

1. Legal Ad

Documents: [PB LEGAL AD 6-28-16.PDF](#)

2. Agenda

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3. 230 Commercial Street

3.I. Report And Attachments

Documents: [PB MEMO 230 COMMERCIAL ST..PDF](#)

3.II. Applicants Submittal

Documents: [COMMERCIAL ST. - 230 \(APPLICANTS SUBMITTAL\).PDF](#)

3.III. Plans

Documents: [COMMERCIAL ST. - 230 \(PLANS\).PDF](#)

4. 636 Riverside Street

4.I. Report

Documents: [RIVERSIDE ST. - 636 \(REPORT\).PDF](#)

4.II. Applicant's Submittal

Documents: [RIVERSIDE ST. - 636 \(APPLICANTS SUBMITTAL\).PDF](#)

4.III. Plans

Documents: [RIVERSIDE ST. - 636 \(PLANS\).PDF](#)

**LEGAL ADVERTISEMENT
PORTLAND PLANNING BOARD MEETING**

The Portland Planning Board will hold a meeting on Tuesday, June 28, 2016, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. **Public comments will be taken at this meeting.**

Evening Workshop – 6:00 p.m. (Note the change in time)

- i. Level III Site Plan: Phased mixed use development; 230 Commercial Street; Proprietors of Union Wharf, Applicant. The Planning Board will hold a workshop on the proposed development of 3 buildings over multiple phases, with the Phase 1 building comprising an approximately 18,745 sq. ft. office building on the site of an existing building within the site. Future phases will include restaurant/retail/market spaces within two structures totaling approximately 25, 000 sq. ft. near Commercial Street.

Public Hearing (Immediately following the Workshop)

- ii. Level III Site Plan and Subdivision; Suburban Propane Facility; 636 Riverside Street; Forefront Partners, LP., Applicant. (7:00 p.m. estimated time) The Planning Board will hold a public hearing on the proposed relocation of Suburban Propane from Thompson's Point to 636 Riverside Street. The proposed development includes a 7,300 sq. ft. office building, a 2,146 sq. ft. garage with office space, and a 4,000 sq. ft. cylinder storage dock. The plan includes 3 propane storage tanks, each with the capacity of 30,000 gpd.

ELIZABETH BOEPPLE, CHAIR - PORTLAND PLANNING BOARD

CITY OF PORTLAND, MAINE

PLANNING BOARD

Elizabeth Boepple, Chair
Sean Dundon, Vice Chair
Carol Morrisette
David Eaton
Kristien Nichols
Maggie Stanley
Lisa Whited

AGENDA PORTLAND PLANNING BOARD MEETING

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PUBLIC HEARING (Immediately following the Workshop)

1. **ROLL CALL AND DECLARATION OF QUORUM**
2. **COMMUNICATIONS AND REPORTS**
3. **REPORT OF ATTENDANCE AT THE FOLLOWING MEETING HELD ON JUNE 14, 2016:**
Workshop: Dundon, Eaton, Morrisette, Nichols, Stanley and Whited present. Boepple absent.
Public Hearing: Dundon, Eaton, Morrisette, Nichols, Stanley and Whited present. Boepple absent.
4. **REPORT OF DECISIONS AT THE MEETING HELD ON JUNE 14, 2016:**
 - i. Conditional Use Application for expansion into Stevens Avenue Armory; 772 Stevens Avenue; University of New England (UNE), Applicant. Eaton moved and Stanley seconded a motion to approve the conditional use application for the institutional use at 772 Stevens Avenue with four (4) conditions of approval. Vote: 6-0, Boepple absent.
 - ii. Level III Site Plan Application; Campus Upgrades; 360 Spring Street; Waynflete School, Applicant. Eaton moved and Stanley seconded a waiver of the lighting standards to allow 5.1 footcandles. Vote: 6-0, Boepple absent. Eaton moved and Stanley seconded a waiver of the lighting standards to allow a maximum illumination of .4 foot candles immediately south of the proposed gym. Vote: 6-0, Boepple absent. Eaton moved and Stanley seconded a waiver of the lighting standards to allow 5.1 footcandles. Vote: 6-0, Boepple absent. Eaton moved and Stanley seconded a motion to approve the site plan application with eight (8) conditions of approval. Vote: 6-0, Boepple absent.
 - iii. Master Development Plan; 605 Stevens Avenue; Seacoast at Baxter Woods Associates, LLC., Applicant. Stanley moved and Kristien seconded a motion to approve the Master Development

Plan application with twelve (12) conditions of approval. Vote: 5-0, Eaton, recused and Boepple absent.

- iv. Waterfront Marketplace at Ocean Gateway; Thames Street (between Maine State Pier and the Ocean Gateway Terminal), City of Portland, Applicant. Eaton moved and Stanley seconded a motion to approve the conditional use application for the Waterfront Marketplace at Ocean Gateway with five (5) conditions of approval. Vote: 6-0, Boepple absent.

5. NEW BUSINESS

- ii. Level III Site Plan and Subdivision; Suburban Propane Facility; 636 Riverside Street; Forefront Partners, LP., Applicant. (7:00 p.m. estimated time) The Planning Board will hold a public hearing on the proposed relocation of Suburban Propane from Thompson's Point to 636 Riverside Street. The proposed development includes a 7,300 sq. ft. office building, a 2,146 sq. ft. garage with office space, and a 4,000 sq. ft. cylinder storage dock. The plan includes 3 propane storage tanks, each with the capacity of 30,000 gpd.



Memorandum

Planning and Urban Development Department

Planning Division

To: Elizabeth Boepple, Chair and Members of the Portland Planning Board

From: Jean Fraser, Planner

Date: June 24, 2016

Re: Level III Site Plan; 230 Commercial Street (Widgery and Union Wharves);
Proprietors of Union Wharf, Applicant
Project #: 2016-137 CBL: 031 K 003 & 103; 031/L/035, 038 & 135

Meeting Date: June 28, 2016

I. INTRODUCTION

Malcolm Poole of the Proprietors of Union Wharf has submitted a preliminary application for a phased development on part of the lot that comprises Union and Widgery Wharves. Overall the proposal involves three new buildings totaling almost 45,000 sq ft of non-marine uses (offices, retail, restaurant), which would replace two of the existing buildings (one formerly a marine use, one formerly Sapporo's restaurant) and remove approximately 40 parking spaces in the area nearest Commercial Street.

The applicant intends to phase the project and is therefore requesting an approval for 3 years, which is the maximum period for a site plan approval.

The entire lot is within the Waterfront Central Zone (WCZ) and the proposed redevelopment is located within the Non Marine Use Overlay Zone (NMUOZ) which extends from Commercial Street to about half way down the wharf to the green line shown on the aerial at right.

The proposed uses are permitted uses and the change from the marine to non-marine is allowed. However, this is the first time a proposal has triggered the WCZ conditions as they pertain to proposed non-marine uses within the NMUOZ. These conditions aim to ensure that the proposed uses do not adversely impact the nearby ongoing marine uses or access to the waterfront, secure investment funds toward wharf infrastructure maintenance costs, and integrate with the Commercial Street corridor.



Some Board members may recall the development at the neighboring Merrill's Wharf (conversion of the Cumberland Cold Storage Building into offices, marine uses and restaurant) where the WCZ Performance Standards regarding circulation and parking were the subject of extensive review.

A total of 261 notices of this Hearing were sent to property owners within 500 feet and to interested citizens. In addition, the project was the subject of a legal advertisement in the *Portland Press Herald* editions on June 20 and 21, 2016. The Planning Division has not received any public comments as of the time of completing this report.

Applicant: Malcolm Poole, Proprietors of Union Wharf

Consultants: Steve Bushey, PE, Stantec; David Lloyd, Architect, Archtype, PA

Required reviews:

Applicant's Proposal	Applicable Standards
Proposed new development (phased) for 18,745 sq ft of offices and 25,000 sq ft of mixed retail and restaurant uses in the WCZ NMUOZ	WCZ Standards for non marine uses in the NMUOZ: 14-311 Development Standards (WCZ) Sections (b) <i>NMUOZ standards</i> ; and (d) <i>Performance Standards</i>
Proposed new development totaling approximately 44,000 sq ft of floorspace	Level III Site Plan - 14-523 <i>Required Approvals and Applicability</i> (f) which specifies development having a total floor area of 10,000 sq ft or more is a Level III review and subject to 14-526 <i>Site Plan Standards</i>

II. PROJECT DATA

DATA	Phase I Office Building	Future Phases along Commercial Street	Both Phases for development area
Total Site Acreage	Just over 1 acre (Entire lot is about 5 acres)		
Existing Zoning	WCZ/Non Marine Use Overlay Zone		
Existing Use		Sapporo Restaurant	
Proposed Uses	Offices	Retail/market/restaurant	
Estimated # of employees after development	55	38	Approx. 93
Total Disturbed Area	20,000 sq ft		
Existing impervious areas	181,907 sq ft (entire lot)		
Proposed impervious areas	181,907 sq ft (entire lot)		
Existing building footprint	6000 sq ft	2538 sq ft	8,538 sq ft
Proposed building footprint	6094 sq ft	10,030 sq ft	16,124 sq ft
Existing floorspace			
Proposed floorspace	18,745 sq ft	Approx 25,000 sq ft	43,745 sq ft (dev area only)
Proposed structure height	50 feet	50 ft (tbc)	
Existing parking spaces	109 approx in development area	109 approx in development area	109 approx in development area
Proposed parking spaces	98 within development area	64 within development area	64 within development area
Proposed handicapped parking spaces	2	0	
Proposed number of new bicycle parking spaces	2 bike parking spaces	6 bike parking spaces	8 bike parking spaces
Estimated Cost of Project	\$1.5 million		

III. EXISTING CONDITIONS

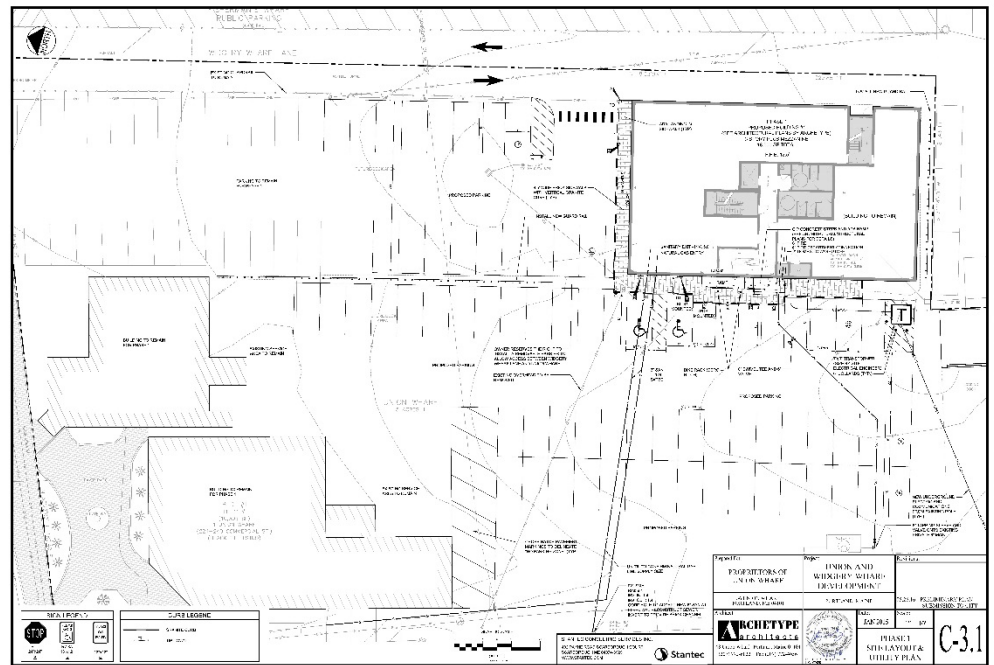
The applicant has described the site in some detail in Attachment D and an aerial is included in Attachment 1. The proposed development is within a 1+ acre section of the Union Wharf complex nearest to Commercial Street. There are existing brick commercial buildings facing Commercial Street and more “industrial” buildings within the lot. The overall lot totals 5 acres and includes part of Widgery Wharf. Most of Union Wharf is marine uses, as shown in Plan P16.

The site is accessed by two drives from Commercial Street, the western-most one is signalized, as it is an extension of Union Street. Current pedestrian access from Commercial Street is via roads and parking lots. The overall site includes 212 parking spaces, with those nearest to Commercial Street largely leased to tenants of the Union wharf buildings and other contract parking (see Plan P16). The applicant allows these spaces to be used at night (to serve local restaurants and businesses) on a casual basis.

The entire lot and development site are impervious, with no vegetation; the stormwater surface flows into the harbor.

IV. PROPOSED DEVELOPMENT

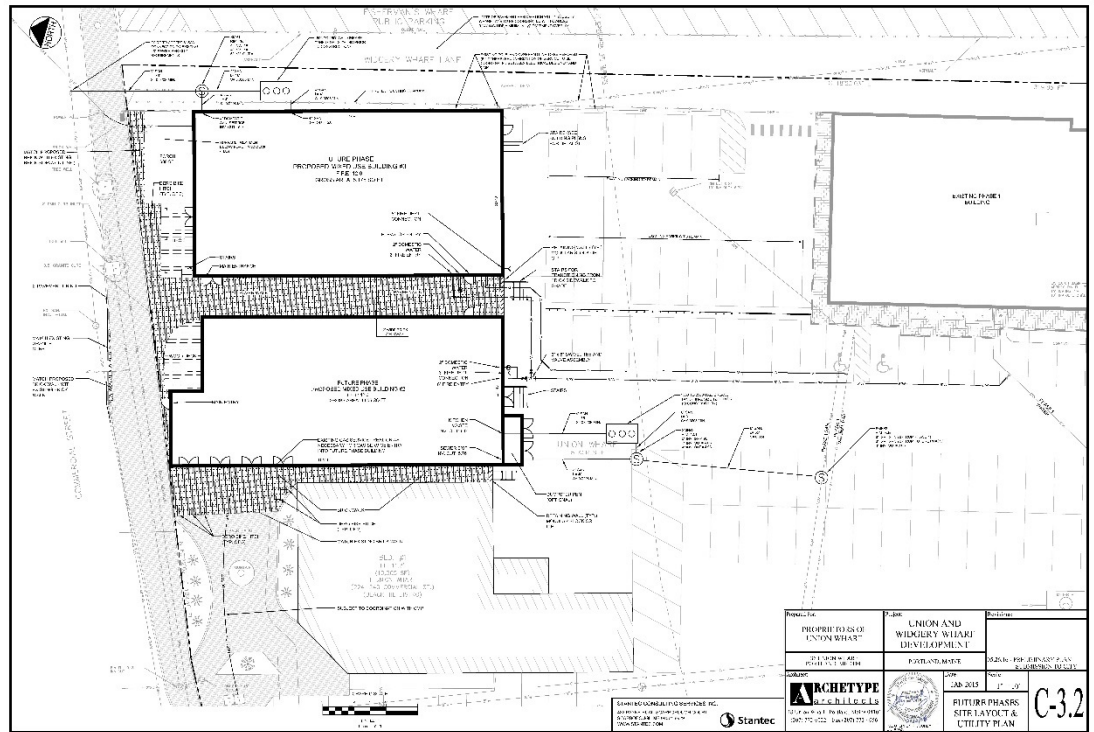
The proposals are described in Attachments D and E and the Plan Set. They include a first phase office building of 3 floors plus a mezzanine (total floorspace of 18,745 sq ft) located where at present there is a single story metal building that is currently vacant. The first phase site plan is shown at right (Plan P6), with a rendering of the first phase below (Plan P14):



Phase 1 office building

The phase 2 proposals comprise 2 new buildings to be constructed on the site of an existing single story restaurant building (see right) and on the adjacent parking lot to the east.

The proposed 2 and 3 story buildings would total approximately 20,000-25,000 sq ft; the layout and elevations are shown below (and in Plans P7 and P15):



V. REVIEWS

A. ZONING REVIEW

The development area as well as the entire lot are located in the Waterfront Central Zone; the development area is within the Non Marine Use Overlay Zone (NMUOZ) part of the wharf. The submissions include a narrative (Attachment D Development Description) that outlines that the proposed uses are permitted uses in the NMUOZ and notes that they are subject to the standards set out in 14-311.

The applicable 14-311 standards are set out in full below (*italics*) as many of the requirements have not been applied to a project in Portland and this review will be setting precedents in some cases. Staff have consulted with Bill Needelman, a former Senior Planner who drafted these standards and who managed the public process and reviews with the Planning Board/City Council during the adoption process. Bill is now the City's Waterfront Coordinator and recently met with staff and the applicant to clarify the intent of the ordinance language. Bill is on vacation and unable to attend the PB Workshop, but intends to be at the Planning Board Hearing on this project.

The staff comments are brief and intended to explain the purpose of the provisions and how they may apply to this project. In summary, the key questions for the Board to consider are:

- Does the proposal impact existing marine uses, and have they been adequately accommodated? and
- What mechanism would be most appropriate for addressing the infrastructure investment standards, particularly regarding the timeframes and phasing of the development?

14-311 (b) NMUOZ standards: Non-marine uses listed under 14-307(b) and 14-308 located within the NMUOZ, as defined in 14-306, shall be subject to the performance standards listed in 14-311(d) as well as the following standards:

1. *Vessel access: Non-marine uses allowed under this provision shall not disrupt or block access to vessel berthing and shall otherwise adhere to the performance standards of this zone described in Sec. 14-311(d).*

Staff Comment: The proposals are not located near the waterside areas.

2. *Maximum setback for new development on lots with seventy-five (75) or more feet of Commercial Street frontage: Any new non-marine development constructed subject to this provision which is located on a lot with seventy-five (75) or more feet of frontage along the Commercial Street right of way shall be located with its front façade no further than thirty-five feet (35) from the southerly sideline of the Commercial Street right of way. Furthermore, any such development shall orient its front façade and its primary pedestrian entrance toward Commercial Street and no vehicular circulation or parking may occupy the land or pier area between the front façade of the building and Commercial Street.*

Non-marine development subject to this provision on lots with fewer than seventy-five (75) feet of frontage along the Commercial Street right-of-way, changes of use within existing buildings, and/or building additions of less than 5,000 square feet of new development to existing buildings are exempt from the maximum setback provisions established herein.

Staff Comment: The overall development meets this requirement.

3. *Investment in marine infrastructure: All applicants for site plan review or a change of use permit for non-marine development in the NMUOZ are required to invest in marine infrastructure as a condition of development, provided that the total project costs exceed \$250,000. The value of the investment shall be not less than five percent (5%) of total project costs over \$250,000 for constructing non-marine space and associated site improvements in the NMUOZ.*

Required investment may occur by one or both the following methods:

a. Direct investment in marine infrastructure located on the same lot: Investment shall be for the benefit of marine uses listed in 14-307(a) within the same lot as the proposed non-marine development. Investment may include dredging, pile replacement, new or replaced structural decking (but not pavement resurfacing), new or replaced fendering systems, new or replaced floats, pier expansions, permanent conversions of recreational berthing to commercial berthing, bulkhead or seawall repair or improvements, or any combination of similar improvements.

Plans for the marine infrastructure investment shall be submitted to the planning authority with the application for site plan review or change of use permit and shall include details and a commitment as to how the marine infrastructure will be utilized by marine users. The marine infrastructure improvements shall be completed prior to the issuance of a certificate of occupancy for the non-marine development project.

b. Financial contribution: If direct investment in marine infrastructure is not made, the developer shall make a financial contribution to the city's waterfront loan and investment fund.

Staff Comment: It is understood that the intent of these provision was to ensure that there was a mechanism by which the more profitable non-marine uses allowed by the revised WCZ ordinance would contribute to the maintenance costs of the wharf infrastructure, which is difficult to finance based on marine uses alone.

In this case the applicant owns and manages the wharf based on a rolling program of wharf maintenance and the proposed new development would help finance these intended improvements. It was suggested to the applicant that he document the maintenance work and its cost as from the date of the application to show that it represents 5% of the cost of the first phase less \$250,000 ie \$62,500. If the work is not completed by the issuance of the Phase 1 CO staff suggest that perhaps a Performance Guarantee type escrow account could be set up to ensure completion. In addition, a condition is suggested to ensure that this provision is addressed prior to the issuance of a building permit for the next phase of the development.

(d) Performance standards: All uses in the waterfront central zone shall comply with the following standards. Standards 8, 10, 13, 14, 15, 16, and 17 below shall be reviewed by the planning authority:

- 1. Outdoor storage of materials: Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of forty-five (45) feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.*
- 2. Noise: The level of sound, measured by a sound level meter with frequency weighting network (manufactured according to standards prescribed by the American National Standards Institute, Inc.), inherently and recurrently generated within the waterfront central zone shall not exceed seventy-five (75) decibels on the A scale at the boundaries of any lot, except for sound from construction activities, sound from traffic on public streets, sound from temporary activities such as festivals, and sound created as a result of, or relating to, an emergency, including sound from emergency warning signal devices. In measuring sound levels under this section, sounds with a continuous duration of less than sixty (60) seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of sixty (60) seconds or more shall be measured on the basis of the energy average sound level over a period of sixty (60) seconds (LEQ₁).*
- 3. Vibration: Vibration inherently and recurrently generated shall be imperceptible without*

instruments at lot boundaries. This shall not apply to vibration resulting from activities aboard a vessel or from railroad vehicle activities, or from activities on a pile supported pier.

4. *Federal and state environmental regulations: All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this Code are more stringent.*
5. *Discharges into harbor areas: No discharge into harbor water areas shall be permitted, unless permitted by the Maine Department of Environmental Protection under a waste discharge license and as approved by the department of public works in accordance with chapter 24, article III of this code. All private sewage disposal or private wastewater treatment facilities shall comply with the provisions of chapter 24, article II of this code and federal and state environmental statutes and regulations regarding wastewater discharges.*
6. *Storage of vehicles: Storage of any unregistered automotive vehicle on the premises for more than sixty (60) days shall not be permitted.*
7. *Landfill of docking and berthing areas: Landfill of docking and berthing areas shall be governed by 38 M.R.S.A. sections 480-A through 480-HH, and permitted only if the landfill does not reduce the amount of linear berthing areas or space, or berthing capacity. If approved, construction shall be undertaken using methods approved by the department of public works and shall be accomplished in accordance with the provisions of division 25 of this article and in a manner so as to ensure that a stable and impermeable wall of acceptable materials will completely contain the fill material and will not permit any fill material to leach into docking areas or navigable waters.*

Staff Comment: Provisions 1-7 do not appear to apply to the proposals under consideration.

8. *Off-street parking and loading: Division 20 (off-street parking) and division 21 (off-street loading) of this article shall not apply.*

The planning authority shall review applications for non-marine use parking against the following standards:

- a. *Applicants for non-marine parking in the waterfront central zone shall submit a parking and traffic circulation plan showing the location of all existing and proposed structures, travel ways and parking on the subject lot.*
- b. *Outside of the NMUOZ, non-marine use parking is subject to the limitations described in 14-311(a) ("55% rule").*
- c. *Non-marine use parking shall only be located on a lot where, based on the parking and traffic circulation plan and a parking analysis to be submitted for planning authority review, the marine use parking supply is reasonably sufficient to serve marine use space located on the subject lot.*
- d. *Water-dependent use parking spaces shall be located as close as reasonably possible to associated vessels and/or ground floor lease areas.*

Staff Comment: The applicant has submitted an *Existing Use and Parking Plan (Plan P16)*, a *Proposed Use and Parking Plan (Plan P17)* and narratives in Attachments D and E, to show that the proposals are anticipated to have little impact on the operation of the wharf. The submissions do not clarify the number and location of spaces to be allocated for the new office use, nor where removed parking will be relocated. There seem to be some discrepancies in the data and how they relate to the project phases and to the overall wharf data.

There is no parking requirement in the WCZ zone, and staff suggest that the parking need and

provision for the new office development should be documented and the allocated spaces shown on the Plan P17. The applicant should clarify what is happening to the displaced parkers so that it is clear that they will not be taking marine parking spaces nearby.

Tom Errico, Traffic Engineering Reviewer, is concerned that any parking that is changed from a lease to being available for the phase 1 office use is not an off-site parking provision tied to an existing site plan approval (Attachment 4).

The location of parking for the employees of the future phases also needs to be identified, and a parking management plan may be an appropriate condition of approval. The City typically does not require parking for retail/restaurant patrons, and in this case the applicant already allows parking at night for casual parking to serve Commercial Street premises and expects this to continue after the office development is completed.

9. *Shoreland and flood plain management regulations: Any lot or portion of a lot located in a shoreland zone as identified on the city shoreland zoning map or in a flood hazard zone shall be subject to the requirements of division 26 and/or division 26.5 of this article.*

Staff Comment: The design of the buildings shall be required to meet floodplain regulations for the building aspects. The proposal is in conformance with the Shoreland Regulations generally, although the regulations encourage upgrades to the stormwater system (see ordinance extract below) and this is discussed further under the Site Plan Review.

“Stormwater runoff: All new construction and development shall be designed to be in compliance with the City of Portland Technical Manual to minimize stormwater runoff from the site in excess of the natural predevelopment conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces and wooded areas shall be retained in order to reduce runoff and encourage infiltration of stormwater.”

10. *Lighting: All lighting on the site shall be shielded such that direct light sources shall not unreasonably interfere with vessels transiting the harbor nor have an unreasonable adverse impact on adjacent residential zones.*
11. *Signs: Signs shall be permitted as set forth in division 22 of this article.*
12. *Storage of pollutants and oily wastes: On-premises storage of pollutants and oily wastes shall not be permitted for more than forty-five (45) days.*

Staff Comment: These are generally covered by the site plan standards.

13. *Urban design: Construction of new structures located within thirty-five (35) feet of the southerly edge of Commercial Street between Maine Wharf and the easterly property line of the city fish pier shall conform to the guidelines set forth in the downtown urban design guidelines, unless such structures are also located within one-hundred (100) feet of the water. Such structures that are also located within one-hundred (100) feet of the water shall conform to the extent practicable to the downtown urban design guidelines.*

Staff Comment: Staff have requested a more detailed site plan showing the proposed treatment of the areas along Commercial Street and the area between the two phases. This will be subject to a more detailed review for the Hearing.

14. *Pier and wharf expansions: In addition to meeting Harbor Commission and Coast Guard requirements for navigation, any expansion or extension of a pier and or wharf in the waterfront central zone shall demonstrate its compatibility with fixed route ferry service and emergency vessel operations.*

Staff Comment: The proposals do not include any pier or wharf expansion.

15. *Compatibility of non-marine uses with marine uses: Non-marine uses, structures and activities, including but not limited to access, circulation, parking, dumpsters, exterior storage and loading facilities or other structures shall neither interfere with the existence or operation of marine uses nor impede access to vessel berthing or other access to the water by existing or potential marine uses. Siting of a use not set forth in section 14-307(a) shall not substantially reduce or inhibit existing public access to marine or tidal waters.*
16. *Functional utility of piers and access to the water's edge: All new development, whether for marine or non-marine uses, should anticipate current and future functional and operational needs of water-dependent pier tenants to access the water's edge for the transfer of goods and materials between berthed vessels and land bound vehicles, and shall demonstrate adherence to the following provisions:*
 - a. *Provisions for the storage and movement of goods and materials must be designed into all waterside development and internal circulation routes must be maintained or otherwise provided as an element of any development. The siting, design, and circulation of non-marine uses, particularly those allowed on first floors, shall adjust if needed to accommodate reasonable access for pedestrians, vehicles, and freight transfer to and from berthed vessels.*
 - b. *Any development that proposes to site a building within ten (10) feet of a pier edge (thus precluding vehicle use of the pier edge) should provide openings and circulation through or around the building to allow the transfer of goods and materials to trucks and circulation routes within the interior of the pier.*
 - c. *With the exception of non-commercial berthing allowed under section 14-307(a)(20), there is to be no other non-commercial berthing.*
 - d. *Except for common circulation drives as defined in 14-306, access ways, parking and loading areas designated for marine uses shall be exclusively for marine uses and shall not be shared with non-marine uses.*

Staff Comment: The proposals do not appear to interfere with the existence or operation of the marine uses and access to vessels, but the final submissions should include additional information (as identified elsewhere in this Memo) to ensure that the access and parking works well within the non-marine development area. The site plan review considers this in more detail.

17. *Public view protection: Any new development in the waterfront central zone shall perform a public view impact analysis for review and approval by the planning board or planning authority as a condition of site plan approval. The analysis shall: (a) demonstrate the project's adherence to the Portland View Corridor Protection Plan (City of Portland Comprehensive Plan, 2002) to the extent practicable; and (b) promote the public's visual access to the water through sensitive building placement.*

Staff Comment: The proposal is located near an extended and protected view corridor as shown on the View Corridor Protection Plan in Attachment 2 (contrary to the last part of Attachment E). The proposed new buildings are located outside of the protected view corridor itself.

B. SITE PLAN STANDARDS (Section 14-526)

The proposed development has been reviewed by staff for conformance with the relevant site plan standards. The comments below highlight the issues particular to the proposals and do not explicitly comment on all of the Site Plan standards.

i. Transportation Standards

a. *Impact on Surrounding Street Systems (Traffic Movement Permit)*

The applicant has been requested by staff to provide trip generation data and calculations for all phases to confirm that a Traffic Movement Permit would not be required for the overall project.

b. *Access and Circulation (including for pedestrians)*

The applicants Overall Site Plan (Plan P5) does not include linkages/integration between the two phases of new development, or between the developments and the two access drives. The circulation pattern has not been defined on the submitted plans.

Tom Errico, the City's consultant Traffic Engineering reviewer, has provided the following comments that the final submissions would need to address (Attachment 4):

- *The plans note a removable barrier between Widgery and Union Wharf's. In my professional opinion providing access to the Union Street traffic signal for the area of parking abutting Widgery Wharf is important. Accordingly, I would suggest that a permanent circulation lane between the Wharf's be provided.*
- *The applicant should provide information that summarizes the purpose and dimensions of the painted cross hatched area. It is unclear if the dimensions are being adjusted and if it serves as the main circulatory aisle to the Union Street traffic signal.*
- *All circulation aisles, parking spaces, and Union Street Wharf (the plans should include the drive) should be dimensioned. Specific waivers from the City's dimensional standards shall be requested with supporting justification.*
- *Pedestrian accessibility and provision of a designated routing between the proposed office building and Commercial Street shall be included.*
- *Specific truck delivery plans shall be provided and include specific vehicle loading/unloading locations. (Note from planner: offices generate a lot of FEDEX and UPS truck traffic)*

c. ***Transit Facilities*** - this standard would not apply as there are no bus routes along this section of Commercial Street.

d. ***Parking*** - see discussion under the WCZ Performance Standards above. It should be noted that the Site Plan ordinance requires a parking analysis showing "*that the amount of parking is appropriate for the proposed use of the site*" where the proposed parking is 10% or more over the required parking (in this case there is no parking requirement under zoning).

