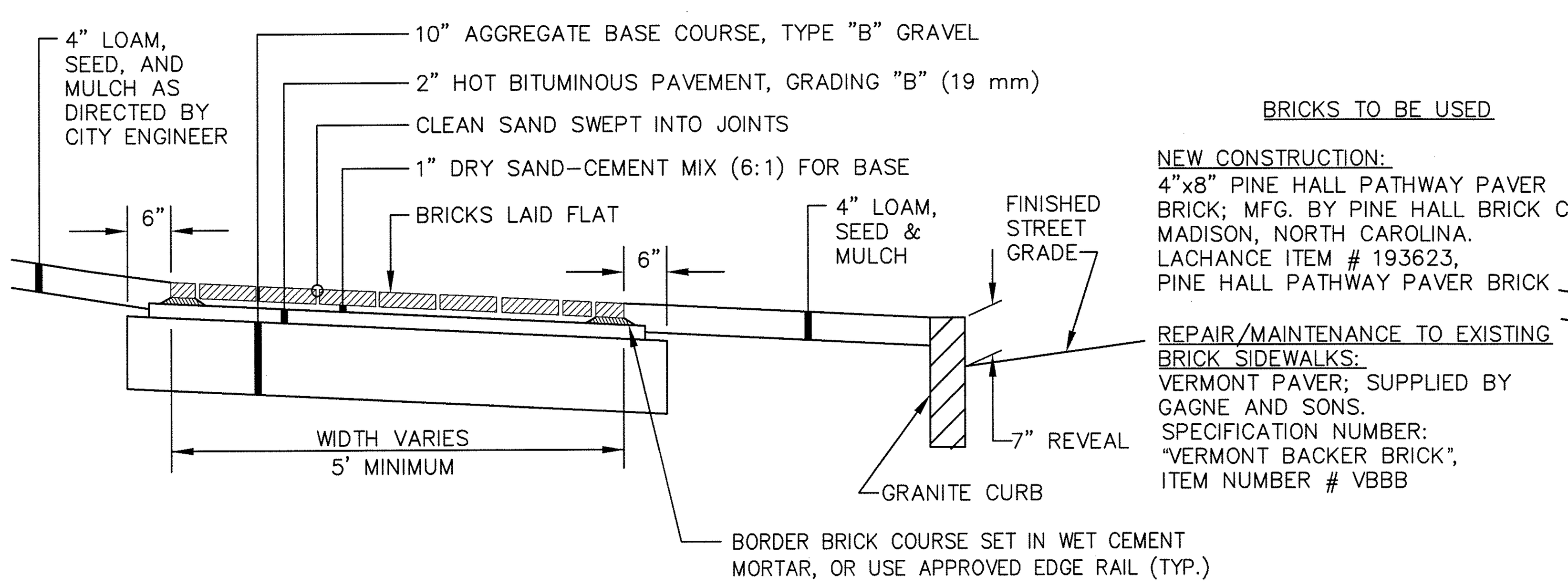
TERMINAL CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



TYPICAL LATERAL TEE/WYE CONNECTION
NTS

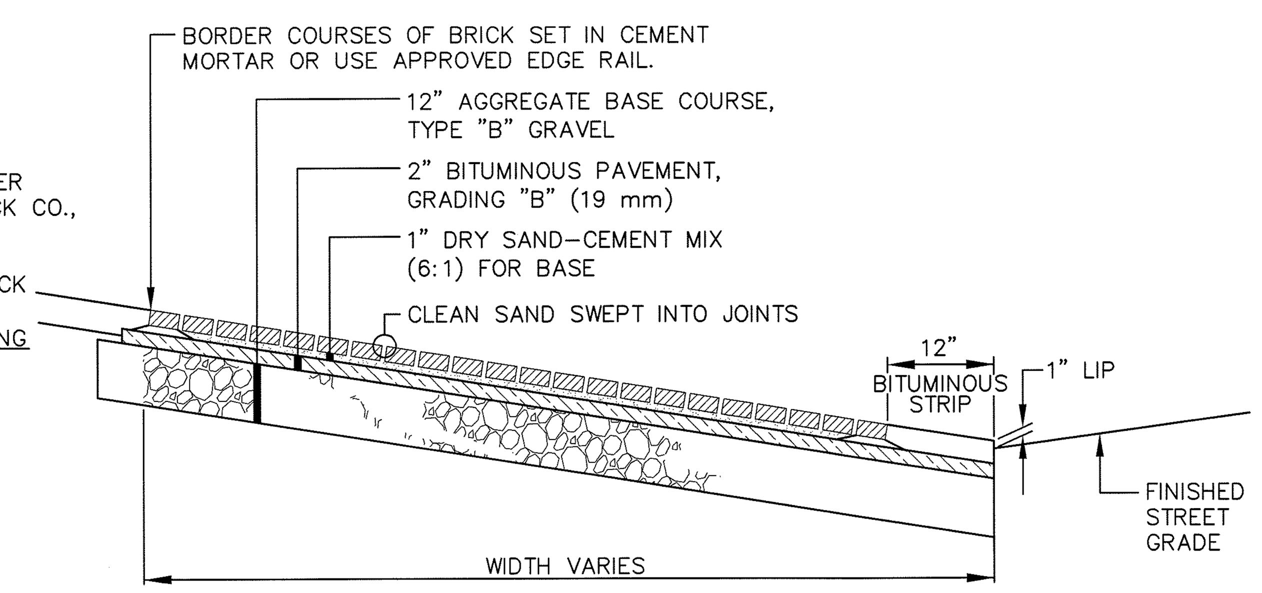


BRICKS TO BE USED

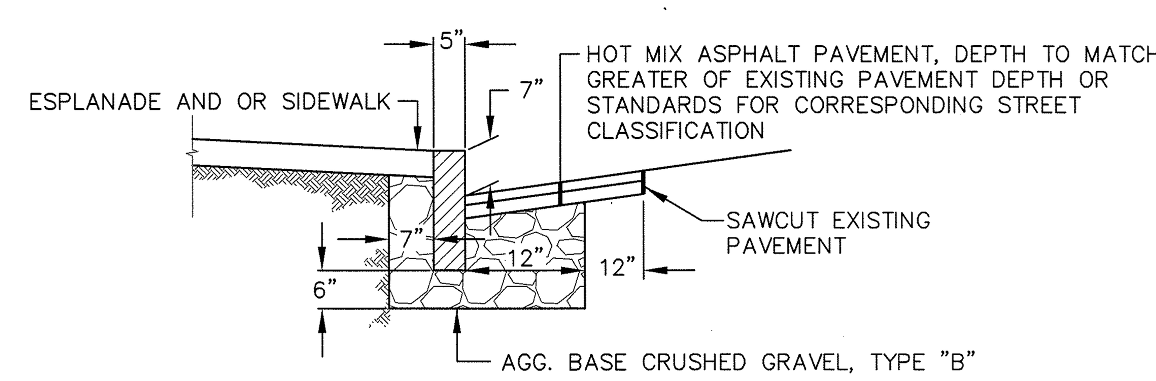
NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK

REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # VBBB

BRICK SIDEWALK WITH BITUMINOUS BASE
NTS

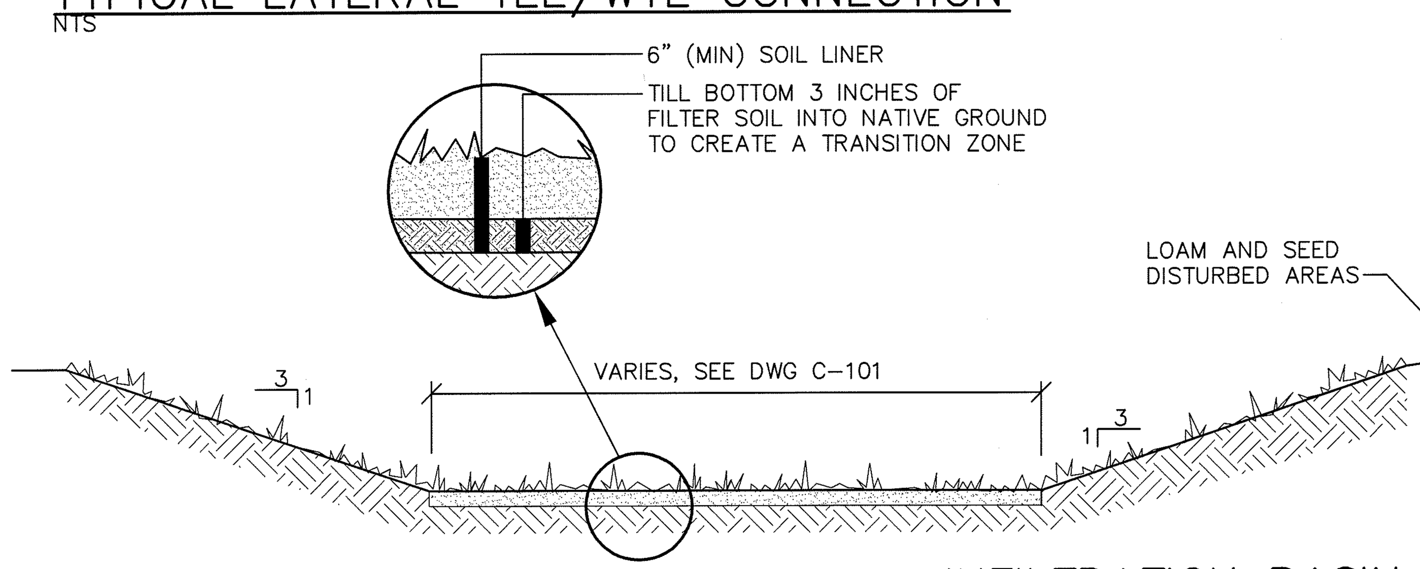


BRICK DRIVEWAY APRON WITH BITUMINOUS BASE
NTS



VERTICAL GRANITE CURB CROSS SECTION

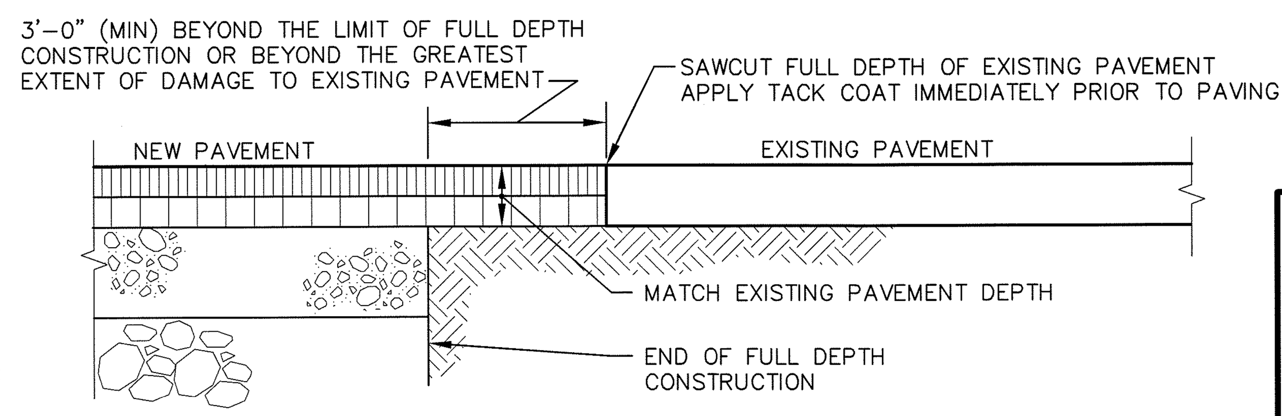
VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREETS
NTS



1. CONSTRUCT THE INFILTRATION BASIN AFTER THE AREA THAT DRAINS TO IT IS STABILIZED WITH EROSION CONTROL MEASURES THAT WILL PREVENT SEDIMENT FROM REACHING THE BASIN.
2. GRADE THE INFILTRATION BASIN BOTTOM SO THAT IT IS LEVEL AND AT THE ELEVATIONS SHOWN ON THE PLAN AND SECTIONS.
3. PLACE 3" OF SOIL LINER OVER THE POND BOTTOM, TILL INTO EXISTING SOIL TO CREATE A TRANSITION ZONE. DO NOT COMPACT. PLACE AN ADDITIONAL 3" OF THE SOIL LINER OVER THE TRANSITION ZONE. THE LINER SHALL BE PLACED AND GRADED WITH AN EXCAVATOR. DO NOT OPERATE HEAVY EQUIPMENT ON THE LINER, SHAPE THE SURFACE OF THE LINER TO THE LINE, GRADE AND CROSS SECTION SPECIFIED WITH THE FINISH SURFACE NOT MORE THAN 1 1/2" ABOVE OR BELOW THE SPECIFIED GRADE. SOIL LINER TO BE A SOIL WITH A PERMEABILITY OF 1.50 INCHES PER HOUR. LINER SHALL CONTAIN NO STONES LARGER THAN 3" IN GREATEST DIMENSION.
4. SUBMIT SAMPLES OF THE LINER SOIL TO THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY (OR OTHER SIMILAR LABORATORY) FOR PERMEABILITY TESTING AT VARIOUS DENSITIES AND RECOMMENDED LIMESTONE AND FERTILIZER RATES.
5. APPLY LIMESTONE AND FERTILIZER OVER THE LINER AND BASIN SIDESLOPES ACCORDING TO THE SOIL TEST RECOMMENDATIONS USING LIGHT SPREADING EQUIPMENT. WORK LIME AND AND FERTILIZER INTO SOIL TO A DEPTH OF 4 INCHES USING LIGHT EQUIPMENT.
6. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON THE SOIL SURFACE. INCREASE SEEDING RATE 10% IF HYDROSEEDING, USE THE FOLLOWING SEED MIX:

SEED MIXTURE	LBS / ACRE	LBS / 1000 SF
CREEPING RED FESCUE (PENNLAWN, ENSYLVA, WINTERGREEN)	20	.46
RED TOP	2	.05
TALL FESCUE (KENTUCKY 31)	20	.46
TOTAL	42	.97

INFILTRATION BASIN SECTION
NTS



PAVEMENT CUTTING & MATCHING SECTION
NTS

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE · GUY H. COTE, JR. · No. 5144 · LICENSED PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SECTIONS AND DETAILS

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: NONE
CTB: SME-STD

JOB NO. 15086.00 DWG FILE DETAILS

C-301

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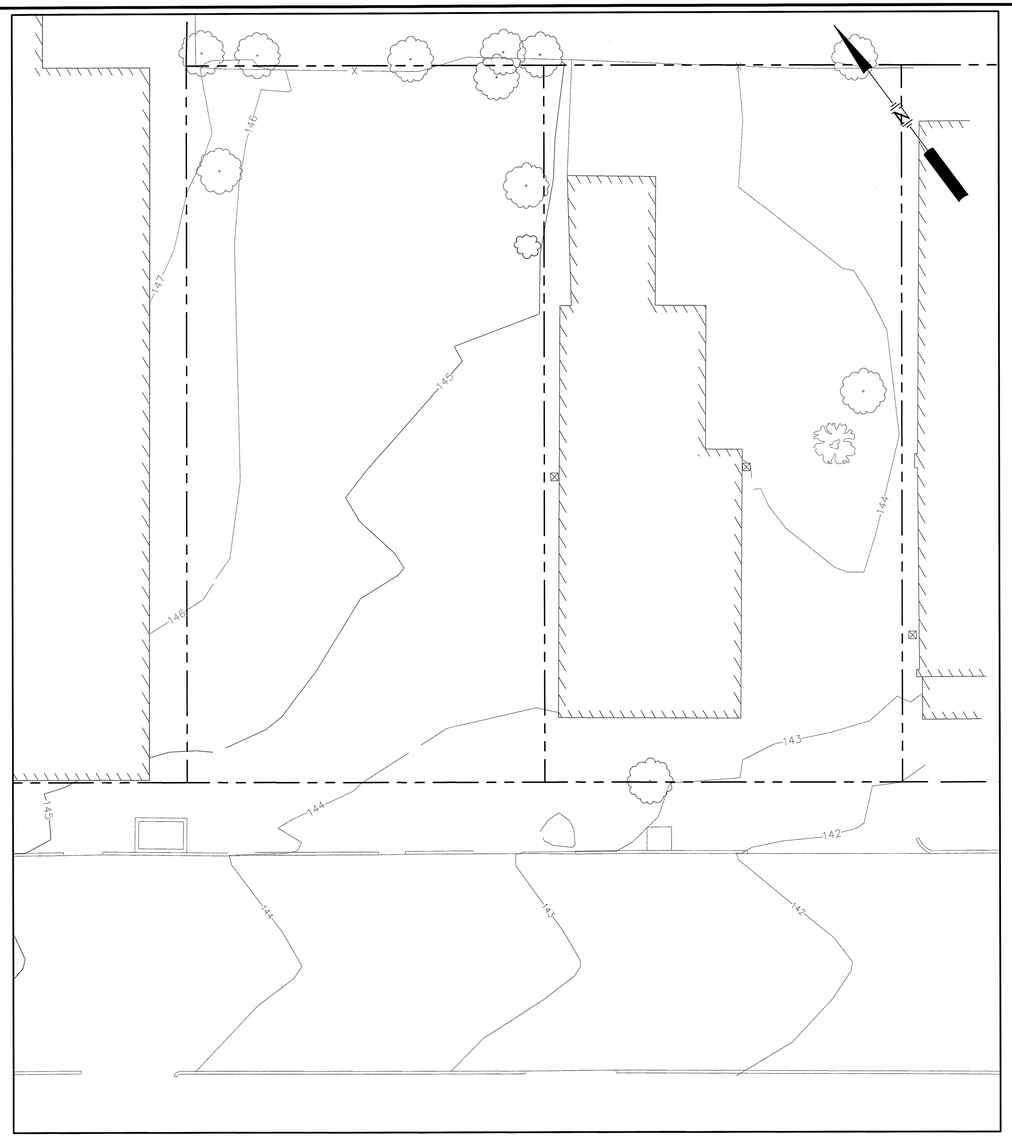
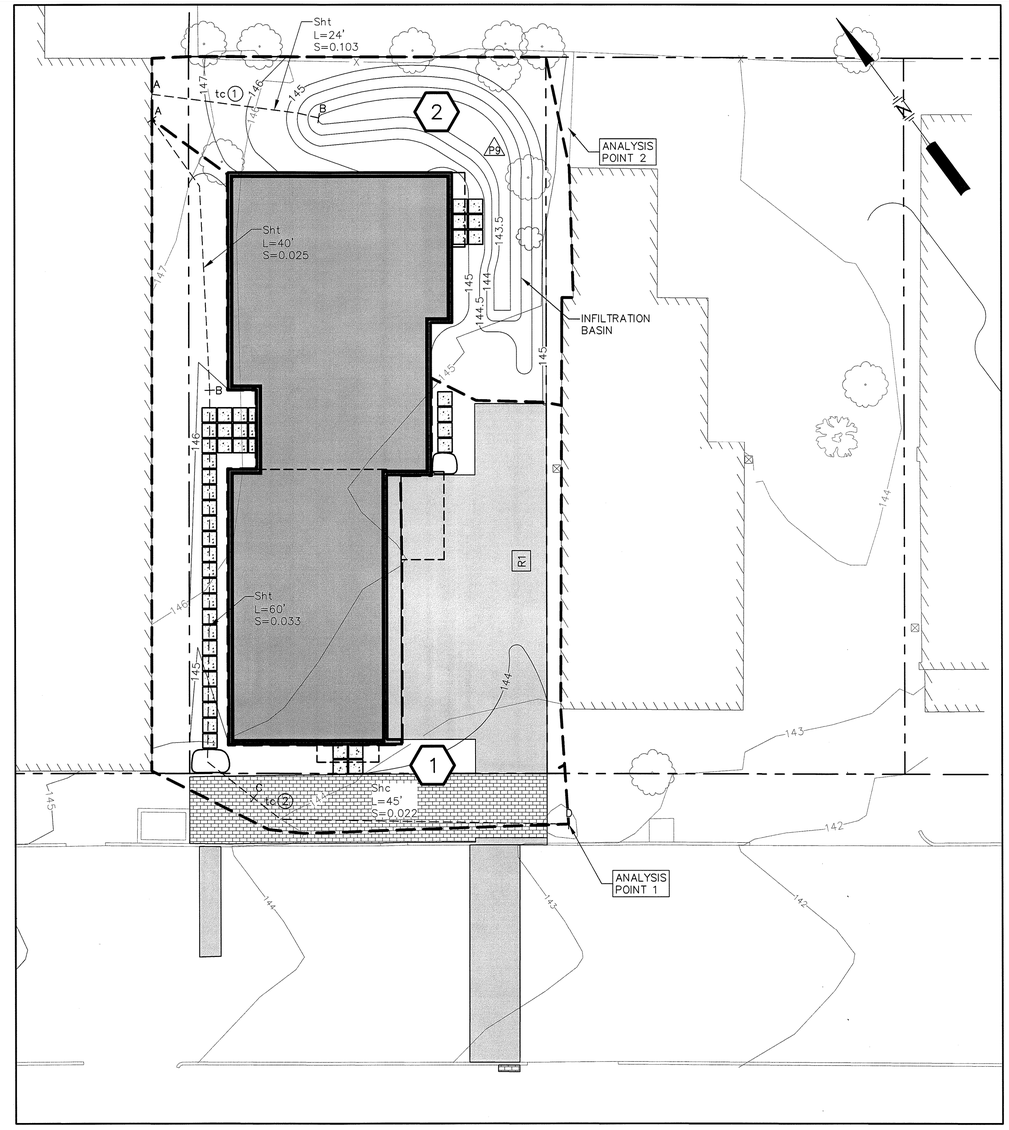


PRE-DEVELOPMENT CONDITIONS STORMWATER MANAGEMENT PLAN

5 0 10 20 FEET



POST DEVELOPMENT CONDITIONS STORMWATER MANAGEMENT PLAN

5 0 10 20 FEET

STORMWATER MANAGEMENT LEGEND

(1)	SUBCATCHMENT DESIGNATION
— — — —	SUBCATCHMENT BOUNDARY
A B C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
Sht L=50' S=0.005	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE
Sht	SHEET FLOW
Shc	SHALLOW CONCENTRATED FLOW
Cf	CHANNEL FLOW
→	DRAINAGE REACH
R4	REACH DESIGNATION (HYDROCAD)
P9	POND/STRUCTURE DESIGNATION (HYDROCAD)
tc(1)	TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION

NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014 AND PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE
GUY H. COTE
No. 6144
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

STORMWATER MANAGEMENT PLAN

SME
Sevee & Maher Engineers, Inc.
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4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: SMP-E/SMP-P
CTB: SME-STD

JOB NO. 15086.00 DWG FILE BASE

D-100

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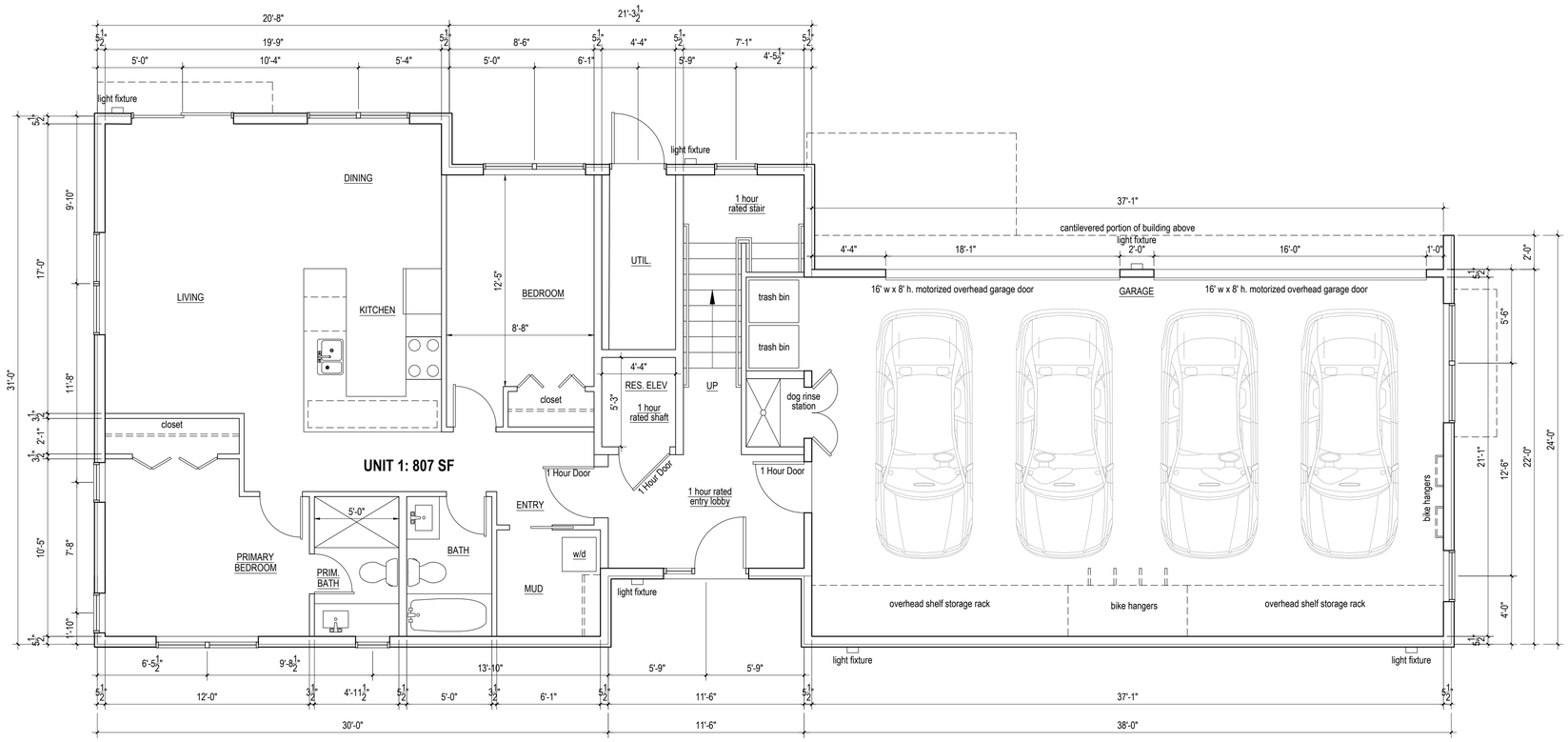