The Traffic Engineering reviewer has commented that "*The applicant should clearly depict which spaces are designated for the office use and document the current users of the spaces and whether they are tied to existing site plan approvals.*"

e. ***Bicycle Parking*** - these have been included in the proposals.

f. ***Transportation Demand Management (TDM)***- This standard applies to all commercial or institutional uses of 50,000 sq ft or more total floor space. The current overall proposal is for new floorspace totaling about 44,000 sq ft, so the standard would not apply if the future phases remain as outlined.

ii. **Environmental Quality Standards**

- a. **Site Landscaping** - the Parking Lot landscape standards are applicable to this development and staff consider that some treeplanting, perhaps associated with a pedestrian connection between the office development and Commercial Street, should be incorporated into the proposals. The Site Plan ordinance states:

(ii) *Parking Lot Landscaping:*

- (a) *Developments with five (5) or more parking spaces shall include at least two (2) trees (or one (1) tree and three (3) shrubs) per five (5) parking spaces planted in landscaped islands to screen shade and break up parking. Trees and shrubs in parking lots may be in informal groups, straight rows, or concentrated in clusters as detailed in Section 4 of the Technical Manual.*
- (b) *Landscaped islands shall be distributed so that uninterrupted pavement does not exceed forty (40) parking spaces.*
- (c) *Landscaped islands shall be curbed and a minimum of eight (8) feet in width, not including curbing. The incorporation of bioretention into landscaped islands is strongly encouraged.*
- (d) *Vehicle display lots shall be subject to the parking lot landscaping standards of this section.*
- (e) *Waiver: Where site constraints prevent implementation of all or a portion of required parking lot landscaping, as determined by the Reviewing Authority, the requirements may be all or partially waived and the applicant shall contribute an amount proportionate to the cost of required parking lot trees to the City of Portland Tree Fund.*

The Planning Board may want to consider whether there are grounds for considering a waiver.

b. **Water Quality, Storm Water Management and Erosion Control**

The development site is already 100% impervious and therefore the Chapter 500 standards technically do not require any quality control for stormwater despite the large areas of parking lot that drain directly into the harbor. The Shoreland Regulations (discussed above) and the Stormwater Service Charge potential credits would support the inclusion of some LID measures (eg tree filter) and the applicant is encouraged to to give this consideration.

iii **Public Infrastructure and Community Safety Standards**

The final submissions would need to include further information to show how fire access to the building would be achieved (and how blockage of circulation routes would be avoided), and how crime prevention through design would be achieved given the back-location of the phase 1 office building.

The Department of Public Works (David Margolis-Pineo) ([Attachment 3](#)) and the Peer Engineer ([Attachment 5](#)) have provided preliminary comments related to utilities which should be addressed in the final submission.

iv **Site Design Standards**

- a. **View Corridors** - see above under WCZ Performance Standards (#17).
- b. **Exterior Lighting; Signage and Wayfinding-** final submissions should clarify these details.
- c. **Zoning Design Standards** - the WCZ Performance Standards (#13- Urban Design) references the requirement that development along Commercial Street shall conform to the *downtown urban design guidelines* and this would apply to the future phases along Commercial Street

V. NEXT STEPS

- Revise and finalize plans addressing the preliminary staff comments and any further direction from the Planning Board

ATTACHMENTS

Memo Attachments

1. Aerial photograph
2. View Corridor Protection Plan
3. DPW Review comments
4. Traffic Engineer preliminary comments
5. Peer Engineer preliminary comments

Public comments

(none received to date)

Applicants Submittal

- A. Stantec Cover letter
- B. Site Plan Application
- C. RTI & Financial Capacity documents
- D. Development Description
- E. Conformity with Standards

Submitted Plans

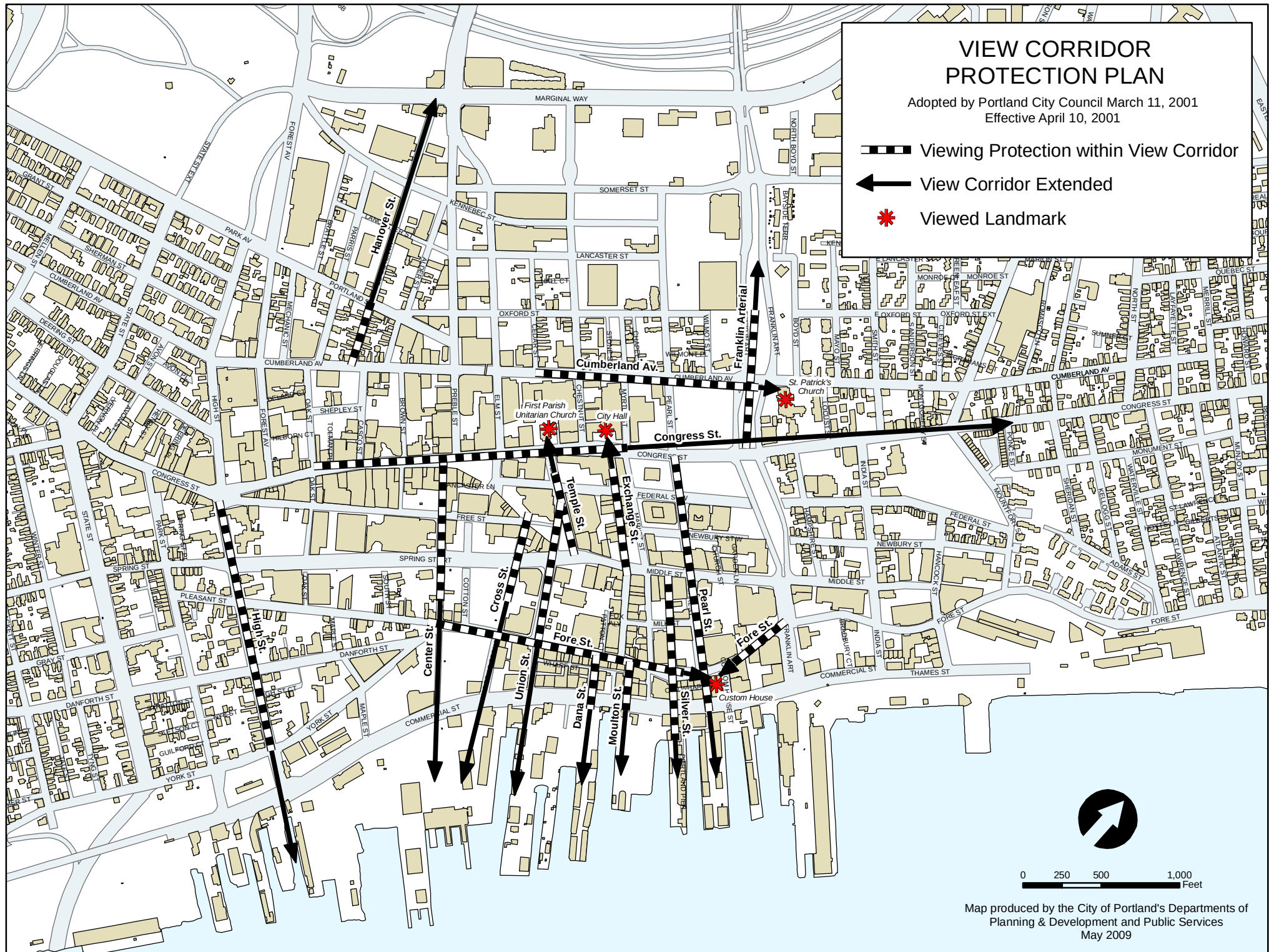
- P1. Cover Sheet
- P2. General Notes and legend
- P3. Boundary survey
- P4. Existing conditions
- P5. Overall Site Layout (all phases)
- P6. Phase 1 Site Layout
- P7. Future Phases Site Layout
- P8. Overall Grading and Drainage
- P9. Phase 1 Grading and Drainage
- P10. Future Phases Grading and Drainage
- P11. Details (4 sheets)
- P12. Phase 1 Floor Plan (offices)
- P13. Phase 1 Elevation (offices)
- P14. Phase 1 Rendering (offices)
- P15. Future Phases Elevations
- P16. Existing Use and Parking Plan
- P17. Proposed Use and Parking Plan



VIEW CORRIDOR PROTECTION PLAN

Adopted by Portland City Council March 11, 2001
Effective April 10, 2001

-  Viewing Protection within View Corridor
-  View Corridor Extended
-  Viewed Landmark



Revised comments for 230 Commercial St

1 message

David Margolis-Pineo <dmp@portlandmaine.gov>

Wed, Jun 22, 2016 at 4:16 PM

To: Jean Fraser <jf@portlandmaine.gov>, Lauren Swett <lszett@woodardcurran.com>

June 22, 2016

Memo To: Barbara Barhydt

Jean Fraser

From: David Margolis-Pineo

Re: 230 Commercial St – Public Works Development Review Comments (2016-137)

The Department of Public Works has the following preliminary review comments for the above mentioned project.

1. The Wastewater Capacity Application is being processed by Brad Roland of this office under a separate cover and will be forwarded shortly.
2. Phase I – Since the existing sanitary manhole rims are below the flood tide elevation. If the existing frames and covers are not water tight, replace frames and covers with a water tight frames and covers with bolt down cover or make arrangements to make the existing frame and cover water tight. The same should apply to manhole frames and covers in future phases for buildings #2 and #3.
3. During the design phase for building #2, please contact Rachel Smith (874-8833) for sizing and design

of grease traps. For the proposed grease trap connecting into Commercial St, (see comment 5.) you are requested to connect to the parallel sanitary sewer on the other side of the four foot diameter Portland Water District trunk sewer. As-Built drawing are available in this office.

4. Detail A, Sheet C 7.0 does not depict City of Portland's current standard.
5. Commercial St was recently paved and is now subject to a five year moratorium.
6. The City of Portland Technical Manual requires that backflow preventers be installed on all sewer laterals connected to the City's combined sewer system.

This department has no further comments at this time.

--

David Margolis-Pineo
Deputy City Engineer
Department of Public Services
55 Portland St.
Portland, ME 04101
Office [207-874-8850](tel:207-874-8850)
Cell [207-400-6695](tel:207-400-6695)
dmp@portlandmaine.gov

230 Commercial Street - Initial Traffic Comments

1 message

Tom Errico <thomas.errico@tylin.com>

Thu, Jun 23, 2016 at 10:27 AM

To: Jean Fraser <jf@portlandmaine.gov>

Cc: David Margolis-Pineo <dmp@portlandmaine.gov>, Jeremiah Bartlett

<JBartlett@portlandmaine.gov>, "kas@portlandmaine.gov" <kas@portlandmaine.gov>, Jeff Tarling <jst@portlandmaine.gov>

Hi Jean – The following represents my initial traffic comments for the project. Please note that additional comments are likely.

- The plans note a removable barrier between Widgery and Union Wharf's. In my professional opinion providing access to the Union Street traffic signal for the area of parking abutting Widgery Wharf is important. Accordingly, I would suggested that a permanent circulation lane between the Wharf's be provided.
- The applicant should clearly depict which spaces are designated for the office use and document the current users of the spaces and whether they are tied to an existing site plan approvals.
- The applicant should provide information that summarizes the purpose and dimensions of the painted cross hatched area. It is unclear if the dimensions are being adjusted and if it serves as the main circulatory aisle to the Union Street traffic signal.
- All circulation aisles, parking spaces, and Union Street Wharf (the plans should include the drive) should be dimensioned. Specific waivers from the City's dimensional standards shall be requested with supporting justification.
- Pedestrian accessibility and provision of a designated routing between the proposed office building and Commercial Street shall be included.

- Specific truck delivery plans shall be provided and include specific vehicle loading/unloading locations.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE

Senior Associate

Traffic Engineering Director

TYLIN INTERNATIONAL T.Y. Lin International

12 Northbrook Drive

Falmouth, ME 04105

[207.781.4721](tel:207.781.4721) (main)

[207.347.4354](tel:207.347.4354) (direct)

[207.400.0719](tel:207.400.0719) (mobile)

[207.781.4753](tel:207.781.4753) (fax)

thomas.errico@tylin.com

Visit us online at www.tylin.com

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"One Vision, One Company"

Please consider the environment before printing.

MEMORANDUM



TO: Jean Fraser, Planner
FROM: Lauren Swett, PE
DATE: June 24, 2016
RE: Union Wharf Mixed-Use Development, Level III Preliminary Site Plan Application

Woodard & Curran has reviewed the Preliminary Level III Site Plan Application for the proposed mixed-use development located at 230 Commercial Street in Portland, Maine. The project involves a multi-phase development of up to three new buildings for office space, and future mixed-uses, which may include an open market and restaurant.

Documents Reviewed by Woodard & Curran

- Preliminary Level III Site Plan Application and attachments, dated May 31, 2016, prepared by Stantec, on behalf of Proprietors of Union Wharf/Poole Group of Companies.
- Engineering Plans, dated May 26, 2016, prepared by Stantec, on behalf of Proprietors of Union Wharf/Poole Group of Companies.

Comments

- 1) Per Section 13 of the City's Technical Manual, the Applicant is required to submit a Boundary Survey that has been Stamped by a Maine Licensed Professional Surveyor; the survey has not been stamped at this time. A stamped survey should be provided as part of the final application.
- 2) The Applicant should note that any changes to the design of the future phases will require additional review and approval by the City of Portland.
- 3) The Applicant has submitted a wastewater capacity application and provided a letter from the Portland Water District noting that there is sufficient capacity to serve the proposed development. However, there are several conditions of service noted in the letter from Portland Water District; the Applicant should provide a status update on these conditions.
- 4) 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 accordance with Appendix A, B, & C of MaineDEP Chapter 500; however, a detail for the proposed stabilized construction entrance should be provided.
 - b) General Standard: The project will not result in an increase in impervious area. As such, the project is not required to include any specific stormwater management features for stormwater quality control. However, the Applicant is proposing a Fabco Roof Drain Stormbasin Cartridge Filter to be connected to the proposed roof drain systems in the three buildings. We encourage the Applicant to review the City's Stormwater Service Charge Credit Manual (available online) to evaluate whether this system qualifies for a Stormwater Service Charge credit. We also encourage the Applicant to consider utilizing other LID measures and stormwater treatment for other existing impervious areas on the site.
 - c) Flooding Standard: The project will not result in an increase in impervious area. As such, the project is not required to include any specific stormwater management features to control the rate or quantity of stormwater runoff from the site.
- 5) The plans should note a location for snow storage. The snow storage location should be sited outside of existing and proposed drainage courses.
- 6) Details should be provided for the proposed retaining wall structures, including height and geotechnical considerations.



Stantec Consulting Services Inc.
482 Payne Road – Scarborough, ME 04074

May 31, 2016

Ms. Barbara Barhydt
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

**Subject: Union Wharf Mixed-Use Development
Level III Preliminary Site Plan Application**

Dear Barbara:

On behalf of Proprietors of Union Wharf/Poole Group of Companies, we are pleased to provide the accompanying package of submission materials related to the proposed Union Wharf Mixed-Use Development project. These uses include office space in a Phase 1 building and mixed used consisting of retail/market/restaurant uses for two future phase structures. This submission package is intended to meet the City's Preliminary Submission Requirements as outlined in the Level III Application procedures. The proposed development consists of the multi-phase development of up to three (3) new buildings on the property generally bounded by Union Wharf and Widgery Wharf. The property is identified on City of Portland Tax Map 31, Block K, Lots 003 and 103 and Block L, Lots 035, 038, and 135. The property size is approximately 5.0 acres according to a boundary survey completed by Downeast Surveying & Development that is made part of the development plan set accompanying this submission. On behalf of the applicant, we previously participated in a Preapplication meeting on December 23, 2015.

The development site is located within the City's WCZ (Waterfront Central Zone), and the proposed land uses comply with the permitted uses within the zone.

The Applicant is proposing to construct an approximately 6,094 SF footprint building as part of Phase 1 development. The building will contain three (3) stories plus a mezzanine level for a total GLA of 18,745 SF. This Phase 1 building will be located nearly in the same footprint as an existing single story metal warehouse building located on the south side of the Widgery Wharf Lane. The existing building will be demolished and the foundation removed to make way for the new structure.

The development includes two future phase buildings to be constructed along the Commercial Street frontage. These buildings are summarized as follows:



Ms. Barbara Barhydt
May 31, 2016
Page 2

Building #	First Floor	Second Floor	Third Floor
2	4,855 SF Open Market/ Restaurant	4,855 SF Restaurant	---
3	5,175 SF Restaurant	5,175 SF Food Court/ Market	4,465 SF Office

Specific elements of the site improvements plan include the following:

- Demolition of an existing 6,000 SF single story metal structure to make way for Building #1. Site improvements include utilities including water, sewer, underground power, and natural gas to this new building. Parking area improvements will be modest in nature and include some new pavement markings and brick sidewalk around the building perimeter.
- The future phase building development will include the demolition of the existing single story structure at 230 Commercial Street (now occupied by Sapporo Restaurant) and this space will be replaced with a multi-story mixed used structure that is currently contemplated as a combination open market/restaurant. This building may include direct pedestrian access from the Commercial Street frontage and may involve typical sidewalk enhancements related to pedestrian access. Building #2 will contain approximately 4,855 SF of GLA per the current schematics prepared by Archetype.
- The future phase activity may also include a second new structure along the Commercial Street frontage. This new multi-story structure will be located within what is now parking area along Widgery Wharf Lane. This 5,175 SF multi-story building will align with the Commercial Street frontage and also rely on pedestrian access from Commercial Street. Additional street side enhancements including bike racks, etc. are contemplated. The future phase buildings will require utility improvements that will rely on the existing utility infrastructure on the wharfs or within Commercial Street

The Development Team will include the Proprietors of Union Wharf as the Developer and Owner; Stantec providing civil engineering and permitting assistance; and Archetype Architects as Architect.

Accompanying this cover letter are the following materials:

- Site Plan Application
- Section 1: Written Description of Project
- Section 2: Evidence of Right, Title and Interest



Ms. Barbara Barhydt
May 31, 2016
Page 3

- Section 3: Written Assessment of Proposed Project's Compliance with Applicable Zoning and Land Use Requirements
- Section 4: Contact with State and Local Agencies
- Full and Reduced Sized Plans

You will find in the accompanying materials, information including the Preliminary Site Layout Plan that provides greater detail for the proposed site development activities. Preliminary information pertaining to the project's utilities needs and statements regarding compliance with the City's Standards are contained within this submission.

On behalf of the Union Wharf Development Team, we look forward to your continued assistance on the project and we look forward to the earliest available workshop meeting with the Planning Board. All materials have been uploaded electronically in accordance with the City's new submission filing requirements. If you have any questions regarding these materials please contact this office.

Sincerely,

STANTEC CONSULTING SERVICES, INC.

Stephen R. Bushey, P.E.
Associate
Phone: 207-883-3478
Fax: 207-883-3376
stephen.bushey@stantec.com

Attachments

c: Malcolm Poole, Proprietors of Union Wharf
David Lloyd, Archetype, PA

V:\1953\active\195350003\Admin\Permitting\Level III Preliminary application\sub_barhydt_prelimapp_2016.05.31.docx



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:

Agent - Stephen R. Bushey, P.E.

I have provided digital copies and sent them on:

May 31, 2016

Date:

May 31, 2016

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.

PROJECT NAME: Site Development for Union and Widgery Wharf - Commercial Street

PROPOSED DEVELOPMENT ADDRESS:

230 Commercial Street at 1 Widgery Wharf and 1 Union Wharf

PROJECT DESCRIPTION:

Development of three buildings over multiple phases. Phase 1 building will be approximately 18,745 SF office building. Future phases will include restaurant/retail/market spaces within two structures totaling approximately 25,000 SF.

CHART/BLOCK/LOT: 031/K/003 & 103
031/L/035, 038 & 135

PRELIMINARY PLAN
FINAL PLAN

05/31/16 (date)
TBD (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Malcolm Poole Proprietors of Union Wharf Business Name, if applicable: Address: PO Box 7467 DTS City/State : Portland, ME Zip Code: 04112	Applicant Contact Information Work # 207.772.8160 Home# Cell # Fax# 207.939.1431 e-mail: mpoole@whshurtleff.com
Owner – (if different from Applicant) Name: Same as Above Address: City/State : Zip Code:	Owner Contact Information Work # Home# Cell # Fax# e-mail:
Agent/ Representative Name: Stephen R. Bushey, P.E. Stantec Address: 482 Payne Road City/State : Scarborough, ME Zip Code: 04074	Agent/Representative Contact information Work # 207.883.3355 Cell # 207.756.9359 e-mail: stephen.bushey@stantec.com
Billing Information Name: Same as Applicant Address: City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Name: Same as Agent Address: City/State : Zip Code:	Engineer Contact Information Work # Cell # Fax# e-mail:
Surveyor Name: Elwood Ellis Downeast Surveying & Development Address: PO Box 6234 City/State : China Village, ME Zip Code: 04926	Surveyor Contact Information Work # 207.968.2507 Cell # Fax# e-mail:
Architect Name: David Lloyd Archetype, P.A. Address: 48 Union Wharf City/State : Portland, ME Zip Code: 04101	Architect Contact Information Work # 207.772.6022 Cell # Fax# e-mail: lloyd@archetypepa.com
Attorney Name: Address: City/State : Zip Code:	Attorney Contact Information 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) ___ 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) ___ 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
--	---

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan and each document submitted as separate files. Naming conventions for the individual files 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-Documents-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:

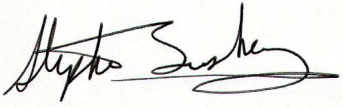
1. One (1) full size site plans that must be folded.
2. One (1) copy of all written materials or as follows, unless otherwise noted:
 - a. Application form that is completed and signed.
 - b. Cover letter stating the nature of the project.
 - c. All Written Submittals (Sec. 14-525 2. (c), including evidence 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:	May 31, 2016
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PROPRIETORS OF UNION WHARF

36 UNION WHARF — P.O. BOX 7467 DTS

PORTLAND, MAINE 04112

December 31, 2014

**Subject: Widgery Wharf — Portland, ME
Agent Authorization Letter**

To Whom It May Concern:

Proprietors of Union Wharf and Poole Group of Companies has retained Fay, Spofford & Thorndike, LLC to prepare requisite Local, State and Federal Permit Applications for the above referenced project. FST is authorized to act as an agent for Proprietors of Union Wharf and Poole Group of Companies in matters related to these permits.

Sincerely,

Proprietors of Union Wharf
Poole Group of Companies



Malcolm Poole
Vice President

PROJECT DATA

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

Total Area of Site	217,800	sq. ft. (5 ac)
Proposed Total Disturbed Area of the Site	20,000	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)	181,907	sq. ft.
Impervious Area (Total Proposed)	181,907	sq. ft.
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	53,657	sq. ft.
Building Footprint (Total Proposed)	63,717	sq. ft.
Building Floor Area (Total Existing)	60,000 +/-	sq. ft.
Building Floor Area (Total Proposed)	90,000 +/-	sq. ft.
Zoning		
Existing	WCZ/NMUOZ	
Proposed, if applicable	-	
Land Use		
Existing	Mixed Commercial (Waterfront Central Zone)	
Proposed	Mixed Commercial Marine & Non Marine	
Residential, If applicable	N/A	
# of Residential Units (Total Existing)		
# of Residential Units (Total Proposed)		
# of Lots (Total Proposed)		
# of Affordable Housing Units (Total Proposed)		
Proposed Bedroom Mix	N/A	
# of Efficiency Units (Total Proposed)		
# of One-Bedroom Units (Total Proposed)		
# of Two-Bedroom Units (Total Proposed)		
# of Three-Bedroom Units (Total Proposed)		
Parking Spaces		
# of Parking Spaces (Total Existing)	212	
# of Parking Spaces (Total Proposed)	193 (After Phase 1)	
# of Handicapped Spaces (Total Proposed)	6	
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)	0	
# of Bicycle Spaces (Total Proposed)	8 (All Phases)	
Estimated Cost of Project	\$1.5 Million (Phase 1)	

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
X		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.
X		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
X		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)
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;
N/A			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);
N/A			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.



Stantec Consulting Services Inc.
482 Payne Road – Scarborough, ME 04074

May 25, 2016

Mr. Brad Roland
City of Portland
Department of Public Works
55 Portland Street
Portland, ME 04101-2991

**Subject: Proposed Mixed-Use Development
Union Wharf – Portland, Maine
Wastewater Capacity Application**

Dear Mr. Roland:

Our office is working as a consultant to the Proprietors of Union Wharf and Archetype, P.A. in the site planning and permitting associated with a proposed multi-phased mixed-use development to be constructed on Union Wharf (heading northeast on Commercial towards Widgery Wharf Lane) located at 230 Commercial Street and 1-11 Widgery Wharf Lane. The project site is located on all or a portion of Map 31, Block K, Lots 003, 103 and Map 31, Block L, Lots 035, 038, and 135 according to the City of Portland Tax Assessor's Maps. On behalf of the developer, we are requesting a letter affirming that the proposed development can be served by the municipal wastewater treatment system.

The project will consist of these buildings with size and use summarized as follows:

Building #	First Floor	Second Floor	Third Floor
1	6,094 SF Office	6,094 SF Office	6,094 SF Office
2	4,855 SF Open Market/ Restaurant	4,855 SF Restaurant	---
3	5,175 SF Restaurant	5,175 SF Food Court/ Market	4,465 SF Office

The accompanying plans indicate the current program proposed.

The projected water use using the Maine State Plumbing Code and typical City of Portland flows information is as follows:

Building 1	Design Flow
Level 1-3 Office 55 Employees @ 15 gpd/Employee	825 gpd
Building 1 Water Usage Estimate	825 gpd

Building 2	Design Flow
Level 1 – Open Market Restaurant 4,855 SF @ 50 gpd/100 SF	2,427.50 gpd
Level 2 – Restaurant Use 200 Seats @ 30 gpd/Seat Plus 25 Employees @ 12 gpd/Employee	6,000 gpd 300, gpd
Building 2 Water Usage Estimate	8,727.50 gpd



Mr. Brad Roland
May 25, 2016
Page 2

Building 3	Design Flow
Level 1 – Restaurant Use 200 Seats @ 30 gpd/Seat plus 25 Employees @ 12 gpd/Employee	6,000 gpd 300 gpd
Level 2 – Food Court/Market 5,175 SF @ 50 gpd/100 SF	2,587.50 gpd
Level 3 – Office Space 4,018 SF @ 300 SF/Employee = 13 Employees 13 Employees @ 15 gpd/Employee	195 gpd
Building 3 Water Usage Estimate	9,082.50 gpd
TOTAL WATER USE ESTIMATE	18,635 gpd

Based on this modest amount of flow, we trust that the existing wastewater collection and treatment system has adequate capacity to serve this project. We are in the process of completing the Site Plan Application for a submission to the City Planning Staff and would appreciate your response to the Planning Department.

If you have any questions concerning this request, please contact our office.

Sincerely,

STANTEC CONSULTING SERVICES, INC.

Stephen R. Bushey, P.E.
Associate
Phone: 207-883-3478
Fax: 207-883-3376
stephen.bushey@stantec.com

Attachment

\\Us1261-f01\workgroup\1953\active\195350003\Admin\Correspondence Out\agency\lfr_roland_wastewater-app_20160525.docx

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

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



David Margolis-Pineo
Deputy City Engineer
207-874-8850
207-400-6696
dmp@portlandmaine.gov

Date: May 25, 2016

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

Site Address: Union Wharf - 218 Commercial Street

Chart Block Lot Number: 031/K/003

Proposed Use: Office Building

Previous Use: Warehouse

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.

Direct connection to 8" sanitary on Union Wharf that connects to Commercial Street.

Site Category | Commercial (see part 4 below) ☒
Industrial (complete part 5 below) ☐
Governmental ☐
Residential ☐
Other (specify) ☐

Clearly, indicate the proposed connections, on the submitted plans.

2. Please, Submit Contact Information.

City Planner's Name: Barbara Barhydt Phone: 207-874-8699

Owner/Developer Name: The Proprietors of Union Wharf

Owner/Developer Address: PO Box 7467 DTS - Portland, ME 04101

Phone: 207.772.8160 Fax: 207.939.1431 E-mail: mpoole@whshurtleff.com

Engineering Consultant Name: Stephen R. Bushey, P.E. - Stantec Consulting Services, Inc.

Engineering Consultant Address: 482 Payne Road - Scarborough, ME 04074

Phone: 207-887-3478 Fax: 207-883-3376 E-mail: stephen.bushey@stantec.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: _____ GPD

Peaking Factor/ Peak Times: _____

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)

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:

Not Available for Phase 1 Building

Size of External Grease Interceptor:

Retention Time:

Future Phases Subject to Design

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:

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, or attached, as a separate sheet.

2. TECHNICAL AND FINANCIAL CAPACITY

2.1 TITLE, RIGHT AND INTEREST

The applicant currently owns the site as evidenced by the accompanying deed contained in Attachment A to this section.

2.2 TECHNICAL CAPACITY

The applicant has assembled a highly qualified team of professionals to plan, permit, and develop construction documents for the project. The Team is working under the direction of Mr. Malcolm Poole, Proprietors of Union Wharf/Poole Group Companies.

The Team services will be provided by the following companies and their respective team leaders.

2.3 CONSULTANT TEAM

<i>Civil Engineer</i>	Stephen R. Bushey, P.E. Stantec Consulting Services, Inc. (207) 887-3478 – Work (207) 887-3376– Fax (207) 756-9359 – Cell stephen.bushey@stantec.com
<i>Surveyor</i>	Elwood Ellis, PLS #1176 Downeast Surveying & Development P.O. Box 6234 China Village, ME 04926 (207) 668-2507 – Work
<i>Architect</i>	David Lloyd Archetype P.A. 48 Union Wharf Portland, ME 04101 (207) 772-6022 Fax (207) 772-4056 lloyd@archetypepa.com
<i>Geotechnical</i>	William Peterlein, PE Summit Geoengineering Services, Inc. PO Box 7216 Lewiston, ME 04243 (207) 576-3313 bpeterlein@summitgeoeng.com
<i>Traffic Engineering</i>	Bill Bray, P.E. Traffic Solutions 235 Bancroft Street Portland, ME 04102 (207) 774-3603 trafficsolutions@maine.rr.com

2.4 EXPERIENCE OF PROJECT TEAM

The team of consultants retained by developer has expertise and experience in the design of similar commercial projects. Resumes of key personnel for the development team can be provided upon request.

The applicant also has significant experience in the development as they have managed the property for many years.

2.5 FINANCIAL CAPACITY

The applicant has the means at its disposal for financing the proposed project as evidenced by the accompanying letter from Gorham Savings Bank contained in Attachment B.

2.6 CONSTRUCTION COST ESTIMATE

The anticipated project costs for Phase 1 is approximately \$1.5 to \$2.0 million dollars. The future phases may involve an additional \$3 million to \$4 million dollars.

These values are considered preliminary and approximate and are subject to change as building design and project layout is refined.

2.7 ATTACHMENTS

Attachment A – Deed

Attachment B – Letter from Gorham Savings Bank

ATTACHMENT A

Deed

QUITCLAIM DEED WITHOUT COVENANT
(Maine Statutory Short Form)

KNOW ALL PERSONS BY THESE PRESENTS that THOMAS E. CARR, SR., an individual resident at Bridgton, Maine, THOMAS E. CARR, II, an individual resident at Brunswick, Maine, DANIEL J. DESMOND, an individual resident at Portland, Maine, ALICE D. HARRIS, an individual resident at Beverly, Massachusetts, ELLEN D. STONE, an individual resident at Boston, Massachusetts, and FLEET BANK OF MAINE, as Trustee of Trust B (The "Residual Trust") under Trust Agreement dated February 27, 1964, between Edward J. Carr and First National Bank of Portland (now Fleet Bank of Maine) and HARRIS REALTY ASSOCIATES, a Maine limited partnership with its principal place of business in South Portland, Maine (collectively, "Grantors"), for consideration paid, RELEASES to PROPRIETORS OF UNION WHARF, a Maine corporation having its place of business and mailing address at 36 Union Wharf, P.O. Box 7467 DTS, Portland, ME 04112, the real estate, together with any buildings and improvements thereon, located on the southerly side of Commercial Street in the City of Portland, County of Cumberland and State of Maine, all as more particularly described on Schedule A attached hereto.

IN WITNESS WHEREOF, the Grantors have caused this instrument to be executed this 28th day of December, 1993.

[Signature]
Witness

Thomas E. Carr, II
Thomas E. Carr, II

[Signature]
Witness

Thomas E. Carr, Sr.
Thomas E. Carr, Sr., by Thomas E. Carr, II, attorney in fact

[Signature]
Witness

Daniel J. Desmond
Daniel J. Desmond

[Signature]
Witness

Alice D. Harris
Alice D. Harris, by Daniel J. Desmond, attorney in fact

[Signature]
Witness

Ellen D. Stone
Ellen D. Stone, by Daniel J. Desmond, attorney in fact

MAINE REAL ESTATE TAX PAID

Fleet Bank of Maine, as
Trustee under the Residual
Trust

Vicki R. Jones
Witness

By: John T. Felkenin
Its Vice President
John T. Wilkinson

Harris Realty Associates

Vicki R. Jones
Witness

By: Mortier D. Harris, Jr.
General Partner

Vicki R. Jones
Witness

By: Ronnell F. Harris
General Partner

Vicki R. Jones
Witness

By: Austin F. Harris
General Partner

State of Maine
County of Cumberland, ss.

December 28, 1993

Personally appeared the above-named Thomas E. Carr, II and
acknowledged the foregoing instrument to be his free act and
deed.

Before me, [Signature]
Michael L. Sheehan,
Attorney at Law

DAR05D79

SCHEDULE A

Those certain parcels or lots of land with the buildings thereon situated on the southerly side of Commercial Street in Portland, Cumberland County, Maine being the premises described in the following deeds.

- 1) Deed from Harbor Realty Company to Carr Realty Co. dated August 13, 1946 and recorded in the Cumberland County Registry of Deeds in Book 1833, Page 254;
- 2) Deed from Harbor Realty Company to Carr Realty Co. dated August 19, 1958 and recorded in said Registry of Deeds in Book 2428, Page 335;
- 3) Deed from Harbor Realty Company to Carr Realty Co. dated August 19, 1958 and recorded in said Registry of Deeds in Book 2428, Page 337;
- 4) Deed from Harris Realty Co. to Carr Realty Co. dated April 10, 1950 and recorded in said Registry of Deeds in Book 2226, Page 378;
- 5) Deed from Proprietors of Union Wharf to Carr Realty Co. dated September 21, 1971 and recorded in said Registry of Deeds in Book 3192, Page 381; and
- 6) Deed from Proprietors of Union Wharf to Carr Realty Co. dated October 19, 1972 and recorded in said Registry of Deeds in Book 3315, Page 183.

Excluding from the above premises so much thereof as was conveyed by the following deeds:

- 1) Deed from Carr Realty Co. to Harris Realty Co. dated July 19, 1983 recorded in said Registry of Deeds in Book 6224, Page 223.
- 2) Deed from Carr Realty Co. to Proprietors of Union Wharf dated September 20, 1971 recorded in said Registry of Deeds in Book 3192, Page 379.
- 3) Deed from Carr Realty Co. to Proprietors of Union Wharf dated October 19, 1972 recorded in said Registry of Deeds in Book 3315, Page 185.

Any portion of the premises that may be between high and low water mark is subject to the rights of the public under the Colonial Ordinance of 1641-1647.

Any portion of the premises that may be below low water mark is subject to rights of navigation and any rights of the federal and state governments.

• • Meaning and intending to convey and hereby conveying the same premises described in a deed from Carr Realty Co. to Harris Realty Associates, et al., dated December 28, 1988 and recorded in said Registry of Deeds in Book 8611, Page 208.

Also hereby conveying all right, title and interest in an easement for all purposes of a common passageway in common with others in, on, over and under the twenty (20) foot wide strip of land extending southerly from Commercial Street to land now or formerly of Widgery's Wharf, Inc. and used as a passageway, a portion of which is described as "Access Easement" in an Easement Deed from Harris Realty Associates to Fisherman's Wharf Associates II dated March 20, 1987 and recorded in said Registry of Deeds in Book 7688, Page 213, subject to rights of others in common to use said twenty (20) foot wide strip of land for all purposes of a common passageway and specifically subject to the easement granted by Harris Realty Associates to Fisherman's Wharf Associates II by said Easement Deed referred to above.

DAR05A76

Recorded
Cumberland County
Registry of Deeds
12/30/93 02:46:01PM
John B. O'Brien
Register

ATTACHMENT B

Letter from Gorham Savings Bank



May 12, 2016

City of Portland
389 Congress Street
Portland, ME 04101

RE: Poole Group and Proprietors of Union Wharf

To Whom It May Concern:

The Poole Group and Proprietors of Union Wharf are valued customers of Gorham Savings Bank. Please be advised they have the cash resources and financial capacity to complete the building project on Union Wharf.

Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Matthew W. Early", is written over the printed name.

Matthew W. Early
Senior Vice President

MWE/ckb

1. DEVELOPMENT DESCRIPTION

1.1 PROJECT OVERVIEW

Proprietors of Union Wharf/Poole Group of Companies propose to develop and construct three (3) mixed-use buildings on Union and Widgery Wharf in Portland. The development activity is expected to occur in phases with Phase 1 consisting of an approximately 6,000 SF footprint building with three (3) levels and a mezzanine space on the top level. The total building GLA will be approximately 18,475 sf. The building use is proposed as office space. The structure will be located within an existing building footprint and that single story structure will be razed to allow construction of the new building. The Phase 1 structure will have a primary entrance from within the Union Wharf parking lot and a secondary entry off Widgery Wharf Lane. A new brick sidewalk system will be constructed around the building perimeter to provide separation from the parking area and access drives.

The future phase development will consist of two additional structures to be constructed along the Commercial Street frontage. These structures are currently contemplated to house restaurant/open market/retail uses. The structures will be aligned with the street conditions to the extent practicable while maintaining accessibility from Commercial Street. Sidewalk enhancement including bike racks, extended brick sidewalk conditions, and related work will be performed.

1.2 SITE OWNERSHIP AND LOCATION

According to the ALTA/ACSM Survey completed by Downeast Surveying & Development in March 2012 and updated in 2015, the development site contains multiple parcels as identified in the City of Portland Tax Assessor's maps. These parcels are more fully described as follows:

TABLE 1 – Land Ownership		
Chart-Block-Lot	Owner	Description
031-K-003	Proprietors of Union Wharf	Rectangular shaped parcel containing 34,080 SF (0.78 ac) of land; currently being used as a parking lot.
031-K-103	Proprietors of Union Wharf	Rectangular shaped parcel containing 11,786 SF of land; currently being used as a parking lot.
031-L-035	Proprietors of Union Wharf	Rectangular shaped parcel containing 147,389 SF of land; contains multiple marine related uses and water frontage.
031-L-038	Proprietors of Union Wharf	Rectangular shaped parcel containing 2,778 SF of land; currently being used as a parking lot.
031-L-135	Proprietors of Union Wharf	Square shaped parcel containing 26,336 SF of land; currently being used as office building and adjacent parking.

Photographs of the existing site are included in Attachment A to this section and multiple figures depict the project location on various available resource maps which are included in Attachment B.

1.3 PROJECT PURPOSE AND NEED

The proposed project provides an opportunity to develop multiple mixed-use buildings within a long developed space that has readily available access to utility infrastructure, including access to Commercial Street and nearby parking through various leased parking agreements. The project's community benefits include the following:

- Efficient reuse of a previously development building space for Phase 1. A single story metal clad structure will be replaced with a multi-level building with enhanced architecture and visual appeal.
- Provide opportunities for expanded retail, restaurant, and office space in the water front area. The proposed uses fall within the Non-Marine Use Overlay Zone (NMUOZ) of the Waterfront Central zoning district and are thus considered appropriate and consistent with the planning for the area. The future phase buildings will occupy space along the Commercial Street frontage and thus achieve the City's goal of building development along the street frontage.

1.4 EXISTING CONDITIONS

The site consists of multiple existing buildings and structures extending from the Commercial Street frontage out to the end of the Union Wharf Pier. As shown on the Overall Site Existing Conditions Plan, the site's Commercial Street frontage includes two structures, housing the Black Tie Catering business and the Sapporo Restaurant. Further, into the Union Wharf property, there are multiple tenants occupying the various structures. These include Sawyer & Whitten Marine Electronics, MSRC (Marine Spill Response Corporation), several Architectural offices, Cozy Harbor Seafood, and CBS Commercial Lobster & Bait among others. The Union Wharf site currently contains approximately 212 parking spaces, distributed throughout the wharf area. The higher density of spaces is located along the Widgery Wharf Lane frontage where a larger surface parking area exists. There are existing utilities including sanitary sewer, water supply, and overhead utilities available on the wharf. The water system includes a public water main that extends from Commercial Street into the wharf to a supply meter pit. Beyond the meter pit, the water supply line is a private main held by the applicant. The sanitary sewer connects to the collection system in Commercial Street. The majority of the site is developed with pavement, wood surfaces, buildings, or concrete pads. There is little to no non-impervious surface area on the site.

The site contains numerous catch basin structures that collect storm water runoff from the developed areas across the site. There are multiple pipe discharge locations from these catch basins to the Fore River.

1.5 ACCESS CONDITIONS

The site's primary vehicular access will continue to be from the signalized intersection of Union Wharf and Commercial Street as well as from the unsignalized intersection of Widgery Wharf Lane and Commercial Street. Pedestrian access will remain from the

Commercial Street sidewalk. The proposed Phase 1 building location will include a brick sidewalk around the building perimeter. Access to this site will be from Widgery Wharf Lane or thru the existing Union wharf parking lot. The future phase buildings are expected to include the continuation of brick sidewalk along the street front as well as between the buildings, thus offering pedestrian connectivity to the wharf where none exists today. The development will not generate an increase in parking within the Wharf area and in fact will result in a decrease to overall parking upon the completion of the future phase development activities. For these reasons, no further traffic analysis has been performed, since the overall development is not expected to substantially increase traffic to the Commercial Street Corridor.

1.6 SITE UTILITIES

The site contains access to several utility lines. The primary lines are identified are as follows:

- The Portland Water District maintains an 8" cast water main from Commercial Street into Union Wharf. This line feeds from a 12" water main in Commercial Street. Within the wharf, there is a meter pit and a private water main serving most of the wharf's structures. There is a single fire hydrant on the wharf and another hydrant in Commercial Street within 100' of the site.
- The Portland Water District maintains a 12" cast iron water main on the northerly side of Commercial Street of which it is understood that a 2" water service line enters the site to supply domestic service to the building at 250 Commercial Street (Black Tie Catering building).
- Unitil maintains a natural gas line along Commercial Street and service lines to the two existing buildings along Commercial Street. It is the applicant's intent to use natural gas to heat the proposed buildings.
- Power to the site is supplied by Central Maine Power. An overhead service line feeds multiple pole-mounted transformers that then provide service lines to each of the buildings. The Phase 1 building development will include a new underground primary feed from an existing pole on the wharf and a new pad mount transformer is proposed.

Capacity availability letters from the Portland Water District and Central Maine Power are included in Attachment C to this section.

1.7 TOPOGRAPHY AND DRAINAGE

Downtown Surveying & Development has completed a boundary and topographic survey of the property. The site is relatively flat with the highest points along the Commercial Street frontage. The site grades range from Elevation 10' (NGVD 29) along the street to Elevations 8.5' within the interior of the wharf. The wharf contains numerous catch basins as identified on the existing conditions plan. Generally speaking, the drainage structures are typically precast square or circular structures with cast iron grate inlets. Outlet pipes are located at various locations although not all are identified on the plan due to the difficulty in viewing around the wharf perimeter. For those outlets that can be observed, they are mostly positioned to outlet near the mean high tide level. Most of the catch basins appear to have shallow sumps in them.

The proposed buildings will have finish floor elevations established at elevation 12.0' or higher.

1.8 SOILS CONDITIONS

A geotechnical investigation has been performed by Summit Geoengineering, Inc. and they have provided geotechnical recommendations for the proposed building. As part of this effort, they completed a geotechnical field investigation of the Phase 1 building area which included several deep borings. It is anticipated that the new Phase 1 building will be supported on driven piles with grade beams due to the presence of soft marine clays and the potential for building settlement.

1.9 PROPOSED DEVELOPMENT

The applicant proposes to develop the property in a manner consistent with the WCZ Standards. The development program includes the following components:

1.9.1 ONSITE

The ground floor of the Phase 1 building will have a footprint area of 6,094 SF. The ground floor level will contain rentable floor area of 5,510 SF with perhaps two units. The remaining ground floor area is associated with the utility/maintenance rooms for the building as well as the entry lobby, stairwells, and elevator for the upper floors of the building. The second and third floor of the building may contain three (3) additional office units. There will not be a basement provided as part of the building.

The project developer is not seeking LEED designation but the building will conform to the most current International Energy Conservation Code.

As shown on the Site Layout Plan (Sheet C-3.0), the proposed Phase 1 building will have a central entry from within the Union Wharf parking lot area. A secondary entry will be off Widgery Wharf Lane.

The future phase buildings will be positioned along the Commercial Street Frontage thus achieving the requirements for maximum setback from the street line. These structures will have direct pedestrian access from the Commercial Street sidewalk. The buildings are anticipated to be multi-level structures with a mix of uses including restaurant, retail, and market type land use. The buildings will have floor elevations at a minimum elevation of 12.0 feet; therefore, sidewalk ramps and steps will be necessary for accessibility from the street grade.

Exterior improvements include installation of new utility services to the buildings for water, sewer, natural gas, electric, telephone, and communications. In addition, the proposed site improvements include installation of new street light fixtures as well as replacement of the sidewalk along Commercial Street due to disturbance from building construction. The applicant has existing parking available within the Union Wharf; therefore, no new parking is proposed as part of the project.

1.9.2 OFF-SITE

No offsite improvements are proposed as part of the project.

1.10 LAND ORDINANCE REVIEW

1.10.1 OVERVIEW

The property currently lies within the City of Portland Waterfront Central Zone (WCZ) and the Non-Marine Use Overlay Zone (NMUOZ). Within the WCZ District, the following uses are permitted or conditioned:

Permitted Uses:

(b) Non-marine commercial and industrial uses: Non-marine uses permitted by this section are subject to the standards listed in section 14-311:

- 1. Professional, business, government, and general offices;*
- 2. Retail and service establishments, including craft and specialty shops. Convenience stores with gas pumps shall not be permitted under this section;*
- 3. Restaurants provided that full course meal food service and consumption shall be the primary function of the restaurant, and full course meal service shall be continued up until the hours of closing;*
- 4. Banking services without drive-up services;*
- 5. Laundry and dry cleaning services;*
- 6. Cabinet and carpentry shops, studios for artists and crafts people;*
- 7. Intermodal transportation facilities;*
- 8. Cold storage facilities;*
- 9. Museums and art galleries; and*
- 10. Outside accessory activities.*

Conditional Uses:

- Commercial marine uses
- Fish by-products processing
- Boat rack storage facilities
- Residential
- Utility substations
- Temporary wind anemometer
- Wind Energy Systems

The following dimensional requirements apply in the WCZ District:

Dimensional Standard	Requirement
Minimum Lot Size	None
Minimum Frontage Along Commercial Street	75 feet
Minimum Lot Width Within the NMUOZ	50 feet
Front Yard Setback	None

Dimensional Standard	Requirement
Side Yard Setback	None
Rear Yard Setback	None
Setback from Pier Edge	5 feet for structures
Maximum Lot Coverage	100%
Maximum Building Height	50 feet/3 floors maximum unless for new non-marine use in the NMUOZ; 4 floors will be allowed

1.10.2 SHORELAND ZONING

The site is located within the 250' Shoreland Zone that extends from the High Annual Tide Line. There are currently no vegetated conditions on the wharf and the proposed development including the Phase 1 building and the future phase structures are all within existing building footprint areas or paved surfaces.

1.11 TRAFFIC

The proposed Phase 1 project will not result in significant impacts to the surrounding street system. Based on the ITE 8th Edition Average Trip Rates for LUC 710 (Offices), the project's Phase 1 conditions will result in 28 trips and 27 trips for the AM and PM peak hour respectively. The applicant is seeking a waiver for a Traffic Movement Permit based on the understanding that the Phase 1 building will result in fewer than 100 peak hour trips.

1.12 NATURAL FEATURES

The development site does not contain any significant natural features including wetlands, vernal pools, or other protected resources. The site has been developed for a period greater than 150 years and there is generally no land area that has not been disturbed or otherwise developed.

1.13 APPROVAL REQUIREMENTS

The following permits are anticipated:

- City of Portland Planning Board Level III Site Plan Approval
- City of Portland Building Permit(s)

1.14 ATTACHMENTS

Attachment A – Photographs of the Existing Site

Attachment B – Figures 1-11

Attachment C – Ability to Serve Letters from PWD and Central Maine Power

Attachment D – Building Elevations/Floor Plans

ATTACHMENT A

Existing Site Photographs



PHOTO 1 – Commercial Street Frontage



PHOTO 2 – View from Widgery Wharf Lane



Stantec Consulting Services Inc.
 482 Payne Road, Scarborough Court
 Scarborough ME 04074-8929
 Main: 207.883.3355 Fax: 207.883.3376

**Existing Site Photographs
 Union Wharf – Portland, Maine**



PHOTO 3 – View of the Rear of Sapporo Restaurant



PHOTO 4 – View of the Front of Black Tie Catering



Stantec Consulting Services Inc.
482 Payne Road, Scarborough Court
Scarborough ME 04074-8929
Main: 207.883.3355 Fax: 207.883.3376

**Existing Site Photographs
Union Wharf – Portland, Maine**



PHOTO 5 – View of the Front of Sapporo



PHOTO 6 – Aerial View

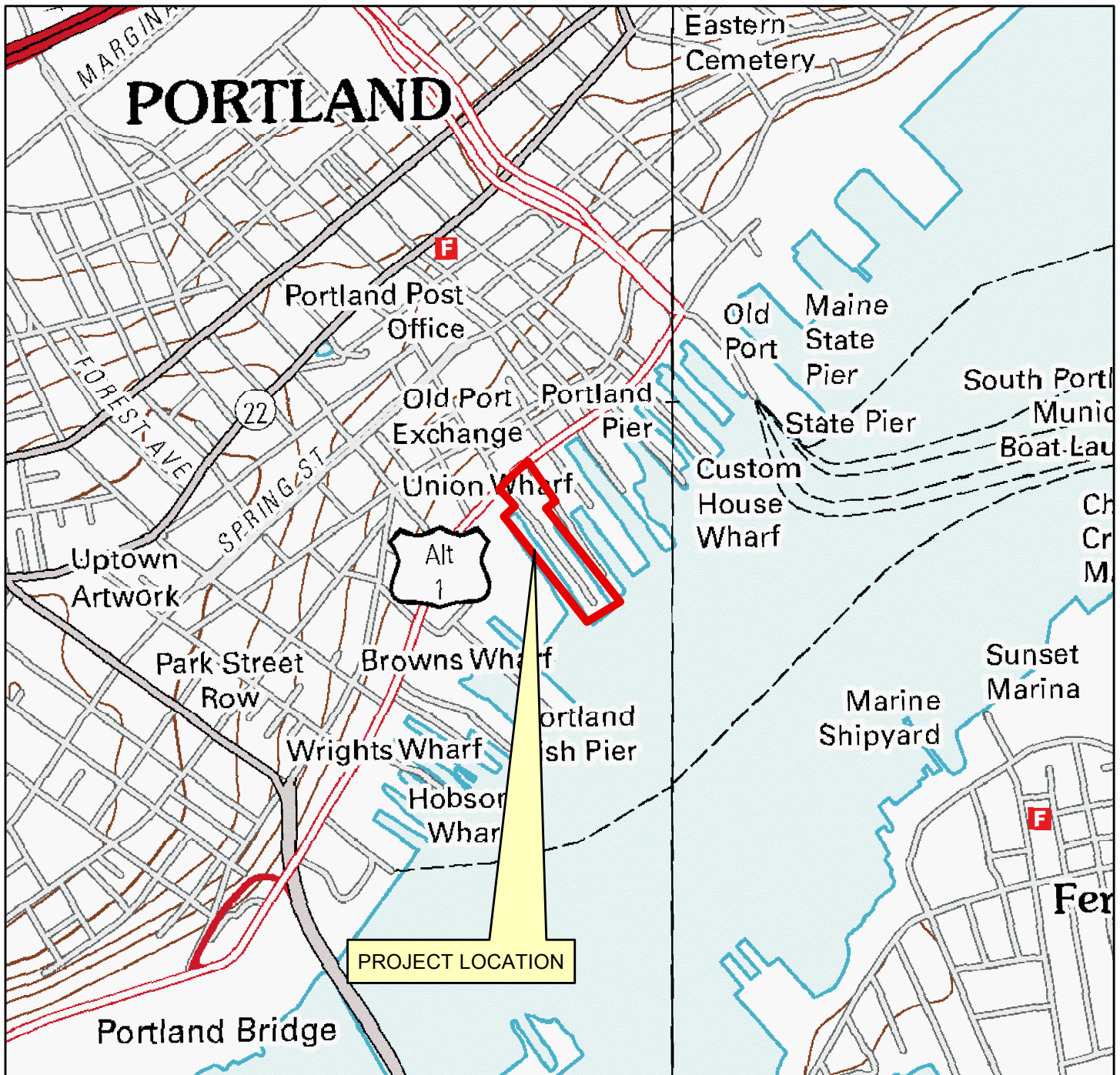


Stantec Consulting Services Inc.
 482 Payne Road, Scarborough Court
 Scarborough ME 04074-8929
 Main: 207.883.3355 Fax: 207.883.3376

**Existing Site Photographs
 Union Wharf – Portland, Maine**

ATTACHMENT B

Figures 1-11



USGS LOCATION MAP
UNION WHARF
PORTLAND, MAINE
 SOURCE: MAINE OFFICE OF GIS

STANTEC

482 PAYNE ROAD SCARBOROUGH COURT
 SCARBOROUGH, MAINE 04106
 WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	SRB
DATE:	MAY 2016
FILENAME:	195350003 USGS
SCALE:	1 inch = 1,000 feet