1 1st Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

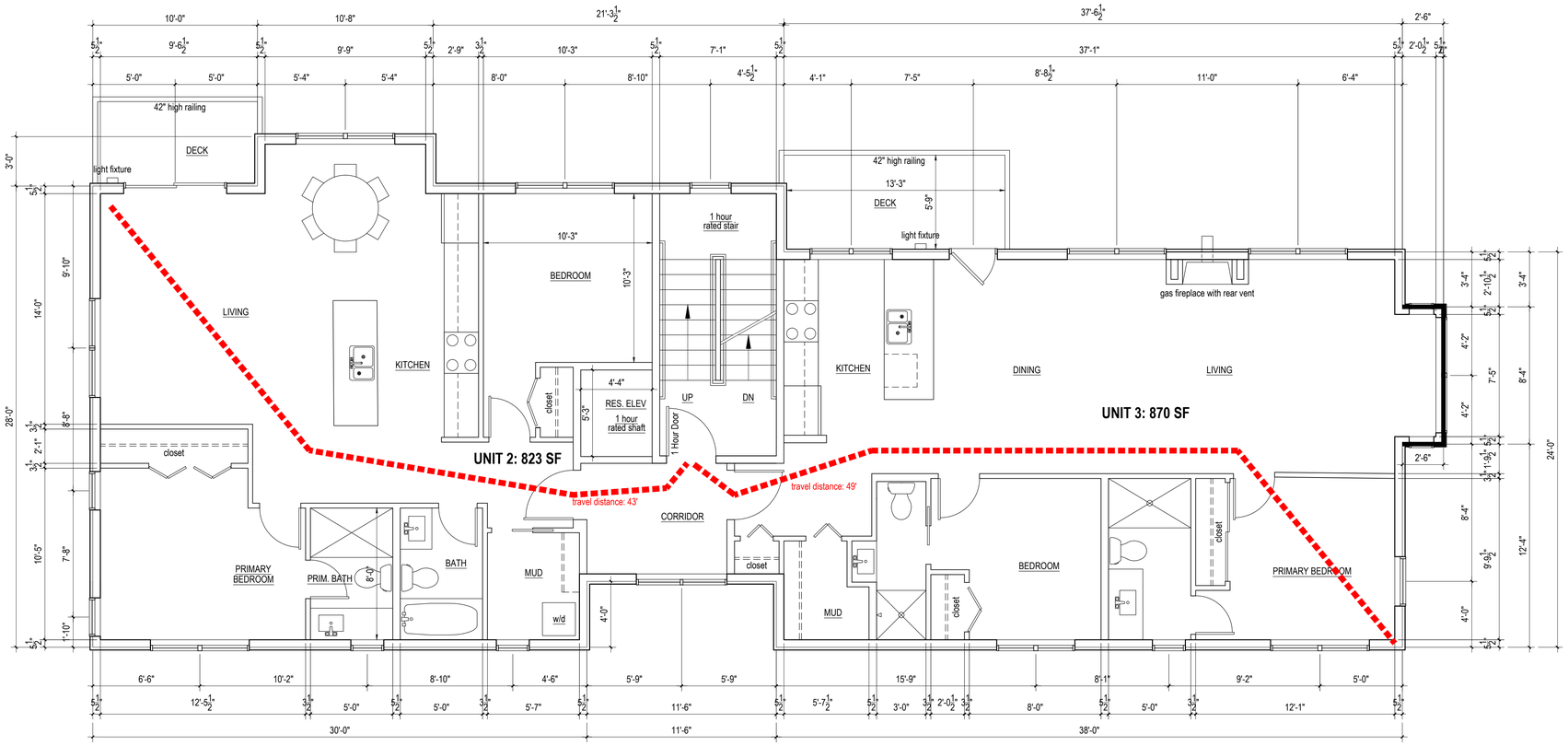
Revisions:
09-09-2015 revisions per p.b. review

Scale: as noted

Date: 21 July, 2015

Submission to Planning Board

A1.01



1 2nd Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

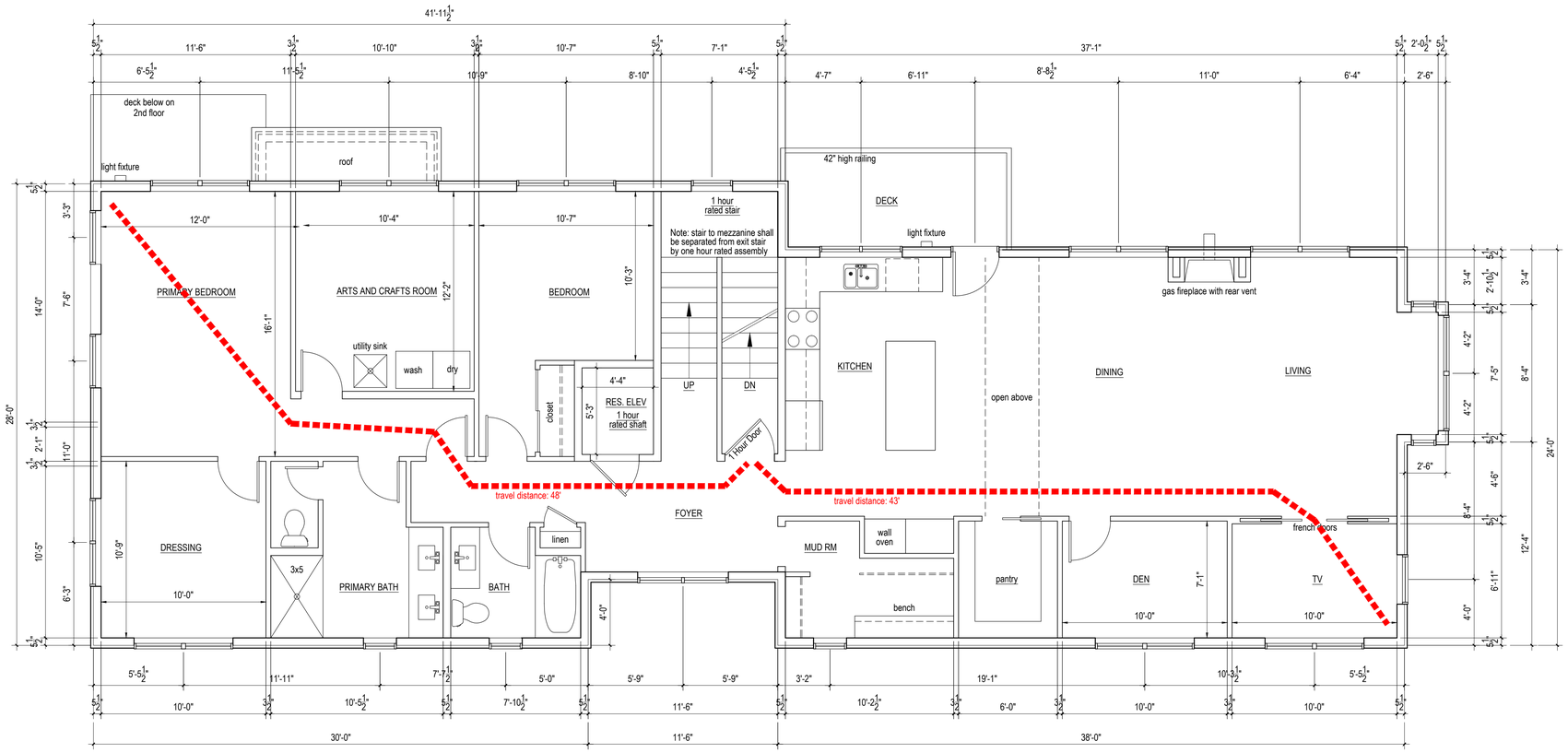
Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A1.02



1 3rd Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

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4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
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Scale:
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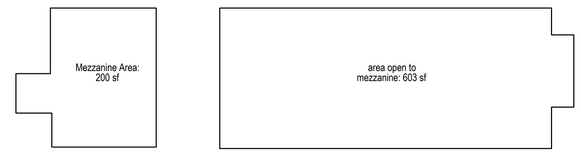
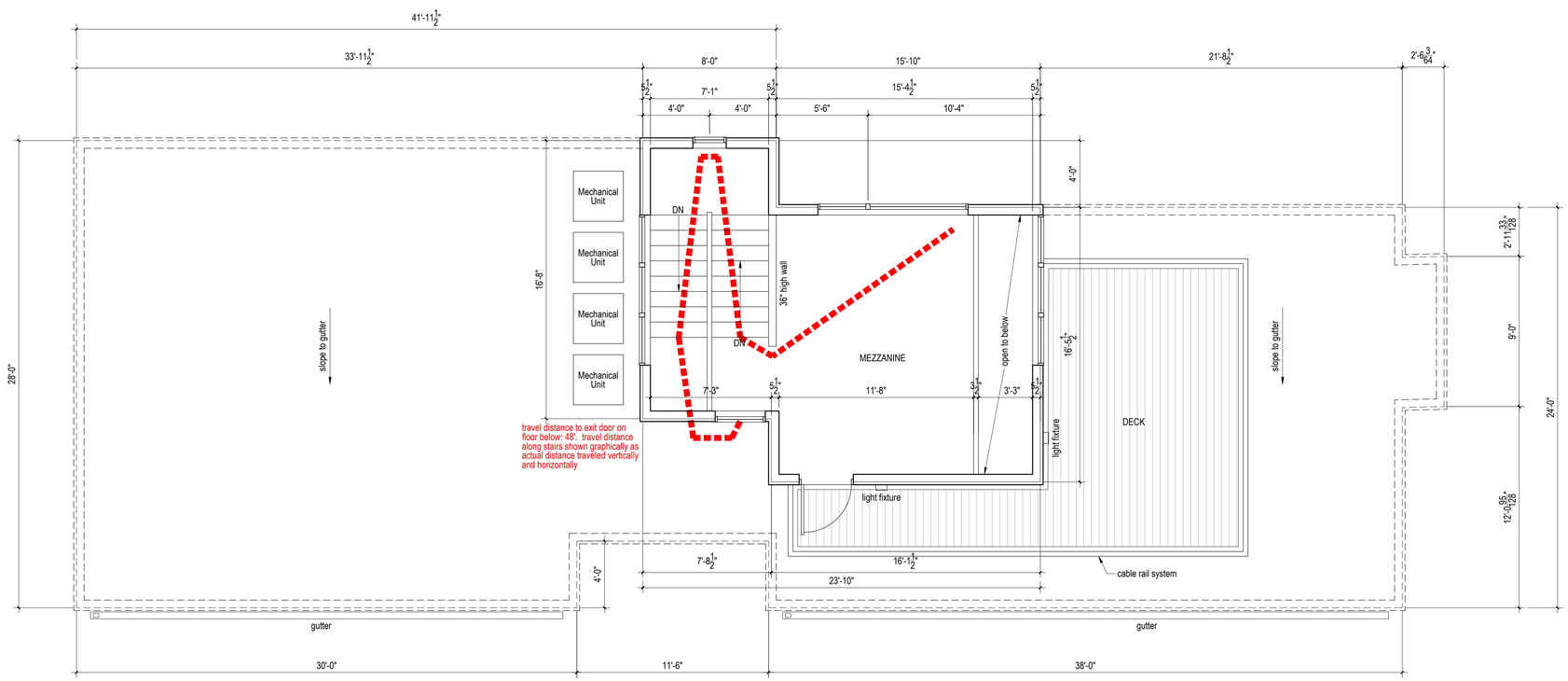
Date:
21 July, 2015

Submission to Planning Board

A1.03



1 Mezzanine Calculation
1/8"= 1'-0"



1 Roof & Mezzanine Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and
Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE
Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to
Planning Board

A1.04

St. Lawrence Street Context Elevations

0' 10' 20' 40' 80'

Perspective Views of Proposed Building

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
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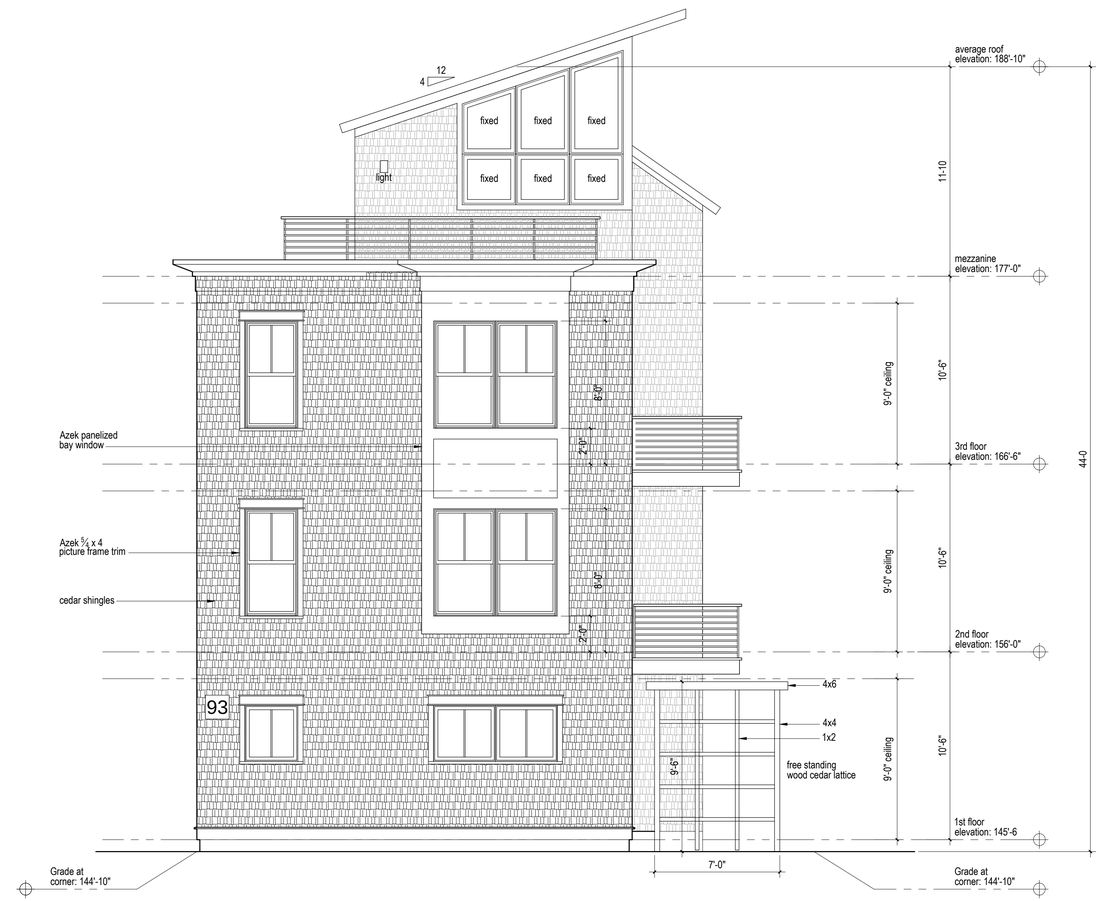
Scale: as noted

Date: 21 July, 2015

Submission to Planning Board

A2.00

2 Rear (East) Elevation,
1/4"= 1'-0"



1 Front (West) Elevation, St. Lawrence Street
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A2.01

1 Side (South) Elevation
1/4"= 1'-0"

2 Typical Light Fixture
no scale

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A2.02

2 Side (North) Elevation,
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and
Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE
Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

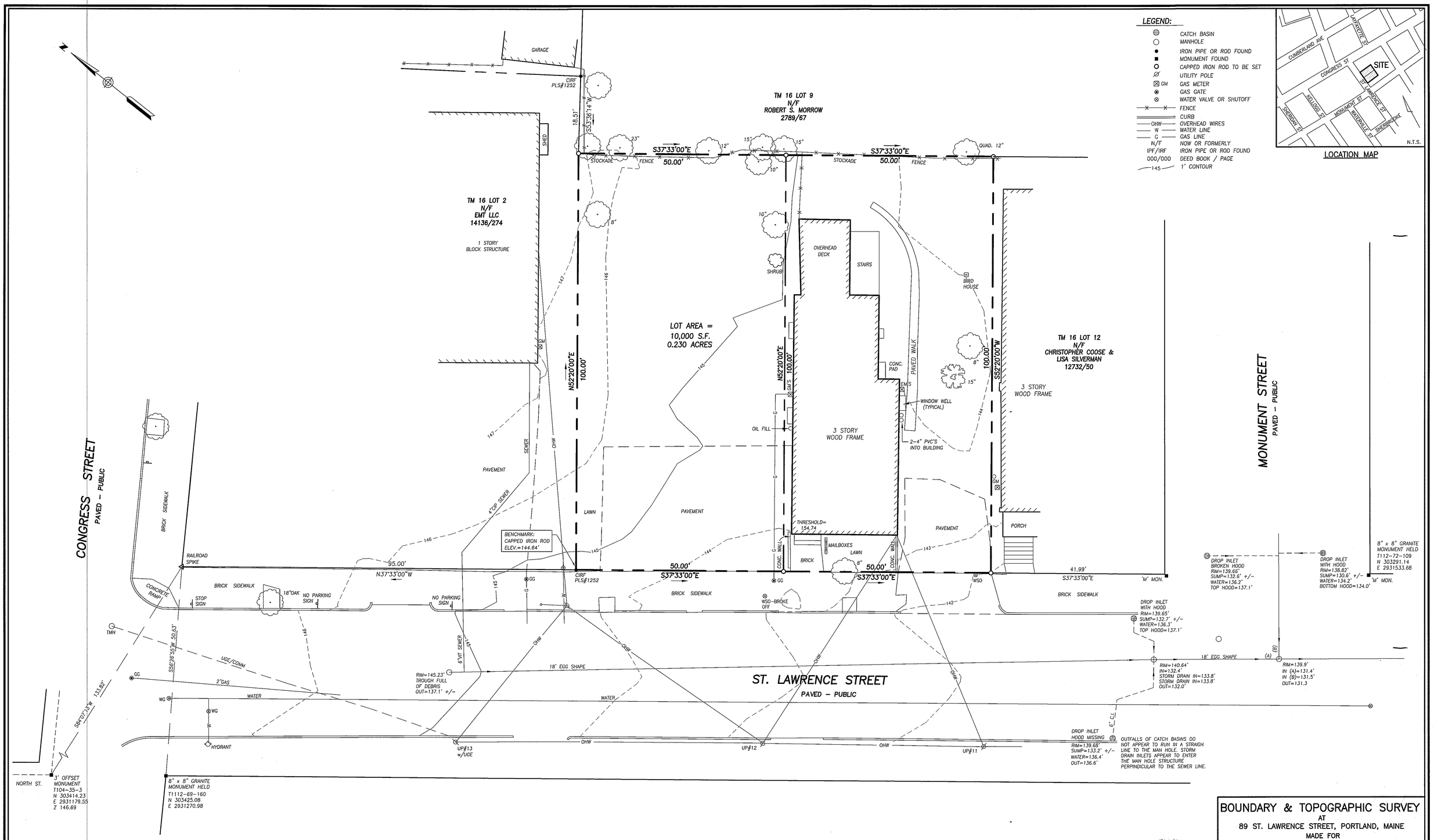
Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to
Planning Board

A2.03



UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-800-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, **ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.**

PLAN REFERENCES

1. "PLAN OF LAND IN PORTLAND, MAINE SURVEYED FOR STANDARD OIL COMPANY OF NEW YORK DECEMBER 1926 BY E.C. JORDAN CO.

2. CITY WORKING PLANS 25, 140, 148, DATED 1924 AND 1925.

3. "STANDARD BOUNDARY SURVEY ON 118 CONGRESS STREET, PORTLAND, MAINE MADE FOR THERIAULT/LANDMANN ASSOCIATES, PORTLAND, MAINE" DATED JULY 13, 1998 REV. 3 10-31/13 BY OWEN HASKELL, INC.

NOTES

1. OWNER OF RECORD: LAWRENCE W. GROSS C.C.R.D. BOOK 17303 PAGE 310, BOOK 30580 PAGE 89

2. LOCUS IS SHOWN AT LOT 16-D-10 & 11 ON THE CITY OF PORTLAND'S ASSESSORS MAPS.

3. BEARINGS ARE MAGNETIC 1926, PER PLAN REFERENCE #2.

4. ELEVATIONS ARE BASED ON CITY DATUM, BASED ON MONUMENT AT NORTHEAST CORNER OF NORTH AND CONGRESS STREETS, ELEV. 146.69'.

CERTIFICATE

OWEN HASKELL, INC. CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

6/11/14
DATE

RANDY R. LOUBIER, PLS #2407

STATE OF MAINE
RANDY R. LOUBIER
No. 2407
PROFESSIONAL LAND SURVEYOR

BOUNDARY & TOPOGRAPHIC SURVEY

AT

89 ST. LAWRENCE STREET, PORTLAND, MAINE

MADE FOR

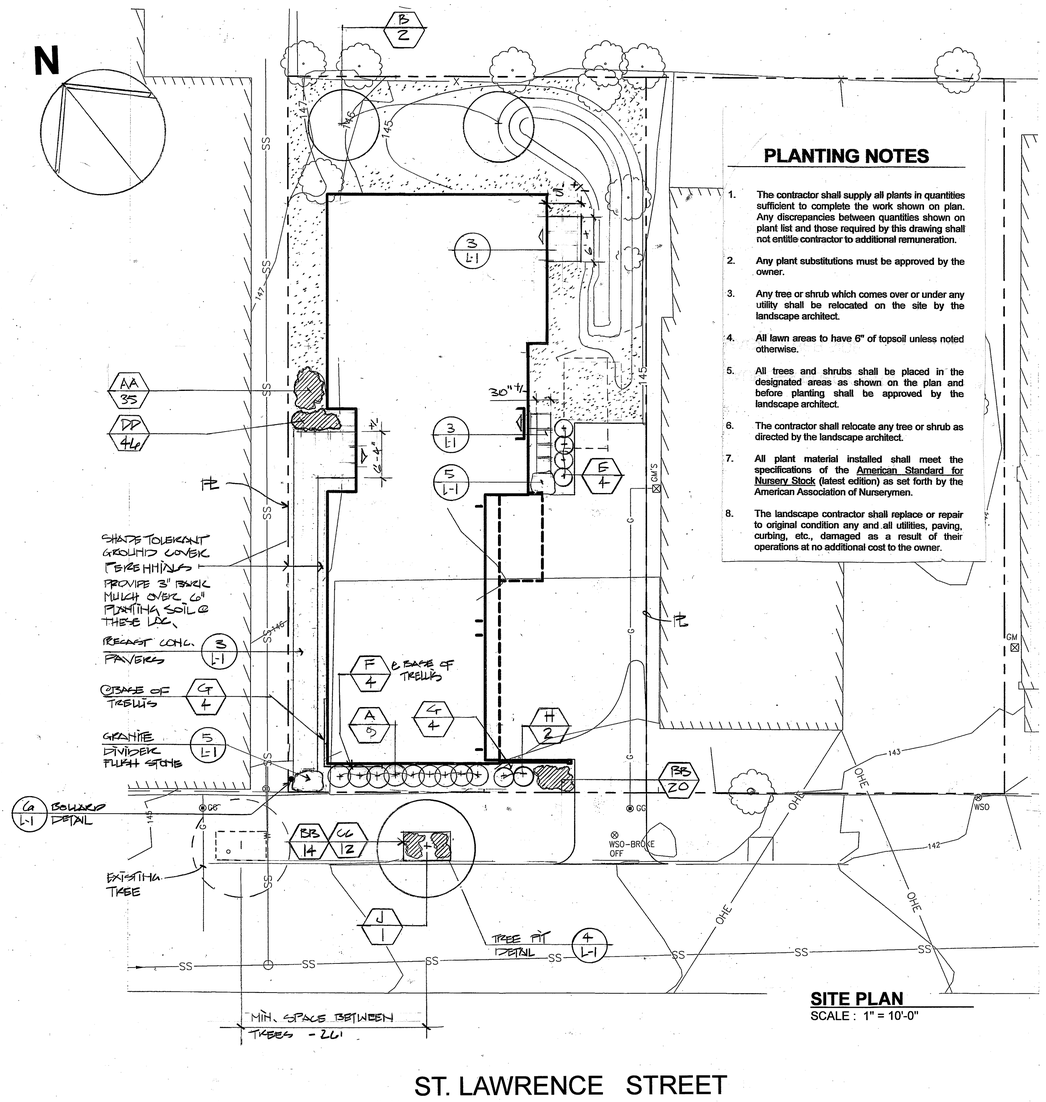
LAWRENCE W. GROSS

P.O. BOX 10152, PORTLAND, MAINE 04104

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	RRL	Date	Job No.
Trace By	JLW	JUNE 11, 2014	2014-011P
Check By	RRL	Scale	Drwg. No.
Book No.	1123	1" = 10'	1

S:\2014\2014-013\P St Lawrence St\2014-013P.dwg, 6/12/2014 11:49:24 AM, SAMSY 2404WD RPC5



SITE PLAN

SCALE : 1" = 10'-0"

PLANTING NOTES

1. The contractor shall supply all plants in quantities sufficient to complete the work shown on plan. Any discrepancies between quantities shown on plant list and those required by this drawing shall not entitle contractor to additional remuneration.
2. Any plant substitutions must be approved by the owner.
3. Any tree or shrub which comes over or under any utility shall be relocated on the site by the landscape architect.
4. All lawn areas to have 6" of topsoil unless noted otherwise.
5. All trees and shrubs shall be placed in the designated areas as shown on the plan and before planting shall be approved by the landscape architect.
6. The contractor shall relocate any tree or shrub as directed by the landscape architect.
7. All plant material installed shall meet the specifications of the American Standard for Nursery Stock (latest edition) as set forth by the American Association of Nurserymen.
8. The landscape contractor shall replace or repair to original condition any and all utilities, paving, curbing, etc., damaged as a result of their operations at no additional cost to the owner.

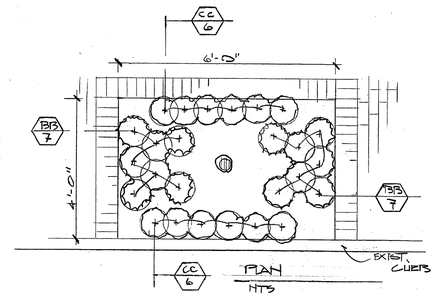
PLANT LIST

TREES , SHRUBS & VINES

KEY	COMMON & BOTANICAL NAME	SIZE	ROOT	QTY	NOTES
A	HIGHBUSH BLUEBERRY V. CORYMBOSUM	3' HT.	CONT	9	3 TRUNK
B	AMELANCHIER X GRANDIFLORA SERVICEBERRY 'CUMULUS – ROBIN HILL PINK'	2½ " CAL	B&B	2	3 TRUNK
C	SHASTA VIBURNUM V.PLICATUM VAR. TOMENTOSUM ' SHASTA'	4-5' HT	B&B	2	3 CANES
D	————————	———	———	———	———
E	'SUMMER SNOWFLAKE' VIBURNUM V. PLICATUM VAR. TOMENTOSUM ' SUMMER SNOWFLAKE'	# 5	CONT	4	
F	CLEMATIS CLEMATIS PANICULATA "Sweet Autumn"	—	CONT	4	Vine
G	WOODBINE Parthenocissus Quinquefolia	—	CONT	8	Vine
H	SARGENT JUNIPER J. CHINENSIS 'Sargenti"	——	#3	2	
J	YELLOWWOOD CLADRASTIS KENTUKEA	3" CAL.	B&B	1	Street Tree

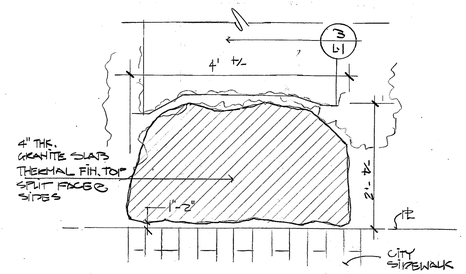
PERENNIALS

AA	BUNCHBERRY CORNUS CANADENSIS		CONT	45	@ 9" oc
BB	DAYLILY VAR. HEMEROCALLIS		PTD	34	BLOOM IN JULY THRU SEPT
CC	ASTILBE ASTILBE X ARENDSIS ' WHITE GLORY'		PTD	12	
DD	WILD GINGER ASARUM EUROPEUM		CONT	40	@ 9" oc



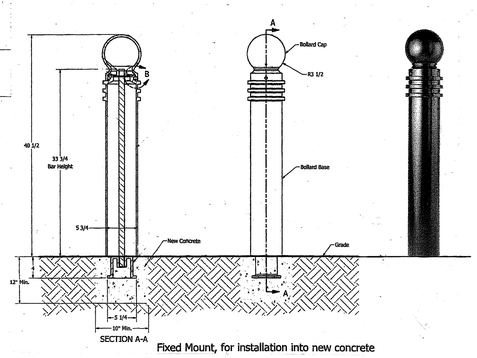
4 L-1 STREET TREE PLANTER DETAIL

INCLUDING PERENNIAL LOCATIONS



5 L-1 STONE DIVIDER DETAIL

NTS



BOLLARD - DUCTILE IRON # R-7571
MANU. BY: BELLWAGE FOUNDRY

6 L-1 BOLLARD DETAIL

NTS

NOTES:

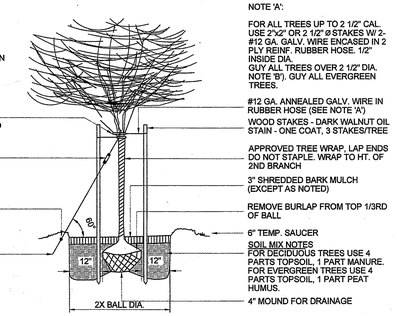
1. TREE SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.
2. NEVER CUT A LEADER, THIN BRANCHES & FOLIAGE BY 1/3 RETAINING NORMAL TREE SHAPE.