FIGURE

1



**AERIAL PHOTOGRAPH
UNION WHARF
PORTLAND, MAINE**
SOURCE: MAINE OFFICE OF GIS

STANTEC

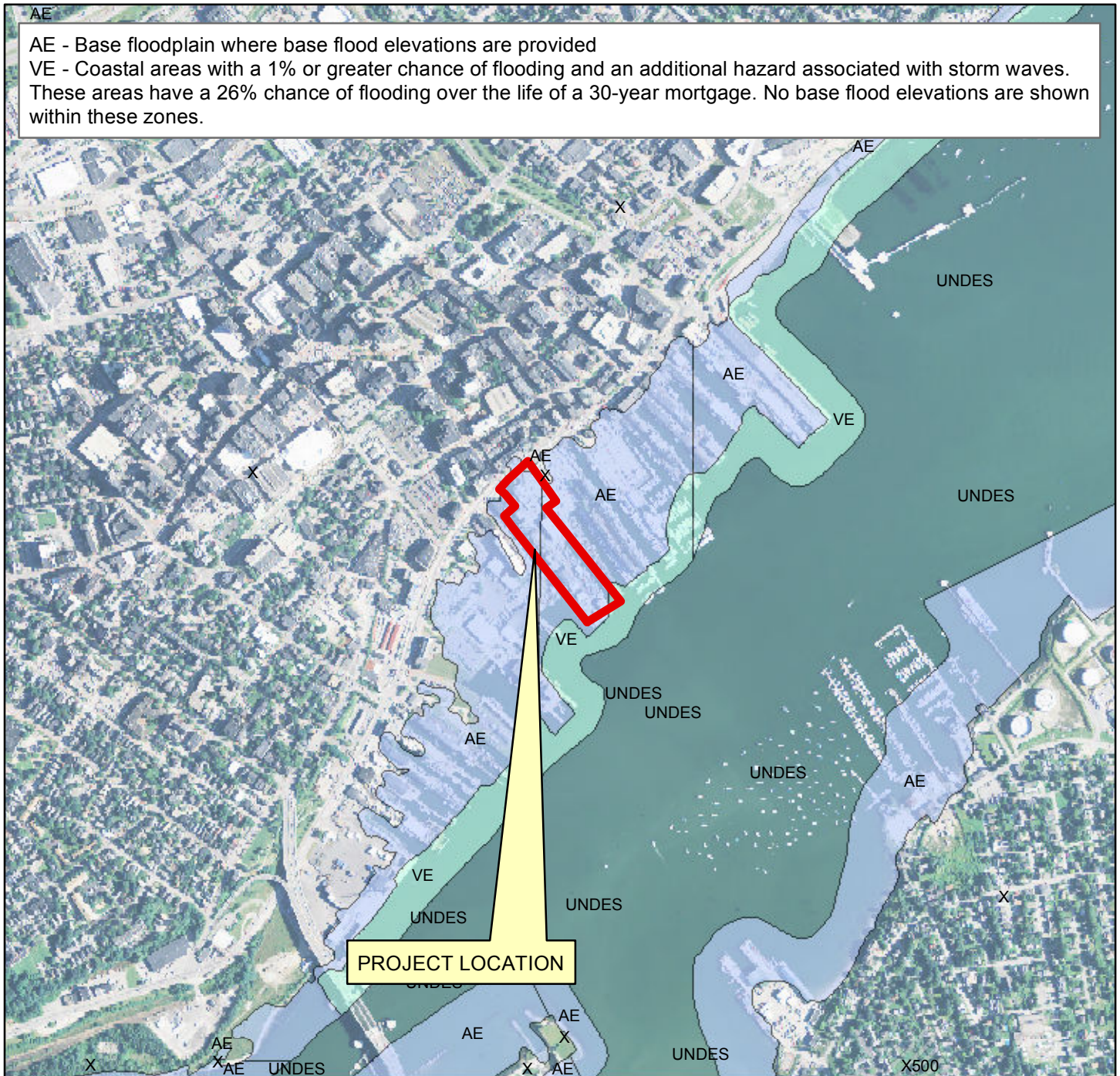
482 PAYNE ROAD SCARBOROUGH COURT
SCARBOROUGH, MAINE 04106
WWW.STANTEC.COM



DRAWN: DED
CHECKED: SRB
DATE: MAY 2016
FILENAME: 195350003 AERIAL
SCALE: 1 inch = 1,000 feet

FIGURE

2



FLOOD MAP UNION WHARF PORTLAND, MAINE SOURCE: MAINE OFFICE OF GIS

STANTEC

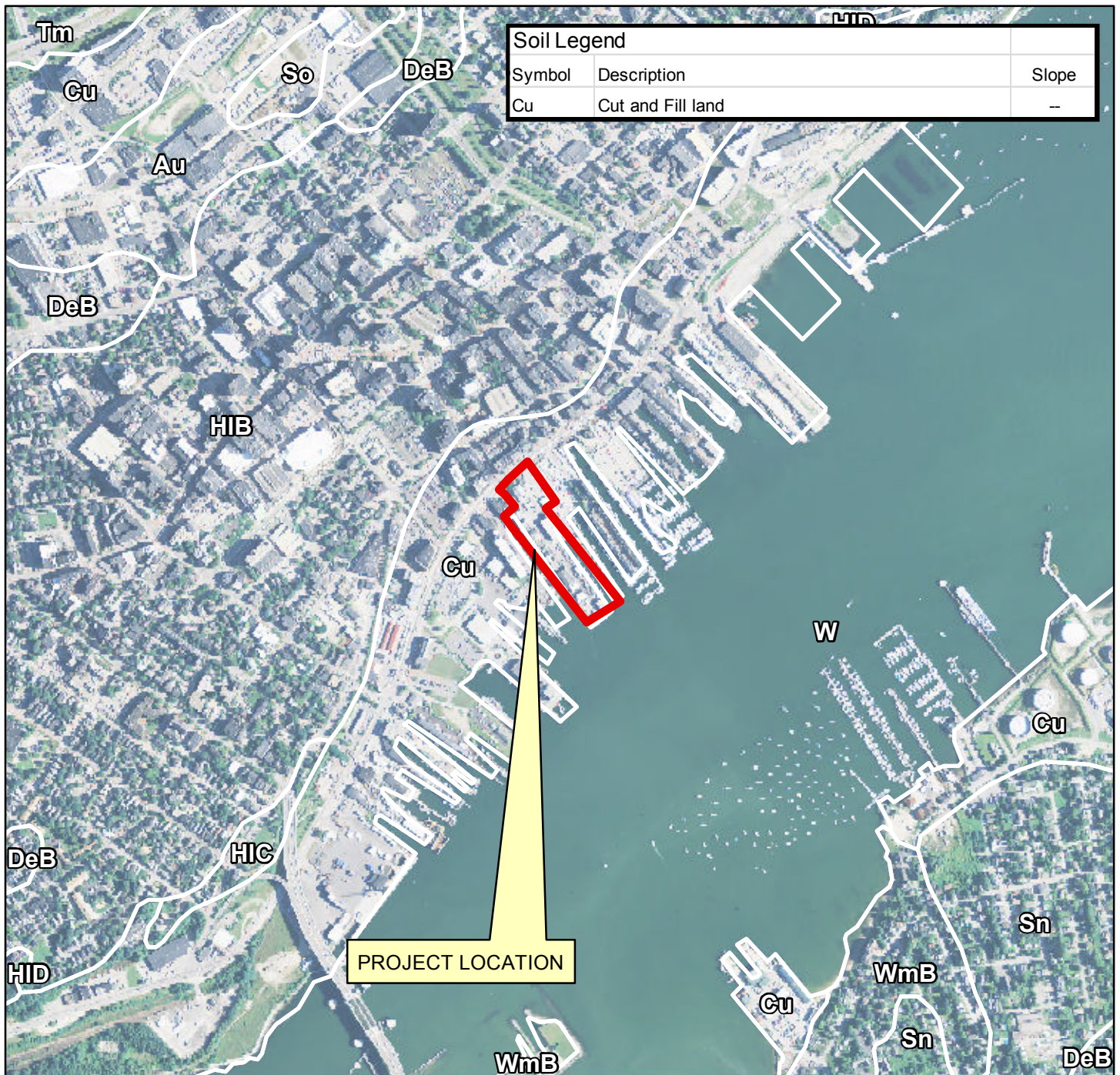
482 PAYNE ROAD SCARBOROUGH COURT
 SCARBOROUGH, MAINE 04106
 WWW.STANTEC.COM



DRAWN: DED
 CHECKED: SRB
 DATE: MAY 2016
 FILENAME: 195350003 FLOOD
 SCALE: 1 inch = 1,000 feet

FIGURE

3



MEDIUM INTENSITY SOILS MAP
UNION WHARF
PORTLAND, MAINE
 SOURCE: MAINE OFFICE OF GIS

STANTEC

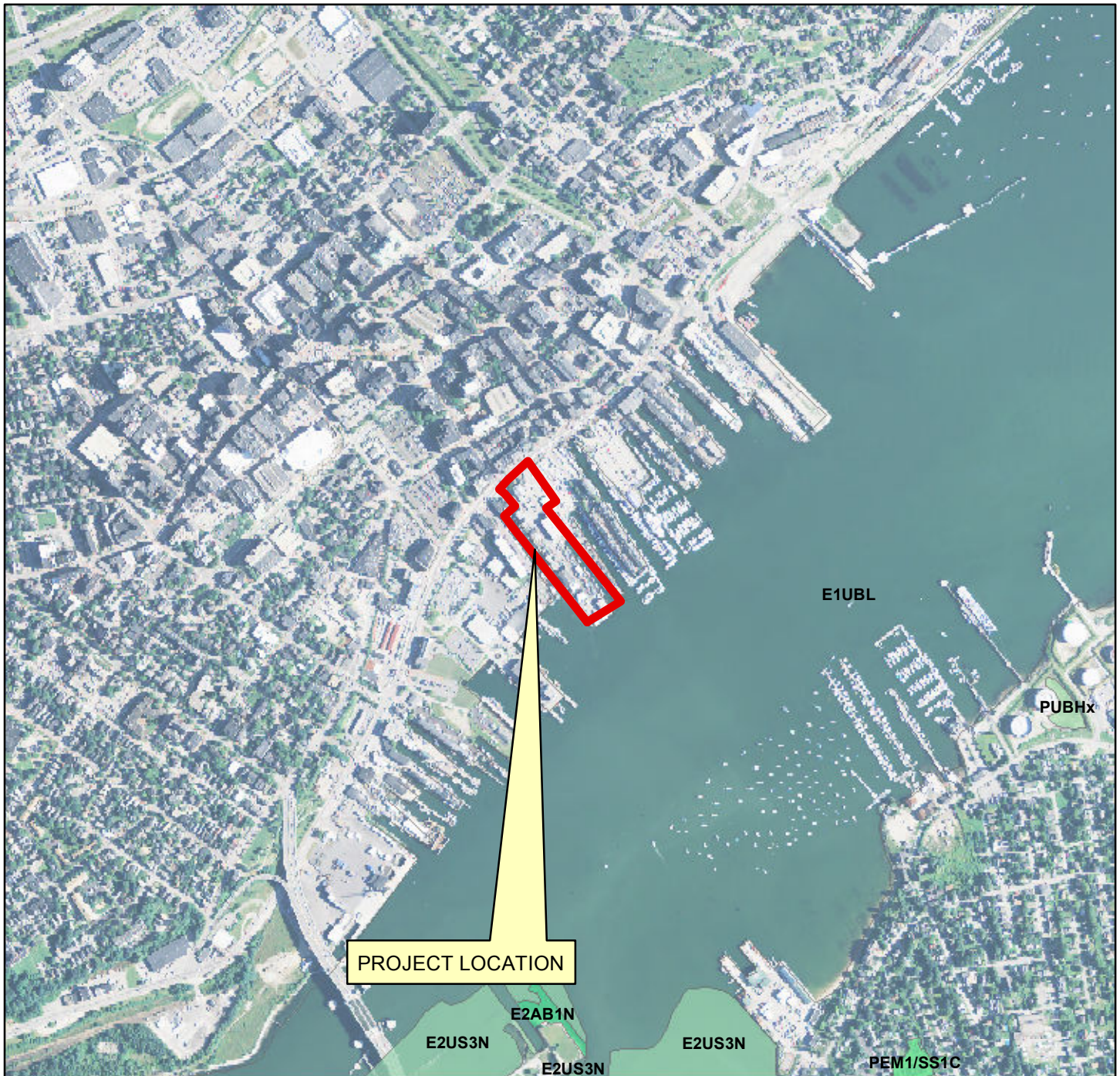
482 PAYNE ROAD SCARBOROUGH COURT
 SCARBOROUGH, MAINE 04106
 WWW.STANTEC.COM



DRAWN: DED
 CHECKED: SRB
 DATE: MAY 2016
 FILENAME: 195350003 SOILS
 SCALE: 1 inch = 1,000 feet

FIGURE

4



NATIONAL WETLAND INVENTORY MAP
 UNION WHARF
 PORTLAND, MAINE
 SOURCE: MAINE OFFICE OF GIS

STANTEC

482 PAYNE ROAD SCARBOROUGH COURT
 SCARBOROUGH, MAINE 04106
 WWW.STANTEC.COM



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 DATE: MAY 2016
 FILENAME: 195350003 NWI
 SCALE: 1 inch = 1,000 feet

FIGURE

5



**SAND AND GRAVEL AQUIFER
WIGGERY WHARF
PORTLAND, MAINE**

SOURCE: MAINE OFFICE OF GIS

STANTEC

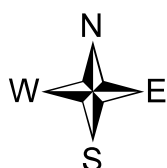
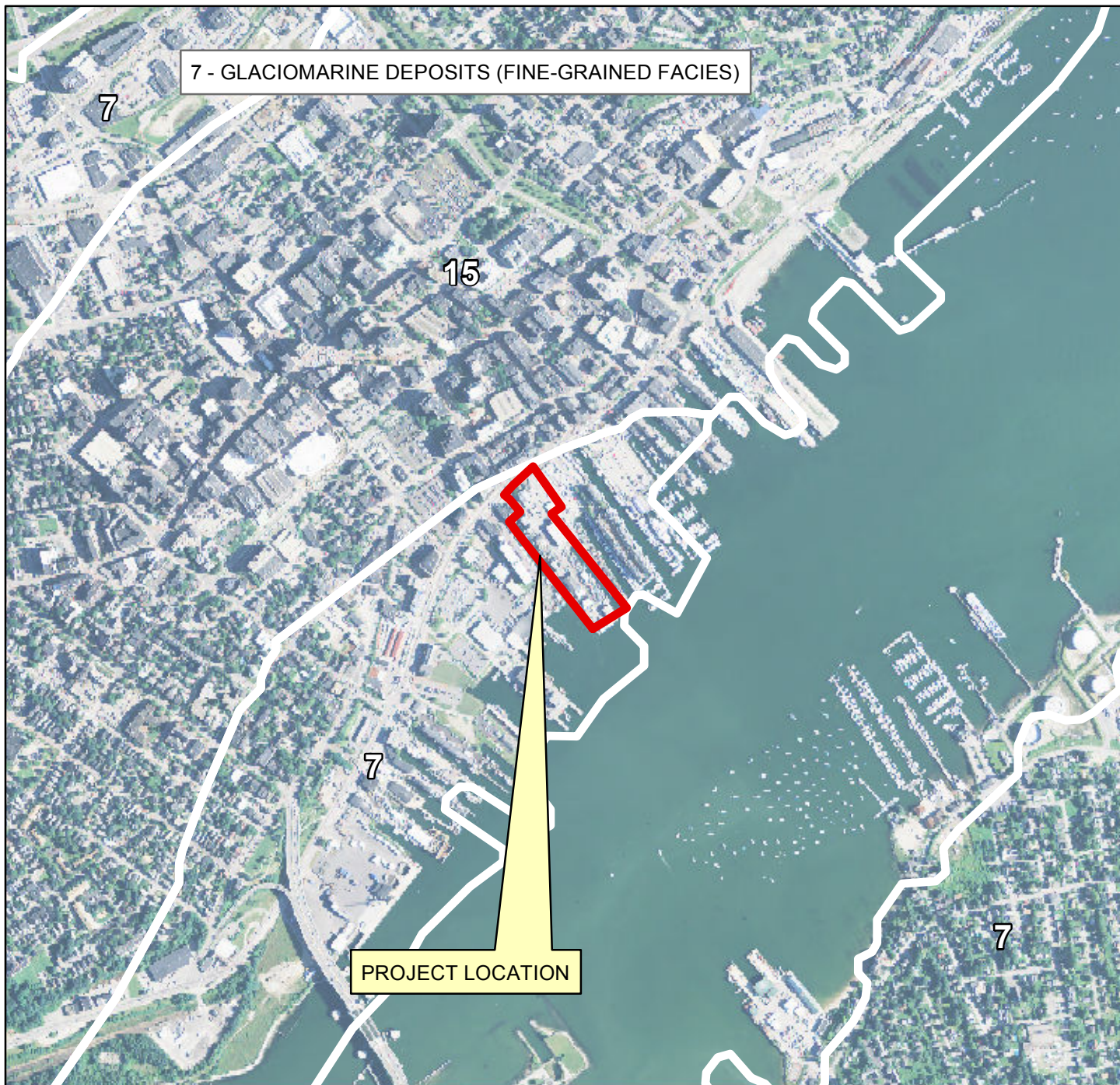
482 PAYNE ROAD SCARBOROUGH COURT
SCARBOROUGH, MAINE 04106
WWW.STANTEC.COM



DRAWN: DED
CHECKED: SRB
DATE: MAY 2016
FILENAME: 195350003 AQUIFER
SCALE: 1 inch = 1,000 feet

FIGURE

6



SURFICIAL GEOLOGY MAP
UNION WHARF
PORTLAND, MAINE
 SOURCE: MAINE OFFICE OF GIS

STANTEC

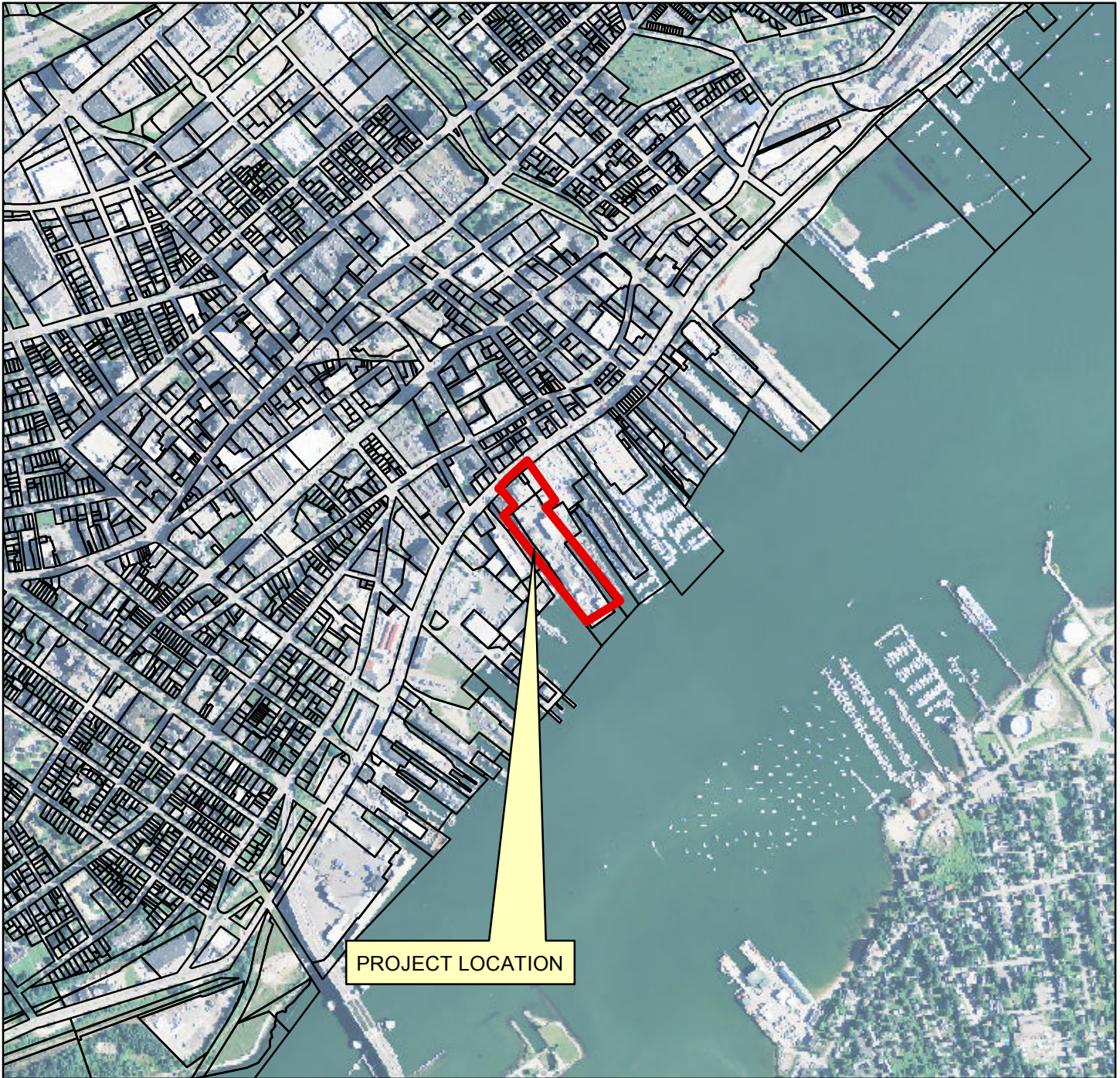
482 PAYNE ROAD SCARBOROUGH COURT
 SCARBOROUGH, MAINE 04106
 WWW.STANTEC.COM



DRAWN: DED
 CHECKED: SRB
 DATE: MAY 2016
 FILENAME: 195350003 SURFICIAL
 SCALE: 1 inch = 1,000 feet

FIGURE

7



CITY OF PORTLAND TAX MAP
UNION WHARF
PORTLAND, MAINE
SOURCE: MAINE OFFICE OF GIS

STANTEC

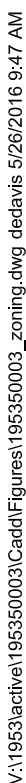
482 PAYNE ROAD SCARBOROUGH COURT
SCARBOROUGH, MAINE 04106
WWW.STANTEC.COM



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CHECKED:	SRB
DATE:	MAY 2016
FILENAME:	195350003 TAX MAP
SCALE:	1 inch = 1,000 feet

FIGURE

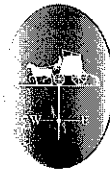
8



9

ATTACHMENT C

Ability to Serve Letters



Portland Water District

January 28, 2016

FROM SEBAGO LAKE TO CASCO BAY

Stantec
778 Main Street, Suite 8
South Portland, ME 04106

Attn: Mr. Stephen Bushey, P.E.
Re: 218 Commercial Street - Portland
Ability to Serve with PWD Water

Dear Mr. Bushey:

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on January 12, 2016. 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:

- The property requesting water service does not have deeded frontage on a public way containing a public water main, which is a requirement for water service. However, a main extension along Widgery Wharf would not be warranted due to the limited potential for further development. New water services may be installed from the public main in either Commercial Street or Union Wharf.
- Proper easement documentation must be obtained from any properties that the new service line will cross. The easement(s) should specifically cite the right to install and maintain utilities. A copy of the deed for each of the proposed parcels must be provided to the District prior to completing new service applications.
- 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.



Water System Characteristics

According to District records, there is a 12-inch diameter cast iron water main on the north side of Commercial Street and a public fire hydrant located 270 feet from the site. Recent flow data is not available in this area. The most recent static pressure reading was 102 psi on September 2, 2015.

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

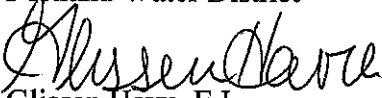
The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing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



12/10/2014

Stephen Bushey

Fay, Spofford & Thorndike
778 Main Street, Suite 8
South Portland, ME 04106

Sent via email to: sbushey@fstinc.com

RE: Ability to Serve Letter for Widgery Wharf

Dear Mr. Bushey:

CMP has the ability to serve the proposed project located at 230 Commercial Street and 1-11 Widgery Wharf 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

www.cmpco.com



An equal opportunity employer



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)

(<http://www.cmpco.com/MediaLibrary/3/6/Content%20Management/YourAccount/PDFs%20and%20Docs/handbook.pdf>)

If you have any questions, please contact me.

Regards,

A handwritten signature in black ink that reads "Jamie Cough".

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

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

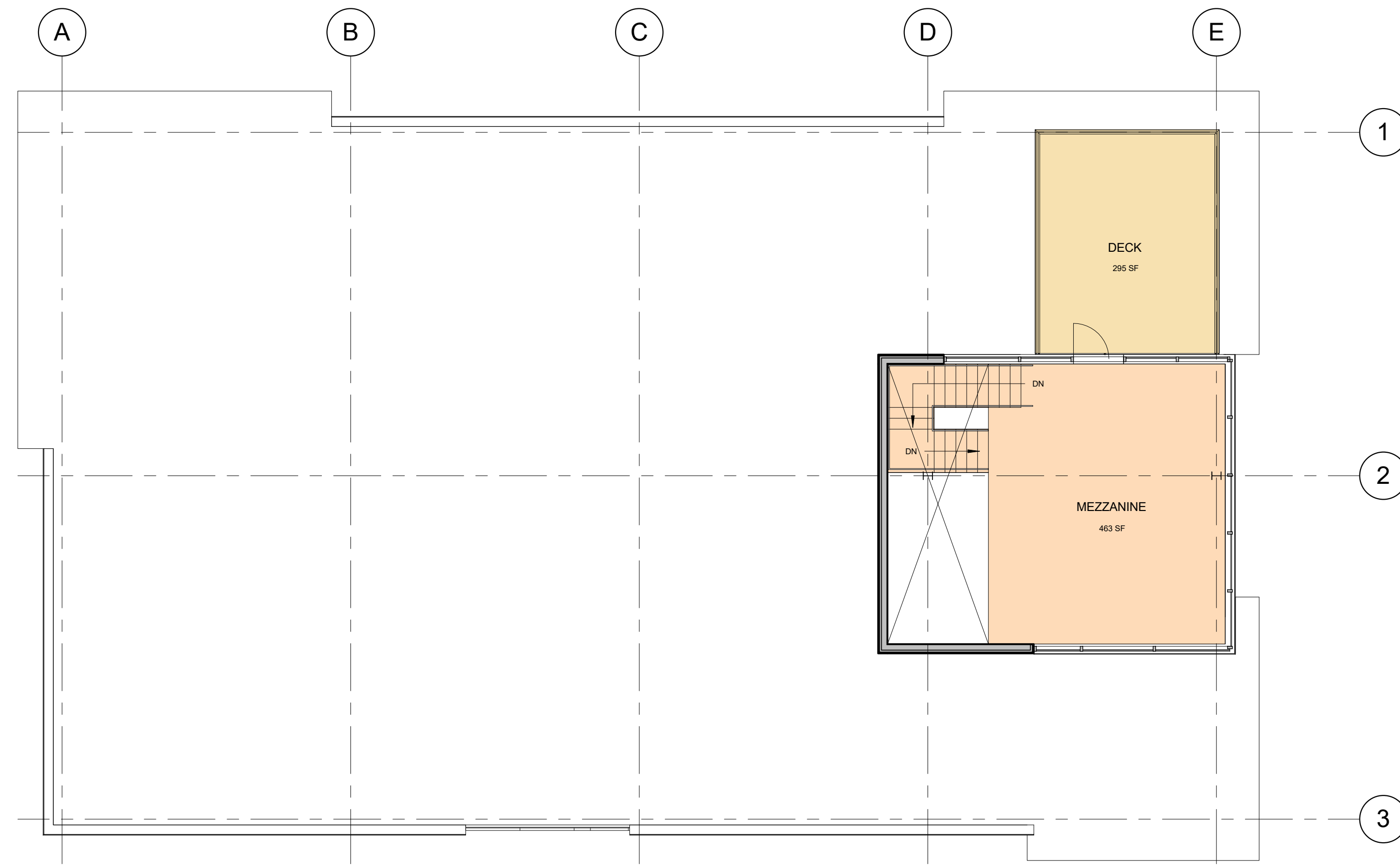
www.cmpco.com



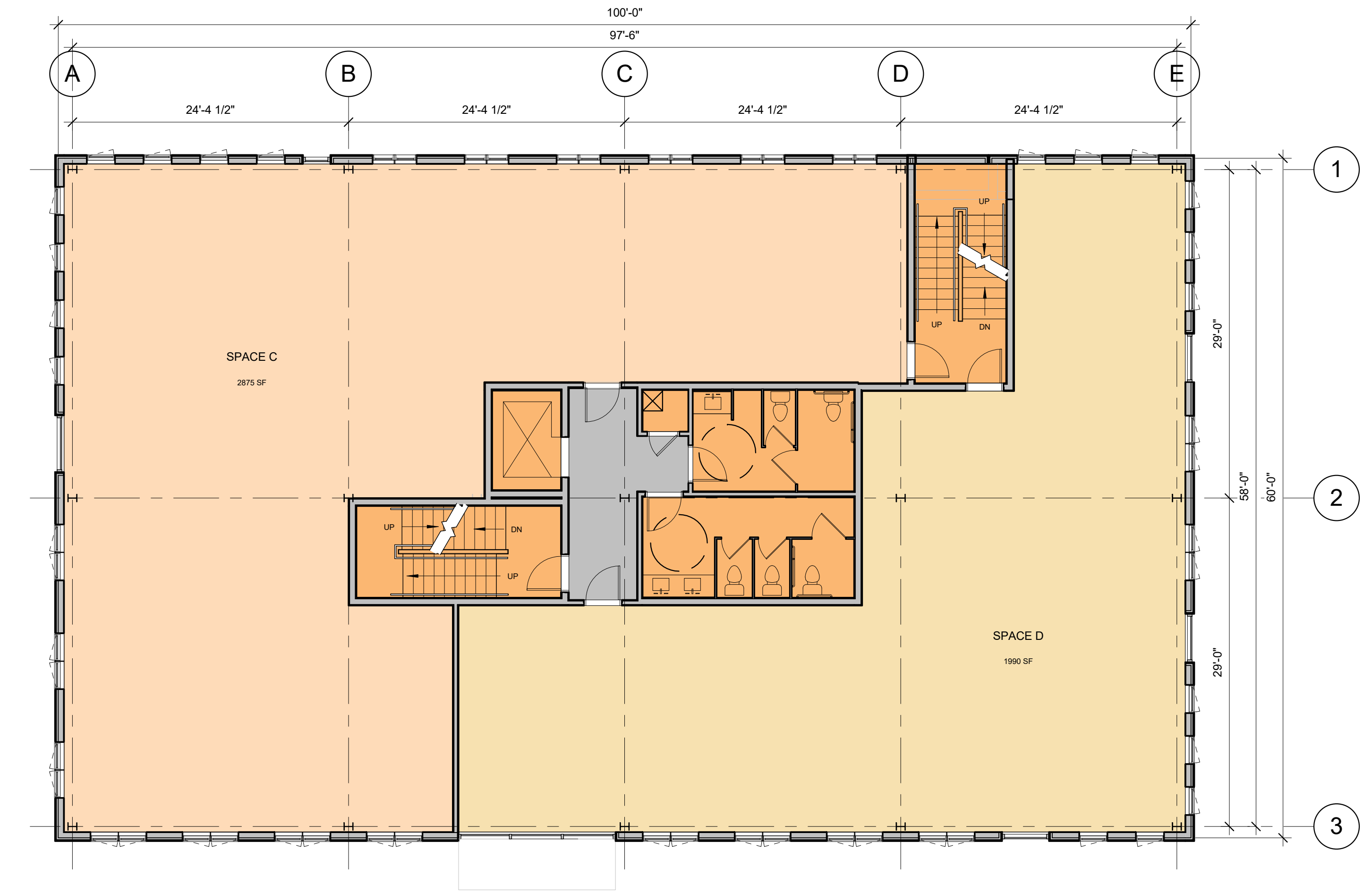
An equal opportunity employer

ATTACHMENT D

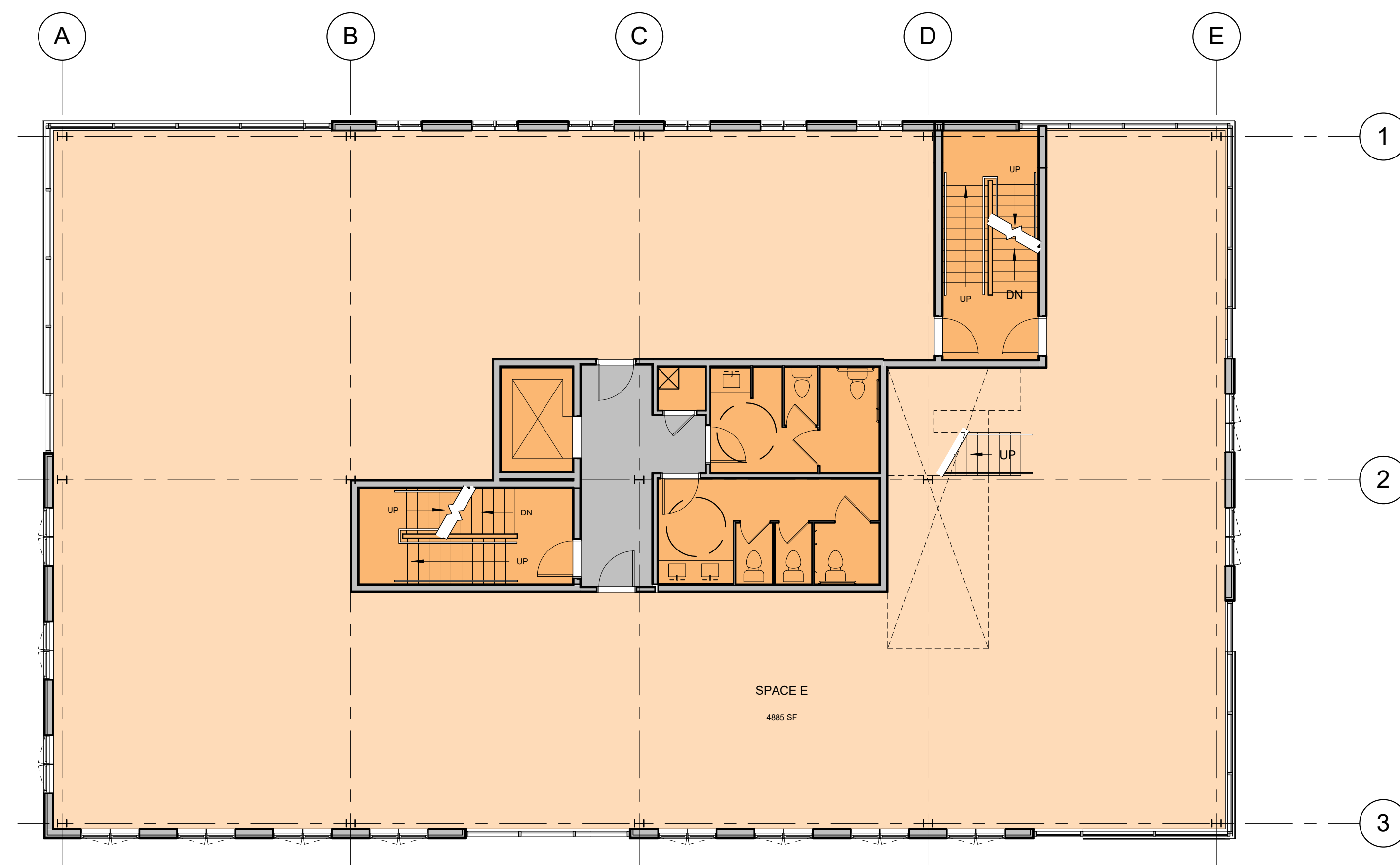
Building Elevations/Floor Plan



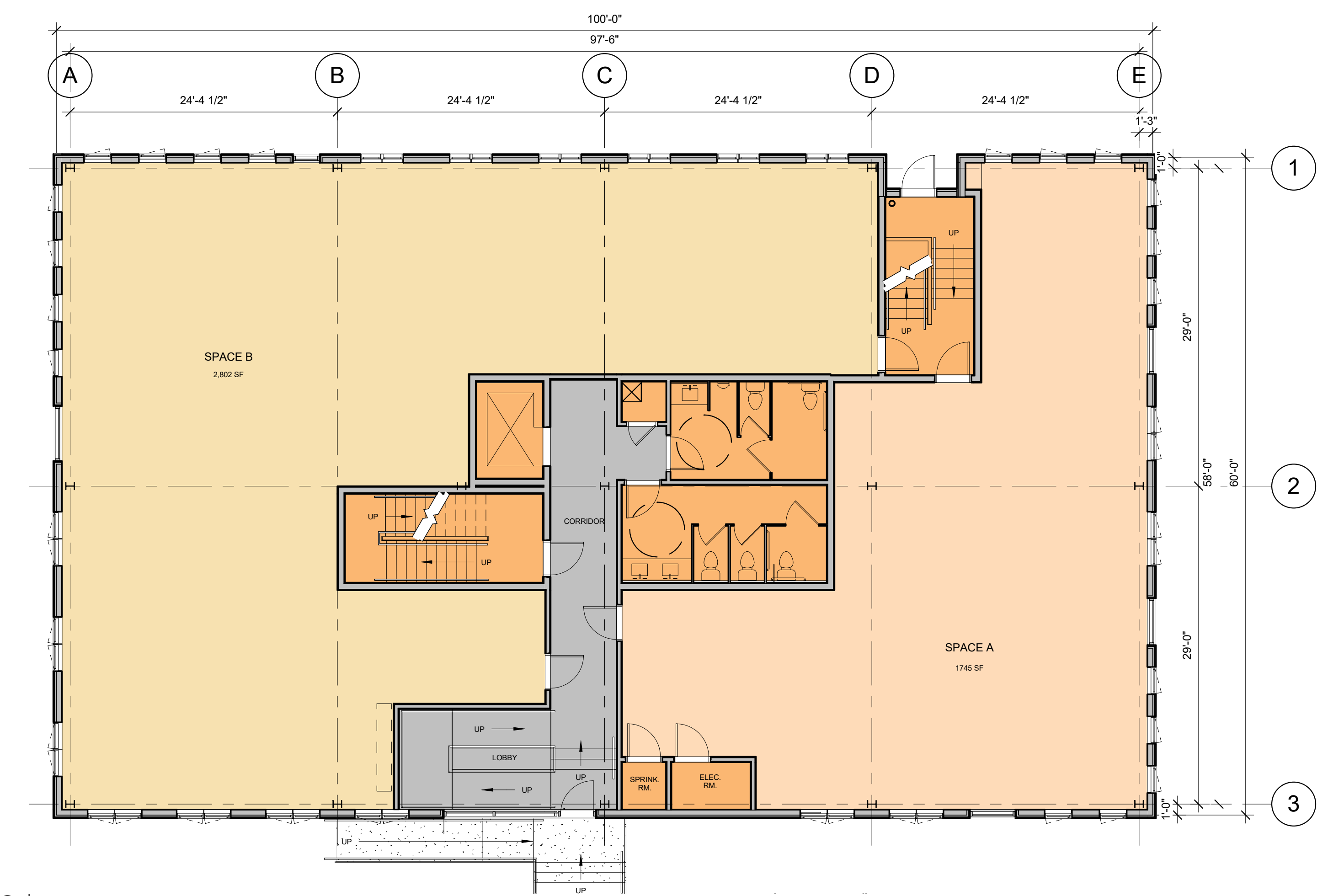
4 | ROOF
1/8" = 1'-0"



1 | TYPICAL UPPER FLOOR
1/8" = 1'-0"