NOTE 'B':

SECURE GUYS W/ RUBBER HOSE & #12 GA. WIRE SIM. TO STAKING NOTE 'A'.

NOTE 'A':

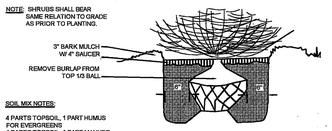
FOR ALL TREES UP TO 2 1/2" CAL. USE 2"x2" OR 2 1/2" Ø STAKES W/ 2-#12 GA. GALV. WIRE ENCASED IN 2 PLY REINF. RUBBER HOSE. 1/2" INSIDE DIA.
GUY ALL TREES OVER 2 1/2" DIA.
NOTE 'B'). GUY ALL EVERGREEN TREES.



1 L-1 PLANTING DETAIL - TREE

N.T.S.

NOTE: SHRUBS SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.

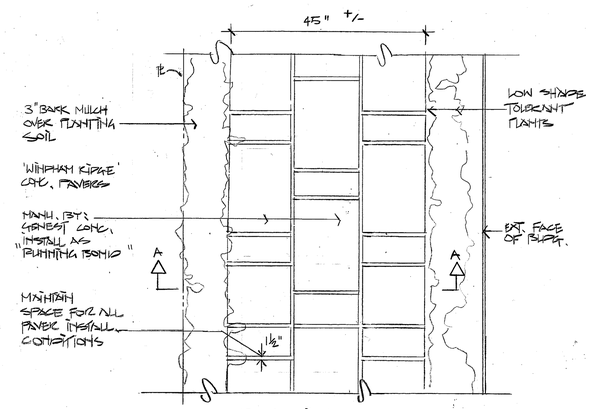


SOIL MIX NOTES:

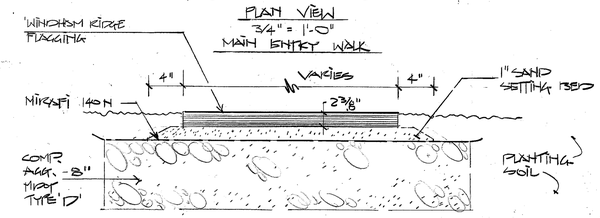
4 PARTS TOPSOIL, 1 PART HUMUS FOR EVERGREENS
4 PARTS TOPSOIL, 1 PART MANURE FOR DECIDUOUS SHRUBS

2 L-1 PLANTING DETAIL - SHRUB

N.T.S.



PLAN VIEW
3/4" = 1'-0"
MAIN ENTRY WALK



SECTION A-A
1½" = 1'-0"

3 L-1 WALK PAVING DETAIL

NTS

REGISTERED LANDSCAPE ARCHITECT
ANTHONY L. MUENCH
7.20.15
State of Maine

Anthony Muench Landscape Architect
94 Commercial Street Portland Maine 04101 2077614681

REV. 3.10.15
" 3.13.15

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
PORTLAND, MAINE 04101

DATE: 7.20.15

LANDSCAPE PLAN

L.1

UPDATED STORMWATER CALCULATIONS

STORMWATER QUALITY BMP
TREATMENT SIZING
MEDEP CHAPTER 500

LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING
93 ST. LAWRENCE STREET
PORTLAND, MAINE

Date: 9/11/2015
Project No. 15086.00

Infiltration Basin Subcatchment 2S - Roof and North Lawn Area

PAVED AREAS CAPTURED: (proposed)	=	2,051	sf
GRASS AREAS CAPTURED:(proposed)	=	1,501	sf

DEP MIN. FILTER BED SIZE:

(1"/12") 2,051 + (0.4"/12") 1,501 = 221 cf min. bed Water Quality Vol.(WQV)

Actual Bed Volume Proposed @ 18" Water Depth = **287 cf**

Infiltration Basin WQV Storage Duration

Infiltration rate =	1.42	in/hr	=	0.00003	ft/s
Maximum Storage Depth =	102.24	in	=	8.52	ft.
Actual Storage Depth			=	**1.0**	**ft.**

SME
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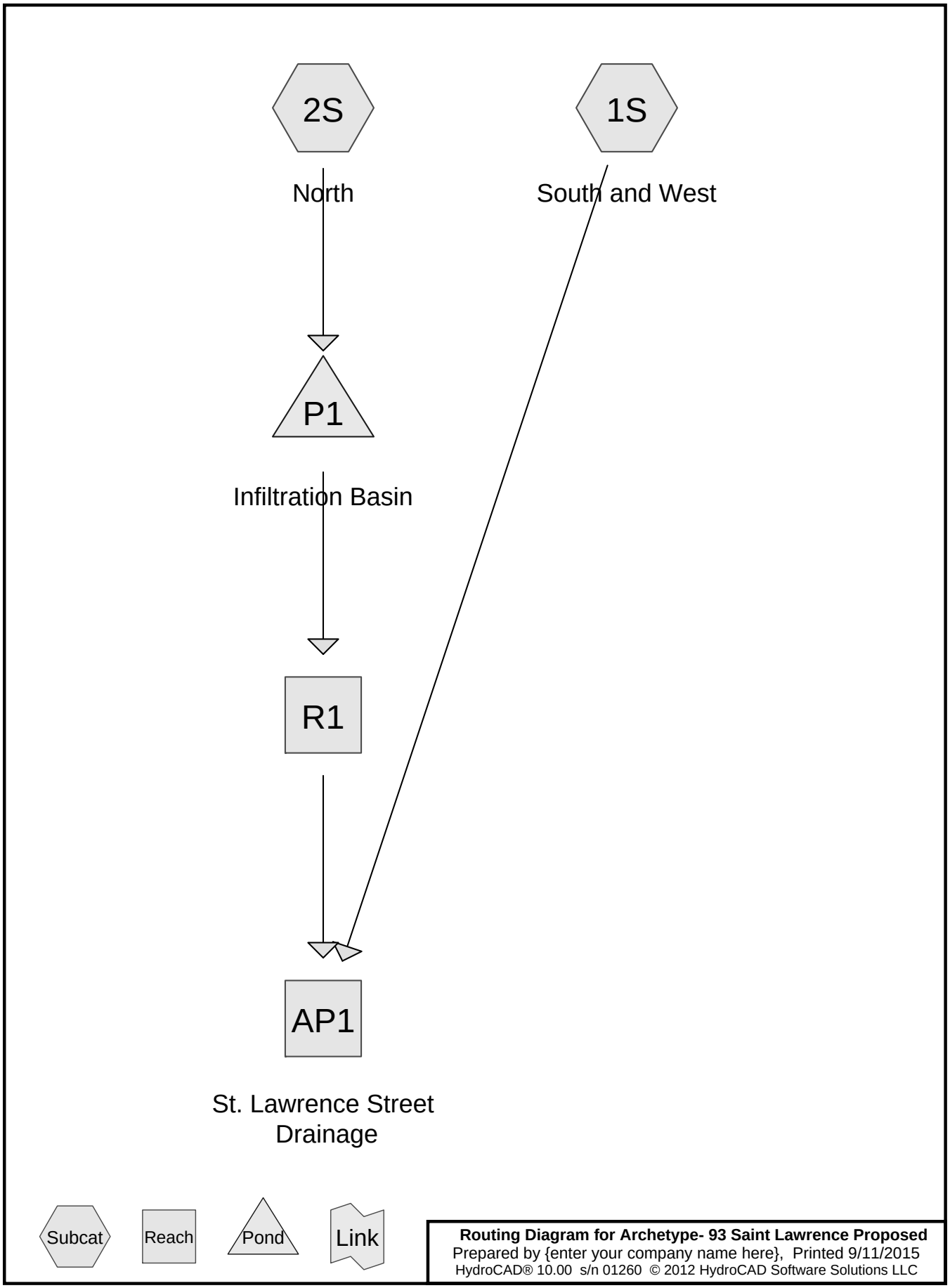
2S
1S
North
South and West
P1
Infiltration Basin
R1
AP1
St. Lawrence Street
Drainage
Subcat
Reach
Pond
Link
Routing Diagram for Archetype- 93 Saint Lawrence Proposed
Prepared by {enter your company name here}, Printed 9/11/2015
HydroCAD® 10.00 s/n 01260 © 2012 HydroCAD Software Solutions LLC

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: South and West Runoff Area=2,576 sf 56.33% Impervious Runoff Depth=0.81"
Flow Length=145' Tc=5.3 min CN=72 Runoff=0.05 cfs 0.004 af

Subcatchment 2S: North Runoff Area=3,552 sf 57.74% Impervious Runoff Depth=0.86"
Tc=5.0 min CN=73 Runoff=0.08 cfs 0.006 af

Reach AP1: St. Lawrence Street Drainage Inflow=0.05 cfs 0.004 af
Outflow=0.05 cfs 0.004 af

Reach R1: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=70.0' S=0.0214 '/' Capacity=80.40 cfs Outflow=0.00 cfs 0.000 af

Pond P1: Infiltration Basin Peak Elev=143.96' Storage=91 cf Inflow=0.08 cfs 0.006 af
Discarded=0.01 cfs 0.006 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.006 af

Total Runoff Area = 0.141 ac Runoff Volume = 0.010 af Average Runoff Depth = 0.84"
42.85% Pervious = 0.060 ac 57.15% Impervious = 0.080 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: South and West Runoff Area=2,576 sf 56.33% Impervious Runoff Depth=1.97"
Flow Length=145' Tc=5.3 min CN=72 Runoff=0.14 cfs 0.010 af

Subcatchment 2S: North Runoff Area=3,552 sf 57.74% Impervious Runoff Depth=2.05"
Tc=5.0 min CN=73 Runoff=0.20 cfs 0.014 af

Reach AP1: St. Lawrence Street Drainage Inflow=0.14 cfs 0.010 af
Outflow=0.14 cfs 0.010 af

Reach R1: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.013 L=70.0' S=0.0214 '/' Capacity=80.40 cfs Outflow=0.00 cfs 0.000 af

Pond P1: Infiltration Basin Peak Elev=144.48' Storage=279 cf Inflow=0.20 cfs 0.014 af
Discarded=0.01 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.014 af

Total Runoff Area = 0.141 ac Runoff Volume = 0.024 af Average Runoff Depth = 2.01"
42.85% Pervious = 0.060 ac 57.15% Impervious = 0.080 ac

Summary for Subcatchment 1S: South and West

Runoff = 0.14 cfs @ 12.08 hrs, Volume= 0.010 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
1,125	39	>75% Grass cover, Good, HSG A
1,451	98	Paved parking, HSG A
2,576	72	Weighted Average
1,125		43.67% Pervious Area
1,451		56.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	40	0.0250	0.15		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.00"
0.7	60	0.0333	1.47		**Sheet Flow, B-C** Smooth surfaces n= 0.011 P2= 3.00"
0.2	45	0.0220	3.01		**Shallow Concentrated Flow, C-D** Paved Kv= 20.3 fps
5.3	145	Total			

Summary for Subcatchment 2S: North

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
1,501	39	>75% Grass cover, Good, HSG A
2,024	98	Unconnected roofs, HSG A
27	98	Paved parking, HSG A
3,552	73	Weighted Average
1,501		42.26% Pervious Area
2,051		57.74% Impervious Area
2,024		98.68% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, Tc MUST BE 5 MIN OR GREATER**

Summary for Reach AP1: St. Lawrence Street Drainage

Inflow Area = 0.141 ac, 57.15% Impervious, Inflow Depth = 0.83" for 10-Year event
Inflow = 0.14 cfs @ 12.08 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.08 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Reach R1:

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 10.0 sf, Capacity= 80.40 cfs

10.00' x 0.50' deep channel, n= 0.013 Asphalt, smooth
Side Slope Z-value= 20.0 '/' Top Width= 30.00'
Length= 70.0' Slope= 0.0214 '/'
Inlet Invert= 144.50', Outlet Invert= 143.00'

‡

Summary for Pond P1: Infiltration Basin

Inflow Area = 0.082 ac, 57.74% Impervious, Inflow Depth = 2.05" for 10-Year event
Inflow = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af
Outflow = 0.01 cfs @ 13.80 hrs, Volume= 0.014 af, Atten= 93%, Lag= 103.1 min
Discarded = 0.01 cfs @ 13.80 hrs, Volume= 0.014 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 144.48' @ 13.80 hrs Surf.Area= 454 sf Storage= 279 cf

Plug-Flow detention time= 227.7 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 227.7 min (1,069.9 - 842.2)

Volume	Invert	Avail.Storage	Storage Description
#1	143.50'	627 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
143.50	128	0	0
144.00	279	102	102
144.50	460	185	287
145.00	900	340	627

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**9.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Discarded	143.50'	**1.420 in/hr Exfiltration over Surface area above 143.40'** Conductivity to Groundwater Elevation = 0.00' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.01 cfs @ 13.80 hrs HW=144.48' (Free Discharge)
└─**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=143.50' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: South and West Runoff Area=2,576 sf 56.33% Impervious Runoff Depth=2.59"
Flow Length=145' Tc=5.3 min CN=72 Runoff=0.18 cfs 0.013 af

Subcatchment 2S: North Runoff Area=3,552 sf 57.74% Impervious Runoff Depth=2.68"
Tc=5.0 min CN=73 Runoff=0.26 cfs 0.018 af

Reach AP1: St. Lawrence Street Drainage Inflow=0.18 cfs 0.015 af
Outflow=0.18 cfs 0.015 af

Reach R1: Avg. Flow Depth=0.01' Max Vel=0.76 fps Inflow=0.08 cfs 0.003 af
n=0.013 L=70.0' S=0.0214 '/' Capacity=80.40 cfs Outflow=0.07 cfs 0.003 af

Pond P1: Infiltration Basin Peak Elev=144.52' Storage=298 cf Inflow=0.26 cfs 0.018 af
Discarded=0.02 cfs 0.016 af Primary=0.08 cfs 0.003 af Outflow=0.09 cfs 0.018 af

Total Runoff Area = 0.141 ac Runoff Volume = 0.031 af Average Runoff Depth = 2.64"
42.85% Pervious = 0.060 ac 57.15% Impervious = 0.080 ac

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

Att. O

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

Prepared for

LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING
93 St. Lawrence Street
Portland, Maine

September 2015

SME
Sevee & Maher Engineers, Inc.

ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE

4 Blanchard Road, PO Box 85A, Cumberland Center, ME 04021 • Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

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2.0	**CONTACTS**	1
3.0	**POST CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES**	2
3.1	Site Management Practices	2
3.2	Inspections	3
3.3	Routine Maintenance and Corrective Actions	3
3.4	Annual Report	5

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN
LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING

1.0 SITE DESCRIPTION

Larry Gross and Barbara Colby (Owners) propose to construct a 2,024-square-foot apartment building on a 5,000 square foot parcel located at 93 St. Lawrence Street in Portland, Maine. The building will be a three-story, four-unit apartment building with dedicated on-site parking in the garage located on the first floor. The property is located within the Residential 6 (R6) Zoning District and will comply with the City's vision of multifamily dwellings at a high density within this area.

The Owners are residents of the abutting property at 91 St. Lawrence Street and intend to construct a three-story rental property to include; a two-bedroom unit and garage on the first floor and three two-bedroom units between the second and third floors.

The property is currently fully disturbed with a 1,310-square-foot paved parking area along the street frontage and a maintained lawn area to the rear of the property. The proposed building, paved vehicle maneuvering area, walks and patios will not result in an increase in developed area on the property, but will increase the on-site impervious area to approximately 3,300 square feet.

2.0 CONTACTS

Facility:	93 St. Lawrence Street Portland, Maine 04101
Owner Representative:	Larry Gross & Barbara Colby Telephone: 207-232-1619 Scott Beal, Environmental Manager

Consultant/Designer: Sevee & Maher Engineers
4 Blanchard Road
Cumberland, Maine 04021
Telephone: 207-829-5016
Daniel P. Diffin, P.E.
dpd@smemaine.com

3.0 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN OVERVIEW AND OBJECTIVES

The Post Construction Stormwater Management Plan (PCSWMP) is an important component of the overall stormwater management system for the site. PCSWMP addresses various maintenance activities that should occur after construction and site stabilization. Proper implementation of the SWP can minimize pollutant generation and transport and maintain the stormwater treatment system to ensure proper operation. This PCSWMP includes three primary components:

1. Site Management Practices
2. Inspections
3. Routine Maintenance and Corrective Actions

3.1 Site Management Practices

Site management practices are aimed at reducing pollutants by minimizing use of certain materials, using alternative materials, or removing pollutants prior to discharge to the stormwater treatment system. These practices shall include:

a. Use slow release sulfur or plastic coated ureaform fertilizers (e.g., Nutralene).
b. Do not fertilize vegetated swales once vegetation is established.
c. Minimize use of pesticides by using a sound integrated pest management (IPM) approach to monitor and control the actual pests present.

d. Collect and remove autumn leaves to minimize transport to the stormwater treatment system.
e. Minimize use of de-icing materials and sand.
f. Routine sweeping of parking areas and driveways.
g. Fertilizers, pesticides and other hazardous materials should be stored in enclosed areas to avoid exposure to precipitation.
h. Material handling should be conducted to minimize risk of spillage and release to the stormwater treatment system.

3.2 Inspections

A series of routine inspections by the Owner or their agent shall be completed to allow for the early identification of potential problems, and to guide routine maintenance activities. Inspections shall be carried out in accordance with the Site Inspection Schedule (Table 1). Dates and observations shall be recorded for each inspection on the attached 'Inspection Log'.

In addition to the routine inspections, an inspection by a qualified post-construction stormwater inspector to inspect the BMPs is required on a minimum annual basis.

3.3 Routine Maintenance and Corrective Actions

Routine maintenance activities are designed to ensure proper function of the stormwater management system and minimize pollutant transport from the site. Routine maintenance activities must be completed according to the schedule (Table 1) provided in this plan. This schedule is the minimum amount of maintenance required, and maintenance that is more frequent may be needed when indicated by the inspections. Corrective actions (supplemental maintenance activities or repairs) should be completed as soon as possible, but no more than 7 days, after the inspection identifying the problem. Each maintenance activity will be recorded on the attached 'Maintenance and Repair Log'. Records of the deficiencies and corrective actions shall be included in the annual report.

During construction, the Sitework Contractor shall be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Following completion of construction, the Owner will be responsible for cleaning and maintaining stormwater components on the schedule outlined in Table 1.

Place removed sediments in an area of low erosion potential, either on-site or off-site, and seed with erosion control seed mix.

The following describes specific stormwater facilities maintenance requirements and minimum schedule of inspection and maintenance.

1. Open swales and ditches need to be inspected in the spring and fall, or after a major rainfall event, to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Sign of erosion or blockage shall be immediately repaired to assure a vigorous growth of vegetation for the stability of the structure and proper functioning. Swales that show newly formed channels or gullies will be immediately repaired by reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, and the control of woody or other undesirable vegetation.

2. Vegetated ditches should be mowed at least once during the growing season. Larger brush or trees must not be allowed to become established in the channel. Any areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.

3. If sediment in culverts or piped drainage systems exceeds 20 percent of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing or other mechanical means; however, care should be taken to not flush the sediments into the infiltration basin as it will reduce the pond's capacity and hasten the time when it must be cleaned. Storm pipes should be inspected on an annual basis.

4. Paved surfaces shall be swept or vacuumed at least annually in the spring to remove winter sand and periodically during the year on an as-needed basis to minimize the transportation of sediment during rainfall events.

5. Sediments within the infiltration basin shall be removed and the basin bottom repaired. Any areas around the infiltration basin found to have erosion should be corrected as necessary. Any bare areas should be seeded or sodded, as necessary. Inspect the area around the basin semi-annually for eroding soil and other sediment sources. Repair eroding areas using appropriate erosion control BMPs immediately. Control sediment sources, such as stockpiles of winter sand, by removing them from the basin's drainage area or surrounding them with sediment control BMP's. Prohibit vehicle access to all filtration areas, and limit pedestrian access into the basin. Heavy equipment used to maintain or rehabilitate the basins should work from the basin's perimeter.

3.4 Annual Report

The Owner or a qualified post-construction stormwater inspector shall provide a completed and signed certification to the department of public services (DPS) in a form provided by DPS certifying that the person has inspected the BMPs and that they are adequately maintained and functioning as required by this Plan, or that they require maintenance or repair, including the record of the deficiencies and corrective actions taken. The Owner will be required to pay a filing fee established by the DPS.

TABLE 1

LARRY GROSS AND BARBARA COLBY
4-UNIT MULTI-FAMILY APARTMENT BUILDING

	Spring	Fall or Yearly	After a Major Storm	Every 2-5 Years
Vegetated Areas				
Inspect all slopes and embankments	X	X	X	
Replant bare areas or areas with sparse growth	X	X	X	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X	X	X	
Driveways and Parking Surfaces				
Clear accumulated winter sand in parking lots and along roadways	X			
Sweep pavement to remove sediment	X			
Infiltration Basins				
Inspect soil filter to see that collected water drains within 72 hours.	X	X	X	
Rototill top 3" soil, or remove and replace the top 3" of soil with clean soil to the proper specification, when the bed fails to drain dry within 72 hours.				X
Remove accumulated sediment, dead portions of plants, excessive growth, and weeds.		X		
Mow grass-covered filter bed no shorter than 6", at a frequency of no more than 2 times per growing season to maintain a high-grass meadow. Do not fertilize unless absolutely needed.	X	X		

The maintenance needs for most vegetative and stabilization measures may be found in the Maine Erosion and Sediment Control BMPs manual as published in 2003 (or latest version) and/or the Maine Stormwater Best Management Practices Manual.

LARRY GROSS AND BARBARA COLBY

4-UNIT MULTI-FAMILY APARTMENT BUILDING INSPECTION LOG

Date	Device/Area Inspected	Inspected By	Observations, Deficiencies & Recommended Corrective Actions

LARRY GROSS AND BARBARA COLBY

4-UNIT MULTI-FAMILY APARTMENT BUILDING MAINTENANCE LOG

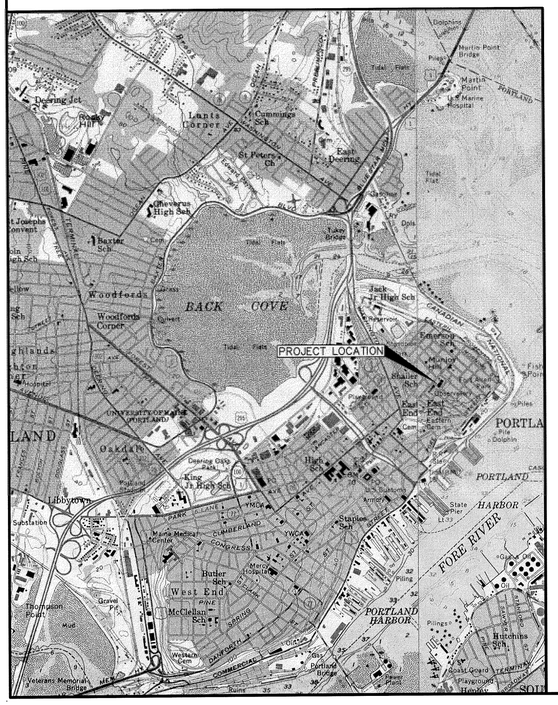
Date	Device or Area Maintained/ Repaired	Maintenance and/or Repair Completed By	Maintenance Completed/Corrective Actions Taken

Plan 1

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

TITLE	DWG NO
COVER SHEET	
GENERAL NOTES, LEGEND AND ABBREVIATIONS AND EXISTING CONDITIONS AND DEMOLITION PLAN	C-100
SITE PLAN	C-101
SUBDIVISION PLAT	C-101A
EROSION CONTROL NOTES AND DETAILS	C-300
SECTIONS AND DETAILS	C-301
STORMWATER MANAGEMENT PLAN	D-100
1st FLOOR PLAN	A1.01
2nd FLOOR PLAN	A1.02
3rd FLOOR PLAN	A1.03
ROOF & MEZZANINE PLAN	A1.04
REAR (EAST) ELEVATION / FRONT(WEST) ELEVATION	A2.01
SIDE (SOUTH) ELEVATION	A2.02
SIDE (NORTH) ELEVATION	A2.03
BOUNDARY & TOPOGRAPHIC SURVEY	1
LANDSCAPE PLAN	L.1

LOCATION MAP



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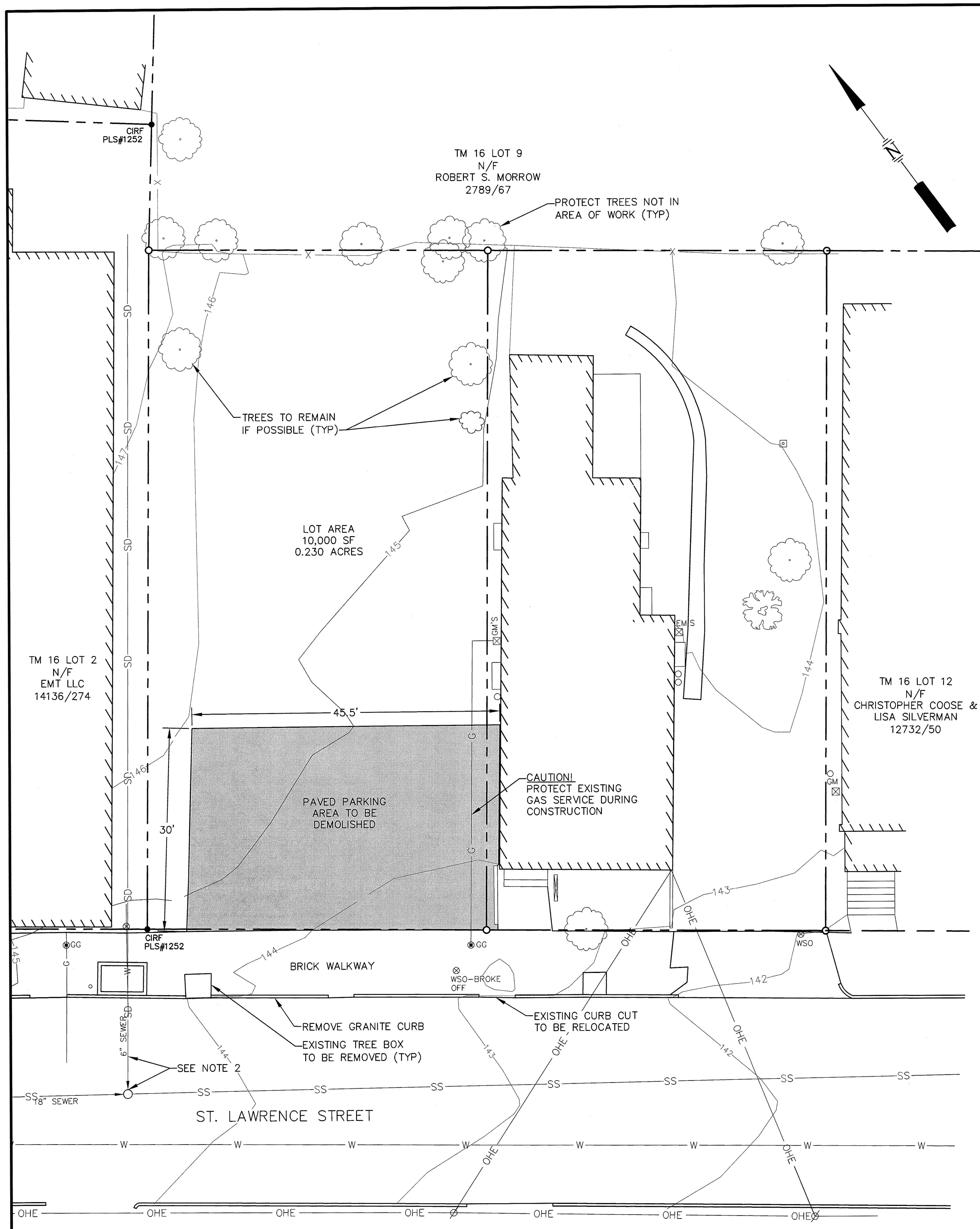
STATE OF MAINE
GUY I. COTE, JR.
No. 5144
LICENSED
PROFESSIONAL ENGINEER



NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014.
2. SITE FEATURES FROM PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

5 0 10 20 FEET

GENERAL SITE NOTES:

1. RELOCATE EXISTING TBM INFORMATION ONTO NEW TBM OF CONTRACTORS CHOICE FOR CONSTRUCTION USE PRIOR TO REMOVAL OF EXISTING TBM.
2. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE OWNER DURING CONSTRUCTION, AND SHALL NOT BE REMOVED FROM THE SITE. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR.
3. DIMENSIONS ARE TO FACE OF CURB AND TO FACE OF FOUNDATION UNLESS OTHERWISE INDICATED.
4. PAVEMENT EDGES SHALL BE TRUE TO LINE. SAWCUT EXISTING PAVEMENT IN SMOOTH STRAIGHT LINE WHERE NEW PAVEMENT JOINS PROVIDE TACK COAT LAYER AS SPECIFIED.
5. ALL WORK WITHIN STREET RIGHT-OF-WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.