3 | 3RD FLOOR
1/8" = 1'-0"



2 | 1ST FLOOR
1/8" = 1'-0"

GROSS SF: 6,094 SQ FT
FLOOR RENTABLE AREA : 5510 SQ FT
FLOOR USABLE AREA : 4996 SQ FT

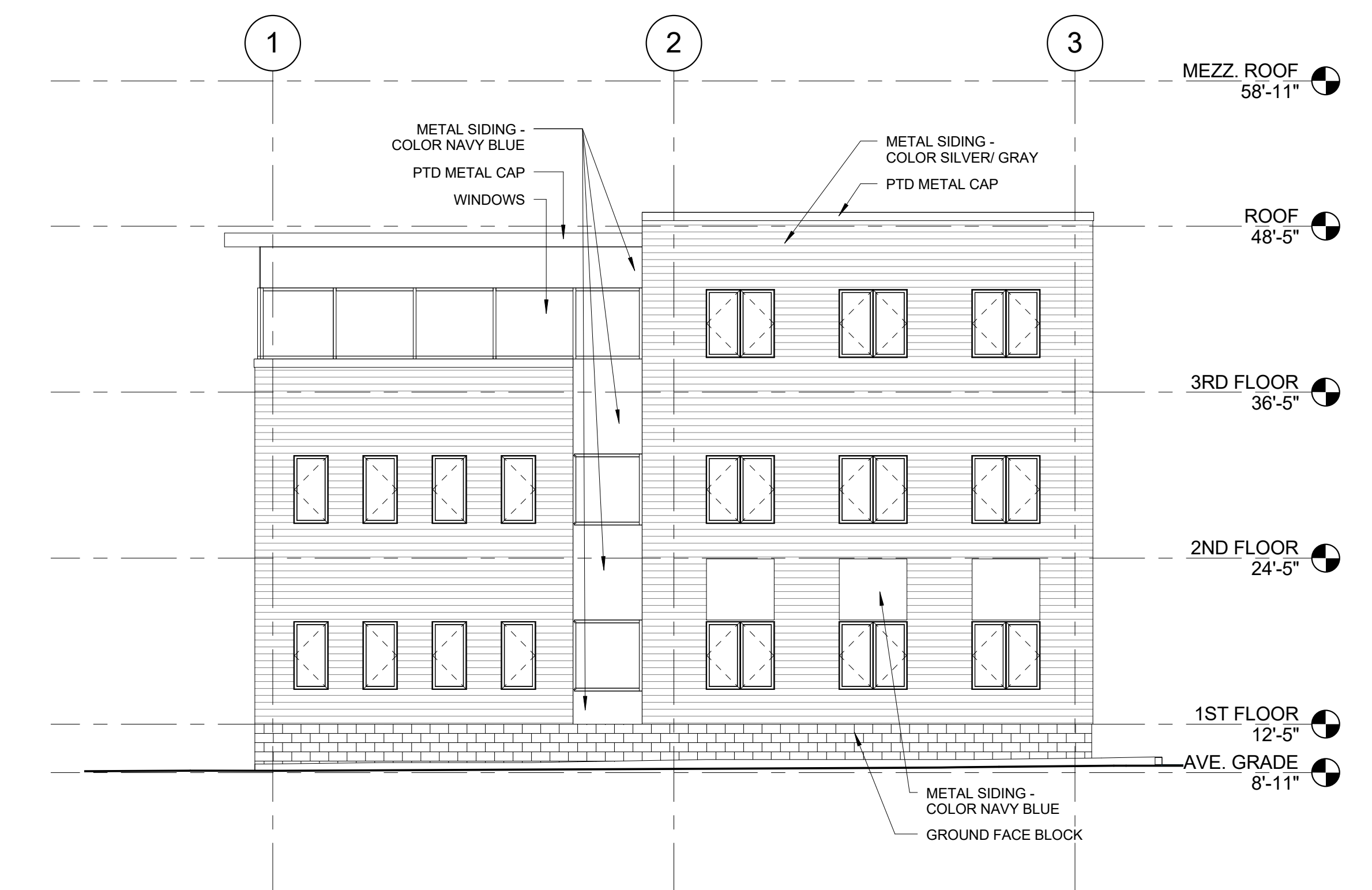
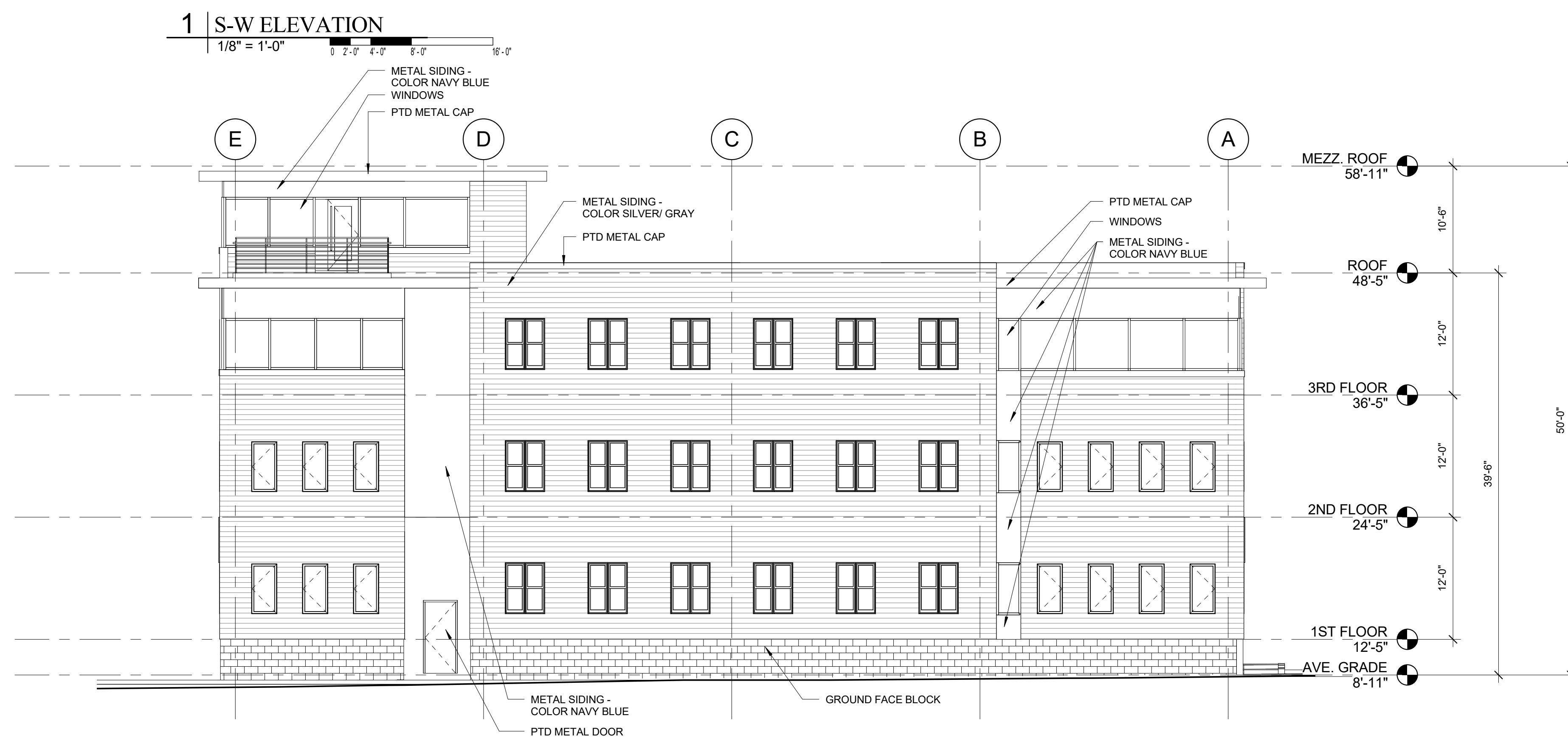
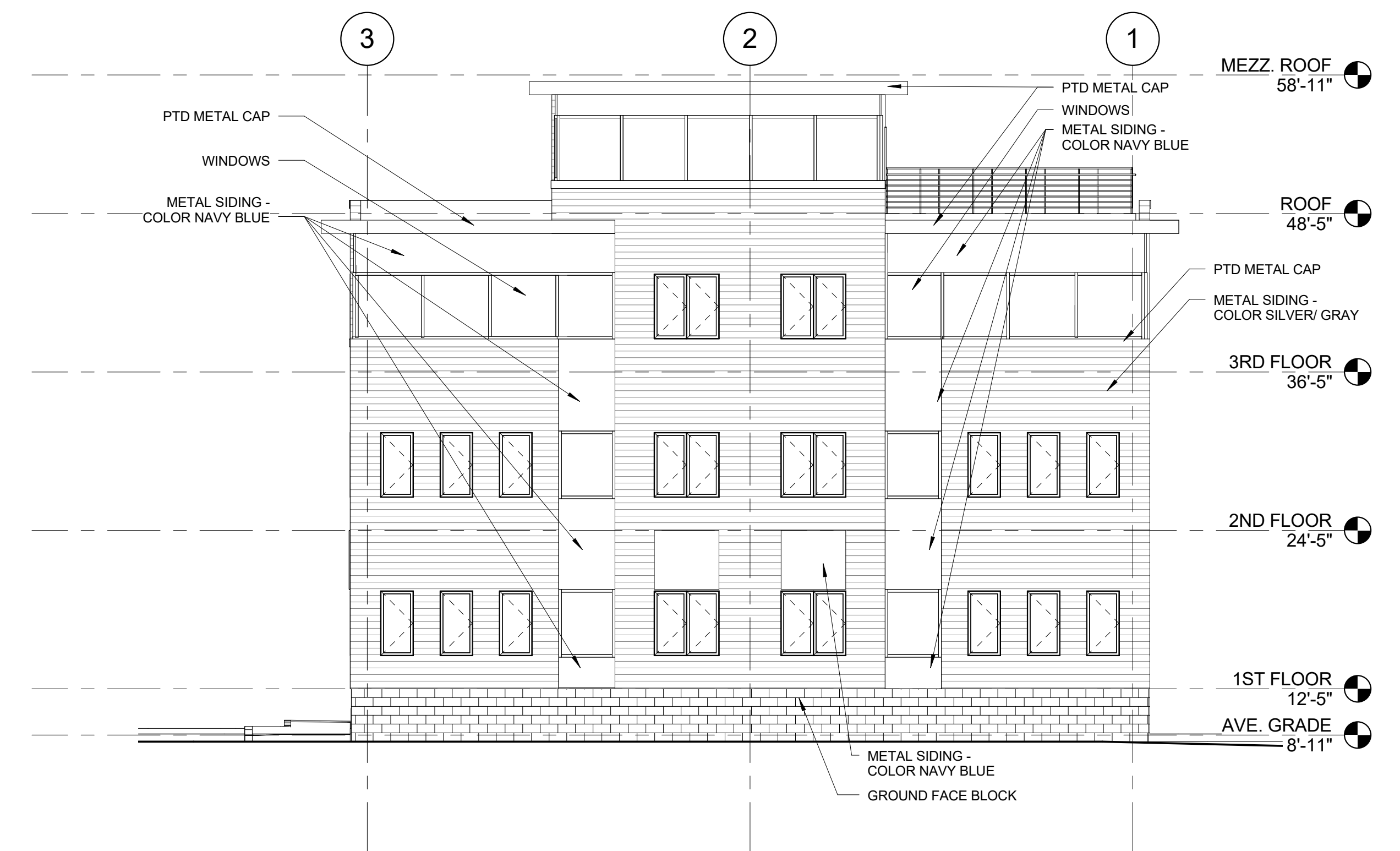
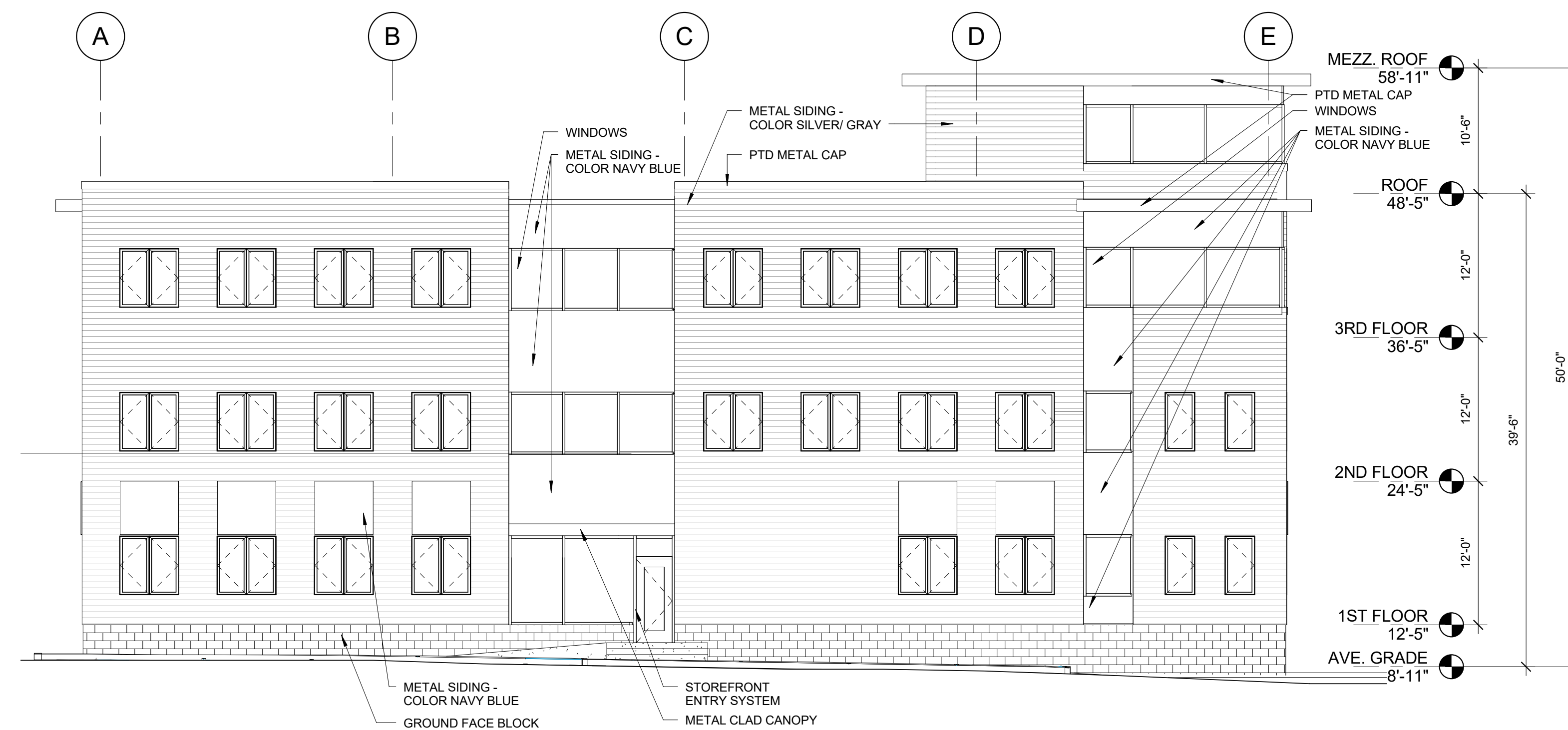
WIDGERY WHARF - BUILDING C

PORTLAND, MAINE

Phase 1
building

APRIL 26, 2016

A1.1



GENERAL NOTES:

1. AVERAGE GRADE BY DEFINITION: 4 CORNER AVERAGE GRADE - $N 9.7' + E 9.3' + S 9.3' + W 7.4' = 35.7' / 4 = 8' - 11"$ (AVERAGE GRADE)

2. BUILDING HEIGHT: THE VERTICAL MEASUREMENT FROM AVERAGE GRADE TO HIGHEST POINT OF THE ROOF BEAMS = 39' - 6" TO THE MAIN ROOF & 50' - 0" TO THE MEZZANINE ROOF

WIDGERY WHARF - BUILDING C

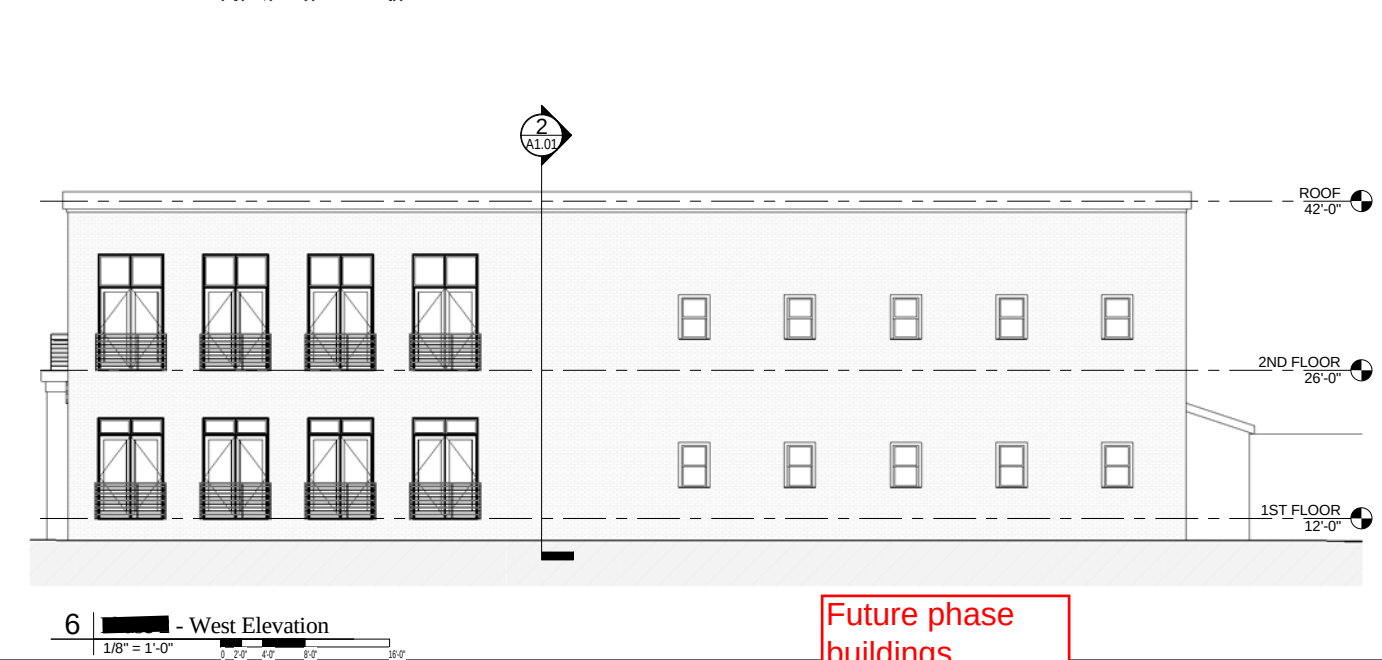
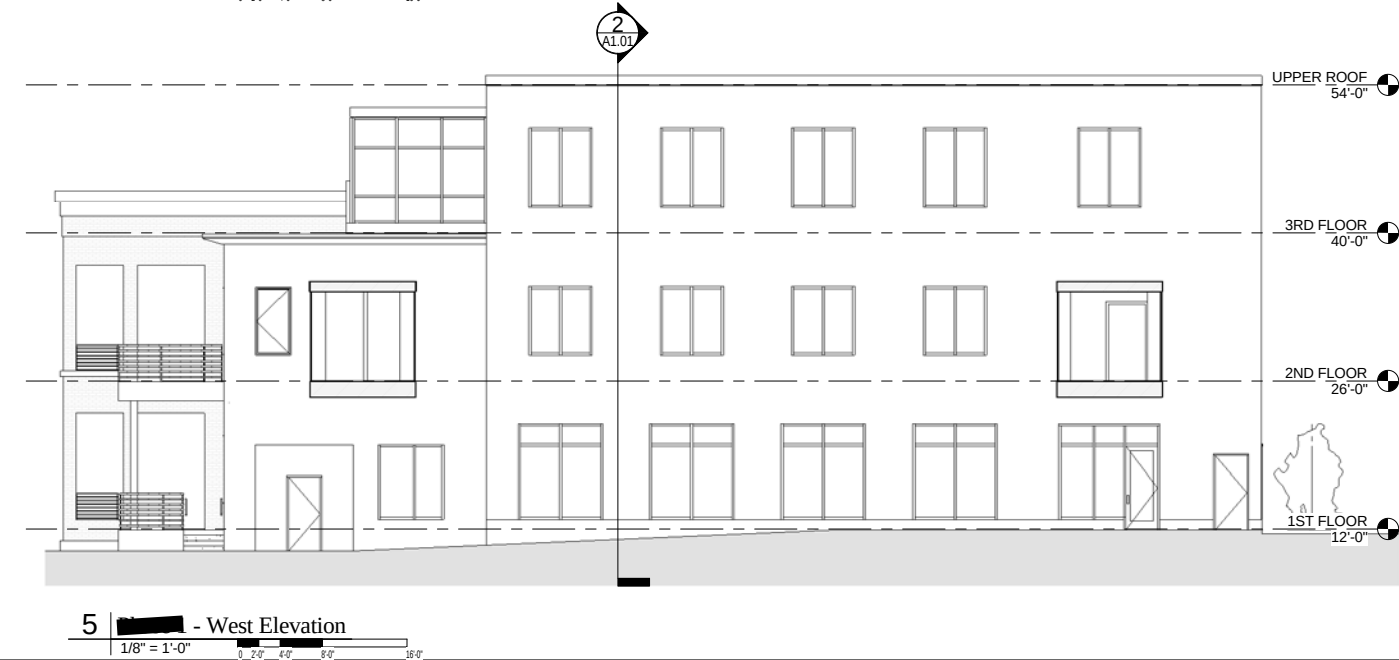
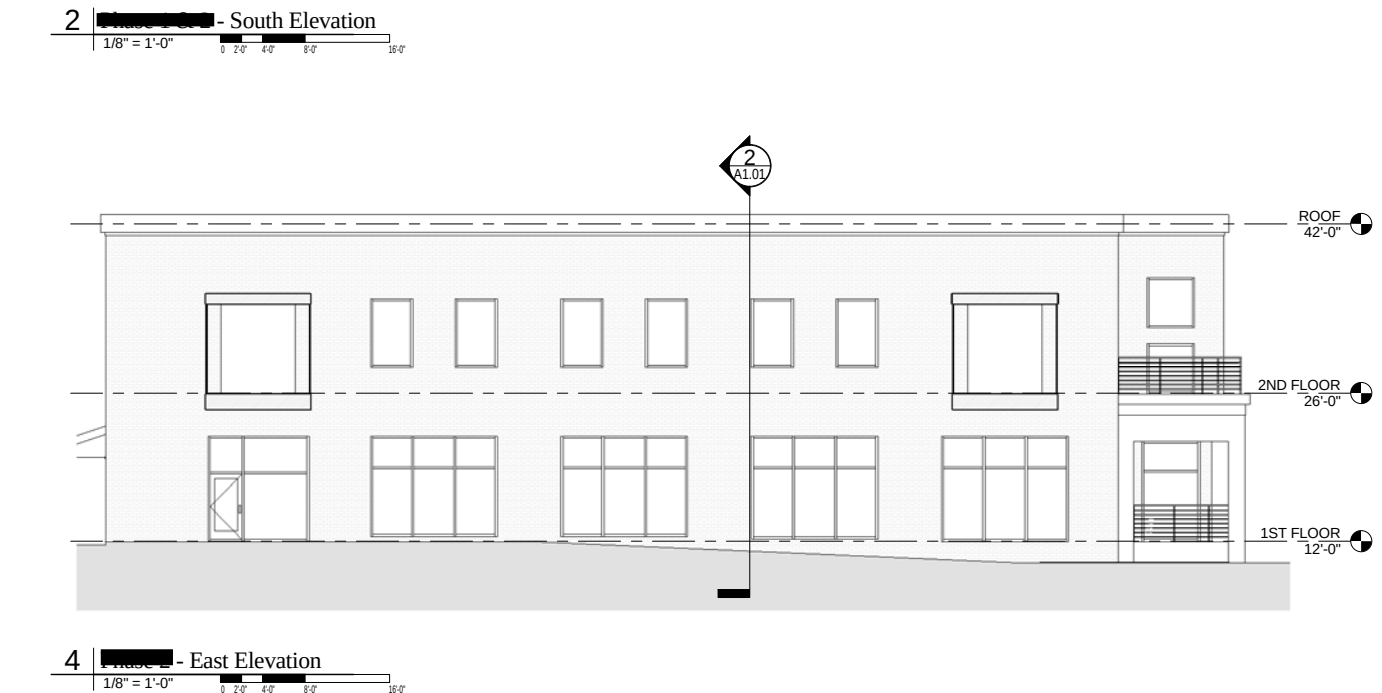
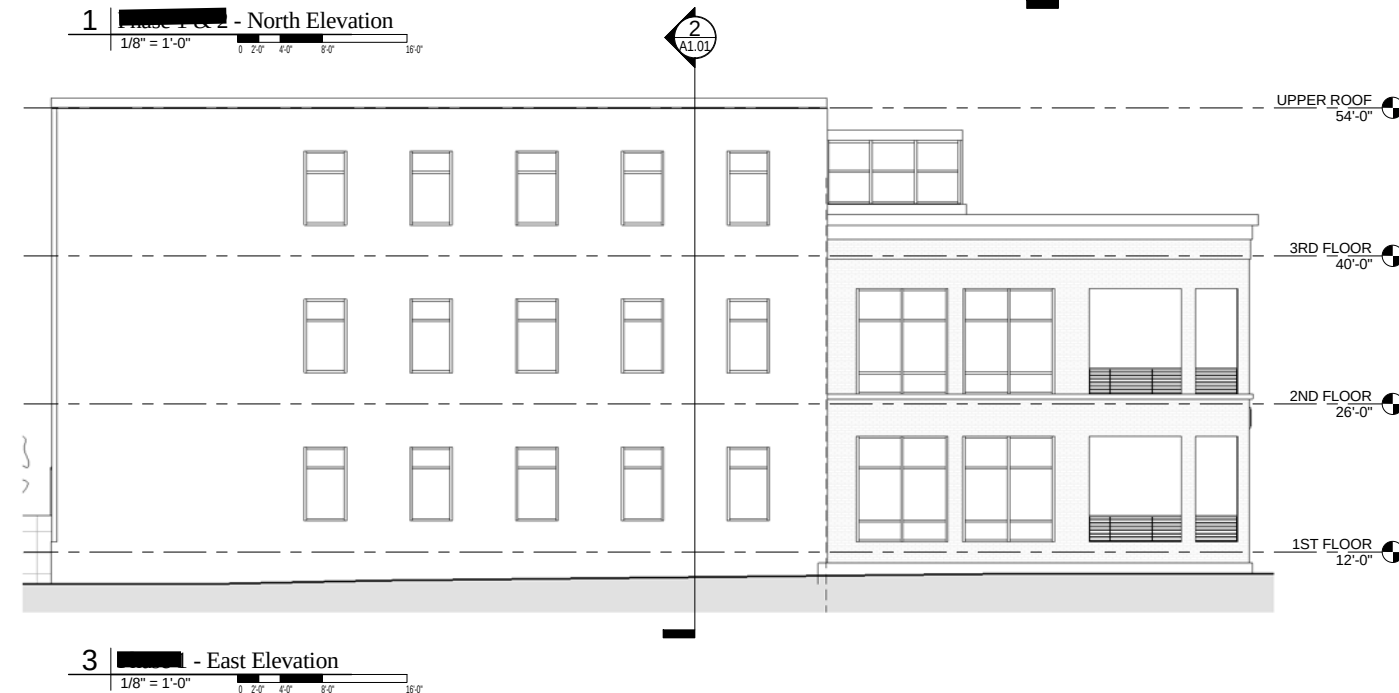
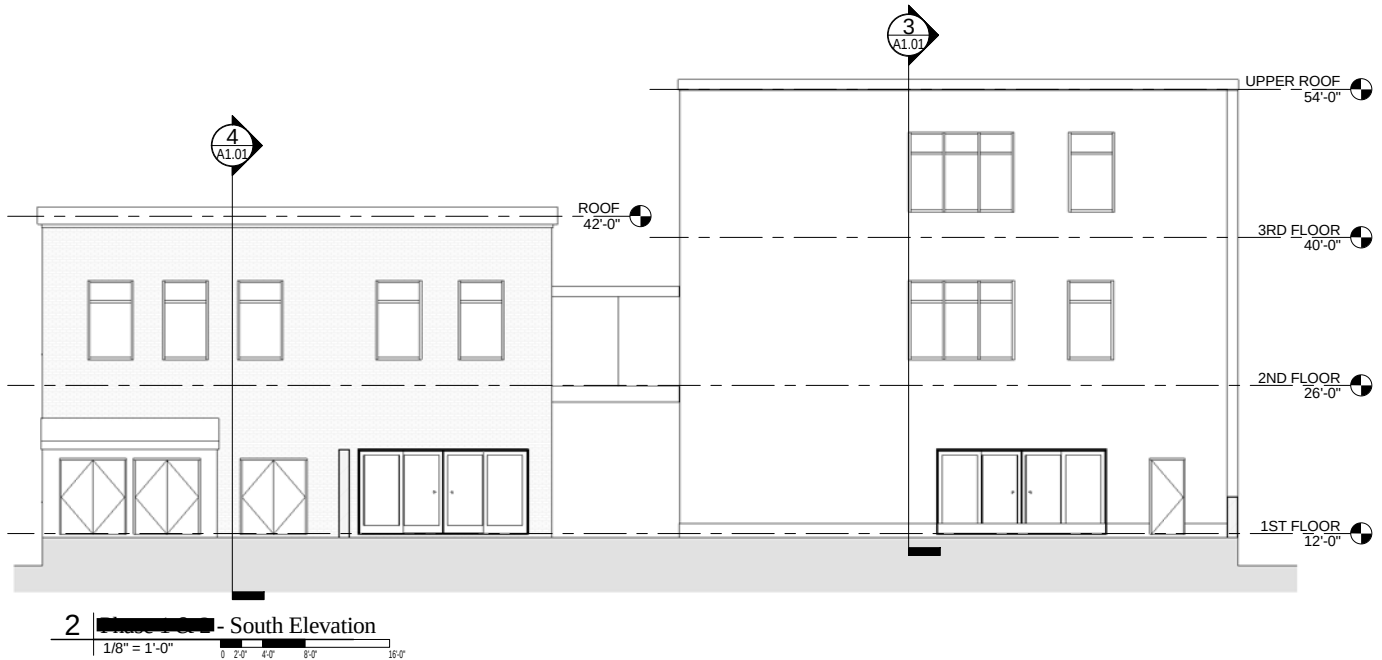
PORTLAND, MAINE

Phase 1 Building

APRIL 26, 2016

A2.1





Future phase
buildings

Prepared For:		Owner	
		Address City, State	
Consultant:		Architect:	
		ARCHETYPE architects	
		48 Union Wharf Portland, Maine 04101 (207) 774-6022 ARCHETYPE@ARCHETYPEPA.COM	
Project:		WIDGERY WHARF	
		PORTLAND, MAINE	
Revisions:			
Date:	Scale:	Building Elevations	
OCT 29, 2014	1/8" = 1'-0"		
		A2.01	



Future Phase
buildings on
Commercial Street

3. CONFORMITY WITH APPLICABLE DESIGN STANDARDS

The following statements are made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14-526.