GRADING NOTES:

1. ADD 6" LOAM, SEED AND MULCH TO DISTURBED AREAS UNLESS OTHERWISE NOTED. PROVIDE EROSION CONTROL MESH ON ALL SLOPES 6:1 OR STEEPER, AND ALONG DITCH CHANNELS.
2. GRADE SURFACES TO DRAIN AWAY FROM BUILDING. PUDDLING OF WATER IN PAVED OR UNPAVED AREAS WILL NOT BE ACCEPTABLE, EXCEPT FOR AREAS DESIGNATED AS PONDS.
3. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT WEEKLY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
4. PLACE TEMPORARY SOIL STABILIZATION WITHIN 30 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 7 DAYS OF FINAL GRADING.

UTILITY NOTES:

1. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION IS NOT GUARANTEED. VERIFY SITE CONDITIONS INCLUDING TEST PITS FOR LOCATIONS AND INVERTS OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THAT PORTION OF THE WORK.
2. PLACE 4 FOOT WIDE BY 2 INCH THICK TRENCH INSULATION OVER SEWER LINES WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 4 FEET. PLACE INSULATION ALSO BETWEEN SEWER LINE AND STORM DRAIN OR BETWEEN WATER LINE AND STORM DRAIN WHERE SEPARATION IS LESS THAN 5 FEET.
3. PROVIDE AT LEAST 5 FEET OF SOIL COVER OVER WATER LINES. SURROUND WATER PIPE WITH 6 INCHES OF CONCRETE ENCASEMENT, REINFORCED WITH WWF, AT CROSSINGS OF SEWER LINES UNLESS WATER IS ABOVE BY 18 INCH CLEARANCE. ENCASEMENT TO EXTEND 10 FEET BEYOND SEWER LINE IN BOTH DIRECTIONS.
4. PROVIDE CONCRETE THRUST BLOCKING FOR WATER LINES ACCORDING TO THE TABLE ON THE DETAIL SHEET.
5. CLEAN SEDIMENTS FROM NEW AND EXISTING STORM DRAIN PIPES AND CATCH BASINS.
6. COORDINATE WORK ON UTILITY LINES OR WITHIN ROAD RIGHT-OF-WAY WITH THE UTILITY COMPANIES AND CITY ROAD DEPARTMENT.
7. SLOPE CONDUITS AWAY FROM BUILDING TO HANDHOLE OR UTILITY POLE TO AVOID GROUND WATER SEEPAGE INTO BUILDING.
8. RESET RIMS OF EXISTING UTILITY STRUCTURES, MANHOLES AND CATCH BASINS TO NEW GRADE.

TYPICAL ABBREVIATIONS:

ACCMP	ASPHALT COATED CMP
ACP	ASBESTOS CEMENT PIPE
AC	ACRE
AGG	AGGREGATE
ALUM	ALUMINUM
APPD	APPROVED
APPROX	APPROXIMATE
ARMH	AIR RELEASE MANHOLE
ASB	ASBESTOS
ASP	ASPHALT
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AZ	AZIMUTH
BCCMP	BITUMINOUS COATED CMP
BM	BENCH MARK
BIT	BITUMINOUS
BLDG	BUILDING
BOT	BOTTOM
BRG	BEARING
BV	BALL VALVE
CB	CATCH BASIN
CEN	CENTER
CEM LIN	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CONTR	CONTRACTOR
CS	CURB STOP
CTR	CENTER
CU	COPPER
CY	CUBIC YARD
D	DEGREE OF CURVE
DBL	DOUBLE
DEG OR °	DEGREE
DEPT	DEPARTMENT
DI	DUCTILE IRON
DIA OR ø	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DN	DOWN
DR	DRAIN
DWG	DRAWING
EA	EACH
EG	EXISTING GROUND OR GRADE
ELEC	ELECTRIC
EL	ELEVATION
ELB	ELBOW
EOP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EST	ESTIMATED
EXC	EXCAVATE
EXIST	EXISTING
FI	FIELD INLET
FG	FINISH GRADE
FBRGL	FIBERGLASS
FDN	FOUNDATION
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FPS	FEET PER SECOND
FT OR '	FEET
FTG	FOOTING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HYD	HYDRANT
ID	INSIDE DIAMETER
IN OR "	INCHES
INV	INVERT
INV EL	INVERT ELEVATION
LB	POUND
LC	LEACHATE COLLECTION
LD	LEAK DETECTION
LF	LINEAR FEET
LOC	LOCATION
LT	LEACHATE TRANSPORT
MH	MANHOLE
MJ	MECHANICAL JOINT
MATL	MATERIAL
MAX	MAXIMUM
MFR	MANUFACTURE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
NITC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
N/F	NOW OR FORMERLY
NO OR #	NUMBER
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	POINT OF CURVE
PD	PERIMETER DRAIN
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PT	POINT OF TANGENT
PERF	PERFORATED
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
RAD	RADIUS
REQD	REQUIRED
RT	RIGHT
RTE	ROUTE
S	SLOPE
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SMH	SANITARY MANHOLE
ST	STREET
STA	STATION
SY	SQUARE YARD
TAN	TANGENT
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPORARY
TYP	TYPICAL
UD	UNDERDRAIN
V	VOLTS
VA TEE	VALVE ANCHORING TEE
VGC	VERTICAL GRANITE CURB
VERT	VERTICAL
WG	WATER GATE
W/	WITH
W/O	WITHOUT
YD	YARD

DIG SAFE NOTES:

Plan 2

PRIOR TO EXCAVATION, VERIFY THE UNDERGROUND UTILITIES, PIPES, STRUCTURES AND FACILITIES. PROVIDE THE FOLLOWING MINIMUM MEASURES:

1. PRE-MARK THE BOUNDARIES OF YOUR PLANNED EXCAVATION WITH WHITE PAINT, FLAGS OR STAKES, SO UTILITY CREWS KNOW WHERE TO MARK THEIR LINES.
2. CALL DIG SAFE AT 811 AT LEAST THREE BUSINESS DAYS – BUT NO MORE THAN 30 CALENDAR DAYS – BEFORE STARTING WORK. DO NOT ASSUME SOMEONE ELSE WILL MAKE THE CALL.
3. IF BLASTING, NOTIFY DIG SAFE AT LEAST ONE BUSINESS DAY IN ADVANCE.
4. WAIT THREE BUSINESS DAYS FOR LINES TO BE LOCATED AND MARKED WITH COLOR-CODED PAINT, FLAGS OR STAKES. NOTE THE COLOR OF THE MARKS AND THE TYPE OF UTILITIES THEY INDICATE. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
5. CONTACT THE LANDOWNER AND OTHER "NON-MEMBER" UTILITIES (WATER, SEWER, GAS, ETC.) FOR THEM TO MARK THE LOCATIONS OF THEIR UNDERGROUND FACILITIES. TRANSFER THESE MARKS TO THE AS-BUILT DRAWINGS.
6. RE-NOTIFY DIG SAFE AND THE NON-MEMBER UTILITIES IF THE DIGGING, DRILLING OR BLASTING DOES NOT OCCUR WITHIN 30 CALENDAR DAYS OF INITIAL NOTIFICATION, OR IF THE MARKS ARE LOST DUE TO WEATHER CONDITIONS, SITE WORK ACTIVITY OR ANY OTHER REASON.
7. HAND DIG WITHIN 18 INCHES IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.
8. DIG SAFE REQUIREMENTS ARE IN ADDITION TO TOWN, CITY AND/OR STATE DOT STREET OPENING PERMIT REQUIREMENTS.
9. FOR COMPLETE DIG SAFE REQUIREMENTS, CALL THE PUBLIC UTILITIES COMMISSION (PUC) OR VISIT THEIR WEBSITE.
10. IF YOU DAMAGE, DISLOCATE OR DISTURB ANY UNDERGROUND UTILITY LINE, IMMEDIATELY NOTIFY THE AFFECTED UTILITY. IF DAMAGE CREATES SAFETY CONCERNS, CALL THE FIRE DEPARTMENT AND TAKE IMMEDIATE STEPS TO SAFEGUARD HEALTH AND PROPERTY.
11. ANY TIME AN UNDERGROUND LINE IS DAMAGED OR DISTURBED OR IF LINES ARE IMPROPERLY MARKED, YOU MUST FILE AN INCIDENT REPORT WITH THE PUC FOR AN INCIDENT REPORT FORM VISIT WWW.STATE.ME.US/MPUC OR CALL THE PUC AT 1-800-452-4699.

LEGEND

EXISTING | PROPOSED

PROPERTY LINE
BUILDING
EDGE OF PAVEMENT
CURB
CONTOUR (100 | 100)
SPOT GRADE (114.23)
FENCE (X | X)
STORM DRAIN (SD | SD)
UNDERDRAIN (UD | UD)
CATCH BASIN
DRAINAGE MANHOLE
SANITARY SEWER LINE (SS | SS)
SANITARY SEWER MANHOLE
UTILITY POLE
UNDERGROUND UTILITY (UGU | UGU)
OVERHEAD UTILITY (OHE | OHE)
LIGHT POLE
WALL MOUNTED LIGHT
WATER LINE (W | W)
WATER GATE VALVE.
HYDRANT
GAS LINE (G | G)
SIGN
RIPRAP
HEADWALL
RETAINING WALL
TREELINE
TEST PIT (TP12-11)
BORING (SB13-102)
AUGER PROBE (A13-108)
CONCRETE
CRUSHED STONE

EROSION CONTROL LEGEND

CATCH BASIN PROTECTION WITH SILTSACK
SILT FENCE (SF)
CHECK DAM
STABILIZED ENTRANCE

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE
GUY H. COTE, JR.
No. 5144
LICENSED PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

GENERAL NOTES, LEGEND AND ABBREVIATIONS AND EXISTING CONDITIONS AND DEMOLITION PLAN

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DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: EXCON
CTB: SME-STD

JOB NO. 15086.00 DWG FILE BASE

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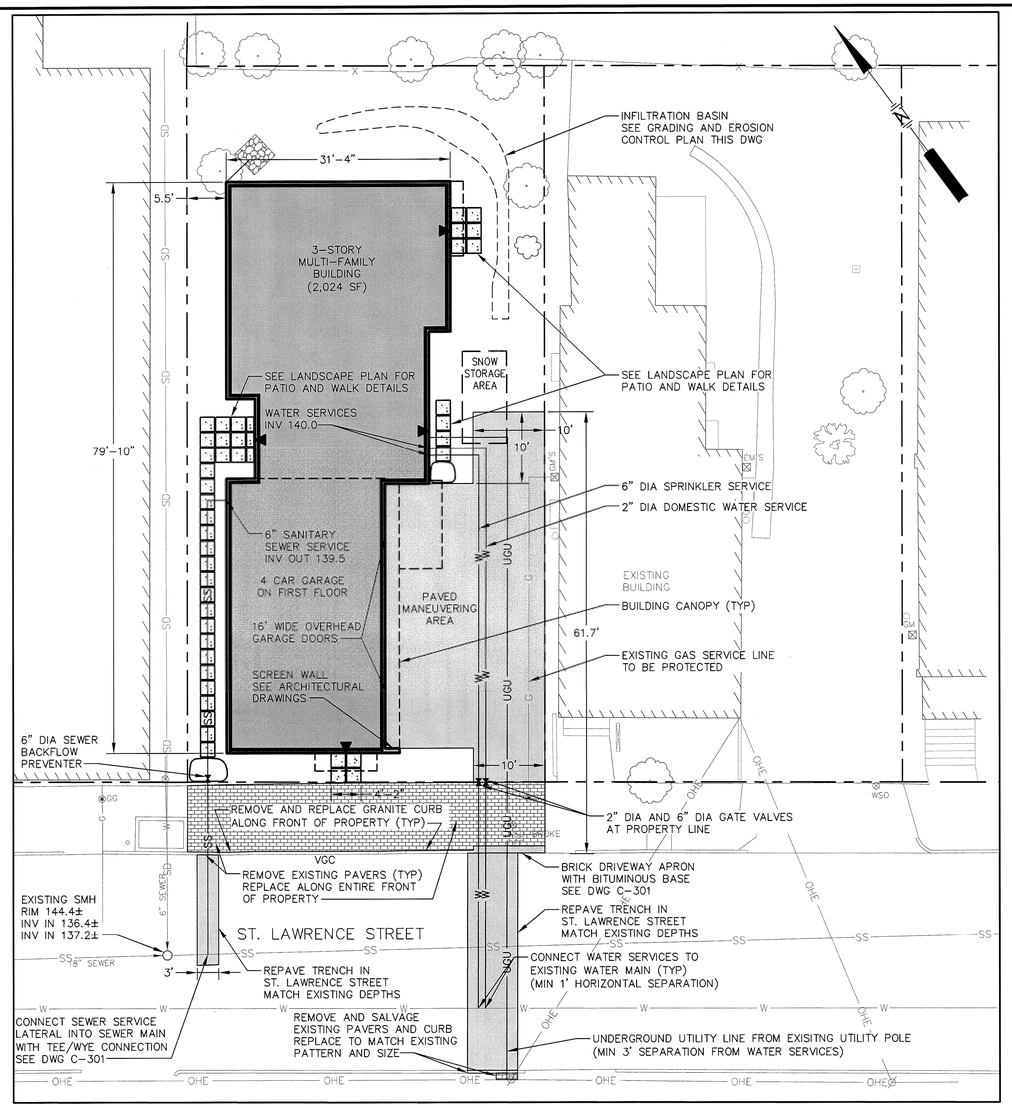
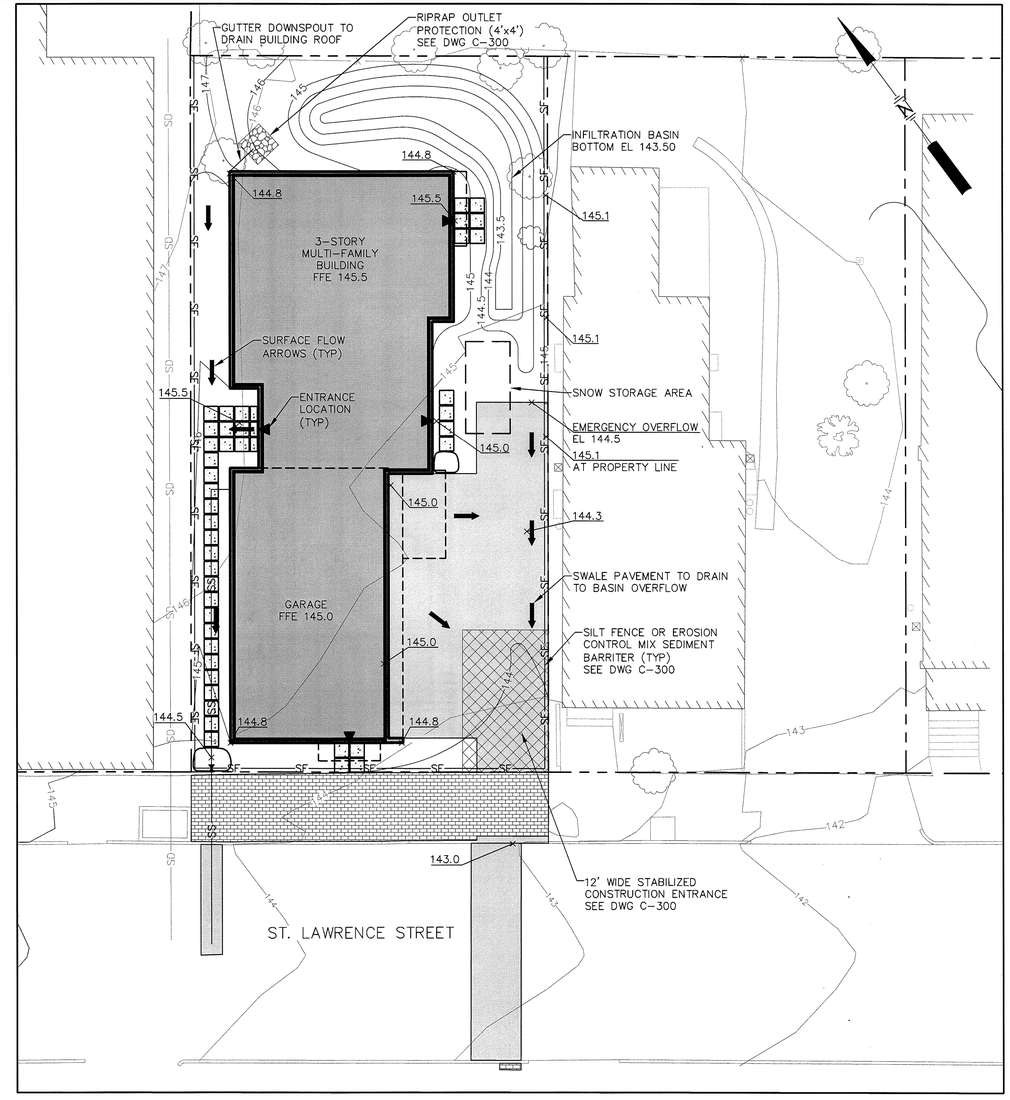
Plan 3



SITE AND UTILITY PLAN

5 0 10 20 FEET



GRADING AND EROSION CONTROL PLAN

5 0 10 20 FEET

NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014 AND PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

REV.	BY	DATE	STATUS
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	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE
GUY H. COTE, JR.
No. 5144
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SITE PLAN

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DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: SITE/GRADING
CTB: SME-STD

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C-101

Plan 4

ZONING NOTES:

1. PROPERTY OWNER/APPLICANT:
   LARRY GROSS AND BARBARA COLBY
   91 SAINT LAWRENCE STREET
   PORTLAND, MAINE

2. LOT INFORMATION – CHART/BLOCK/LOT: 016D010

3. ZONING DISTRICT: R6 – RESIDENTIAL 6 AND B–1 NEIGHBORHOOD BUSINESS ZONE

4. ZONING REQUIREMENTS: DIMENSIONAL STANDARDS TO BE IN ACCORDANCE WITH THE APPROVED ZONE AS SHOWN BELOW:

DIMENSIONAL STANDARDS

	REQUIRED (R6)	REQUIRED (B–1)	PROVIDED
MINIMUM LOT SIZE	2,000 SF	NONE	5,000 SF
MINIMUM LOT AREA PER DWELLING	725 SF	725 SF	1,250 SF
MINIMUM STREET FRONTAGE	20 FEET	20 FEET	>50 FEET
MINIMUM FRONT YARD SETBACK	5 FEET	10 FEET OR AVG OF ADJACENT BUILDING	5 FEET
MINIMUM SIDE SETBACK	5 FEET	NONE	5.5 FEET
MINIMUM REAR SETBACK	10 FEET	NONE	16 FEET
MAXIMUM BUILDING HEIGHT	45 FEET	45 FEET	43.5 FEET
MAXIMUM LOT COVERAGE	60%	90%	40%

BUILDING	2,024 SF (40%)
PAVEMENT	1,150 SF (23%)
OPEN SPACE	1,826 SF (37%)
TOTAL LOT SIZE	5,000 SF (100%)

5. PROPOSED USE: 4–UNIT APARTMENT BUILDING WITH 4 CAR GARAGE

6. THERE ARE NO WETLANDS, FLOODPLAINS OR SHORELAND ZONING ON THE PROPERTY.

7. PARKING SUMMARY:

   REQUIRED PARKING
   PARKING RATIO: 1 SPACES/UNIT

TOTAL: 4 SPACES

   PROVIDED PARKING
   PARKING GARAGE: 4 SPACES

8. SITE UTILITIES WILL BE PROVIDED FROM EXISTING SERVICES IN ST. LAWRENCE STREET AS FOLLOWS:

ELECTRIC/COMMUNICATIONS:	EXISTING SERVICE
WATER SUPPLY:	PORTLAND WATER DISTRICT
SEWER SERVICE:	CITY OF PORLAND
NATURAL GAS:	MAINE NATURAL GAS

SURVEYOR'S NOTES

1. OWNER OF RECORD: LAWRENCE W. GROSS
   C.C.R.D. BOOK 17303 PAGE 310, BOOK 30580 PAGE 89

2. LOCUS IS SHOWN AT LOT 16–D–10 & 11 ON THE CITY OF PORTLAND'S ASSESSORS MAPS.

3. BEARINGS ARE MAGNETIC 1926, PER PLAN REFERENCE #2.

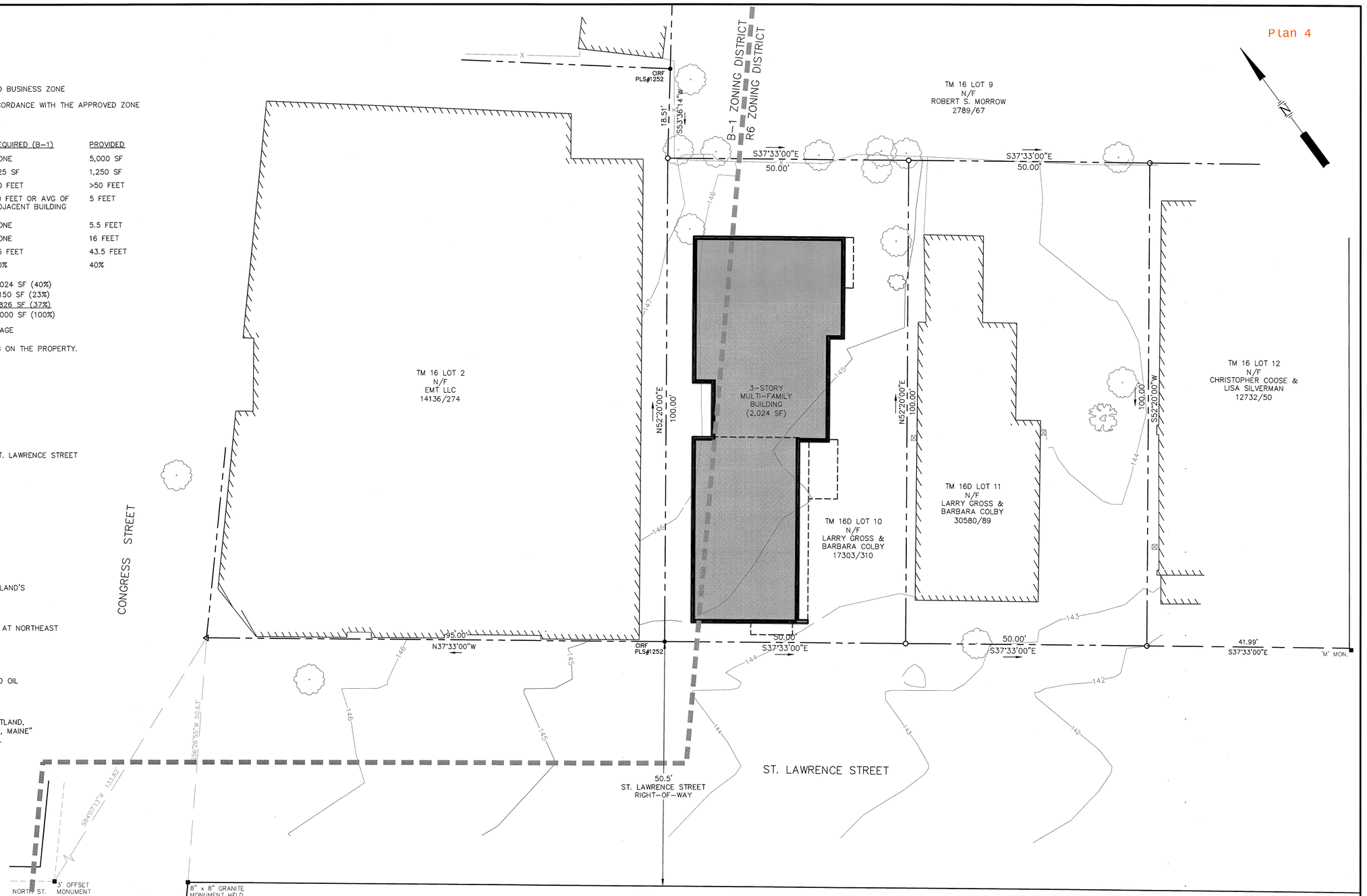
4. ELEVATIONS ARE BASED ON CITY DATUM, BASED ON MONUMENT AT NORTHEAST CORNER OF NORTH AND CONGRESS STREETS, ELEV. 146.69'.

PLAN REFERENCE

1. "PLAN OF LAND IN PORTLAND, MAINE" SURVEYED FOR STANDARD OIL COMPANY OF NEW YORK DECEMBER 1926 BY E.C. JORDAN CO.

2. CITY WORKING PLANS 25, 140, 148, DATED 1924 AND 1925.

3. "STANDARD BOUNDARY SURVEY ON 118 CONGRESS STREET, PORTLAND, MAINE MADE FOR THERIAULT/LANDMANN ASSOCIATES, PORTLAND, MAINE" DATED JULY 13, 1998 REV. 3 10–31/13 BY OWEN HASKELL, INC.



CITY OF PORTLAND PLANNING BOARD

DATE

5 0 10 20 FEET

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS

STATE OF MAINE
GARY W. COTE JR.
No. 5140
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SUBDIVISION PLAT

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JOB NO. 15086.00 DWG FILE BASE

DESIGN BY:	DPD
DRAWN BY:	JRL
DATE:	4/27/2015
CHECKED BY:	GWC
LMN:	SUBDIVISION
CTB:	SME–STD

C–101A

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Plan 5

A. GENERAL

1. All soil erosion and sediment control will be done in accordance with: (1) the Maine Erosion and Sediment Control Handbook: Best Management Practices, Maine Department of Environmental Protection (MEDEP), March 2003

2. The site contractor (to be determined) will be responsible for the repair/replacement/maintenance of all erosion control measures until all disturbed areas are stabilized.

3. Disturbed areas will be permanently stabilized within 7 days of final grading. Disturbed areas not to be worked upon within 14 days of disturbance will be temporarily stabilized within 7 days of the disturbance.

4. In all areas, removal of trees, bushes and other vegetation, as well as disturbance of topsoil will be kept to a minimum while allowing proper site operations.

5. Any suitable topsoil will be stripped and stockpiled for reuse as directed by the owner. Topsoil will be stockpiled in a manner such that natural drainage is not obstructed and no off-site sediment damage will result. In any event, stockpiles will not be located within 100 feet of wetlands and will be at least 50 feet upgradient of the stockpile's perimeter silt fence. The sideslopes of the topsoil stockpile will not exceed 2:1. Silt fence will be installed around the perimeter of all topsoil stockpiles. Topsoil stockpiles will be surrounded with siltation fencing and will be temporarily seeded with Aroostook rye, annual or perennial ryegrass within 7 days of formation, or temporarily mulched.

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

A crushed stone stabilized construction entrance/exit will be placed at any point of vehicular access to the site, in accordance with the detail shown on this sheet.

2. SILT FENCE

a. Silt fence will be installed prior to all construction activity, where soil disturbance may result in erosion. Silt fence will be erected at locations shown on the plans and/or downgrading of all construction activity.

b. Silt fences will be removed when they have served their useful purpose, but not before the upgradient areas have been permanently stabilized.

c. Silt fences will be inspected immediately after each rainfall and at least daily during prolonged rainfall. They will be inspected if there are any signs of erosion or sedimentation below them. Any required repairs will be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind them, they will be replaced with a temporary crushed stone check dam.

d. Sediment deposits will be removed after each storm event if significant build-up has occurred or if deposits exceed half the height of the barrier.

3. STONE CHECK DAMS

Stone check dams will be installed in grass-lined swales and ditches during construction.

4. BARK MULCH SEDIMENT BARRIER

a. Where approved, bark mulch sediment barriers may be used as a substitute for silt fence. See the details in this drawing set for specifications.

b. Rock Filter Berms: To provide more filtering capacity or to act as a velocity check dam, a berm's center can be composed of clean crushed rock ranging in size from the french drain stone to riprap.

5. TEMPORARY SEEDING

Stabilize disturbed areas that will not be brought to final grade for a year or less and reduce problems associated with mud and dust production from exposed soil surface during construction with temporary vegetation.

6. TEMPORARY MULCHING

Use temporary mulch in the following locations and/or circumstances:
- In sensitive areas (within 100 feet of streams, wetlands and in lake watersheds) temporary mulch will be applied within 7 days of exposing spill or prior to any storm event.
- Apply temporary mulch within 14 days of disturbance or prior to any storm event in all other areas.
- Areas, which have been temporarily or permanently seeded, will be mulched immediately following seeding.
- Areas which cannot be seeded within the growing season will be mulched for over-winter protection and the area will be seeded at the beginning of the growing season.
- Mulch can be used in conjunction with tree, shrub, vine, and ground cover plantings.
- Mulch anchoring will be used on slopes greater than 5 percent in late fall (past October 15), and over-winter (October 15 - April 15).

The following materials may be used for temporary mulch:

a. Hay or Straw material shall be air-dried, free of seeds and coarse material. Apply 2 bales/1,000 sf or 1.5 to 2 tons/acre to cover 90% of ground surface.

b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
- on slopes 2 horizontal to 1 vertical or less;
- on frozen ground or forested areas; and
- at the edge of gravel parking areas and areas under construction.

c. Erosion control mix alone is not suitable:
- on slopes with groundwater seepage;
- at low points with concentrated flows and in gullies;
- at the bottom of steep perimeter slopes exceeding 100 feet in length;
- below culvert outlet aprons; and
  around catch basins and closed storm systems.

d. Chemical Mulches and Soil Binders: Wide ranges of synthetic spray-on materials are marketed to protect the soil surface. These are emulsions that are mixed with water and applied to the soil. They may be used alone, but most often are used to hold wood fiber, hydro-mulches or straw to the soil surface.

e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15 to October 15) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
- the base of grassed waterways;
- steep slopes (15 percent or greater); and
- any disturbed soil within 100 feet of lakes, streams, or wetlands.

During the late fall and winter (October 15 to April 15) use heavy grade mats indicated on drawings for NAG SC250 on all areas noted above plus use lighter grade mats NAG S75 (or mulch and netting) on:
- sideslopes of grassed waterways; and
- moderate slopes (between 8 and 15 percent).

7. TEMPORARY DUST CONTROL

To prevent the blowing and movement of dust from exposed soil surfaces, and reduce the presence of dust, use water or calcium chloride to control dusting by preserving the moisture level in the road surface materials.

8. CONSTRUCTION DE-WATERING

a. Water from construction de-watering operations shall be cleaned of sediment before reaching wetlands, water bodies, streams or site boundaries. Utilize temporary sediment basins, erosion control soil filter berms backed by staked hay bales, A Dirt Bag 55" sediment filter bag by ACF Environmental, or other approved Best Management Practices (BMP's).

b. In sensitive areas, near streams or ponds, discharge the water from the de-watering operation into a temporary sediment basin created by a surrounding filter berm of uncompacted erosion control mix immediately backed by staked hay bales (see the site details). Locate the temporary sediment basin at lease 100 feet from the nearest water body, such that the filtered water will flow through undisturbed vegetated soil areas prior to reaching the water body or property line.

C. PERMANENT MEASURES

1. Riprapped Aprons: All storm drain pipe outlets and the inlet and outlet of culverts will have riprap aprons to protect against scour and deterioration.

2. Topsoil, Seed, and Mulch: All areas disturbed during construction, but not subject to other restoration (paving ,riprap, etc.) will be loamed, limed, fertilized, seeded, and mulched.

a. Seeded Preparation: Use stockpiled materials spread to the depths shown on the plans, if available. Approved topsoil substitutes may be used. Grade the site as needed.

b. Seeding will be completed by August 15 of each year. Late season seeding may be done between August 15 and October 15. Areas not seeded or which do not obtain satisfactory growth by October 15, will be seeded with Aroostook Rye or mulched. After November 1, or the first killing frost, disturbed areas will be seeded at double the specified application rates, mulched, and anchored.

PERMANENT SEEDING SPECIFICATIONS

Mixture:	Roadside (lbs/acre)	Lawn (lbs/acre)
Kentucky Bluegrass	20	55
White Clover	5	0
Creeping Red Fescue	20	55
Perennial Ryegrass	5	15

c. Mulch in accordance with specifications for temporary mulching.

d. If permanent vegetated stabilization cannot be established due to the season of the year, all exposed and disturbed areas not to undergo further disturbance are to have dormant seeding applied and be temporarily mulched to protect the site.

3. Ditches and Channels: All ditches on-site will be lined with North American Green S75 erosion control mesh (or an approved equal) upon installation of loam and seed.

D. WINTER CONSTRUCTION AND STABILIZATION

1. Winter excavation and earthwork will be completed so as to minimize exposed areas while satisfactorily completing the project. Limit exposed areas to those areas in which work is to occur during the following 15 days and that can be mulched in one day prior to any snow event. All areas will be considered denuded until the subbase gravel is installed in roadway areas or the areas of future loam and seed have been loamed, seeded, and mulched.

Install any added measures necessary to control erosion/sedimentation. The particular measure used will be dependent upon site conditions, the size of the area to be protected, and weather conditions.

To minimize areas without erosion control protection, continuation of earthwork operations on additional areas will not begin until the exposed soil surface on the area being worked has been stabilized.

2. Natural Resource Protection: During winter construction, a double-row of sediment barriers (i.e., silt fence backed with hay bales or erosion control mix) will be placed between any natural resource and the disturbed area. Projects crossing the natural resource will be protected a minimum distance of 100 feet on either side from the resource.

3. Sediment Barriers: During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

4. Mulching: All areas will be considered to be denuded until seeded and mulched. Hay and straw mulch will be applied at a rate of twice the normal accepted rate.

Mulch will not be spread on top of snow.

After each day of final grading, the area will be properly stabilized with anchored hay or straw or erosion control matting.

Between the dates of November 1 and April 15, all mulch will be anchored by either mulch netting, emulsion chemical, tracking or wood cellulose fiber.

5. Soil Stockpiling: Stockpiles of soil or subsoil will be mulched for over-winter protection with hay or straw at twice the normal rate or with a 4-inch layer of erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpiles shall not be placed (even covered with mulch) within 100 feet from any natural resources.

6. Seeding: Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas will receive 4 inches of loam and seed at an application rate of three times the rate for permanent seeding. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) will be revegetated by replacing loam, seed, and mulch.

If dormant seeding is not used for the site, all disturbed areas will be revegetated in the spring.

7. Maintenance: Maintenance measures will be applied as needed during the entire construction season. After each rainfall, snow storm, or period of thawing and runoff, the site contractor will perform a visual inspection of all installed erosion control measures and perform repairs as needed to ensure their continuous function.

Following the temporary and/or final seeding and mulching, the contractor will, in the spring, inspect and repair any damages and/or bare spots. An established vegetative cover means a minimum of 85 to 90 percent of areas vegetated with vigorous growth.

E. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

1. Stabilization of Disturbed Soil: By October 15, all disturbed soils on areas having a slope less than 15 percent will be seeded and mulched. If the contractor fails to stabilize these soils by this date, then the contractor shall stabilize the soil for late fall and winter, by using either temporary seeding or mulching.

2. Stabilization of Disturbed Slopes: All slopes to be vegetated will be completed by October 15. The owner will consider any area having a grade greater than 15 percent (6.5H:1V) to be a slope. Slopes not vegetated by October 15 will receive one of the following actions to stabilize the slope for late fall and winter:

a. Stabilize the soil with temporary vegetation and erosion control mesh.
b. Stabilize the slope with erosion control mix.
c. Stabilize the slope with stone riprap.

3. Stabilization of Ditches and Channels: All stone-lined ditches and channels to be used to convey runoff through the winter will be constructed and stabilized by November 15. Grass-lined ditches and channels will be complete by September 15. Grass-lined ditches not stabilized by September 15 shall be lined with either sod or riprap.

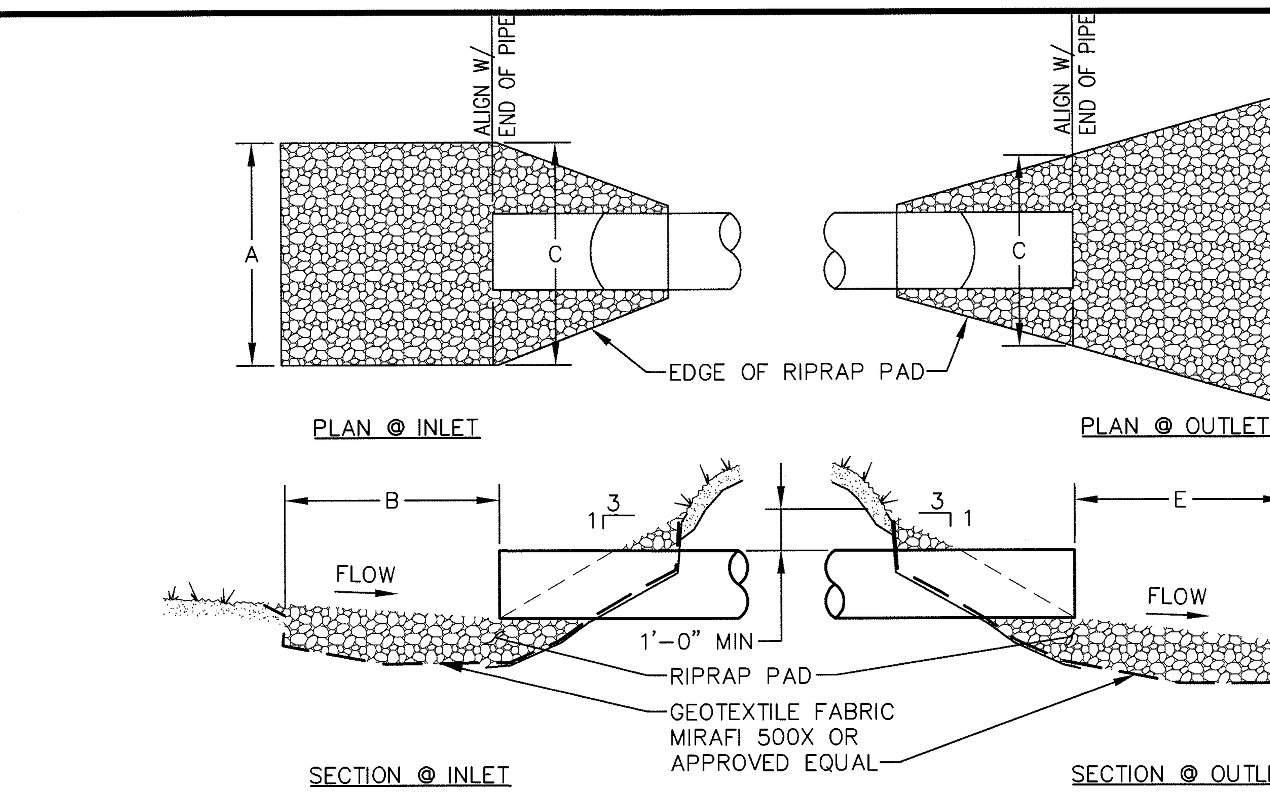
F. MAINTENANCE PLAN

1. Routine Maintenance: Inspection will be performed as outlined in the project's Erosion Control Plan. Inspection will be by a qualified person during wet weather to ensure that the facility performs as intended. Inspection priorities will include checking erosion controls for accumulation of sediments.

G. CONSTRUCTION SEQUENCE

In general, the expected sequence of construction for each phase is provided below. Construction is proposed to start in September 2013 and be complete in August of 2014.

- Site preparation.
- Install temporary erosion control measures.
- Stockpile topsoil onsite.
- Construct stormwater management facilities to be used as sedimentation structures.
- Install culverts, ditches, storm drains, culverts, utilities, and construct subgrade of roadways and parking areas.
- Prepare the building and equipment sites and construct foundations.
- Perform site stabilization (complete roadway and parking area gravel and bituminous pavement; loam, seed, and mulch) and other miscellaneous items (fencing and gates; plantings).
- Clean sediment from temporary collection structures; complete construction of stormwater management structures
- Remove temporary erosion control measures after all disturbed areas are stabilized.

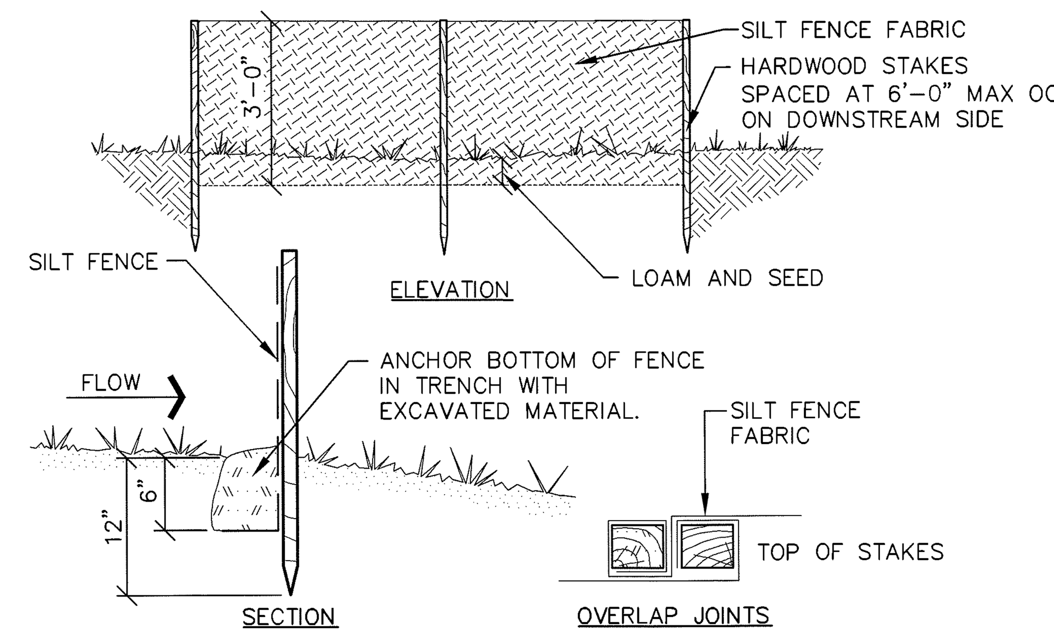


RIPRAP PAD MUST BE INSTALLED WITHIN 48 HOURS OF INSTALLING NEW PIPE OR CULVERT.

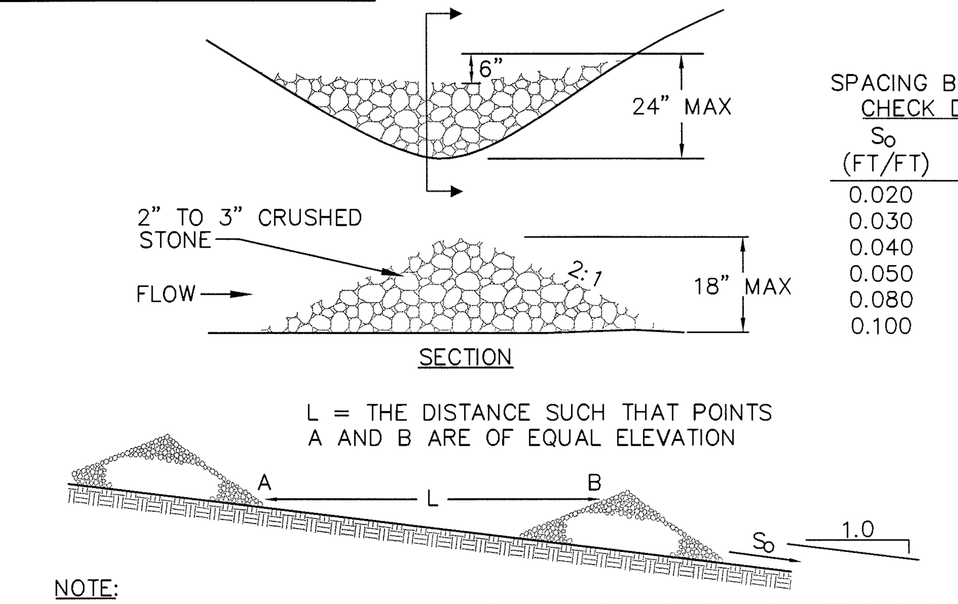
PIPE DIA	A	B	C	D	E	PAD DEPTH	D_{50}
12" OR LESS	3 FT.	2 FT.	3 FT.	9 FT.	8 FT.	6"	4"

RIPRAP PAD DIMENSIONS MAY VARY, SEE DWG C-101 FOR HORIZONTAL LAYOUT DIMENSIONS.

RIPRAP INLET/OUTLET PROTECTION
NTS



SILT FENCE
NTS

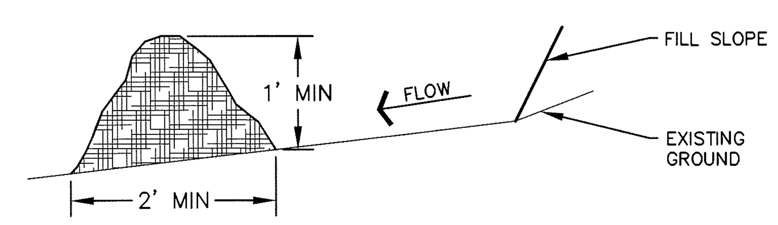


SPACING BETWEEN CHECK DAMS

So (FT/FT)	L (FT)
0.020	75
0.030	50
0.040	40
0.050	30
0.080	20
0.100	10

NOTE:
USE AT ALL NEWLY CONSTRUCTED GRASS LINED DITCHES AS A TEMPORARY EROSION CONTROL MEASURE AND WHERE OTHERWISE NOTED ON PLANS.

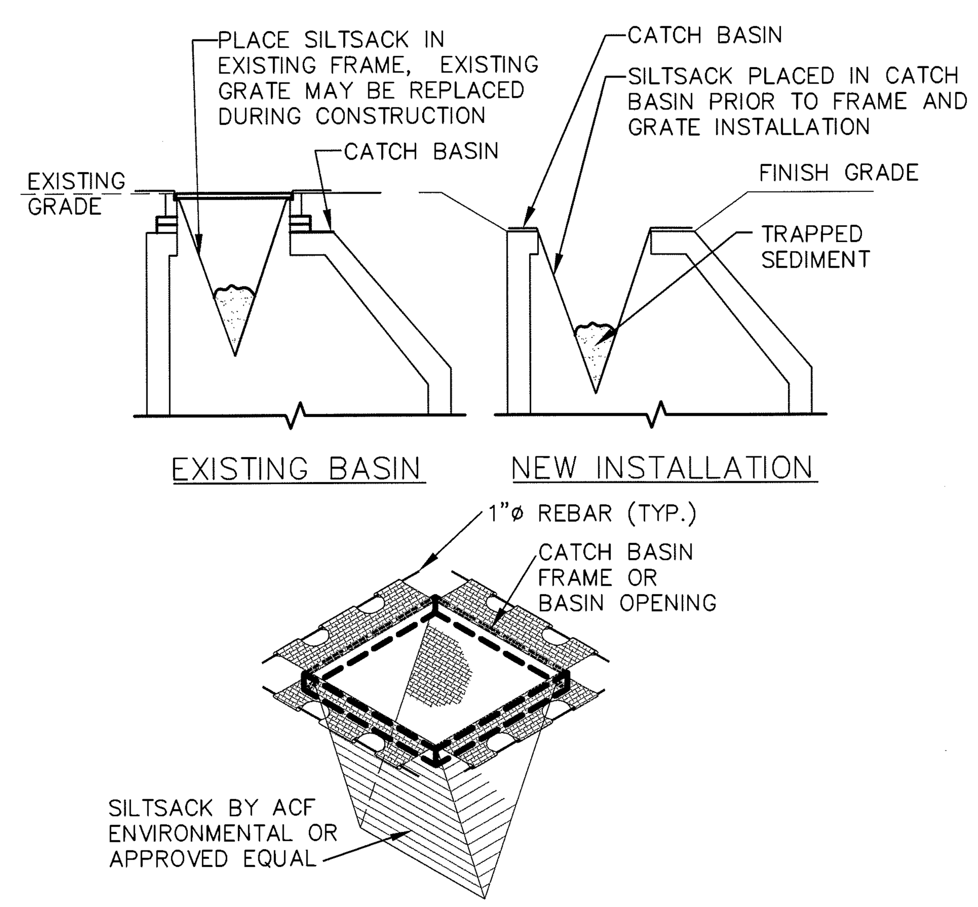
STONE CHECK DAM
NTS



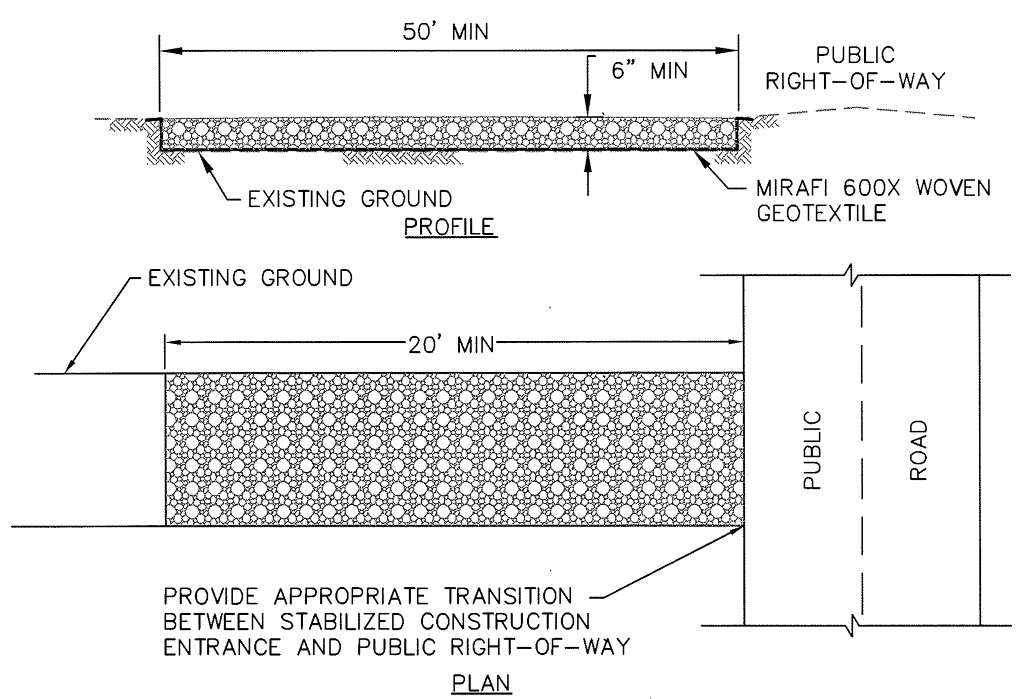
NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS.
WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.
EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% – 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70–85% PASSING 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 – 8.0
2. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES 2:1 OR LESS UP TO 20 FEET LONG, THE BARRIER MUST CONFORM TO THE ABOVE DIMENSIONS. ON THE LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL FLOW.
3. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL ELEVATION. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.
4. LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
   A. AT LOW POINTS OF CONCENTRATED FLOW
   B. BELOW CULVERT OUTLET APRONS
   C. WHERE A PREVIOUS STAND-ALONE EROSION CONTROL MIX APPLICATION HAS FAILED
   D. AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (LARGE UPGRADIENT WATERSHED)
   E. AROUND CATCH BASINS AND CLOSED STORM DRAIN SYSTEMS.
5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.
6. IT MAY BE NECESSARY TO REINFORCE THE BARRIER WITH SILT FENCE OR STONE CHECK DAMS IF THERE ARE SIGNS OF UNDERCUTTING OR THE IMPOUNDMENT OF LARGE VOLUMES OF WATER.
7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.
9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.