3.1 OVERVIEW

This project conforms with all the applicable design standards of Section 14-526 as demonstrated in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

The development will fit in with the existing street system as it will use existing improved access locations off Commercial Street. Based on the limited intensity of use, the project is expected to have an insignificant impact on traffic in the neighborhood. The existing Union Wharf access is signalized at Commercial Street and the Widgery Wharf Lane is unsignalized. There are no changes proposed to either intersections.

2. Access and Circulation:

a. Site Access and Circulation.

- (i) The development provides access via Commercial Street. Internal circulation has been reviewed and designed to accommodate the typical use of passenger vehicles and occasional semitrailers.
- (ii) Access and egress have been designed to avoid conflicts with existing turning movements and traffic flows.
- (iii) The site does not feature drive up services as mentioned in this requirement.

b. Loading and Servicing.

- (i) The site layout has been configured to accommodate the existing movements of large vehicles and access to the wharf. The proposed buildings will not require large vehicle delivery service but will rely on routine box truck and similar service vehicle support which can use the Wharf and Commercial Street for access to the buildings.

c. Sidewalks.

- (i) The existing site contains brick sidewalk along its length of Commercial Street. Additional new brick sidewalk will be provided around the perimeter of the Phase 1 building and additional brick sidewalk/plaza will be provided as part of the future phase build out.

- (ii) Additional internal sidewalk off Commercial Street will be provided between the future phase building.

3. Access and Circulation:

- a. The development contains no residential uses. In addition, METRO service does not currently use Commercial Street in front of the site; therefore, provisions for transit are not applicable.
- b. A new Transit stop is not proposed.
- c. A new transit stop is not proposed.
- d. Waiver: The applicant requests a waiver of the transit facility requirement.

4. Parking:

a. Location and Required Number of Vehicle Parking Spaces:

- (i) The wharf currently contains 212 parking spaces serving various uses onsite as well as leased spaced to nearby downtown tenants. The Phase 1 building will reduce the parking count to 193 spaces. The following tables summarizes the parking required by Code for the proposed buildings:

Building	Uses/Size	Parking Rates	Required Spaces*
1	Office/1,800 SF	1 SP/400 SF	18,000/400 x 50% = 23 Spaces
2	Open Market/4,855 SF	1 SP/200 SF	4,855/200 x 50% = 12 Spaces
	Restaurant/4,855 SF	1 SP/150 SF	4,855/150 x 50% = 16 Spaces
3	Restaurant/5,175 SF	1 SP/150 SF	5,175/150 x 50% = 17 Spaces
	Food Court/5,175 SF	1 SP/200 SF	5,175/200 x 50% = 13 Spaces
	Office/4,018 SF	1 SP/40 SF	4,018/400 x 50% = 5 Spaces
Total			86 Spaces

**Per Sec. 14-332.1(J) offstreet parking required at 50% of code required spaces.*

- (ii) The applicant has not prepared a TDM strategy as it is not applicable to the intended uses.
- (iii) The applicant proposes the amount of parking which is appropriate for the anticipated uses of this site.
- (iv) Parking spaces and aisles have been designed to meet the dimensional requirements of the Technical Manual.
- (v) Vehicle parking areas have been designed to withstand site conditions.

b. Location and Required Number of Bicycle Parking Spaces:

- (i) The applicant is proposing bicycle hitches for all three buildings in an amount considered appropriate for each use.

c. Motorcycles and Scooter Parking:

- (i) The applicant is requesting a waiver of the motorcycle/scooter parking requirements based on the site use.

d. Snow Storage:

- (i) Snow storage management will employ two strategies;
 - 1. On-site snow storage around the perimeter of the site.
 - 2. Snow removal and offsite storage – the nature of the proposed site use precludes the need for significant snow removal. During larger snow fall events, hauling of snow offsite may be required.

5. Transportation Demand Management (TDM):

- a. A TDM plan is not required for the project.

(b) Environmental Quality Standards

1. Preservation of Significant Natural Features:

- a. The existing site retains no prominent significant natural features; therefore, no issue related to the preservation of these features applies.
- b. The applicant is not requesting a waiver from this standard.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation:

- (i) The site's existing conditions contains little to no significant trees other than several along Commercial Street in front of the Black Tie Catering building. These will remain.
- (ii) Not applicable
- (iii) Not applicable
- (iv) The applicant will request a waiver from this standard.

b. Site Landscaping.

(i) Landscaped Buffers:

- (a) There are no service or loading areas observable from nearby sidewalks or residential properties.
- (b) The development is not subject to zoning setbacks or buffering requirements.

(c) Not applicable.

(ii) Parking Lot Landscaping:

a) thru d) The applicant will be requesting a waiver of the parking lot landscaping standards based on site use.

3. Water Quality, Stormwater Management and Erosion Control:

a. Stormwater:

(i) The site's runoff conditions are primarily self-contained and runoff sheets to the Fore River; therefore, issues related to offsite or downstream flooding are not applicable. There is one onsite catch basin within the Union Wharf access that drains to the City's Commercial Street system.

(ii) All stormwater runoff is proposed to discharge to the Fore River. The project will not adversely impact adjacent lots or the City street system.

(iii) All stormwater runoff is proposed to discharge to the Fore River. The project will not adversely impact adjacent lots or the City street system.

(iv) All stormwater runoff is proposed to discharge to the Fore River. The project will not adversely impact adjacent lots or the City street system.

b. The Stormwater Management Plan will meet the requirements and goals stated in Section 5 of the Technical Manual.

c. The project is not located in a watershed of an urban impaired stream as listed by the MeDEP.

d. N/A

e. The project is serviced by both a public wastewater system and public water supply systems. The project will not pose a risk of groundwater contamination.

f. The project will be connected to the public sanitary sewer system which is adequately sized for the project flows.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:

a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure.

b. The applicant will coordinate with utility representatives for the continuation of easements related to utility infrastructure crossing the site.

2. Public Safety and Fire Prevention:

- a. The site has been designed to promote safe and inviting customer access. Controlled access into the interior parking spaces has been designed into the site plan.
- b. No changes to emergency access conditions within the surrounding streets is proposed.
- c. Fire hydrants are located within the adjacent street system and onsite.

3. Availability and Adequate Capacity of Public Utilities:

- a. The applicant will secure letters from all applicable utilities stating their ability to serve this project. The project will require new utility service infrastructure to serve the new buildings.
- b. All on site electrical lines serving the new buildings will be underground.
- c. All new utility infrastructure will meet the provisions of the Technical Manual.
- d. The project will require a new service connection to the sewer system that crosses the site.
- e. The sanitary sewer collection system will be designed to meet all applicable sections of the Technical Manual.
- f. Not applicable.

(d) Site Design Standards.

1. Massing, Ventilation and Wind Impact:

- a./b. The bulk, location and height of the proposed building have been designed to not result in adverse impacts to abutting properties. The elevations depicting building massing are enclosed in the site plan package.
- c. HVAC venting is proposed to be directed to the building roof and directed away from public spaces.

2. Shadows:

- a. The development is located in the WCZ Zone and this standard is not applicable.

3. Snow and Ice Loading:

- a. The proposed buildings will be designed and located such that accumulated snow and ice will not fall onto adjacent properties or public ways.

4. View Corridors:

- a. The project site is located outside the Downtown Vision View Corridor Protection Plan.

5. Historic Resources:

- a. The development is not located in a historic district, historic landscape district or City designated landmark.
- b. The development is not located adjacent to or within 100 ft. of a designated landmark, historic district, or historic landscape district.
- c. There are no known archaeological resources on the site.

6. Exterior Lighting:

- a. Site Lighting.
 - (i) Exterior lighting will be designed to meet the requirements of Section 12 of the Technical Manual.

7. Noise and Vibration:

The project noise levels will be designed to meet the permitted levels as outlined in the WCZ Zone. All HVAC and mechanical equipment is proposed to be mounted on the roof, or otherwise ground mounted and concealed from nearby properties.

8. Signage and Wayfinding:

- a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.
 - (i) The project is not located in a historic district or subject to Article IX.
 - (ii) Proposed commercial signage is still being designed and subject to a condition of approval.
 - (iii) All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

9. Zoning Related Design Standards:

- a. The project is within the WCZ and zoning related design standards are not applicable.

SITE DEVELOPMENT PLANS
FOR
UNION AND WIDGERY WHARF
COMMERCIAL STREET
PORTLAND, MAINE
MAY 2016
PRELIMINARY PLAN DOCUMENTS

CURRENT APPLICANT / OWNER

PROPRIETORS OF UNION WHARF
P.O. BOX 7467
36 UNION WHARF
PORTLAND, ME 04101
ATTN: MALCOLM POOLE
(207) 772 - 8160

TAX MAP / BLOCK / LOT (ADDRESS)

TAX MAP 031/K/003, 008 AND 103 (218 COMMERCIAL, 1 WIDGERY WHARF)
TAX MAP 031/L/038 AND 135 (230 COMMERCIAL, 1 UNION WHARF)

INDEX

- C-1.0 COVER SHEET
- C-1.1 GENERAL NOTES AND LEGEND
- C-2.0 EXISTING CONDITIONS PLAN
(SURVEY BY D.S.D.)
- C-2.1 EXISTING CONDITIONS & DEMOLITION
PLAN PHASE 1
- C-3.0 OVERALL SITE LAYOUT AND UTILITY PLAN
- C-3.1 SITE LAYOUT AND UTILITY PLAN PHASE 1
- C-3.2 FUTURE SITE LAYOUT AND UTILITY PLAN
- C-4.0 OVERALL GRADING AND DRAINAGE PLAN
- C-4.1 PHASE 1 GRADING AND DRAINAGE PLAN
- C-4.2 FUTURE GRADING AND DRAINAGE PLAN
- C-5.0 LIGHTING/LANDSCAPE PLAN
- C-7.0 DETAILS
- C-7.1 DETAILS
- C-7.2 DETAILS
- C-7.3 DETAILS

UTILITIES

WATER:
PORTLAND WATER DISTRICT
22 DOUGLAS STREET
P.O. BOX 3553
PORTLAND, MAINE 04104
207.774.5961 x3199
CONTACT: JAY ARNOLD
MEANS@PWD.ORG

SEWER / STREETS:
CITY OF PORTLAND
PUBLIC SERVICES DIVISION
55 PORTLAND STREET
PORTLAND, MAINE 04102
207.874.8850
CONTACT: DAVID MARGOLIS-PINEO, DEPUTY CITY
ENGINEER

ELECTRIC:
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.842.2367
CONTACT: JAMIE COUGH/PAUL DUPERRE
JAMIE.COUGH@CMP.CO.COM

TELEPHONE:
FAIRPOINT COMMUNICATIONS
5 DAVIS HILL FARM ROAD
PORTLAND, MAINE 04103
207.797.1866
CONTACT: SCOTT DERRIG

NATURAL GAS:
UNITIL1075 FOREST AVENUE
PORTLAND, MAINE 04103
207.541.2505
CONTACT: KELLY FOWLER
FOWLER@UNITIL.COM

DIG SAFE:
CALL BEFORE YOU DIG
888.344.7233

PERMITS / APPROVALS

TYPE:

LOCAL

SITE PLAN/SUBDIVISION APPROVAL:

GOVERNING BODY:

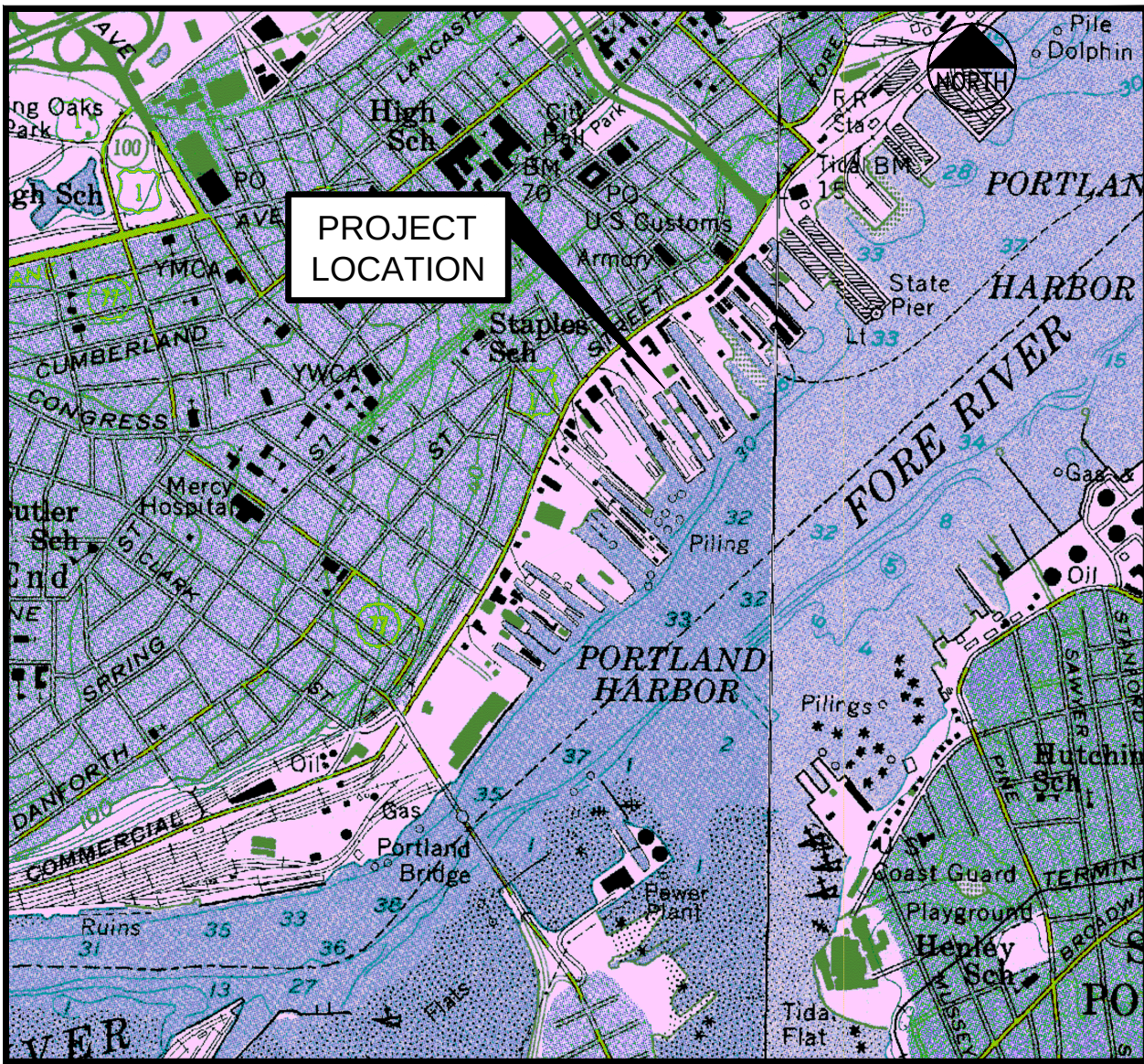
CITY OF PORTLAND PLANNING AUTHORITY
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8699
CONTACT: BARBARA BARHYDT

BUILDING PERMIT:

CITY OF PORTLAND CODE ENFORCEMENT OFFICE
CITY HALL, CONGRESS STREET
PORTLAND, MAINE 04103
207.874.8900

UTILITY / STREET OPENING PERMITS:

CITY OF PORTLAND PUBLIC SERVICES DIVISION
55 PORTLAND STREET
PORTLAND, ME 04102
ATTN: CAROL MERRITT
207.874.8801



LOCATION
MAP
N.T.S.

CONSULTANT LIST

CIVIL ENGINEER:
Stantec
482 PAYNE ROAD, SCARBOROUGH COURT
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207.771.5546

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

STANTEC CONSULTING SERVICES INC.
482 PAYNE ROAD SCARBOROUGH COURT
SCARBOROUGH ME 04074-8929
WWW.STANTEC.COM



Prepared For:		Project:		Revisions:	
PROPRIETORS OF UNION WHARF		UNION AND WIDGERY WHARF DEVELOPMENT			
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect:			Date:	Scale:	C-1.0
 ARCHETYPE <u>architects</u>			JAN 2015	N.T.S.	
48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056			COVER SHEET		

GENERAL NOTES

- THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE LOCAL UTILITY COMPANIES AND THE CITY OF PORTLAND.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, EXITS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE POINTS.
- ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-DIGSAFE). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS, AT NO EXTRA EXPENSE TO THE OWNER.
- MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
- ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO PROJECT CONTRACT SPECIFICATIONS, AND THE CITY OF PORTLAND TECHNICAL STANDARDS, WHICHEVER IS MORE STRINGENT.
- TOPOGRAPHIC AND BOUNDARY SURVEY INFORMATION WAS PROVIDED BY DOWNEAST SURVEYING & DEVELOPMENT. BENCHMARK = DATUM FROM USGS CUSTOM HOUSE ELEVATION +14.07'.
- FEMA MAP COMMUNITY PANEL NUMBER 23005100148. THE SITE IS LOCATED IN ZONE A2 (EL 10).
- THE PROPERTY SHOWN ON THIS PLAN MAY BE DEVELOPED AND USED ONLY AS DEPICTED IN THIS APPROVED PLAN. ALL ELEMENTS AND FEATURES OF THE PLAN AND ALL THE PROPERTY WHICH APPEARS IN THE RECORD OF THE PLANNING BOARD PROCEEDINGS ARE CONDITIONS OF THE APPROVAL. NO CHANGE FROM THE CONDITIONS OF APPROVALS IS PERMITTED UNLESS AN AMENDED PLAN IS FIRST SUBMITTED TO AND APPROVED BY THE PLANNING AUTHORITY.
- ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL CURB SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AS NOTED ON THE PLANS:
GRANITE AND BITUMINOUS CONCRETE CURB SHALL MEET THE REQUIREMENTS OF MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS 609.03 AND 609.04 AND CITY OF PORTLAND TECHNICAL STANDARDS.
- ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB OR FACE OF BUILDING.
- THE FACILITY IS SERVED BY PUBLIC WATER, SEWER, NATURAL GAS AND OVERHEAD POWER. THE PROJECT INCLUDES UPDATES TO THE POWER SERVICE INCLUDING THE INSTALLATION OF NEW UNDERGROUND SYSTEM. SEE SITE ELECTRICAL PLANS FOR DETAILS.
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE CITY OF PORTLAND PUBLIC WORKS INSPECTION SERVICES DIVISION (874-8300 EXT. 8838), CODE ENFORCEMENT OFFICE AND DEVELOPMENT REVIEW COORDINATOR IN WRITING THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING MAY BE REQUIRED TO INCLUDE THE PUBLIC WORKS AUTHORITY OR DEVELOPMENT REVIEW COORDINATOR.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
- WARNING SIGNS, MARKERS, BARRICADES OR FLAGMEN MUST BE EMPLOYED ON ADJACENT STREETS AS NECESSARY THE CONTRACTOR SHALL COORDINATE AND SEEK APPROVAL FROM THE PUBLIC SERVICE DIVISION FOR THE PLACEMENT/PARKING OF EQUIPMENT WITHIN THE PUBLIC RIGHT OF WAY.
- CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH THE CITY OF PORTLAND'S SOLID WASTE ORDINANCE CHAPTER 12. ALL DEMOLITION MATERIAL FROM THE PROJECT SITES SHALL BE TAKEN TO THE RIVERSIDE RECYCLING FACILITY OR AS OTHERWISE DIRECTED PENDING THE RESULTS OF A HAZARDOUS BUILDING MATERIALS SURVEY AS AUTHORIZED AND COORDINATED BY THE OWNER. ALL SALVAGED MATERIAL WITHIN THE PUBLIC R.O.W.(SIDEWALKS, BRICKS, GRANITE CURB) NOT REUSED SHALL BE DISPOSED OF AS DIRECTED BY THE PORTLAND PUBLIC SERVICES DEPARTMENT AT NO EXTRA COST TO THE OWNER.
- ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO INSURE INTEGRITY. IF DISTURBED THEY SHALL BE REPLACED BY A SURVEYOR REGISTERED IN THE STATE OF MAINE AT THE CONTRACTOR EXPENSE.
- THE OWNER SHALL BE RESPONSIBLE TO COORDINATE THE PERFORMANCE OF A HAZARDOUS MATERIALS INSPECTION OF THE PROPERTY.
- A STREET OPENING PERMIT MUST BE OBTAINED FROM THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT PRIOR TO BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL BE COMPLETED IN CONFORMANCE TO THE CITY'S RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN PUBLIC RIGHT OF WAYS.
- CONTRACTOR MUST MAINTAIN THROUGH TRAFFIC ON ADJACENT STREETS AT ALL TIMES.
- ALL METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS IDENTIFIED HEREIN SHALL CONFORM TO THE CITY OF PORTLAND CONSTRUCTION AND TECHNICAL STANDARDS AND SPECIFICATIONS AND/OR CURRENT MDOT STANDARDS AND SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
- SITE WORK FOR BUILDING SHALL INCLUDE GRADING THE BUILDING PAD AREA (DEFINED AS THE BUILDING FOOTPRINT PLUS 5'-0" BEYOND THE EXTERIOR WALL) TO A GRADE 18" BELOW THE GROUND FLOOR FINISH ELEVATION. ALL WORK SHALL INCLUDE EXCAVATION (INCLUDING ROCK REMOVAL AND EXISTING FOUNDATION DEMOLITION) AND BACKFILL OF ALL FOOTINGS AND FOUNDATIONS, INSTALLATION OF PERIMETER FOUNDATION DRAINS, EXCAVATION AND BACKFILL OF ALL UNDERSLAB UTILITIES AND PLACEMENT OF ALL AGGREGATES BELOW THE FLOOR SLAB AND ADJACENT THE FOUNDATION WALLS IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS. (SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR ADDITIONAL DETAILS PERTAINING TO ANY BUILDING RELATED FOUNDATION WORK).
- RECORD DRAWINGS REQUIRE ALL BURIED UTILITIES INCLUDING, BUT NOT LIMITED TO, BENDS, APPURTENANCES, AND OTHER FEATURES TO BE LOCATED BY COORDINATE INFORMATION TO BE RECORDED BY THE CONTRACTOR AND SUPPLIED TO THE OWNER AT THE END OF THE PROJECT.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS PREPARED BY ARCHETYPE ARCHITECTS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, PAVING, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS.
- ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.

PERMITTING NOTES

- THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

SITE PLAN CONDITIONS OF APPROVAL (PENDING)

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SUBDIVISION CONDITIONS OF APPROVAL (PENDING)

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LAYOUT NOTES

- ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR BUILDING.
- ALL SIGNS INDICATED ON THE LAYOUT PLANS ARE TO MEET ALL REQUIREMENTS AND STANDARDS OF THE MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- COORDINATES AND/OR DIMENSIONS FOR CATCH BASIN AND MANHOLES ARE TO THE CENTER OF THE FRAME.
- PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE-HALF OF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.
- PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS, AT THE CONTRACTOR'S EXPENSE, BY A MAINE PROFESSIONAL LAND SURVEYOR.
- PROPOSED RIGHT-OF-WAY MONUMENTS AND PROPERTY LINE PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE PROFESSIONAL LAND SURVEYOR.
- ALL HANDICAP PARKING SPACES ARE TO RECEIVE HANDICAP SIGNS AND PAVEMENT MARKINGS AS ILLUSTRATED ON THE DETAIL SHEETS. UNLESS OTHERWISE NOTED, ALL ON-SITE CURB SHALL BE GRANITE AND CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

GRADING AND DRAINAGE NOTES:

- ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF n = 0.013 OR LESS. UNLESS A SPECIFIC PIPE MATERIAL IS CALLED FOR ON THE CONTRACT DRAWINGS. PVC PIPING SHALL NOT BE USED IN AREAS OF EXPOSED SUNLIGHT.
- SLOPE PROTECTION IS TO BE PROVIDED PER THE DESIGN PLANS AND MAY INCLUDE RIPRAP, SOD OR MULCH.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EARTHWORK OPERATIONS TO INSURE THAT DISTURBANCE TO ANY STEEP SLOPE AREAS ARE MINIMIZED TO THE EXTENT PRACTICABLE.
- THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
- ALL PAVING WITHIN THE PUBLIC R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF PORTLAND RULES AND REGULATIONS FOR EXCAVATION ACTIVITIES IN THE PUBLIC R.O.W.
- NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
- CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES AND PHYSICAL FEATURES THAT ARE OUTSIDE THE SCOPE OF WORK. THE CONTRACTOR SHALL MAINTAIN SITE STABILITY DURING CONSTRUCTION TO AVOID EROSION AND SEDIMENT TRANSPORT. CONTRACTOR SHALL RESTORE ALL AREAS TO A FINAL STABILIZED CONDITION AS DIRECTED BY DESIGN DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- EXTERIOR GRADES AROUND PROPOSED STRUCTURE SHALL BE COORDINATED WITH FINAL BUILDING PLANS AND PROVIDE FOR ALL ACCESS OPENINGS.
- SUBGRADE FILL PLACED BENEATH ALL PERMANENT PAVEMENT, SIDEWALK OR CONCRETE SURFACES EXCLUDING ANY BUILDING AREAS, SHALL BE GRANULAR BORROW. SUBGRADE FILL PLACED BENEATH ALL LANDSCAPE AREAS EXCEPT THOSE ADJACENT THE FOUNDATION SYSTEMS MAY BE A COMMON BORROW MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION, FREE FROM FROZEN MATERIAL, PERISHABLE RUBBLE, PEAT, ORGANICS, ROCKS LARGER THAN 12" IN DIAMETER, VEGETATION AND OTHER MATERIAL UNSUITABLE FOR ROADWAY AND SUBGRADE CONSTRUCTION. EXCAVATED ON-SITE MATERIALS MAY BE USED FOR FILL PROVIDED THE MATERIAL IS FREE FROM UNSUITABLE MATERIAL DESCRIBED IN THIS NOTE AND UPON APPROVAL OF THE ENGINEER. EXCAVATED ONSITE MATERIALS MAY NOT BE USED AS COMPACTED STRUCTURAL FILL BENEATH THE BUILDING AREAS OR AS FOUNDATION BACKFILL. GRANULAR BORROW AND COMMON BORROW SHALL COMPLY WITH THE MDOT SPECIFICATIONS.
- ALL FILLS SHALL BE PLACED IN LAYERS NOT MORE THAN 12" LOOSE DEPTH AND COMPACTED BY HEAVY COMPACTION EQUIPMENT. MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DENSITY ASTM 1557, MODIFIED AND FIELD DENSITY ASTM D2922 (NUCLEAR METHODS).
- 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.

UTILITY NOTES:

- ALL REQUIRED UTILITIES SERVING THE PROJECT SHALL BE COORDINATED BETWEEN THE SITE WORK CONTRACTOR AND DIVISION 22/26 CONTRACTOR(S). THE SITE WORK CONTRACTOR SHALL BE RESPONSIBLE TO EXTEND ALL PROPOSED UTILITIES TO WITHIN FIVE (5) FEET OF THE BUILDING TO A LOCATION COORDINATED WITH THE MECHANICAL AND ELECTRICAL SUBCONTRACTORS. THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITIES WITHIN FIVE (5) FEET AND INSIDE THE BUILDING OR UNDER SLAB.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF AND/OR RELOCATION OF OVERHEAD AND UNDERGROUND TELEPHONE WITH FAIRPOINT COMMUNICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUITS, PULL WIRES, TRENCHING AND BACKFILLING NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRIC SERVICE WITH CENTRAL MAINE POWER; THE TELECOMMUNICATIONS SERVICE WITH FAIRPOINT COMMUNICATIONS AND CABLE SERVICE WITH TIME WARNER CABLE. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS OR UTILITY COMPANY STANDARDS, WHICHEVER IS MORE STRINGENT.
- ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
- 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 COMPLETION OF THE PROJECT.
- 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.
- A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO THE JOBSITE. TEMPORARY SERVICES SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. COORDINATE ALL TEMPORARY SERVICES WITH UTILITY COMPANY, OWNER AND AFFECTED BUSINESSES.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ELECTRICAL SERVICES IN CONDUIT TO SITE LIGHTING, COMPLYING WITH APPLICABLE CODES. COORDINATE WITH OWNER, SITE ELECTRICAL, ARCHITECTURAL AND CMP PLANS.
- ALL SANITARY SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF PORTLAND PUBLIC WORKS DEPARTMENT. ALL SANITARY SERVICES AND APPURTENANCES TO BE ABANDONED SHALL BE PROPERLY RECORDED WITH PORTLAND PUBLIC WORKS ENGINEERING DEPARTMENT. A DIGITAL VIDEOTAPE SHALL BE MADE OF SANITARY SEWER SYSTEMS TO BE UTILIZED PRIOR TO CONSTRUCTION; UPSTREAM PIPES INTENDED FOR ABANDONMENT SHALL BE INSPECTED TO VERIFY THAT THEY NO LONGER SERVE OTHER FACILITIES.

WCZ Waterfront Central zone		
ZONING REQUIREMENTS	REQUIRED	PROVIDED
LOT SIZE	NONE	5± ACRES
MIN. FRONTAGE ALONG COMMERCIAL ST	75'	343.64 FT.
MIN. LOT WIDTH WITHIN THE NON-MARINE USE OVERLAY ZONE (NMUOZ)	50'	
MIN. YARD DIMENSIONS FRONT, SIDE AND REAR SETBACK FROM PIER EDGE	NONE	0 FT. < 0.5' FROM PIER
MAX. LOT COVERAGE	100%	100%
MAX. BUILDING HEIGHT	50' *	< 50'
OFF-STREET PARKING AND LOADING	DIV 20 AND DIV 21 SHALL NOT APPLY	EXISTING = 212 SPACES PROPOSED = 193 SPACES (Phase 1)

ZONING NOTES:

- MAXIMUM BUILDING HEIGHT: FIFTY (50) FEET. EXCEPT AS PROVIDED IN (H) BELOW, A STRUCTURE IN THE WATERFRONT CENTRAL ZONE SHALL PROVIDE NO MORE THAN THREE HABITABLE FLOORS; HOWEVER, TYPICAL ROOFTOP APPURTENANCES AND/OR ENCLOSED OR OPEN MECHANICAL INSTALLATIONS SHALL BE ALLOWED OVER THE THIRD FLOOR.
- NEW NON-MARINE USE BUILDING EXCEPTION FOR USABLE FLOORS AND MINIMUM GROUND FLOOR CLEARANCE: NOTWITHSTANDING PROVISIONS (F) AND (G) ABOVE, FOR NEW NON-MARINE USE BUILDINGS PERMITTED WITHIN THE NMUOZ, FOUR (4) USABLE FLOORS ARE ALLOWED AND GROUND FLOOR CLEARANCE MINIMUMS DO NOT APPLY.