EROSION CONTROL MIX SEDIMENT BARRIER
NTS



SILTSACK CATCH BASIN PROTECTION
NTS



CONSTRUCTION SPECIFICATIONS

NOTES:
1. STONE SIZE – 2" TO 3" STONE OR RECLAIMED OR RECYCLED CONCRETE, OR EQUIVALENT.
2. LENGTH – AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 10 FEET MINIMUM, OR NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC REPAIR AND TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE/EXIT
NTS

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE · GUY H. COTE, JR. · No. 5144 · LICENSED PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

EROSION CONTROL NOTES AND DETAILS

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: NONE
CTB: SME-STD

JOB NO. 15086.00 DWG FILE DETAILS

C-300

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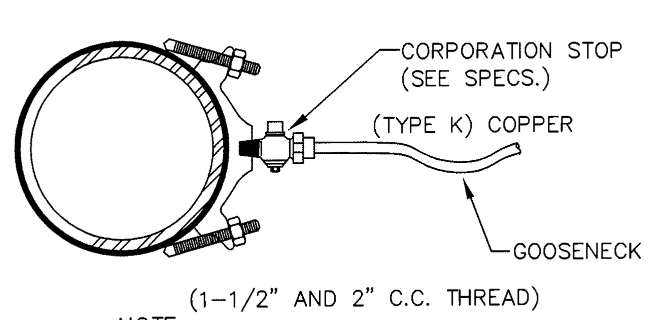
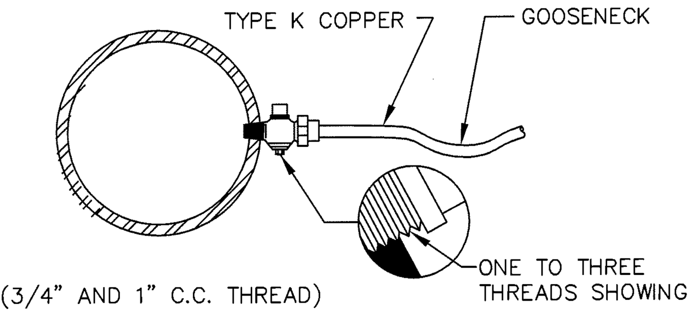


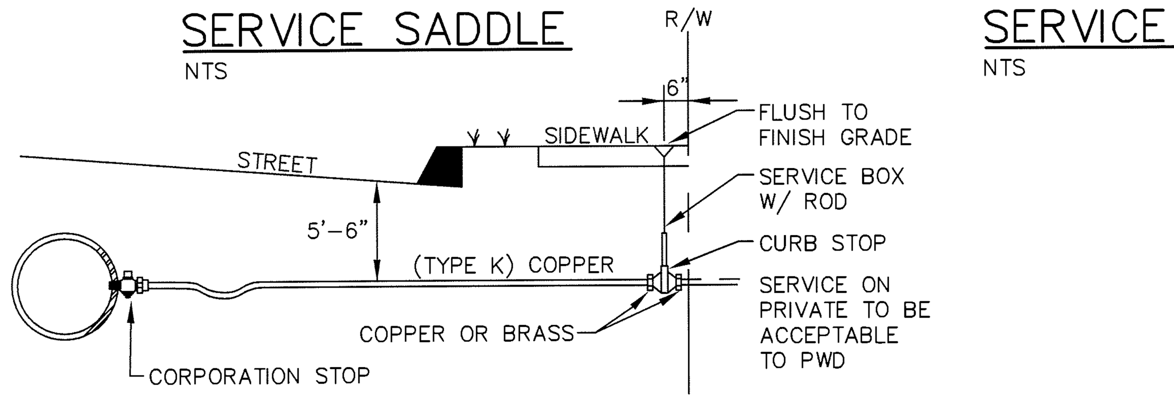
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

SERVICE SADDLE
NTS



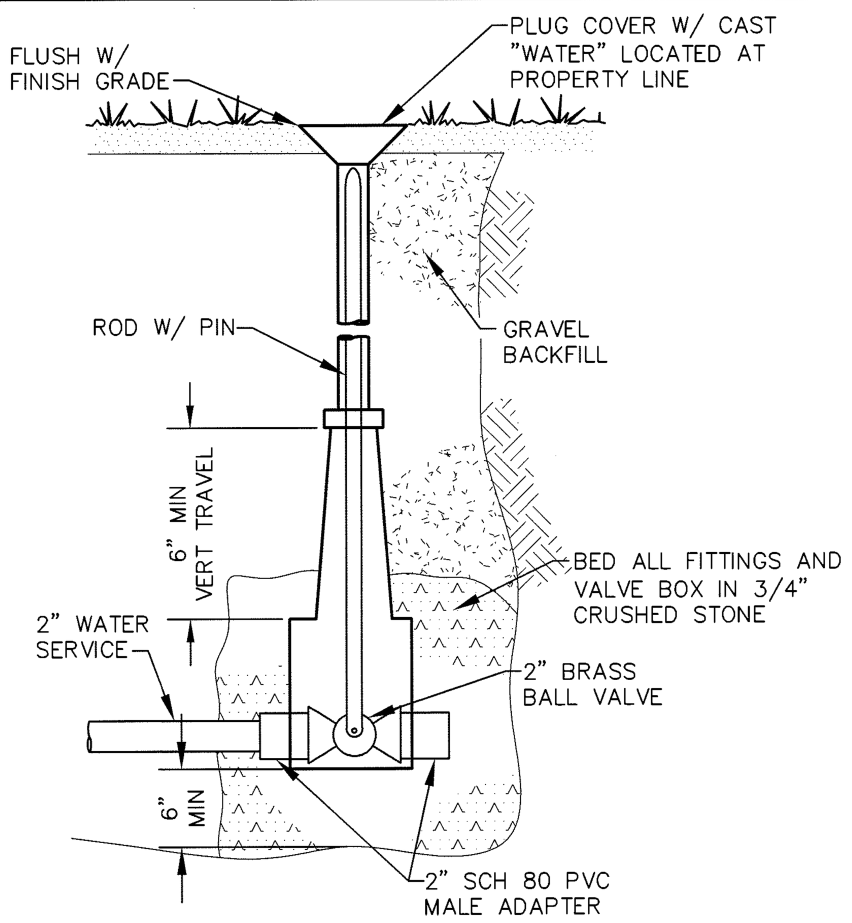
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

SERVICE TAP
NTS



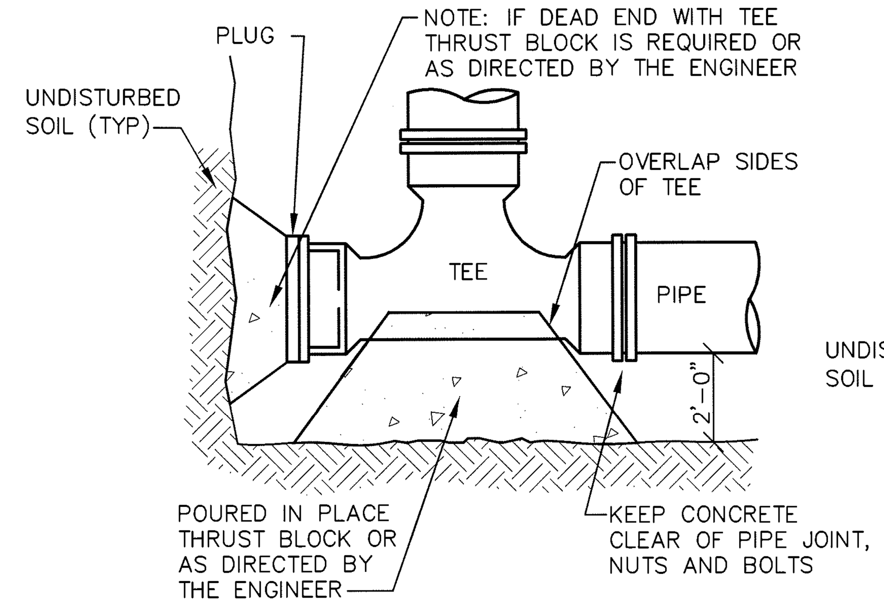
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

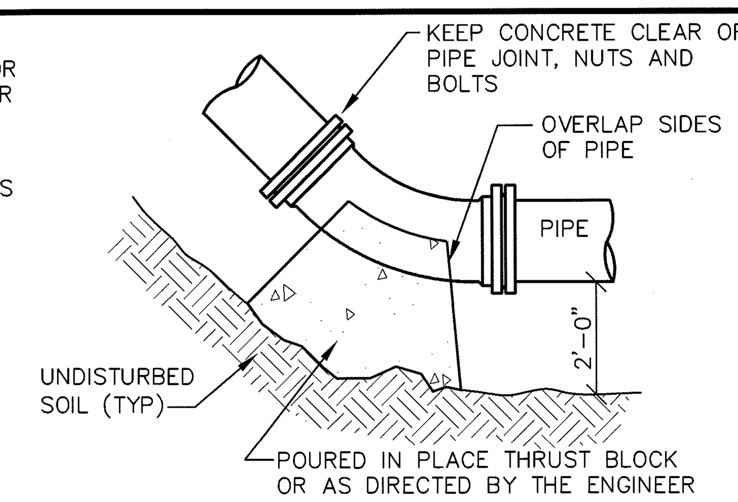
TYPICAL SERVICE CONNECTION
NTS



NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

WATERMAIN CURB STOP SECTION
NTS





STANDARD TEE BLOCKING

THRUST AT FITTINGS IN Lbs. AT 100 Lbs PER SQUARE INCH WATER PRESSURE

PIPE SIZE IN	90° ELBOW	45° ELBOW	VALVES, TEES AND DEAD ENDS
4"	2,600	1,420	1,850
6"	5,400	2,900	3,800
8"	9,300	5,000	6,500
10"	13,900	7,550	10,850
12"	19,700	10,800	13,900

STANDARD BEND BLOCKING

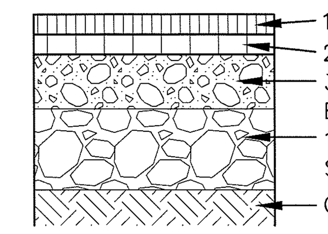
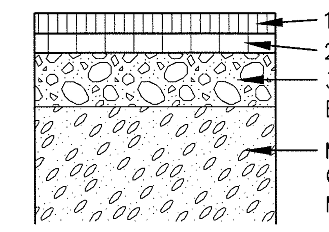
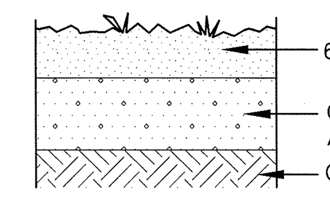
MINIMUM THRUST BLOCK BEARING AREA REQ'D AGAINST UNDISTURBED MATERIAL (SQFT)

PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	22 1/2° AND SMALLER
16"	28	22	20	15	8
12"	16	14	11	9	4
8"	7	6	5	4	2
6"	5	4	3	2	2

1. SIZE OF THRUST BLOCK MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.
2. FOR PIPES 6" OR SMALLER USE THRUST BLOCK FOR 6" PIPE.

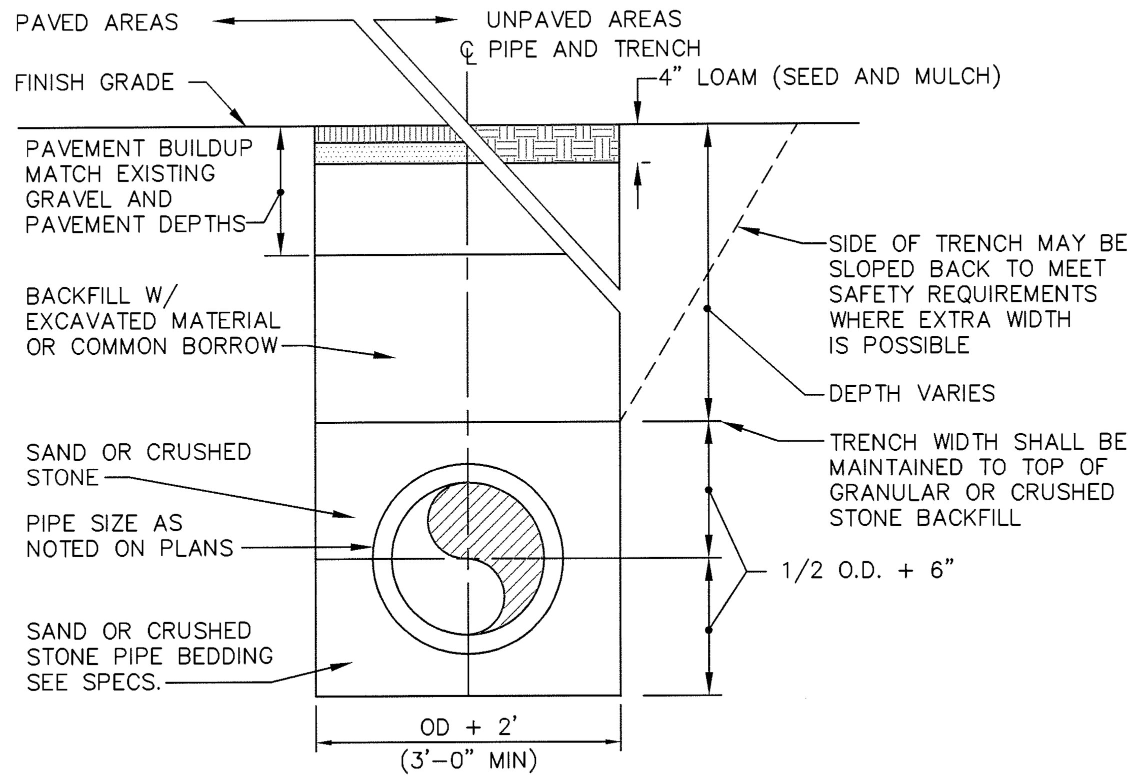
NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

THRUST BLOCK DETAIL
NTS

CONSTRUCTION		USE
	1 1/4" HMA MDOT 9.5mm 2 1/4" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A 15" COMPACTED AGGREGATE SUBBASE, MDOT 703.06(b) TYPE D COMPACTED SUBGRADE	BITUMINOUS ACCESS ROAD SERVICE AREA PARKING LOT
	1 1/2" HMA MDOT 9.5mm 2" HMA MDOT 19.0mm 3" COMPACTED AGGREGATE BASE, MDOT 703.06(a) TYPE A MATCH EXISTING THICKNESS COMPACTED AGGREGATE SUBBASE MDOT 703.06 (c) TYPE F	BITUMINOUS ST. LAWRENCE STREET REPAIR
	6" TOPSOIL, NO STONES OVER 3/4" DIA. GRANULAR MATERIAL IN FILL AREAS COMPACTED SUBGRADE	GRASS ALL DISTURBED AREAS

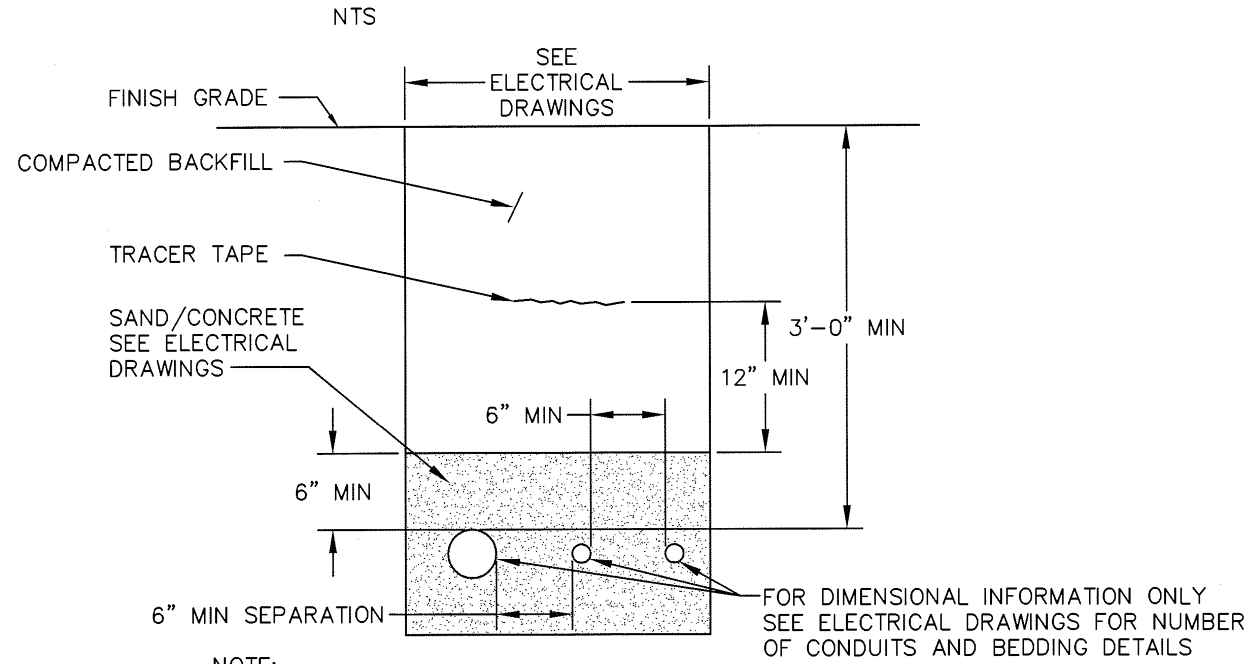
NOTES:
1. HMA = HOT MIX ASPHALT
   MDOT = MAINE DEPARTMENT OF TRANSPORTATION.
2. ALL COURSE THICKNESS AFTER FINAL COMPACTION.
3. SEE LANDSCAPE PLANS FOR SIDEWALK AND PATIO DETAILS

SCHEDULE OF SURFACE FINISHES
NTS



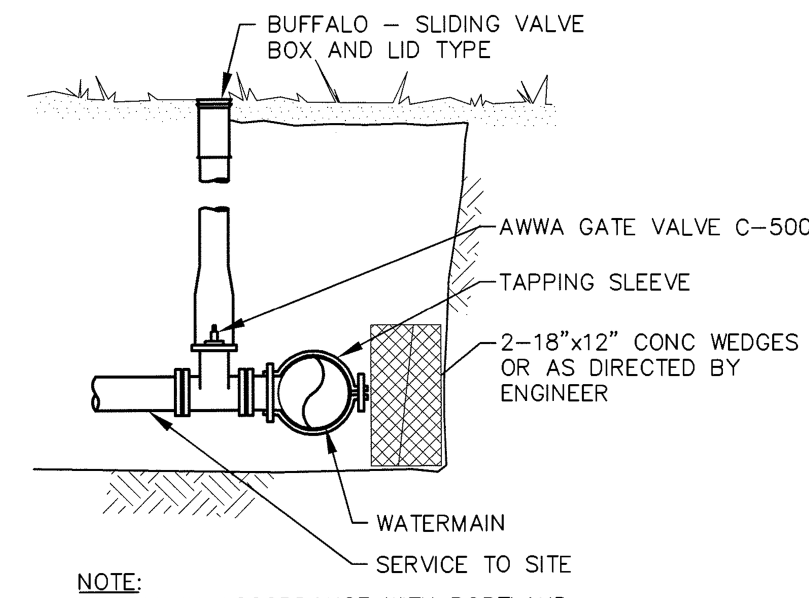
TRENCH DETAIL
NTS

NOTE:
LOCATION / WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.



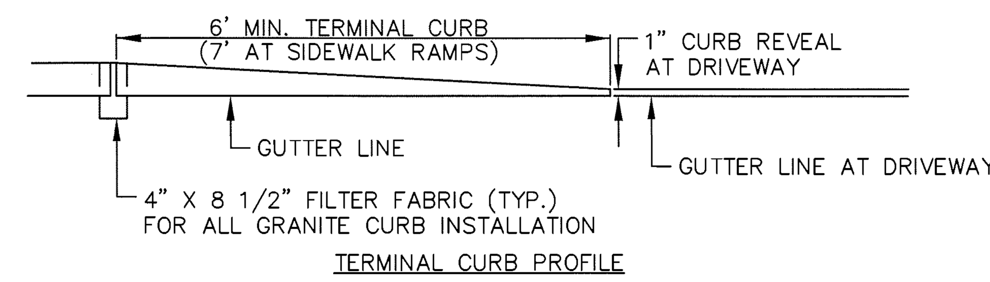
NOTE:
SITE CONTRACTOR SHALL INSTALL CONDUIT IN ELECTRICAL AND TELEPHONE CONDUIT TRENCH. COORDINATE WITH ELECTRICAL DRAWINGS.

UNDERGROUND ELECTRICAL & TELEPHONE CONDUIT TRENCH
NTS

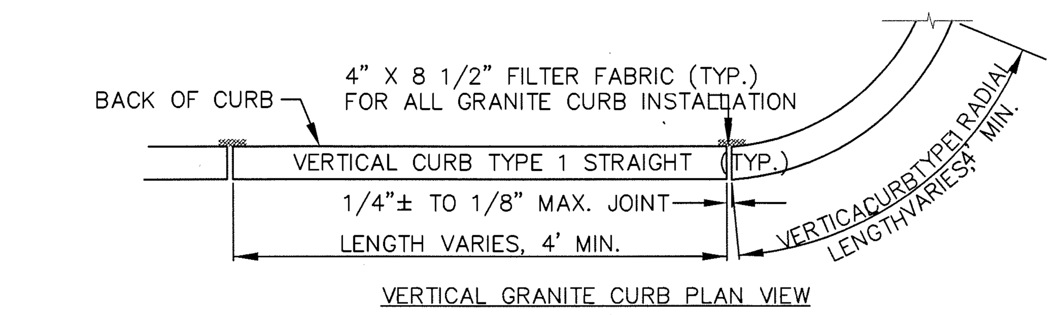


NOTE:
INSTALL IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.

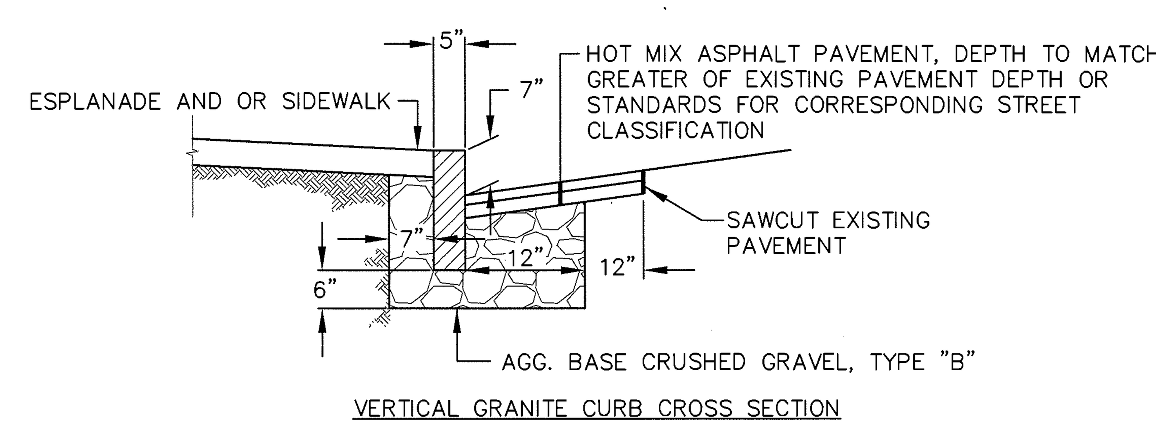
TYPICAL TAPPING SLEEVE AND GATE VALVE
NTS



TERMINAL CURB PROFILE

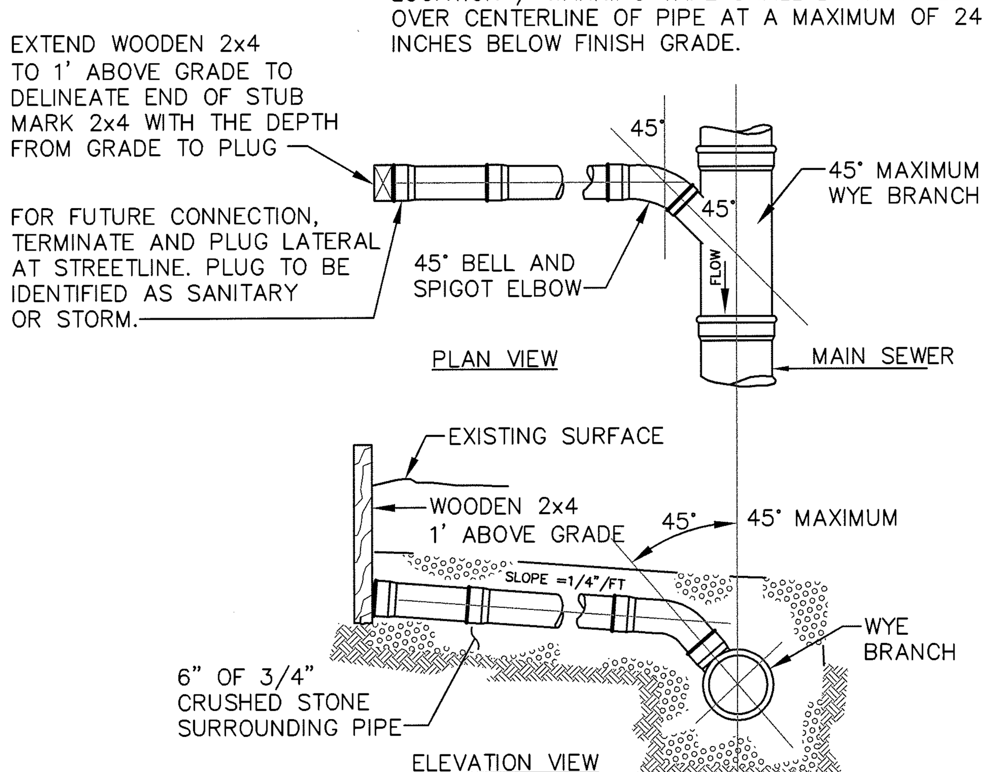


VERTICAL GRANITE CURB PLAN VIEW

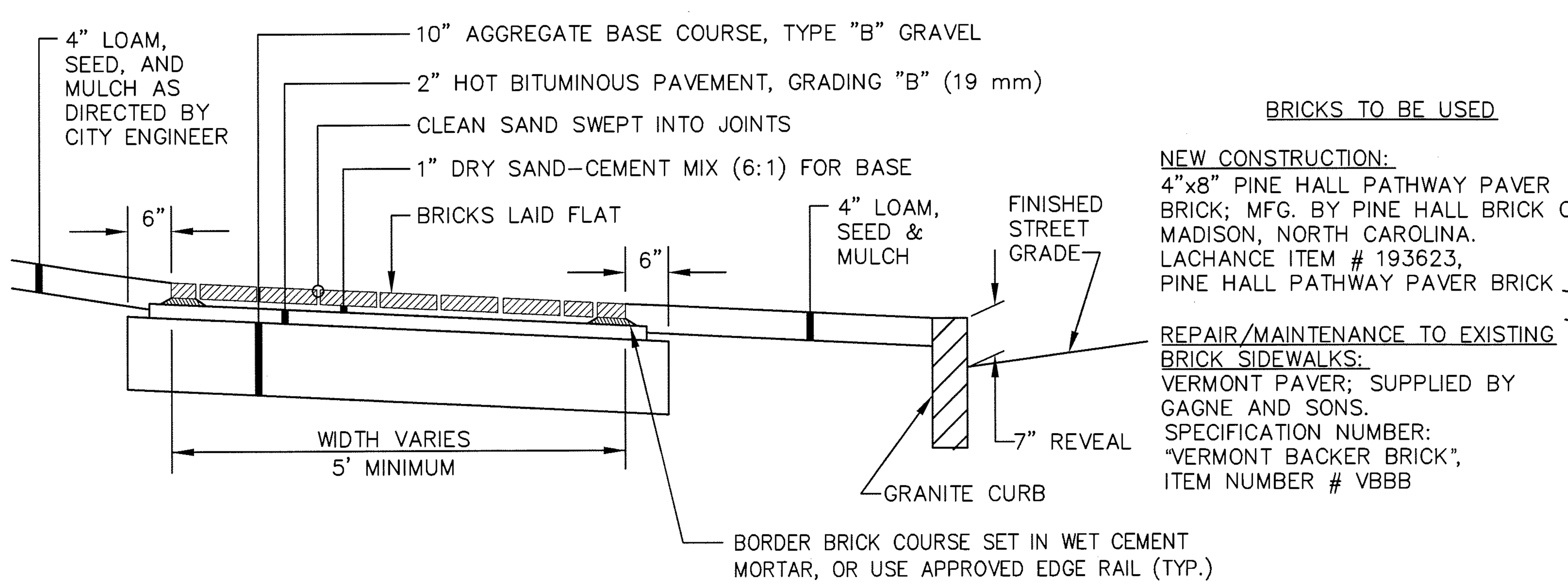


VERTICAL GRANITE CURB CROSS SECTION

VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREETS
NTS



TYPICAL LATERAL TEE/WYE CONNECTION
NTS

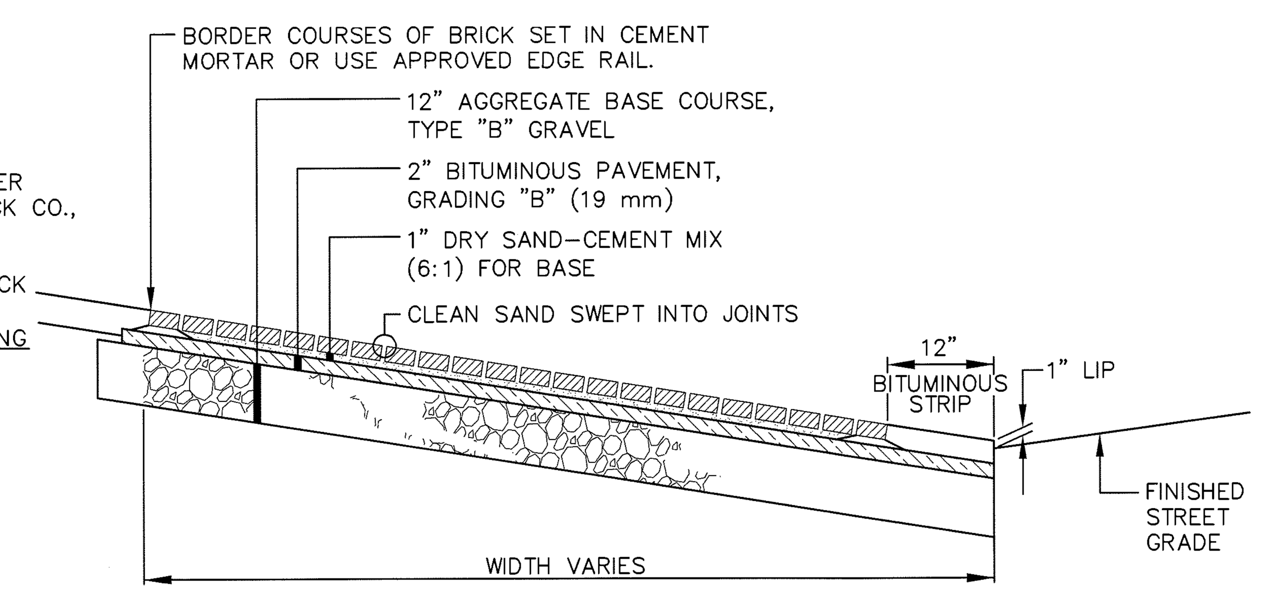


BRICKS TO BE USED

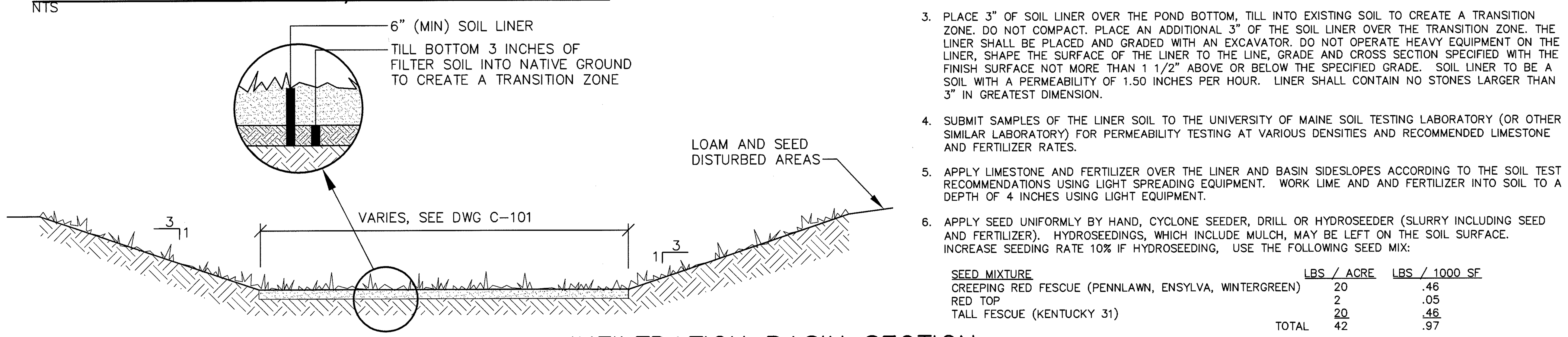
NEW CONSTRUCTION:
4"x8" PINE HALL PATHWAY PAVER BRICK; MFG. BY PINE HALL BRICK CO., MADISON, NORTH CAROLINA. LACHANCE ITEM # 193623, PINE HALL PATHWAY PAVER BRICK