EROSION CONTROL NOTES:

- LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
- PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCES AND THE STABILIZED CONSTRUCTION ENTRANCES.
- SILT BARRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES SHOWN ON THE EROSION CONTROL DETAIL SHEET.
- THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO ENSURE THAT THEY WORK AS PLANNED DURING CONSTRUCTION AND SHALL KEEP ADJACENT STREETS CLEAR OF DIRT AND MUD.
- SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.
- CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITIES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST THREE (3) BUT NOT MORE THAN (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A.
- IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AS SPECIFIED ON PLANS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 1991 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
- CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REQUIREMENTS, INSPECTION AND MAINTENANCE REQUIREMENTS AND GOOD HOUSEKEEPING PRACTICES IN ACCORDANCE WITH APPENDIX A, B& C OF MAINE DEP CHAPTER 500.

EXISTING

- IRON PIN FOUND (IPF) OR CAPPED IRON ROD FOUND (CIR)
- ELECTRIC MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- DRAIN MANHOLE
- DOWN SPOUT
- WATER VALVE
- WATER SHUTOFF
- UTILITY POLE
- SIGN
- LIGHT POLE
- ELECTRIC METER
- GAS METER
- EDGE OF PAVEMENT
- CURB (GRANITE, UNLESS NOTED)
- EDGE OF GRAVEL
- SEWER
- UNDERGROUND WATER
- OVERHEAD UTILITY WIRES
- WOOD STOCKADE FENCE
- CHAIN LINK FENCE
- GUARD RAIL
- EXISTING BUILDING
- TREE
- EXISTING CONTOUR
- SPOT GRADE
- PROPERTY LINE
- RIGHT OF WAY
- STORM DRAIN
- BRICK
- BUILDING
- PAVEMENT SAWCUT
- PAVEMENT DEMOLITION

PROPOSED

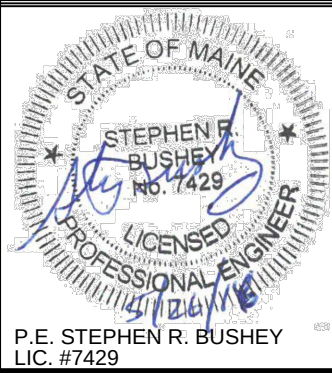
- PROPERTY LINE
- BARRIER FREE SYMBOL
- SIGN
- SIGN LABEL
- BUILDING
- GRANITE CURB
- TRANSFORMER
- BRICK
- ASPHALT GRIND
- DERO BIKE HITCH

Prepared For:
**PROPRIETORS OF
UNION WHARF**

Project:
**UNION AND
WIDGERY WHARF
DEVELOPMENT**

Revisions:

Architect:
**ARCHETYPE
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48 Union Wharf Portland, Maine 04101
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Date:
JAN 2015

Scale:
N.T.S.

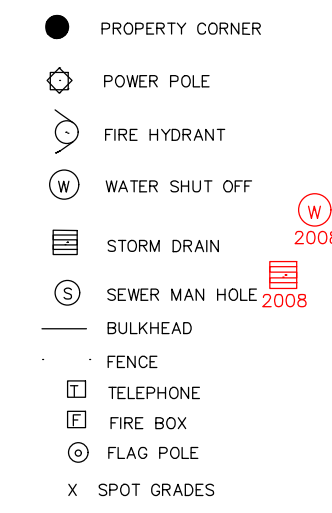
**GENERAL
NOTES AND
LEGEND**

C-1.1

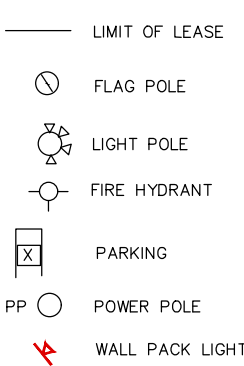
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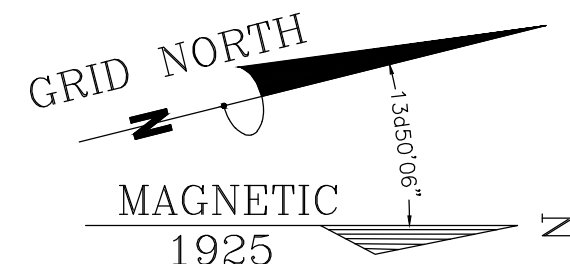
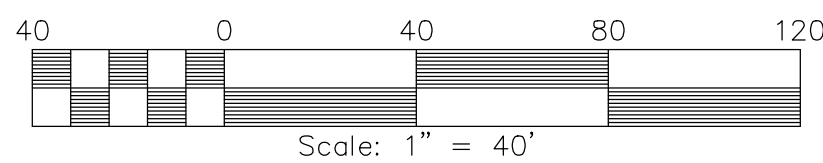
LEGEND: (EXISTING FEATURES)



LEGEND: (FEATURES)



BUILDING INFORMATION			
BLDG. #	GROUND FLOOR AREA	GRADE	ELEVATION
#1	4680 S.F.	F.F. EL. 11.3'	
#230	1481 S.F.	F.F. EL. 11.9'	
#36	5014 S.F.	F.F. EL. 11.2'	
#55	61 S.F.	F.F. EL. 11.2'	
#41	1560 S.F.	F.F. EL. 8.7'	
#48	6691 S.F.	F.F. EL. 10.3'	
#50	1557 S.F. & 663 S.F.	F.F. EL. 10.2'	
#50A	722 S.F.	F.F. EL. 11.9'	
#52	2388 S.F.	F.F. EL. 12.0'	
#35	DEMOLISHED AS PER 7/20/97	F.F. EL. 9.2'	
#30	1080 S.F.	F.F. EL. 8.5'	
#28	1864 S.F.	F.F. EL. 9.2'	
#14	10900 S.F.	F.F. EL. 11.6'	
CM WATERFRONT PROPERTIES, LLC	10400 S.F.	NOT IN FLOOD ZONE	



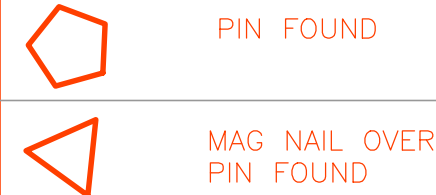
NOTE: 16 APRIL 2010
WEST AND SOUTH SIDES OF
CM WATERFRONT PROPERTIES, LLC
PARCEL ARE THE CENTERLINE OF
THE "PARTY WALLS". LOCATION AS
SHOWN IS APPROXIMATE.

MERRILS WHARF, INC.
4549-113

STATE PLANE COORDINATES
FOR CONTROL POINTS

POINT "B"= 91247.263 ; 309775.517
POINT "C"= 90716.938 ; 39986.777

SURVEY CONTROL POINTS



SURVEY NOTES

Owner of record: Proprietors of Union Wharf
252-254 Commercial Street
Portland Maine 04101

deeds of Record: (at Cumberland County Registry)

198-49;215-139;336-501;336-504; 726-401&402;
2117-307;2191-244;3315-185;3858-320&323;
3990-183;9829-14;11205-34;11205-52
Plan book 10-93 & Plan book 161-9

tax map 31 lot 35
3.9 acres
shoreland zone
flood zone as shown

Vertical datum: RM 41 at Custom House NGVD 1929

Horizontal datum: MDOT 555-13,14 west zone (NAD 83)

NOTES:

COASTAL BASE FLOOD EL. = 9.6' PER FLOOD
INSURANCE STUDY DATED JULY 17, 1986.

BENCH MARK: DATUM USGS FROM CUSTOM HOUSE
B.M. +14.04'
FLOOD MAP NOTE (PLAN #9)

SOILS ARE MAN MADE BEING CRUSHED STONE ON
CONSOLIDATED FILL.

LOT SHOWN ON MAP 31 LOTS 35 & 3 IN TAX
ASSESSORS BOOK.

TOTAL WHARF REQUIRED PARKING 123 SPACES.
PARKING PROVIDED 150 SPACES.

NOTE:
UNDERGROUND UTILITIES LOCATED
BY "PUCK" FOREMAN FOR
CHASE EXCAVATION ON 12/7/02.

OWNER
The Proprietors of Union Wharf
40A Union Wharf
Portland, ME 04101

PROJECT:
Union Wharf Site Plan

ADDRESS:

CITY:

STATE:

COUNTY:

DATE:

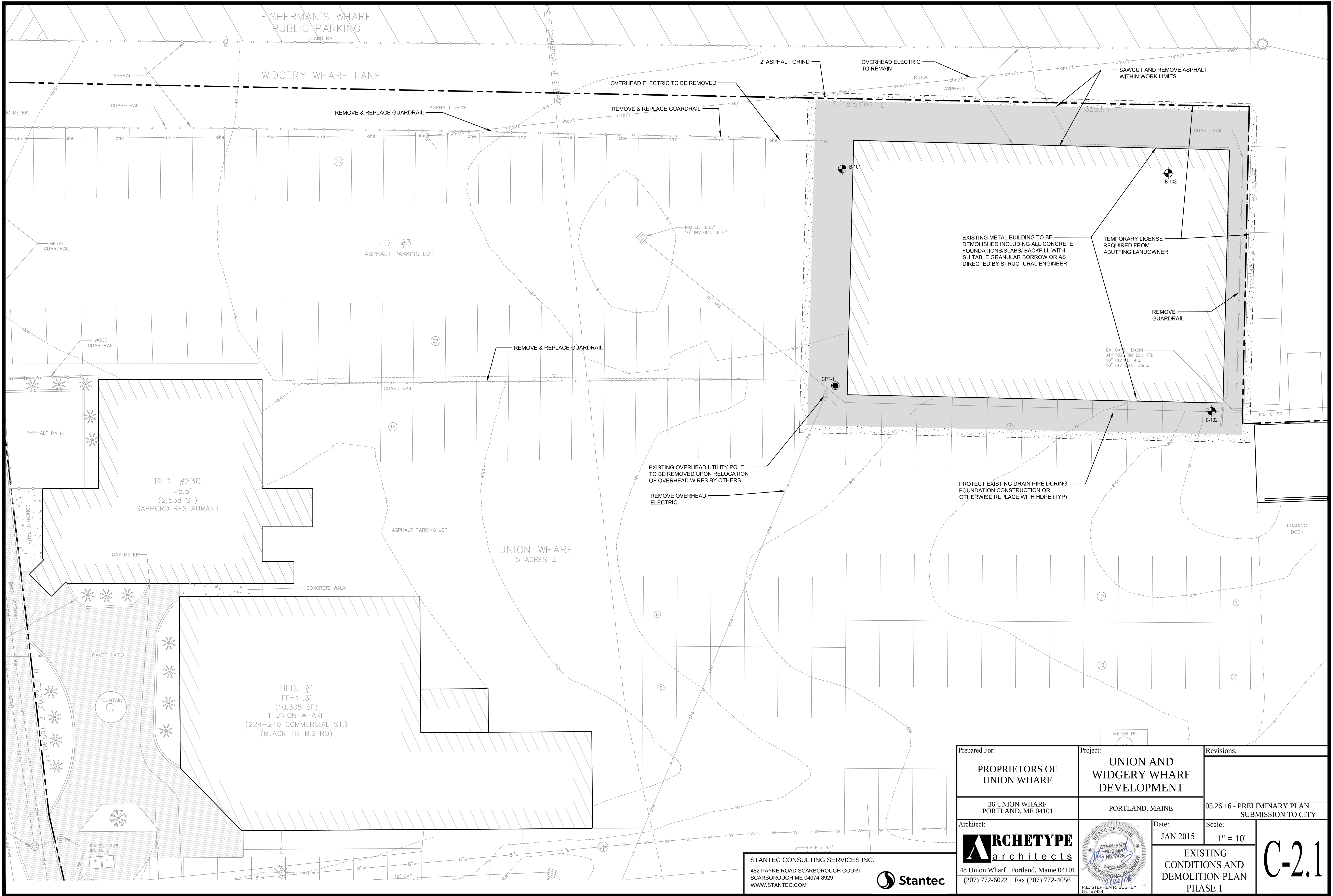
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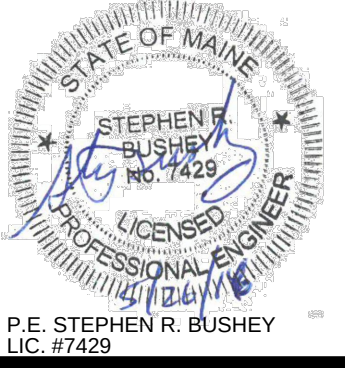
NO.

REVISIONS

DATE

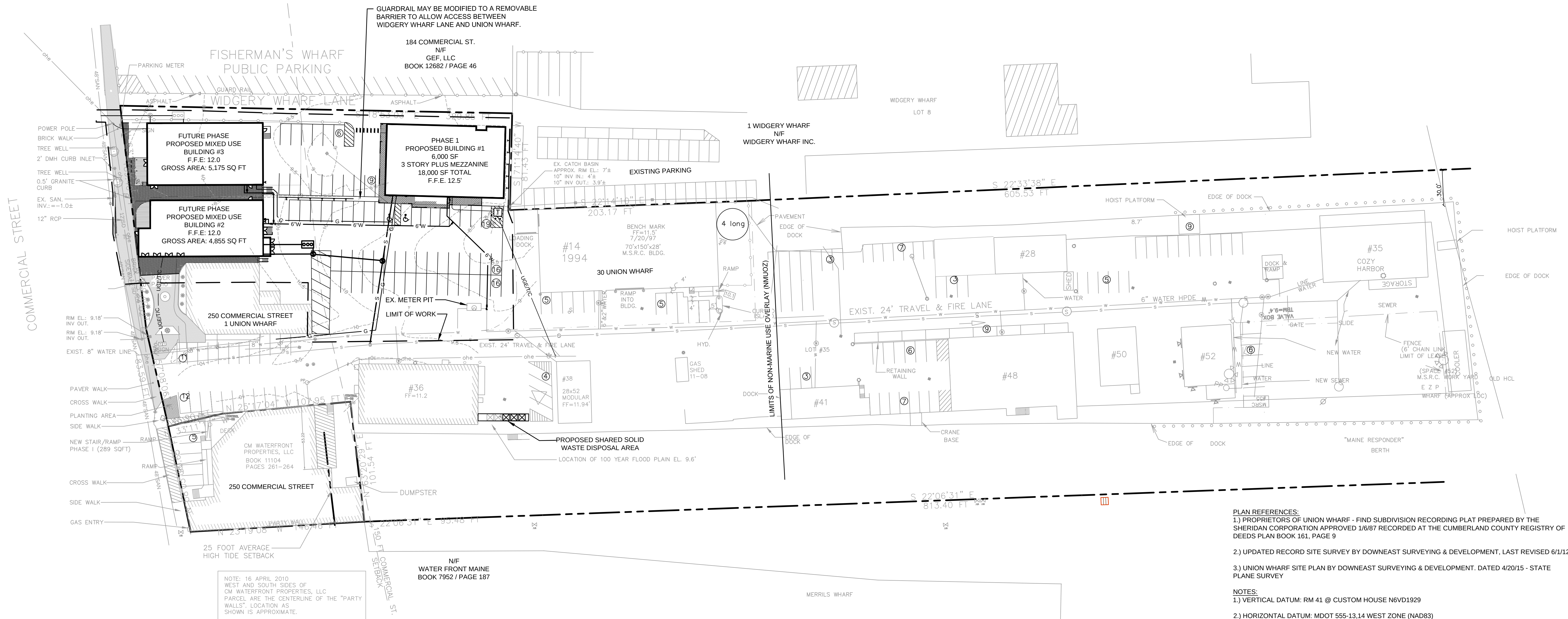
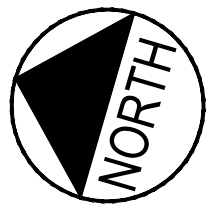
D. S. D.
DOWNEAST SURVEYING & DEVELOPMENT
ELWOOD ELLIS, P.L.S. # 1176
CHINA VILLAGE, MAINE 04926
(207) 868-2507
MEMBER MAINE SOCIETY OF LAND SURVEYORS



Prepared For: PROPRIETORS OF UNION WHARF		Project: UNION AND WIDGERY WHARF DEVELOPMENT		Revisions:	
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect: ARCHETYPE architects 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056		 P.E. STEPHEN R. BUSHEY LIC. #7429		Date: JAN 2015	Scale: 1" = 10'
		EXISTING CONDITIONS AND DEMOLITION PLAN PHASE 1		C-2.1	

STANTEC CONSULTING SERVICES INC.
482 PAYNE ROAD SCARBOROUGH COURT
SCARBOROUGH ME 04074-8929
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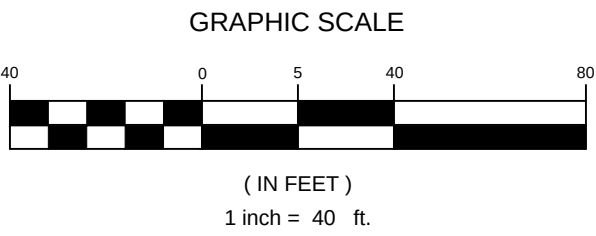
 **Stantec**



- PLAN REFERENCES:
- 1) PROPRIETORS OF UNION WHARF - FIND SUBDIVISION RECORDING PLAT PREPARED BY THE SHERIDAN CORPORATION APPROVED 1/6/87 RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 161, PAGE 9
 - 2) UPDATED RECORD SITE SURVEY BY DOWNEAST SURVEYING & DEVELOPMENT, LAST REVISED 6/1/12
 - 3) UNION WHARF SITE PLAN BY DOWNEAST SURVEYING & DEVELOPMENT. DATED 4/20/15 - STATE PLANE SURVEY
- NOTES:
- 1) VERTICAL DATUM: RM 41 @ CUSTOM HOUSE N6VD1929
 - 2) HORIZONTAL DATUM: MDOT 555-13.14 WEST ZONE (NAD83)

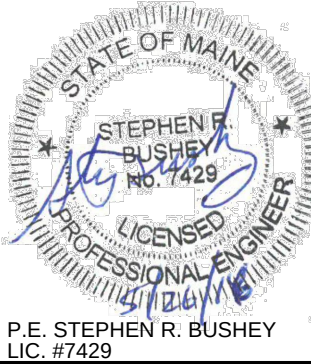
PARKING SUMMARY

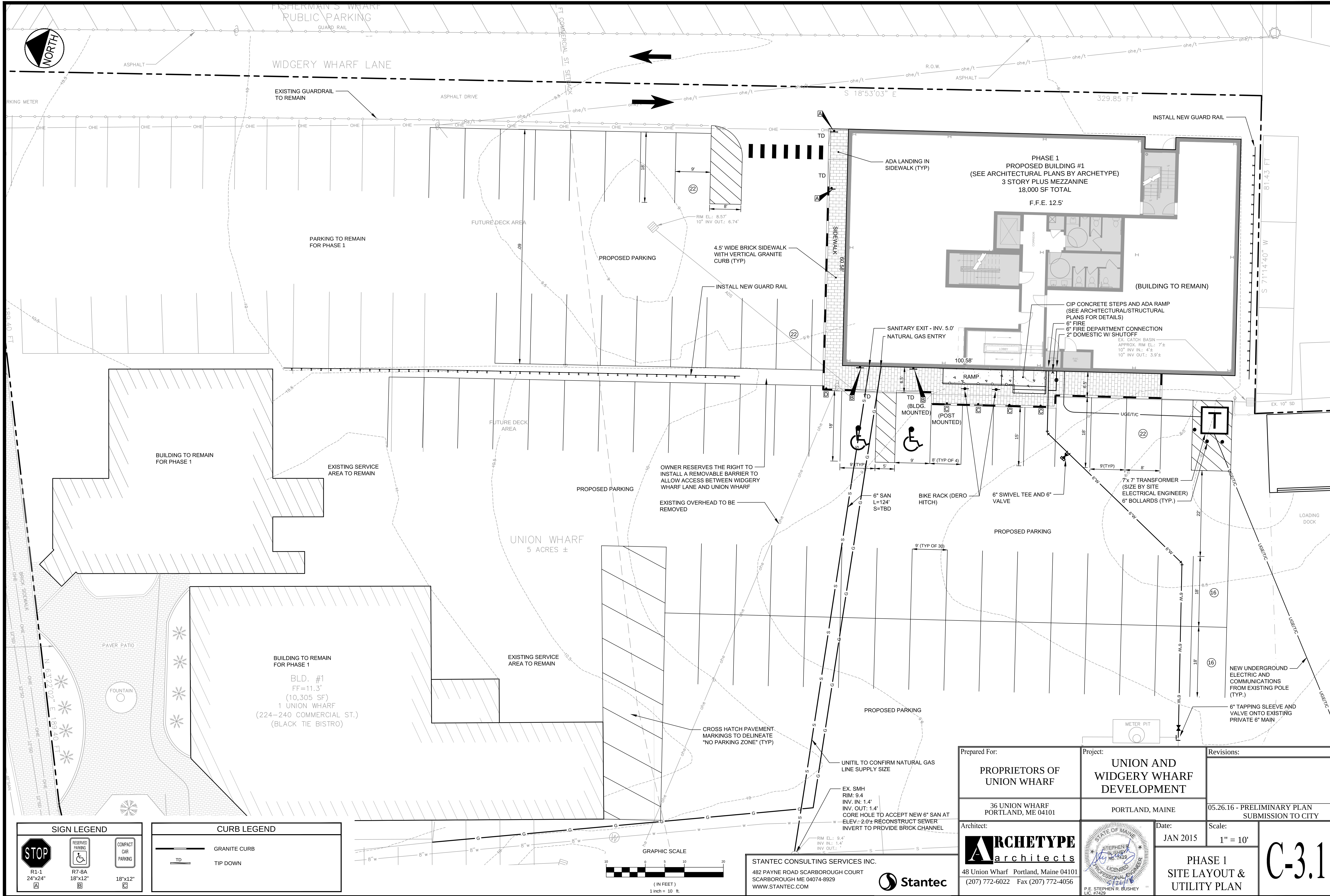
EXISTING PARKING -	212 SPACES
PROPOSED PARKING (PHASE 1) -	193 SPACES
PROPOSED PARKING (FUTURE PHASES) -	161 SPACES



Prepared For: PROPRIETORS OF UNION WHARF	Project: UNION AND WIDGEY WHARF DEVELOPMENT	Revisions:
36 UNION WHARF PORTLAND, ME 04101	PORTLAND, MAINE	05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY
Architect: ARCHETYPE Architects 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056	Date: JAN 2015	Scale: 1" = 40'
OVERALL SITE LAYOUT & UTILITY PLAN		C-3.0

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SCARBOROUGH ME 04074-8929
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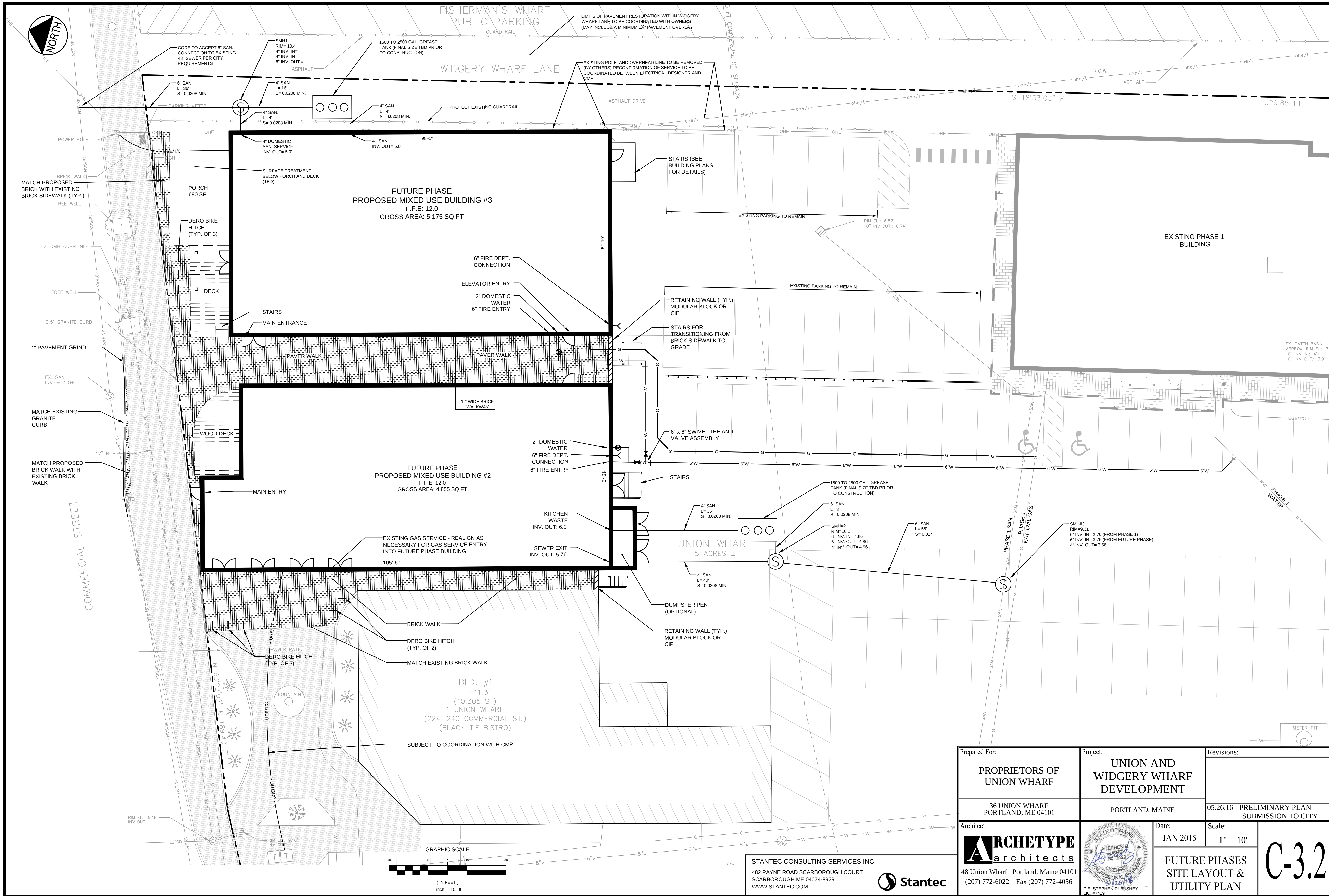
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R1-1 24"x24"	R7-8A 18"x12"	18"x12"

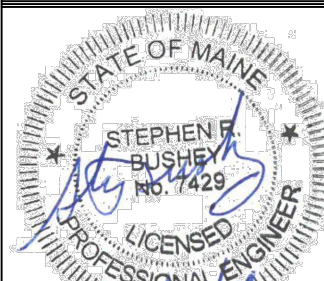
CURB LEGEND	
	GRANITE CURB
	TIP DOWN

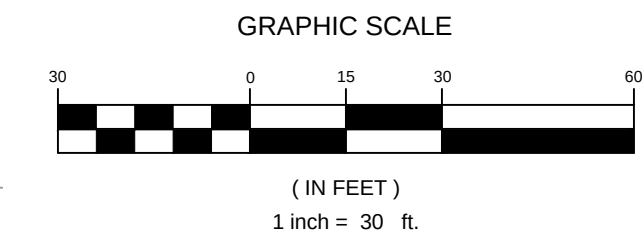
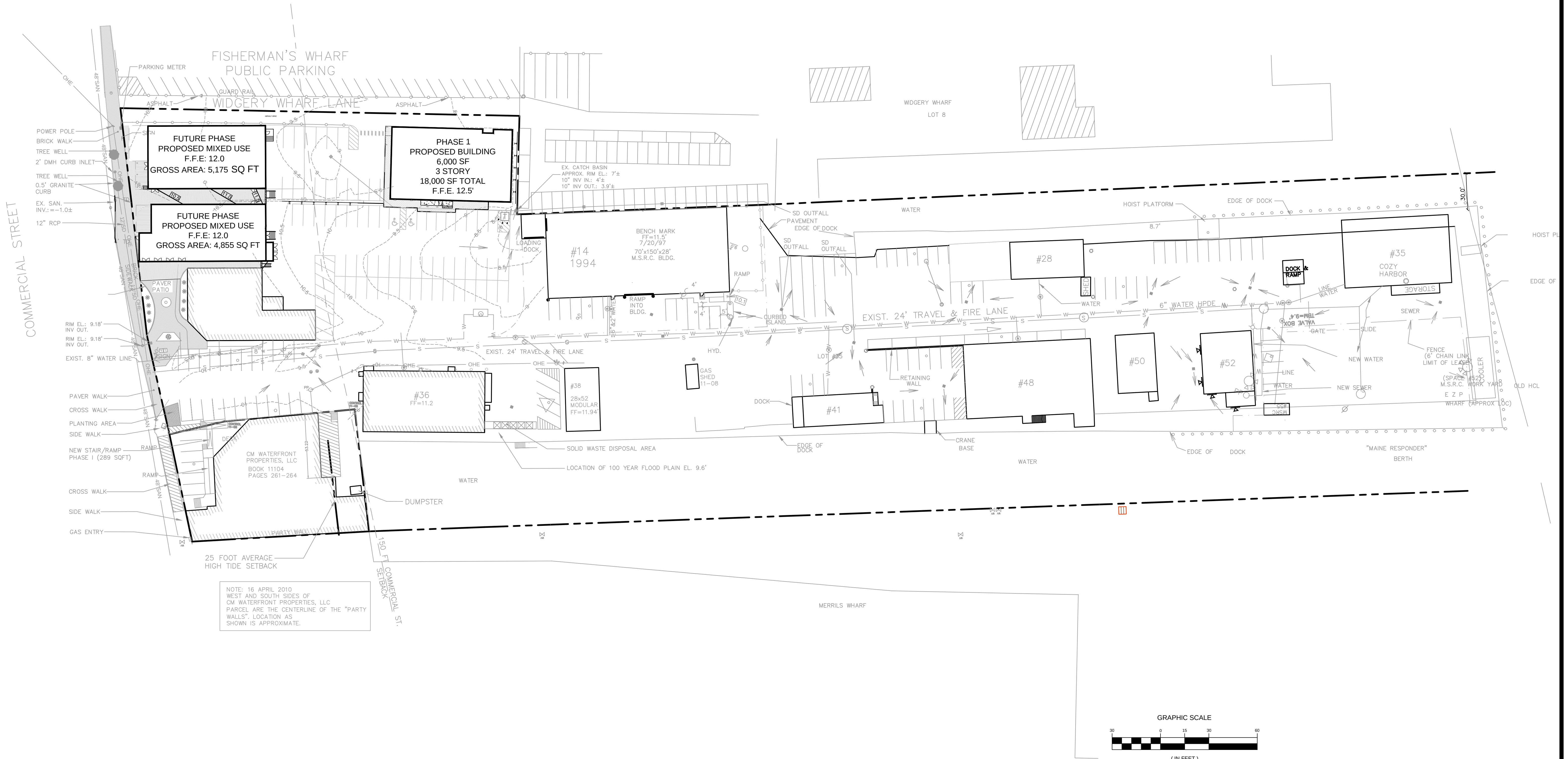
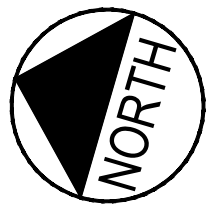
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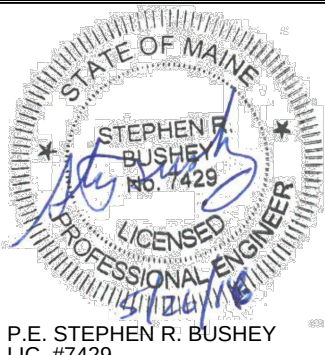
Prepared For: PROPRIETORS OF UNION WHARF	Project: UNION AND WIDGERY WHARF DEVELOPMENT	Revisions:
36 UNION WHARF PORTLAND, ME 04101	PORTLAND, MAINE	05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY
Architect: ARCHETYPE architects	Date: JAN 2015	Scale: 1" = 10'
48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056	PHASE 1 SITE LAYOUT & UTILITY PLAN	C-3.1