REPAIR/MAINTENANCE TO EXISTING BRICK SIDEWALKS:
VERMONT PAVER; SUPPLIED BY GAGNE AND SONS. SPECIFICATION NUMBER: "VERMONT BACKER BRICK", ITEM NUMBER # VBBB

BRICK SIDEWALK WITH BITUMINOUS BASE
NTS



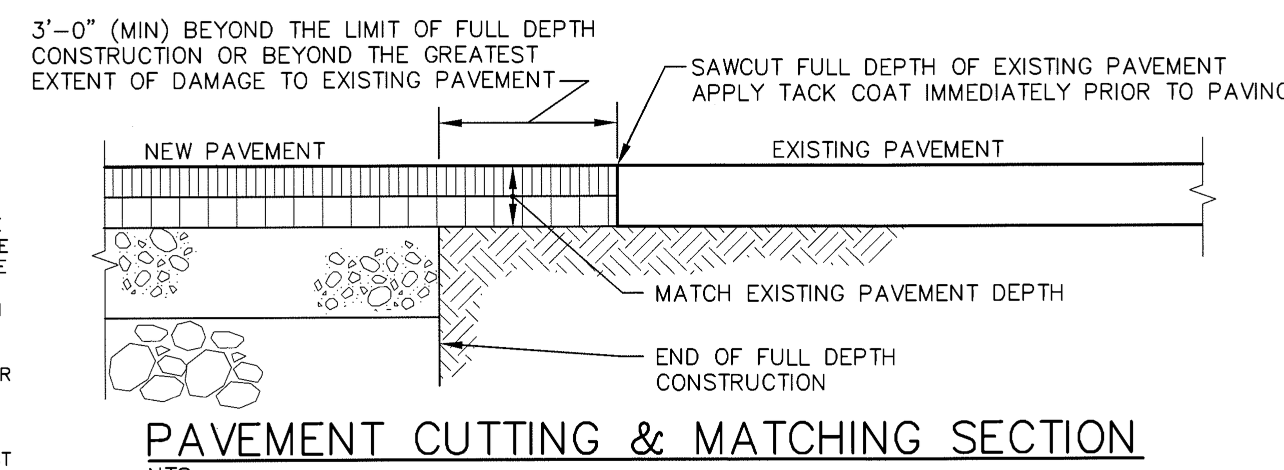
BRICK DRIVEWAY APRON WITH BITUMINOUS BASE
NTS



1. CONSTRUCT THE INFILTRATION BASIN AFTER THE AREA THAT DRAINS TO IT IS STABILIZED WITH EROSION CONTROL MEASURES THAT WILL PREVENT SEDIMENT FROM REACHING THE BASIN.
2. GRADE THE INFILTRATION BASIN BOTTOM SO THAT IT IS LEVEL AND AT THE ELEVATIONS SHOWN ON THE PLAN AND SECTIONS.
3. PLACE 3" OF SOIL LINER OVER THE POND BOTTOM, TILL INTO EXISTING SOIL TO CREATE A TRANSITION ZONE. DO NOT COMPACT. PLACE AN ADDITIONAL 3" OF THE SOIL LINER OVER THE TRANSITION ZONE. THE LINER SHALL BE PLACED AND GRADED WITH AN EXCAVATOR. DO NOT OPERATE HEAVY EQUIPMENT ON THE LINER, SHAPE THE SURFACE OF THE LINER TO THE LINE, GRADE AND CROSS SECTION SPECIFIED WITH THE FINISH SURFACE NOT MORE THAN 1 1/2" ABOVE OR BELOW THE SPECIFIED GRADE. SOIL LINER TO BE A SOIL WITH A PERMEABILITY OF 1.50 INCHES PER HOUR. LINER SHALL CONTAIN NO STONES LARGER THAN 3" IN GREATEST DIMENSION.
4. SUBMIT SAMPLES OF THE LINER SOIL TO THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY (OR OTHER SIMILAR LABORATORY) FOR PERMEABILITY TESTING AT VARIOUS DENSITIES AND RECOMMENDED LIMESTONE AND FERTILIZER RATES.
5. APPLY LIMESTONE AND FERTILIZER OVER THE LINER AND BASIN SIDESLOPES ACCORDING TO THE SOIL TEST RECOMMENDATIONS USING LIGHT SPREADING EQUIPMENT. WORK LIME AND AND FERTILIZER INTO SOIL TO A DEPTH OF 4 INCHES USING LIGHT EQUIPMENT.
6. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON THE SOIL SURFACE. INCREASE SEEDING RATE 10% IF HYDROSEEDING, USE THE FOLLOWING SEED MIX:

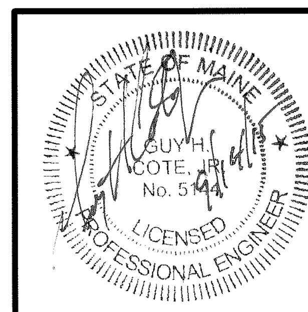
SEED MIXTURE	LBS / ACRE	LBS / 1000 SF
CREEPING RED FESCUE (PENNLAWN, ENSYLVA, WINTERGREEN)	20	.46
RED TOP	2	.05
TALL FESCUE (KENTUCKY 31)	20	.46
TOTAL	42	.97

INFILTRATION BASIN SECTION
NTS



PAVEMENT CUTTING & MATCHING SECTION
NTS

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW



4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

SECTIONS AND DETAILS

SME
Sevee & Maher Engineers, Inc.
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: NONE
CTB: SME-STD

JOB NO. 15086.00 DWG FILE DETAILS

C-301

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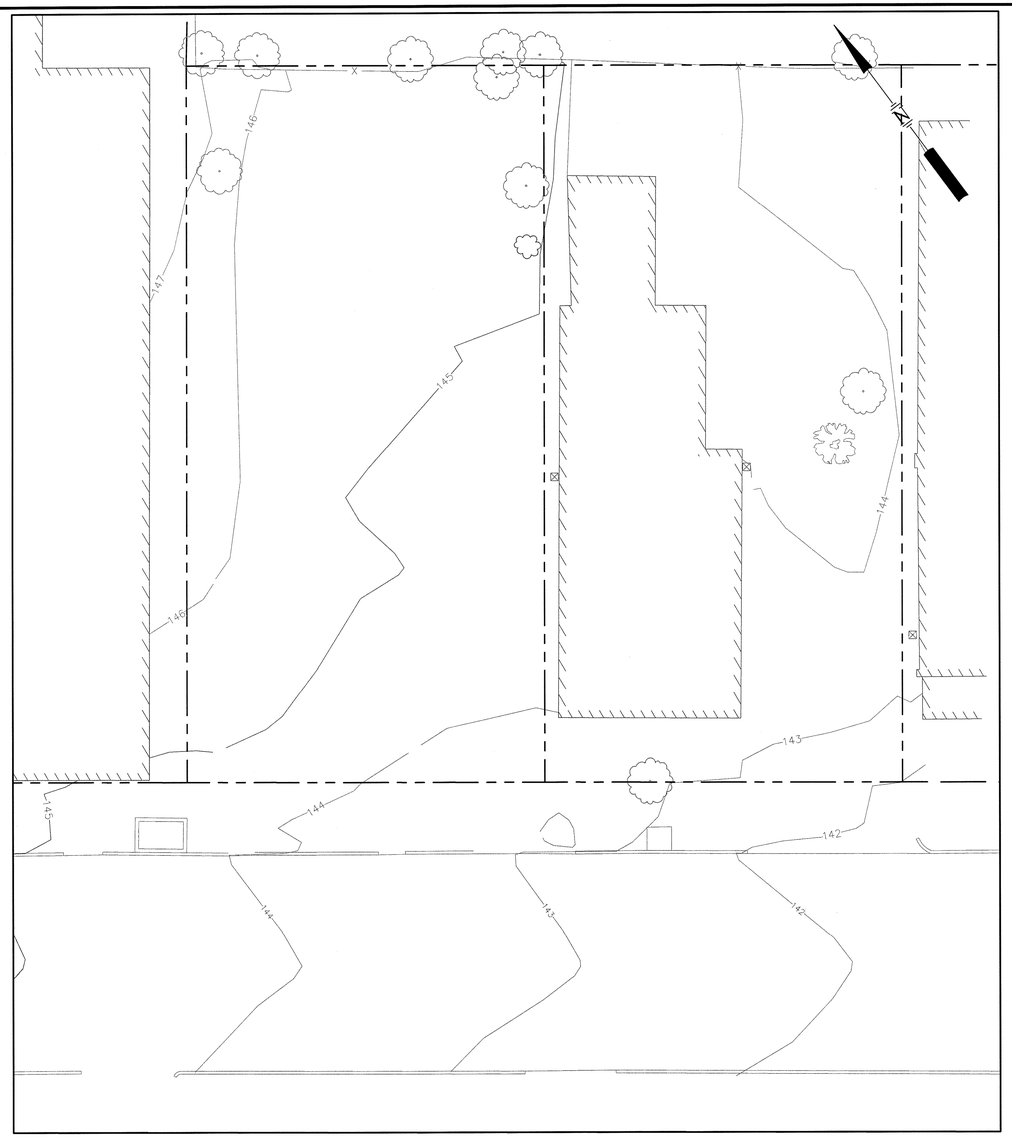
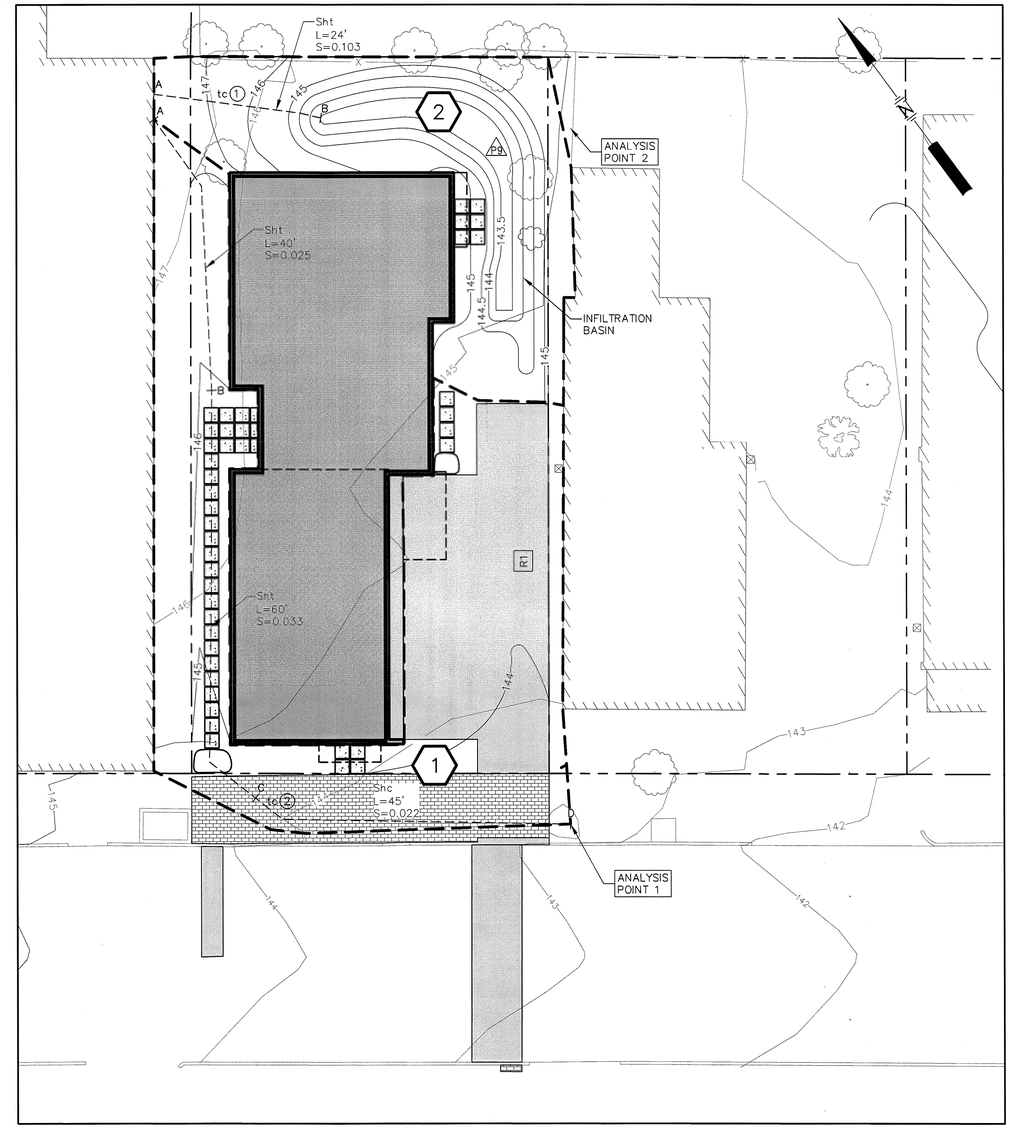
Plan 7



PRE-DEVELOPMENT CONDITIONS STORMWATER MANAGEMENT PLAN

5 0 10 20 FEET



POST DEVELOPMENT CONDITIONS STORMWATER MANAGEMENT PLAN

5 0 10 20 FEET

STORMWATER MANAGEMENT LEGEND

(1)	SUBCATCHMENT DESIGNATION
— — — —	SUBCATCHMENT BOUNDARY
A B C	TIME OF CONCENTRATION SEGMENT DESIGNATION TIME OF CONCENTRATION PATH
Sht L=50' S=0.005	TIME OF CONCENTRATION TYPE, LENGTH AND SLOPE
Sht	SHEET FLOW
Shc	SHALLOW CONCENTRATED FLOW
Cf	CHANNEL FLOW
→	DRAINAGE REACH
R4	REACH DESIGNATION (HYDROCAD)
P9	POND/STRUCTURE DESIGNATION (HYDROCAD)
tc(1)	TIME OF CONCENTRATION WITH SUBCATCHMENT DESIGNATION

NOTES:

1. BASE MAP ADAPTED FROM PLAN ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY" BY OWEN HASKELL, INC., FALMOUTH, MAINE, DATED JUNE 11, 2014 AND PLAN ENTITLED "GRADING AND UTILITIES PLAN" BY PINKHAM & GREER CONSULTING ENGINEERS, DATED FEBRUARY 26, 2014.

REV.	BY	DATE	STATUS
	DPD	9/15	REVISED PER CITY OF PORTLAND COMMENTS
	DPD	7/15	SUBMITTED TO CITY OF PORTLAND FOR SITE PLAN REVIEW

STATE OF MAINE
GUY H. COTE
No. 6164
LICENSED
PROFESSIONAL ENGINEER

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
LARRY GROSS AND BARBARA COLBY
PORTLAND, MAINE

STORMWATER MANAGEMENT PLAN

SME
Sevee & Maher Engineers, Inc.
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4 Blanchard Road, PO Box 85A, Cumberland Center, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • www.smemaine.com

DESIGN BY: DPD
DRAWN BY: JRL
DATE: 4/27/2015
CHECKED BY:
LMN: SMP-E/SMP-P
CTB: SME-STD

JOB NO. 15086.00 DWG FILE BASE

D-100

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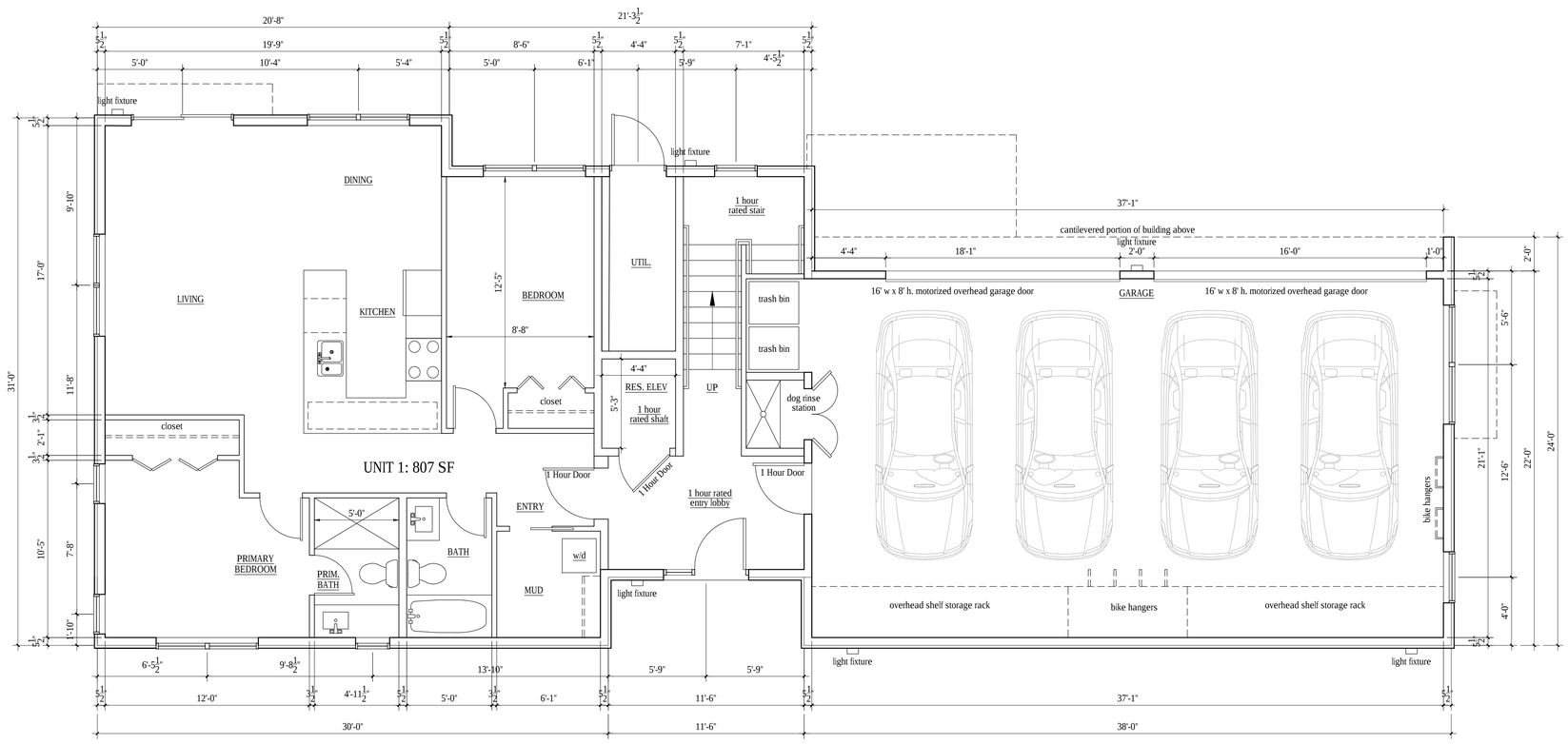
Plan 8



1 1st Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

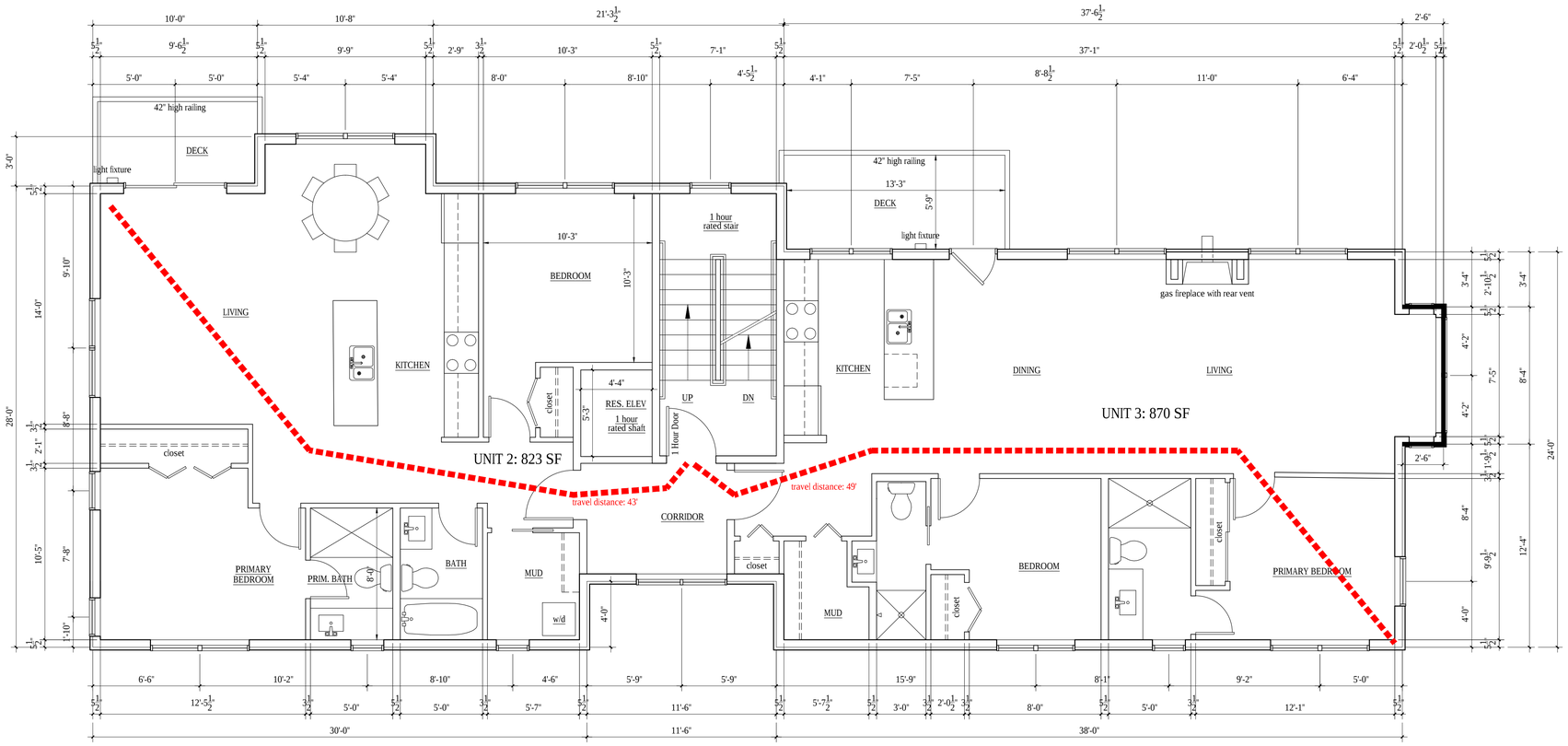
Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A1.01

Plan 9



1 2nd Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
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Consultant:

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(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

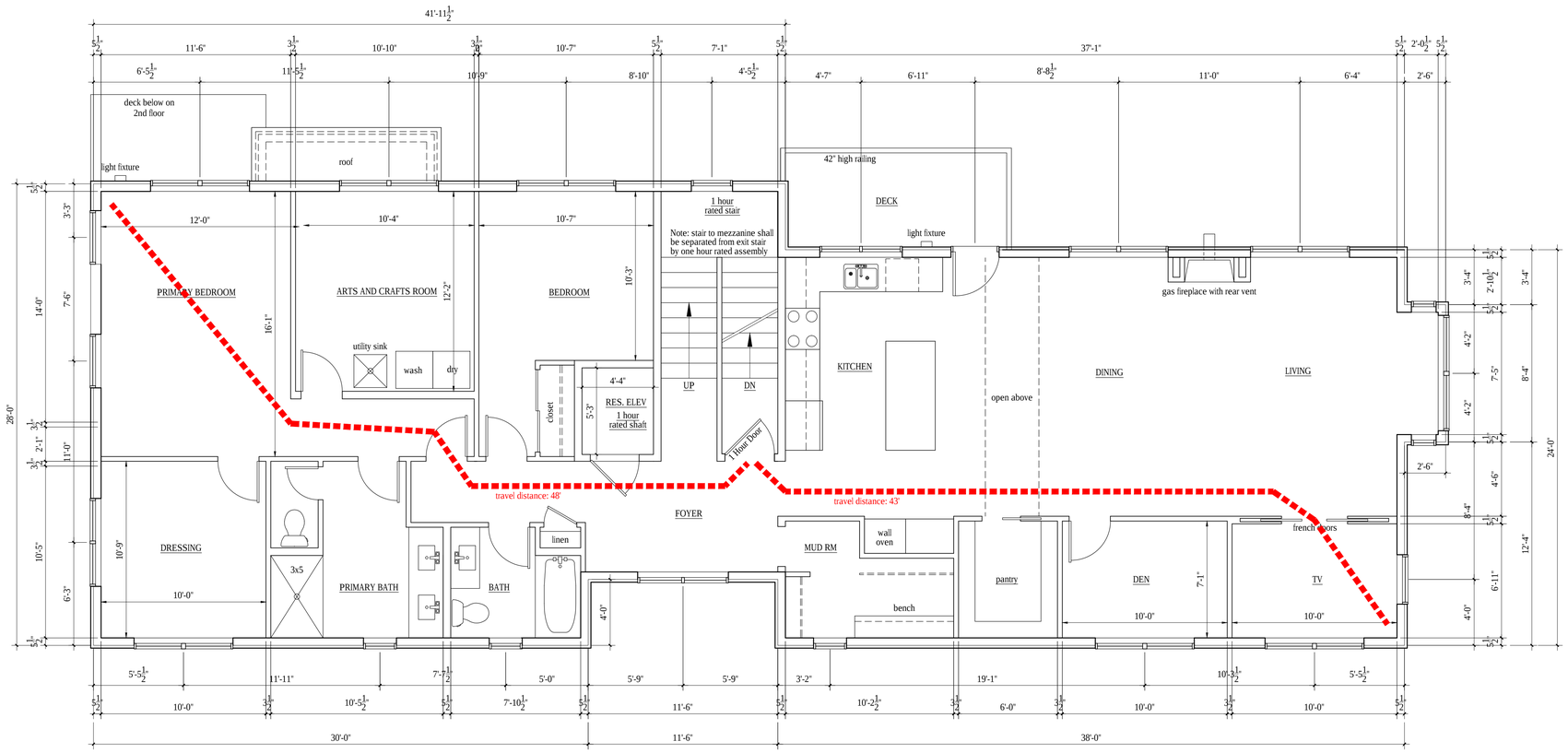
Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A1.02

Plan 10



1 3rd Floor Plan
1/4"= 1'-0"

LICENSED ARCHITECT DAVID LLOYD NO. 936 STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
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48 Union Wharf Portland, Maine 04101
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Revisions:
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Scale:
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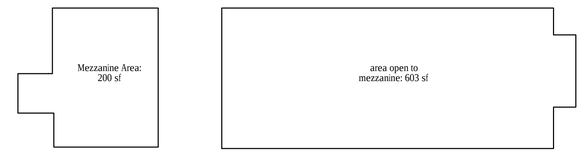
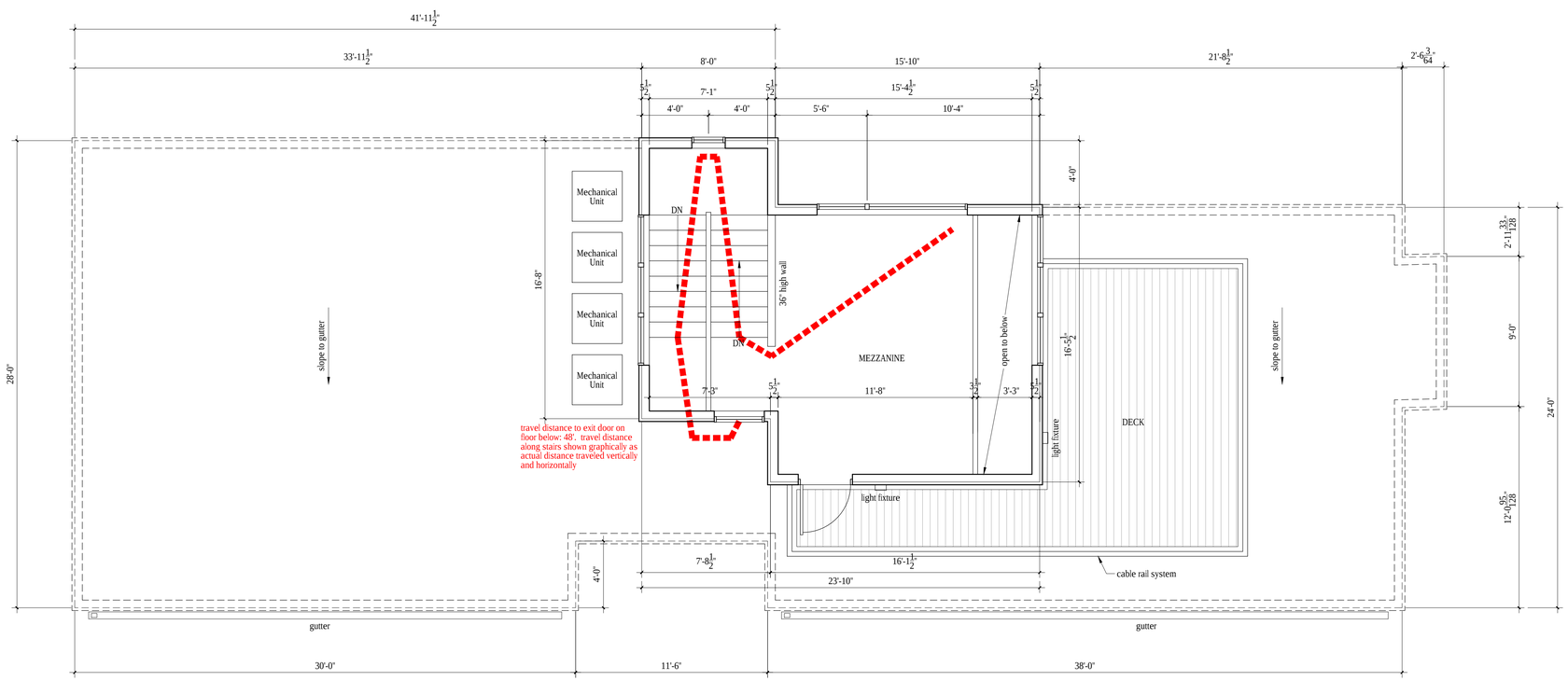
Submission to Planning Board

A1.03

Plan 11



1 Mezzanine Calculation
1/8"= 1'-0"



1 Roof & Mezzanine Plan
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and
Laurence Gross
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Portland Maine, 04104

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Architects
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(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Builiding
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to
Planning Board

A1.04

Plan 12

St. Lawrence Street Context Elevations

0' 10' 20' 40' 80'

Perspective Views of Proposed Building

LICENSED ARCHITECT DAVID LLOYD NO. 936 STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
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(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale: as noted

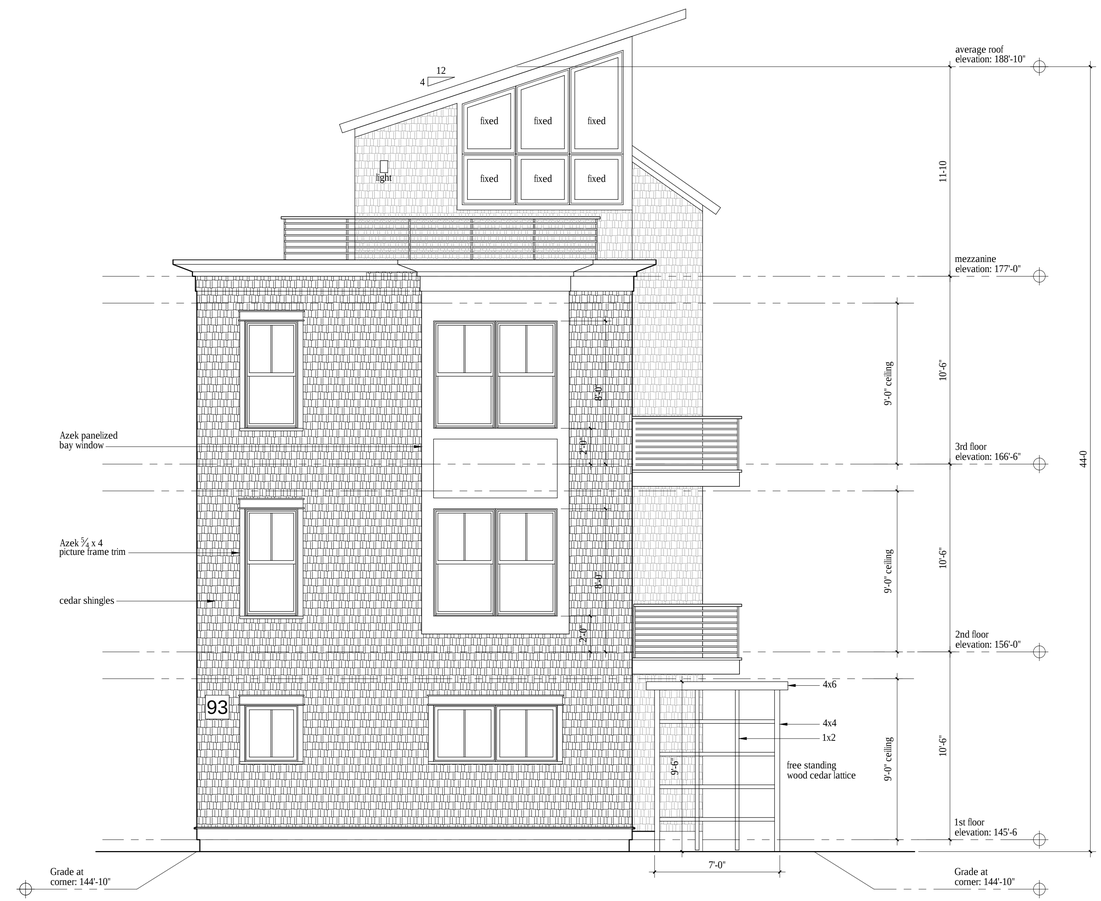
Date: 21 July, 2015

Submission to Planning Board

A2.00

Plan 13

2 Rear (East) Elevation,
1/4"= 1'-0"



1 Front (West) Elevation, St. Lawrence Street
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
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PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
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(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A2.01

Plan 14

1 Side (South) Elevation
1/4"= 1'-0"

2 Typical Light Fixture
no scale

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
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(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to Planning Board

A2.02

Plan 15

2 Side (North) Elevation,
1/4"= 1'-0"

LICENSED ARCHITECT
DAVID LLOYD
NO. 936
STATE OF MAINE

Owner/Applicant
Barbara Colby and
Laurence Gross
PO Box 10152
Portland Maine, 04104

Consultant:

Architect:
ARCHETYPE
Architects
48 Union Wharf Portland, Maine 04101
(207) 772-6022 Fax (207) 772-4056

Project:
4 Unit Apartment Building
93 St. Lawrence Street
Portland Maine, 04101
CBL: 016 D010001 B&P 17303/310

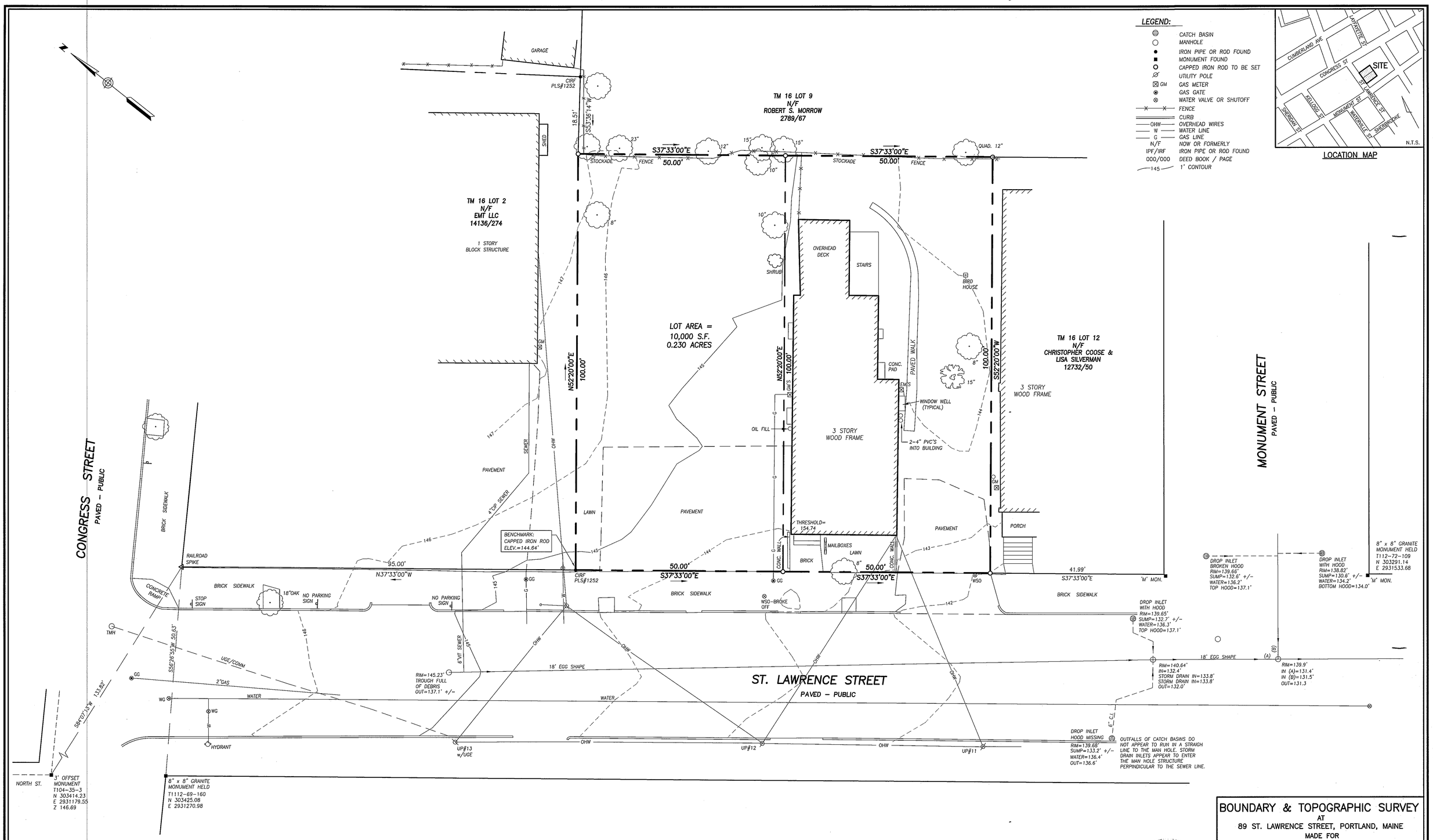
Revisions:
09-09-2015 revisions per p.b. review

Scale:
as noted

Date:
21 July, 2015

Submission to
Planning Board

A2.03



UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-800-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, **ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.**

GRAPHIC SCALE

0 5' 10' 20' 40'

PLAN REFERENCES

1. "PLAN OF LAND IN PORTLAND, MAINE SURVEYED FOR STANDARD OIL COMPANY OF NEW YORK DECEMBER 1926 BY E.C. JORDAN CO.

2. CITY WORKING PLANS 25, 140, 148, DATED 1924 AND 1925.

3. "STANDARD BOUNDARY SURVEY ON 118 CONGRESS STREET, PORTLAND, MAINE MADE FOR THERIAULT/LANDMANN ASSOCIATES, PORTLAND, MAINE" DATED JULY 13, 1998 REV. 3 10-31/13 BY OWEN HASKELL, INC.

NOTES

1. OWNER OF RECORD: LAWRENCE W. GROSS
C.C.R.D. BOOK 17303 PAGE 310, BOOK 30580 PAGE 89

2. LOCUS IS SHOWN AT LOT 16-D-10 & 11 ON THE CITY OF PORTLAND'S ASSESSORS MAPS.

3. BEARINGS ARE MAGNETIC 1926, PER PLAN REFERENCE #2.

4. ELEVATIONS ARE BASED ON CITY DATUM, BASED ON MONUMENT AT NORTHEAST CORNER OF NORTH AND CONGRESS STREETS, ELEV. 146.69'.

CERTIFICATE

OWEN HASKELL, INC. CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

6/11/14
DATE

RANDY R. LOUBIER, PLS #2407

STATE OF MAINE
RANDY R. LOUBIER
No. 2407
PROFESSIONAL LAND SURVEYOR

BOUNDARY & TOPOGRAPHIC SURVEY

AT

89 ST. LAWRENCE STREET, PORTLAND, MAINE

MADE FOR

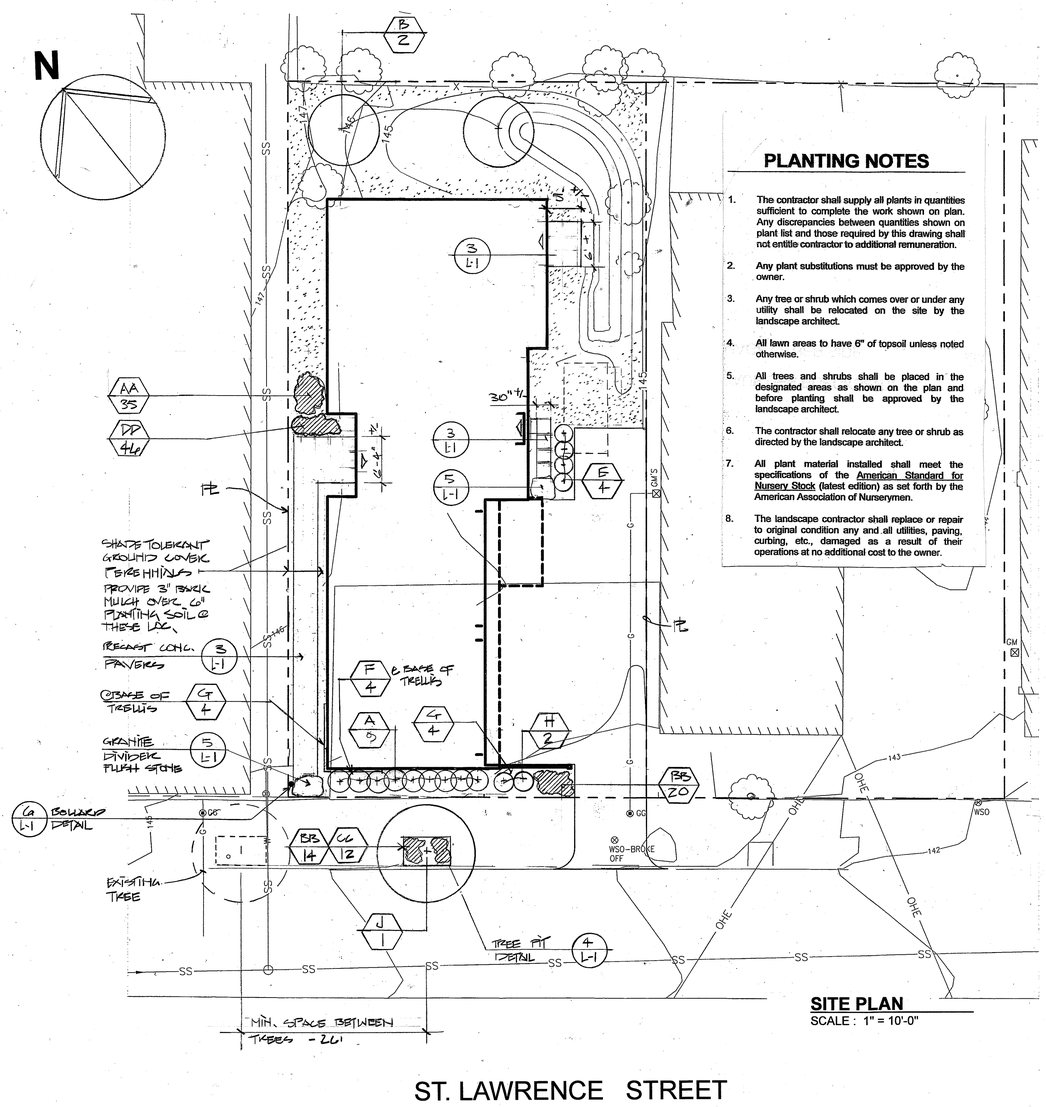
LAWRENCE W. GROSS

P.O. BOX 10152, PORTLAND, MAINE 04104

OWEN HASKELL, INC.
390 U.S. ROUTE ONE, FALMOUTH, ME 04105 (207) 774-0424
PROFESSIONAL LAND SURVEYORS

Drwn By	RRL	Date	Job No.
Trace By	JLW	JUNE 11, 2014	2014-011P
Check By	RRL	Scale	Drwg. No.
Book No.	1123	1" = 10'	1

S:\2014\2014-013\P St Lawrence St\2014-013P.dwg, 6/12/2014 11:49:24 AM, SAMSY 2404WD RPC5



PLANTING NOTES

1. The contractor shall supply all plants in quantities sufficient to complete the work shown on plan. Any discrepancies between quantities shown on plant list and those required by this drawing shall not entitle contractor to additional remuneration.
2. Any plant substitutions must be approved by the owner.
3. Any tree or shrub which comes over or under any utility shall be relocated on the site by the landscape architect.
4. All lawn areas to have 6" of topsoil unless noted otherwise.
5. All trees and shrubs shall be placed in the designated areas as shown on the plan and before planting shall be approved by the landscape architect.
6. The contractor shall relocate any tree or shrub as directed by the landscape architect.
7. All plant material installed shall meet the specifications of the American Standard for Nursery Stock (latest edition) as set forth by the American Association of Nurserymen.
8. The landscape contractor shall replace or repair to original condition any and all utilities, paving, curbing, etc., damaged as a result of their operations at no additional cost to the owner.

SITE PLAN
SCALE : 1" = 10'-0"

ST. LAWRENCE STREET

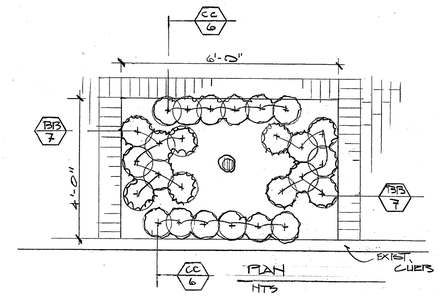
PLANT LIST

TREES , SHRUBS & VINES

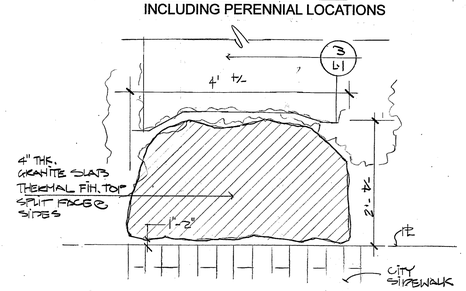
KEY	COMMON & BOTANICAL NAME	SIZE	ROOT	QTY	NOTES
A	HIGHBUSH BLUEBERRY V. CORYMBOSUM	3' HT.	CONT	9	3 TRUNK
B	AMELANCHIER X GRANDIFLORA SERVICEBERRY 'CUMULUS – ROBIN HILL PINK'	2½ " CAL	B&B	2	3 TRUNK
C	SHASTA VIBURNUM V.PLICATUM VAR. TOMENTOSUM ' SHASTA'	4-5' HT	B&B	2	3 CANES
D	————————	———	———	———	———
E	'SUMMER SNOWFLAKE' VIBURNUM V. PLICATUM VAR. TOMENTOSUM ' SUMMER SNOWFLAKE'	# 5	CONT	4	
F	CLEMATIS CLEMATIS PANICULATA "Sweet Autumn"	—	CONT	4	Vine
G	WOODBINE Parthenocissus Quinquefolia	—	CONT	8	Vine
H	SARGENT JUNIPER J. CHINENSIS 'Sargenti"	——	#3	2	
J	YELLOWWOOD CLADRASTIS KENTUKEA	3" CAL.	B&B	1	Street Tree

PERENNIALS

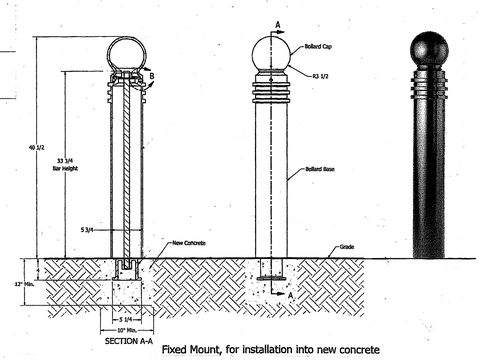
AA	BUNCHBERRY CORNUS CANADENSIS		CONT	45	@ 9" oc
BB	DAYLILY VAR. HEMEROCALLIS		PTD	34	BLOOM IN JULY THRU SEPT
CC	ASTILBE ASTILBE X ARENDSIS ' WHITE GLORY'		PTD	12	
DD	WILD GINGER ASARUM EUROPEUM		CONT	40	@ 9" oc



4 L-1 STREET TREE PLANTER DETAIL
INCLUDING PERENNIAL LOCATIONS



5 L-1 STONE DIVIDER DETAIL
NTS



BOLLARD - DUCTILE IRON # R-7571
MANU. BY: BELLWARE FOUNDRY

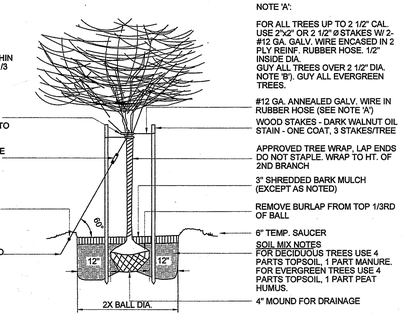
6 L-1 BOLLARD DETAIL
NTS

NOTES:

1. TREE SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.
2. NEVER CUT A LEADER, THIN BRANCHES & FOLIAGE BY 1/3 RETAINING NORMAL TREE SHAPE.

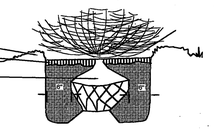
NOTE 'B':
SECURE GUYS W/ RUBBER HOSE & #12 GA. WIRE SIM. TO STAKING NOTE 'A'.

NOTE 'A':
FOR ALL TREES UP TO 2 1/2" CAL. USE 2"x2" OR 2 1/2" Ø STAKES W/ 2-#12 GA. GALV. WIRE ENCASED IN 2 PLY REINF. RUBBER HOSE. 1/2" INSIDE DIA.
GUY ALL TREES OVER 2 1/2" DIA. NOTE 'B'). GUY ALL EVERGREEN TREES.



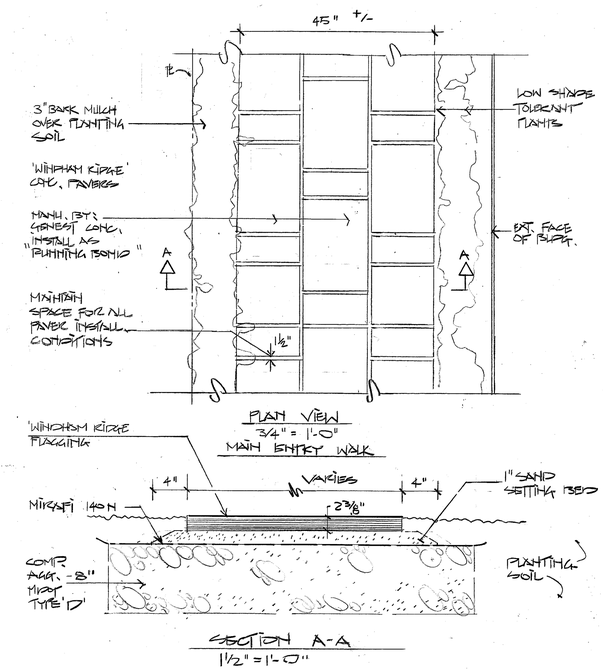
1 L-1 PLANTING DETAIL - TREE
N.T.S.

NOTE: SHRUBS SHALL BEAR SAME RELATION TO GRADE AS PRIOR TO PLANTING.



SOIL MIX NOTES:
4 PARTS TOPSOIL, 1 PART HUMUS FOR EVERGREENS
4 PARTS TOPSOIL, 1 PART MANURE FOR DECIDUOUS SHRUBS

2 L-1 PLANTING DETAIL - SHRUB
N.T.S.



3 L-1 WALK PAVING DETAIL
NTS

REGISTERED LANDSCAPE ARCHITECT
ANTHONY L. MUENCH
7.20.15
State of Maine

Anthony Muench Landscape Architect
94 Commercial Street Portland Maine 04101 2072616621

REV. 3.10.15
" 3.18.15

4 UNIT APARTMENT BUILDING
93 ST. LAWRENCE STREET
PORTLAND, MAINE 04101

DATE: 7.20.15

LANDSCAPE PLAN

L.1