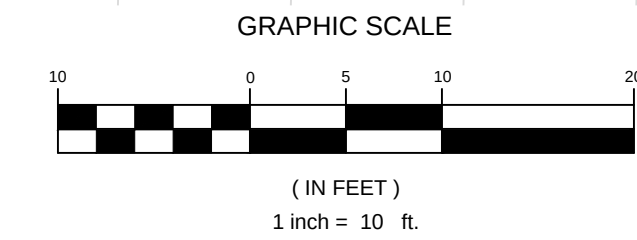
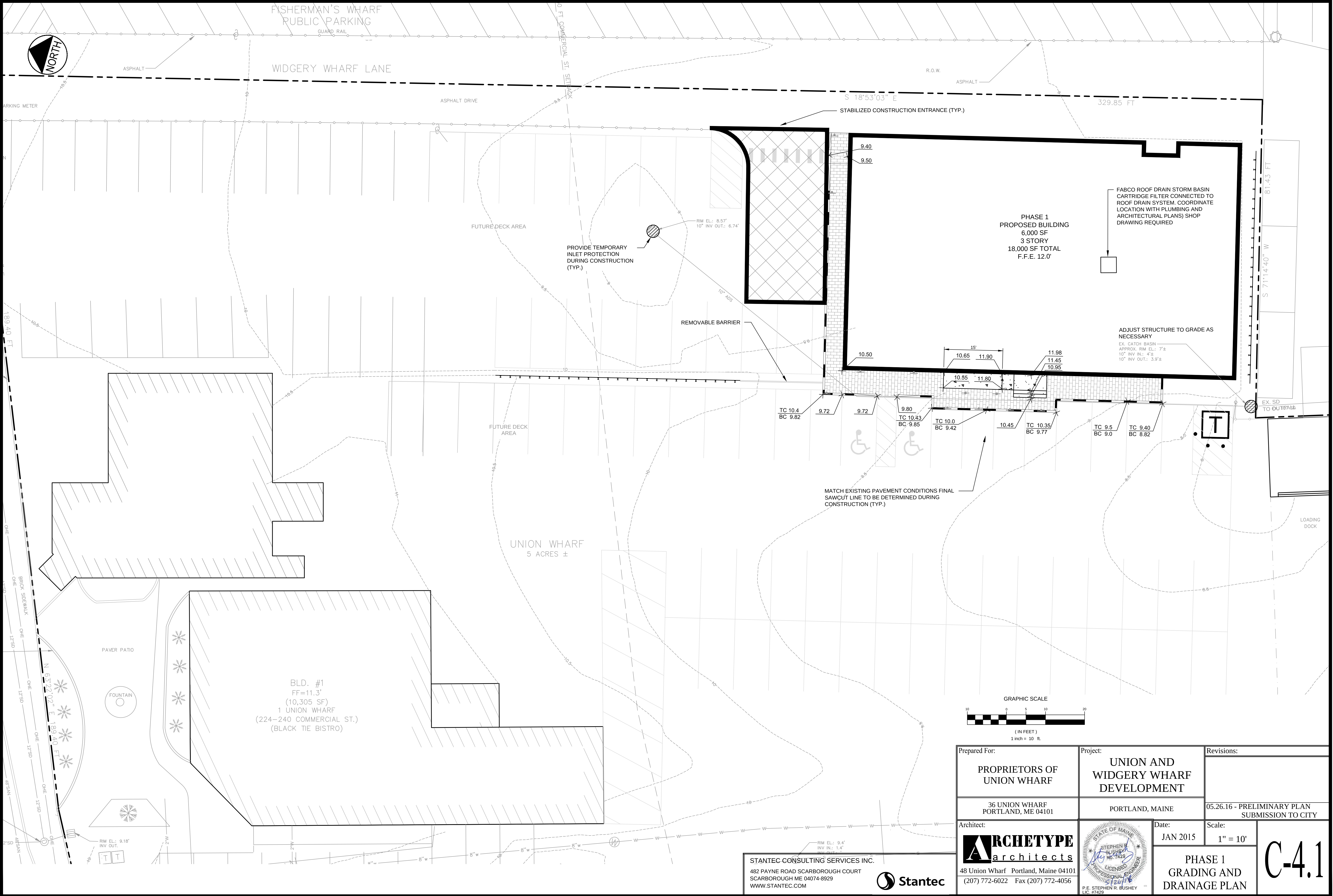
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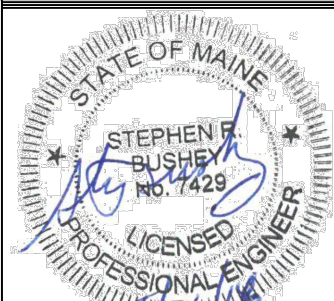


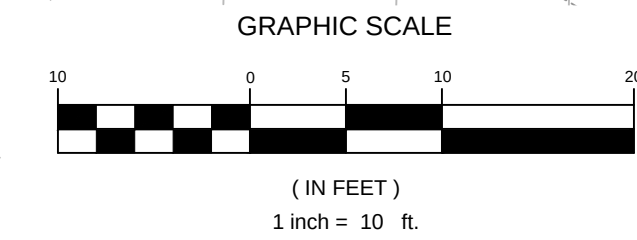
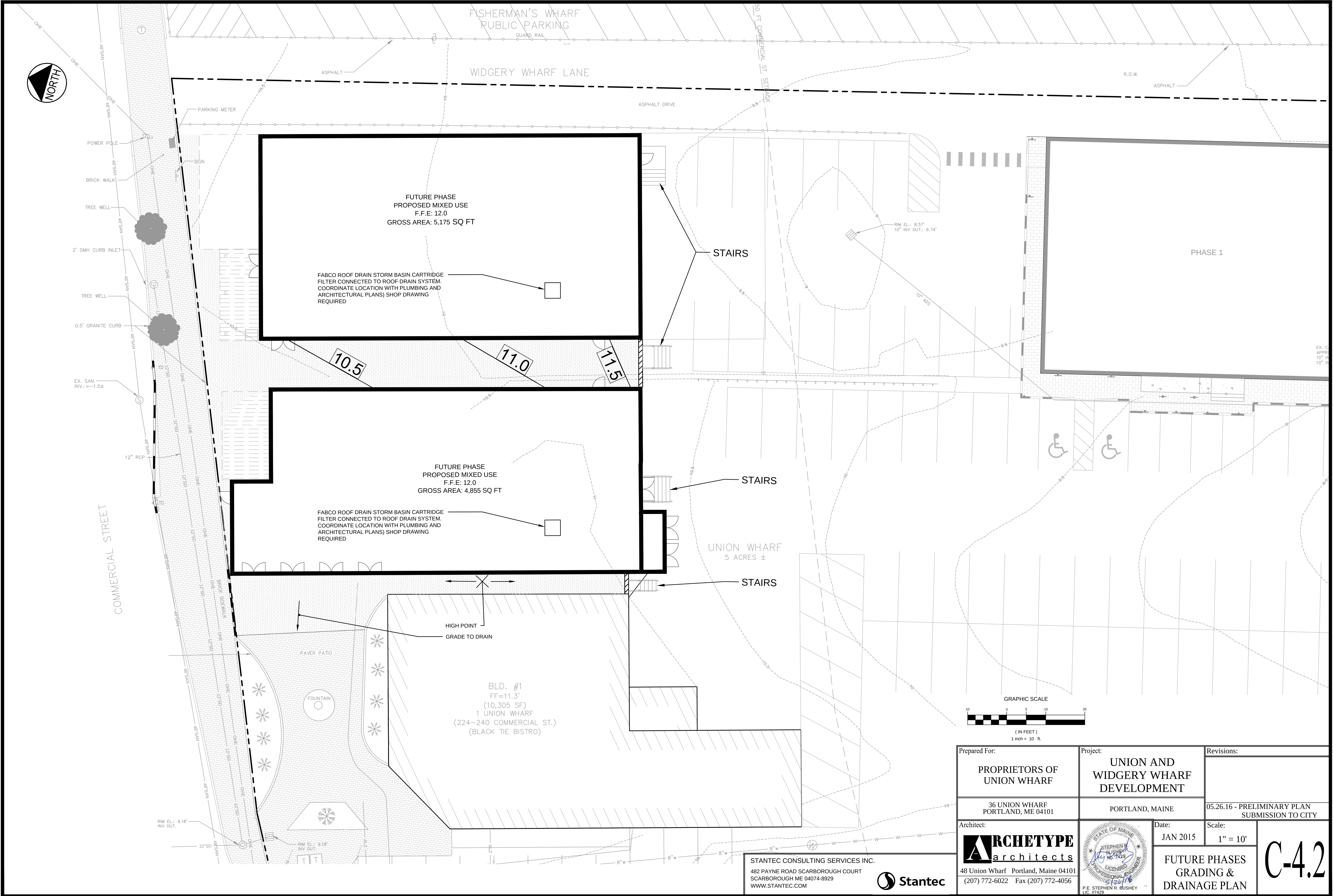
Prepared For:		Project:		Revisions:	
PROPRIETORS OF UNION WHARF		UNION AND WIDGERY WHARF DEVELOPMENT			
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect:		Date:		Scale:	C-3.2
 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056		JAN 2015		1" = 10'	
 P.E. STEPHEN R. BUSHEY LIC. 7429		FUTURE PHASES SITE LAYOUT & UTILITY PLAN			
STANTEC CONSULTING SERVICES INC. 482 PAYNE ROAD SCARBOROUGH COURT SCARBOROUGH ME 04074-8929 WWW.STANTEC.COM		Stantec			

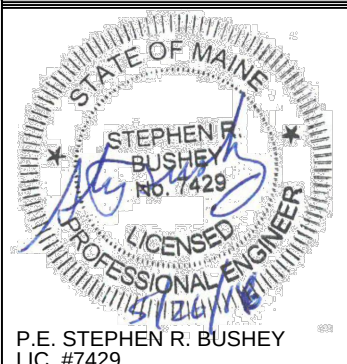


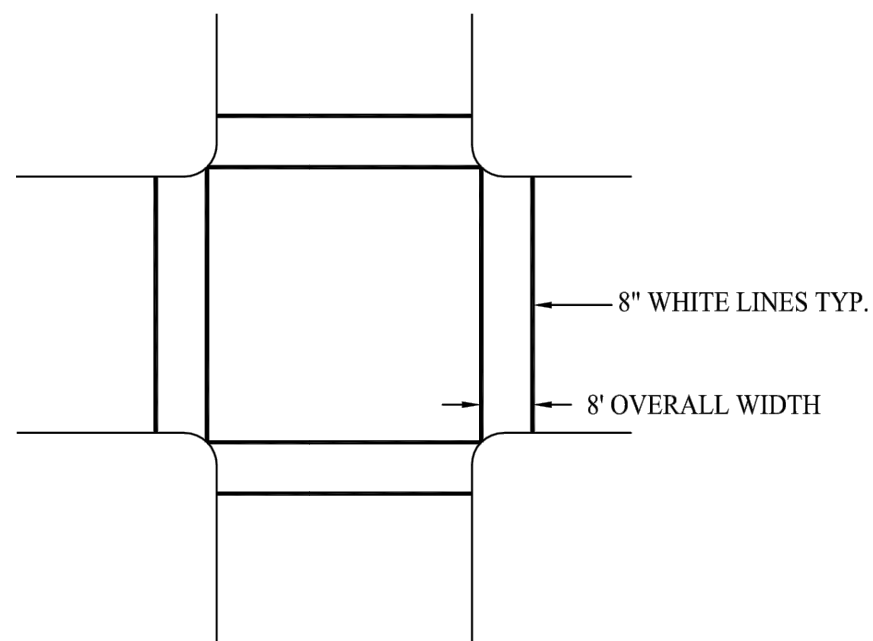
Prepared For:		Project:		Revisions:	
PROPRIETORS OF UNION WHARF		UNION AND WIDGERY WHARF DEVELOPMENT			
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect:		Date:		Scale:	C-4.0
 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056		JAN 2015		1" = 30'	
		OVERALL GRADING & DRAINAGE PLAN			



Prepared For:		Project:		Revisions:	
PROPRIETORS OF UNION WHARF		UNION AND WIDGERY WHARF DEVELOPMENT			
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect:		Date:		Scale:	C-4.1
 ARCHETYPE <u>architects</u>		JAN 2015		1" = 10'	
48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056		 PHASE 1 GRADING AND DRAINAGE PLAN			

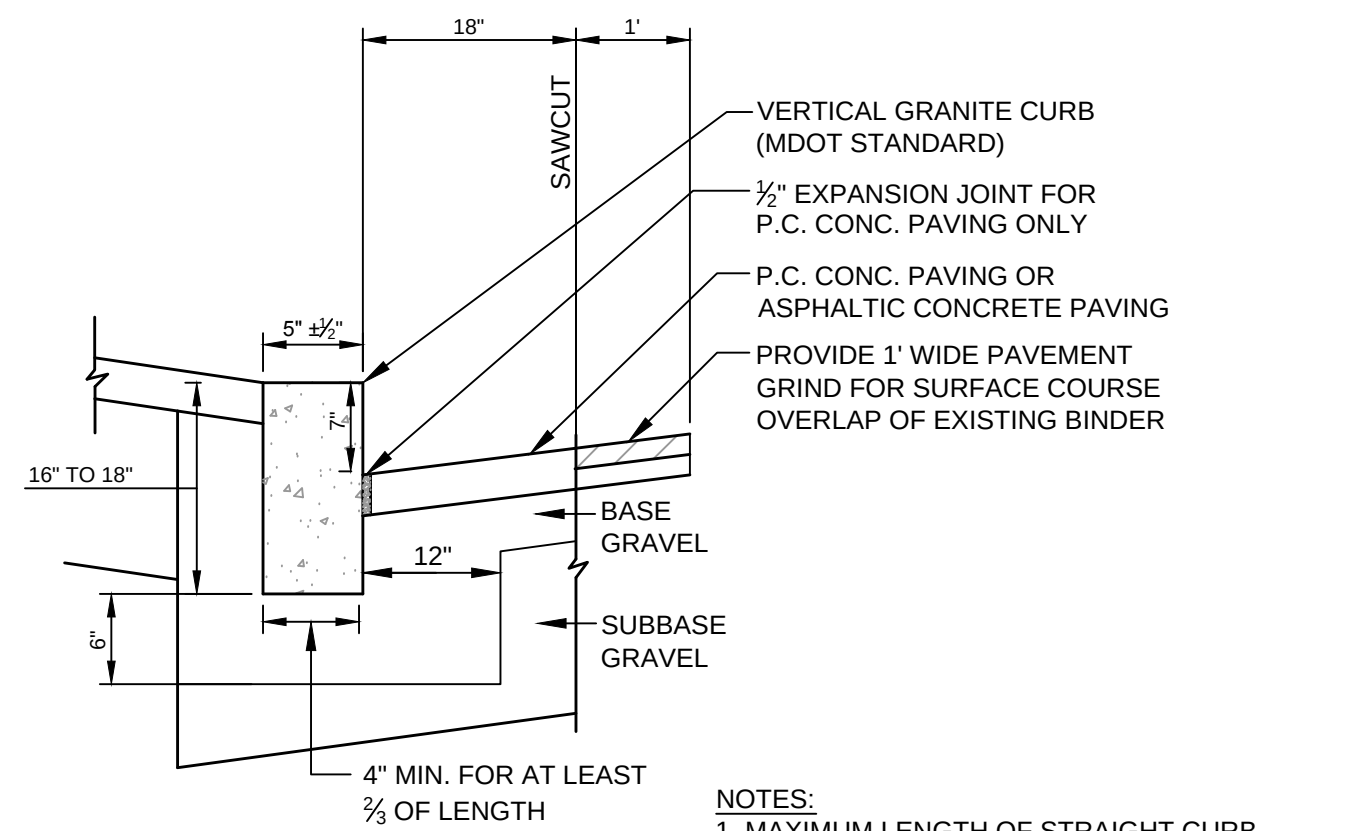


Prepared For:		Project:		Revisions:	
PROPRIETORS OF UNION WHARF		UNION AND WIDGERY WHARF DEVELOPMENT			
36 UNION WHARF PORTLAND, ME 04101		PORTLAND, MAINE		05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY	
Architect:			Date:	Scale:	C-4.2
 ARCHETYPE <u>architects</u> 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056			JAN 15	1" = 10'	
			FUTURE PHASES GRADING & DRAINAGE PLAN		



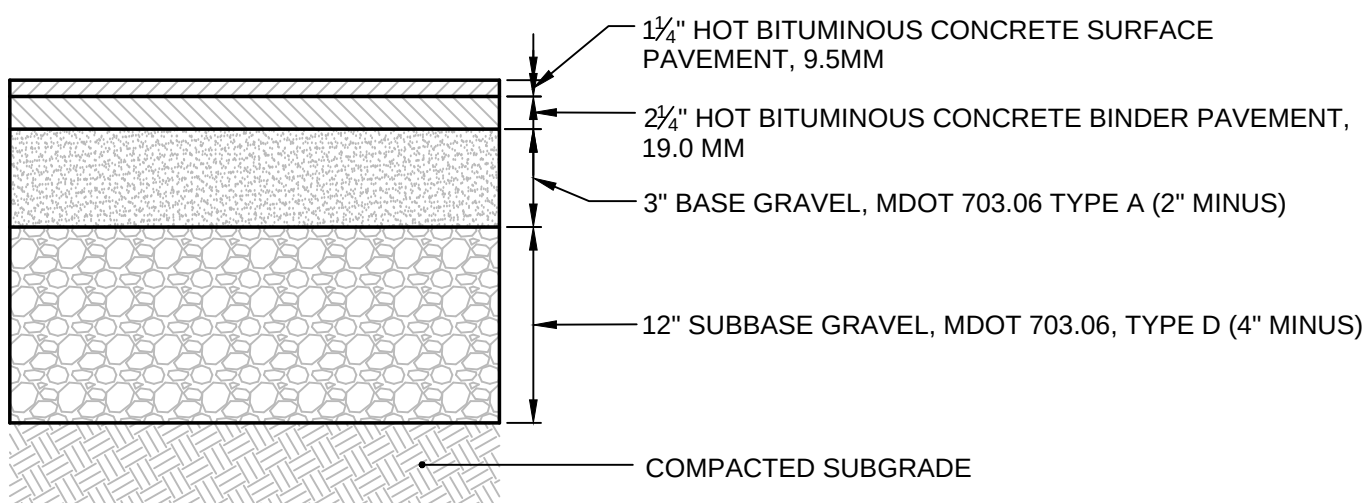
STANDARD CROSSWALK MARKINGS
POSTED SPEED ≤ 35 mph

A TYPICAL CROSSWALK MARKINGS
N.T.S.



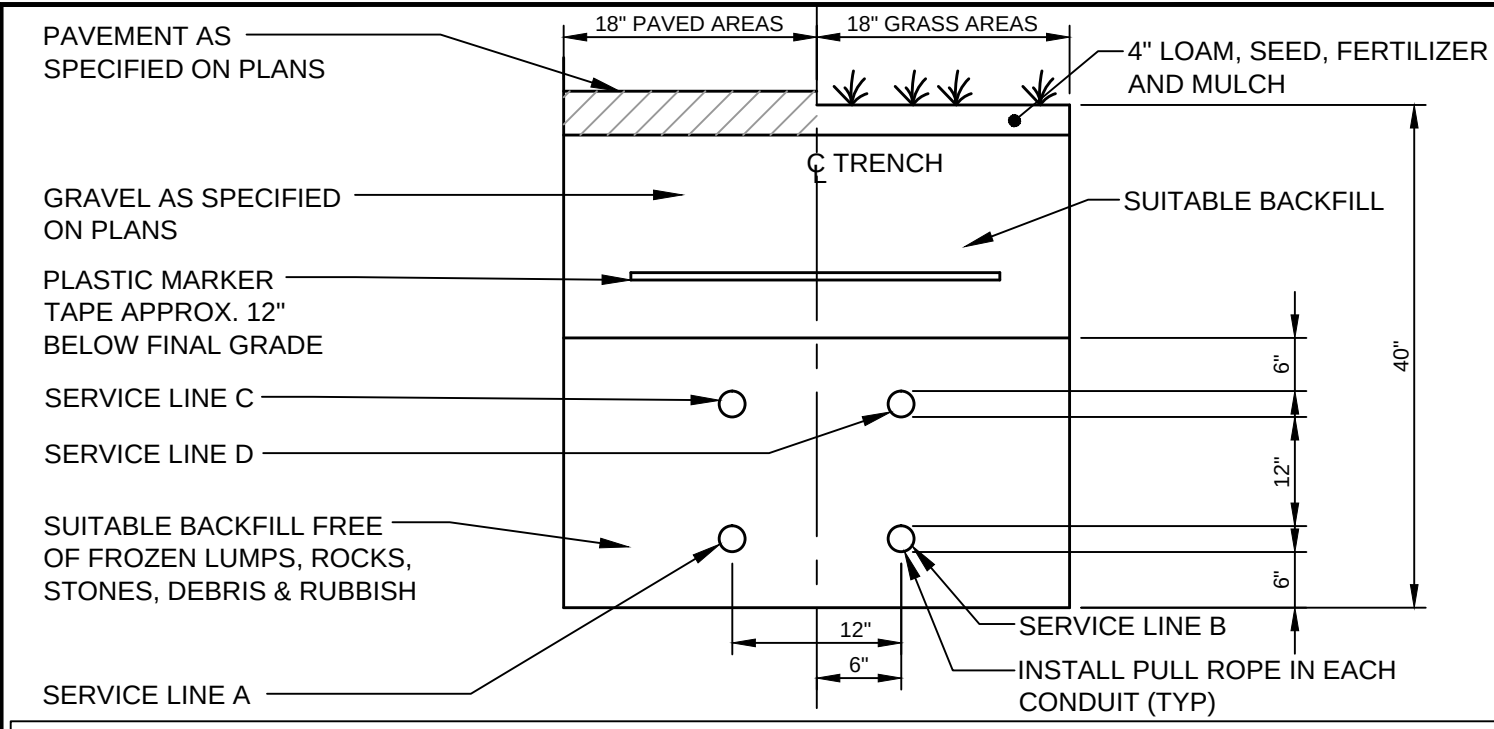
- NOTES:
1. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
 2. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
 3. CIRCULAR CURB REQUIRED FOR RADIUS LESS THAN 50'
 4. GROUT OR CAULK ALL CURB JOINTS OVER 1/4" IN WIDTH. INSTALL STRIP OF FILTER FABRIC BEHIND EACH CURB JOINT.

B VERTICAL GRANITE CURB
N.T.S.



- NOTES:
1. APPLY TACK COAT BETWEEN BINDER AND SURFACE COURSES.
 2. ALL MATERIALS SHALL CONFORM TO MDOT SPECIFICATIONS - LATEST REVISION. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

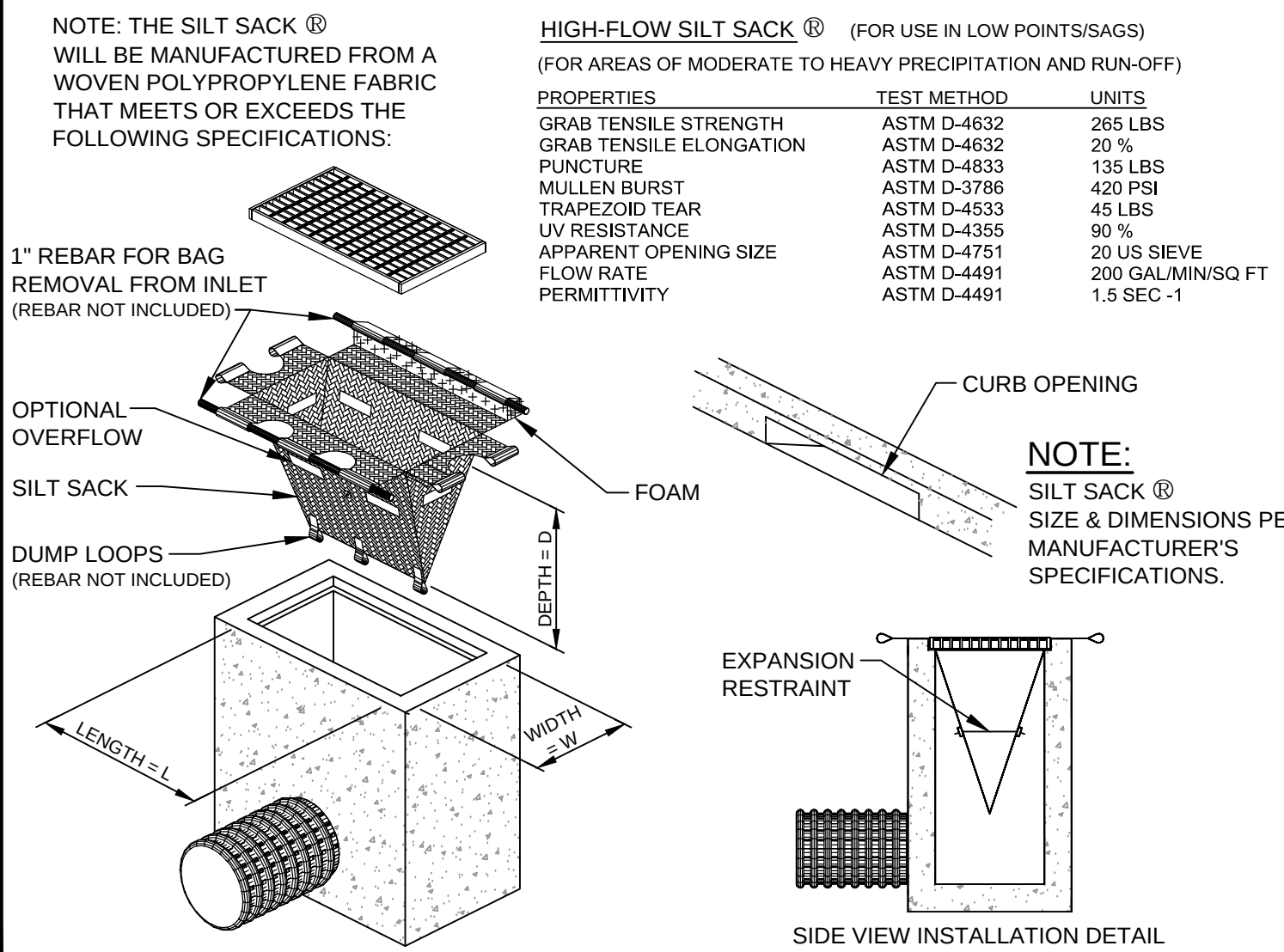
C BITUMINOUS CONCRETE PAVEMENT SECTION
N.T.S.



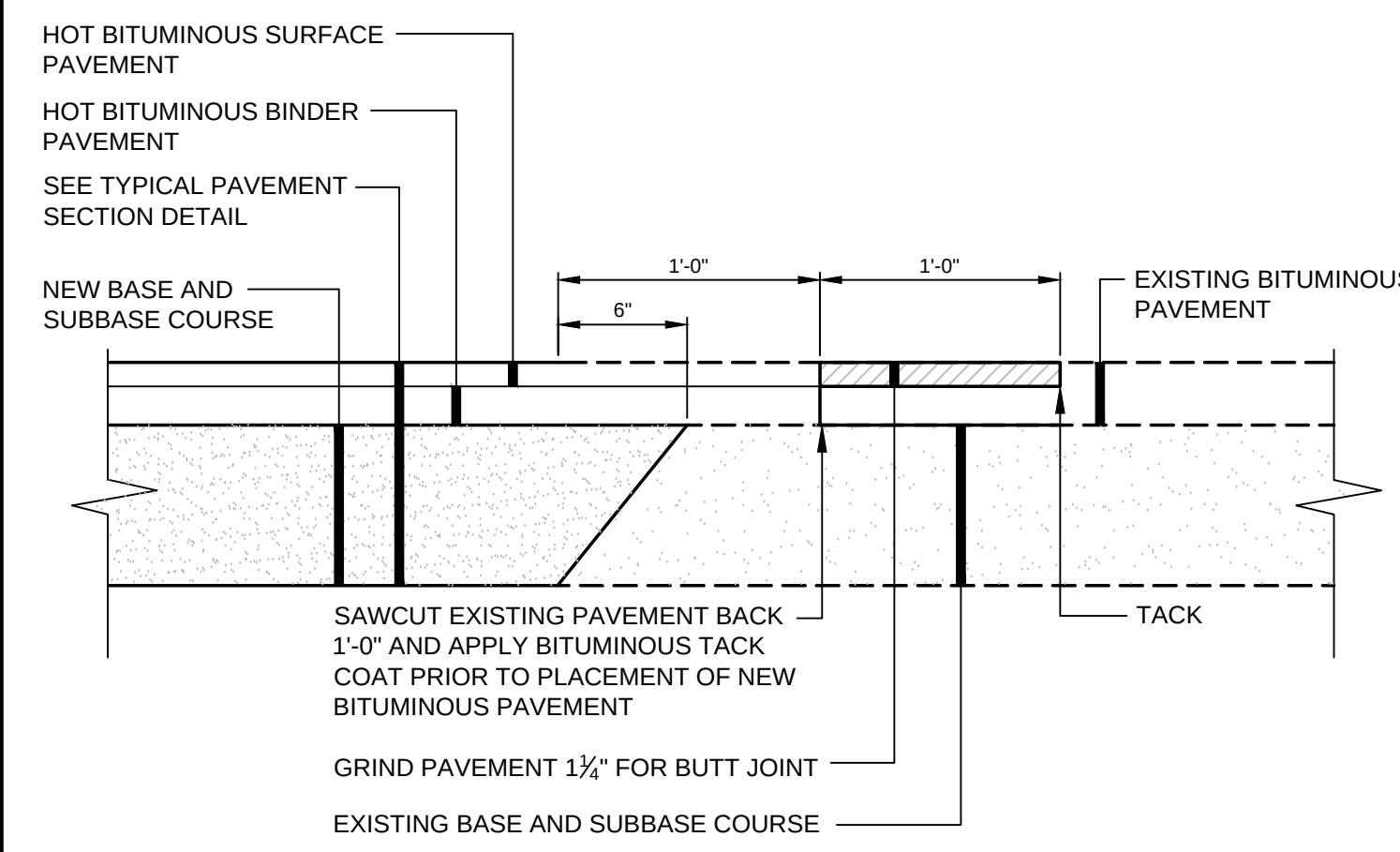
CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AREAS	PAVED AREAS	UTILITY
A	2-5"	SCHEDULE 40 PVC ELECTRICAL GRADE	RIGID GALVANIZED STEEL, ASTM A120	POWER
B	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	TELEPHONE
C	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	COMMUNICATION
D	2-4"	SCHEDULE 40 PVC	RIGID GALVANIZED STEEL, ASTM A120	SPARES

NOTE: 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. COORDINATE WITH ELECTRICAL SITE PLANS BY BARTLETT DESIGN.

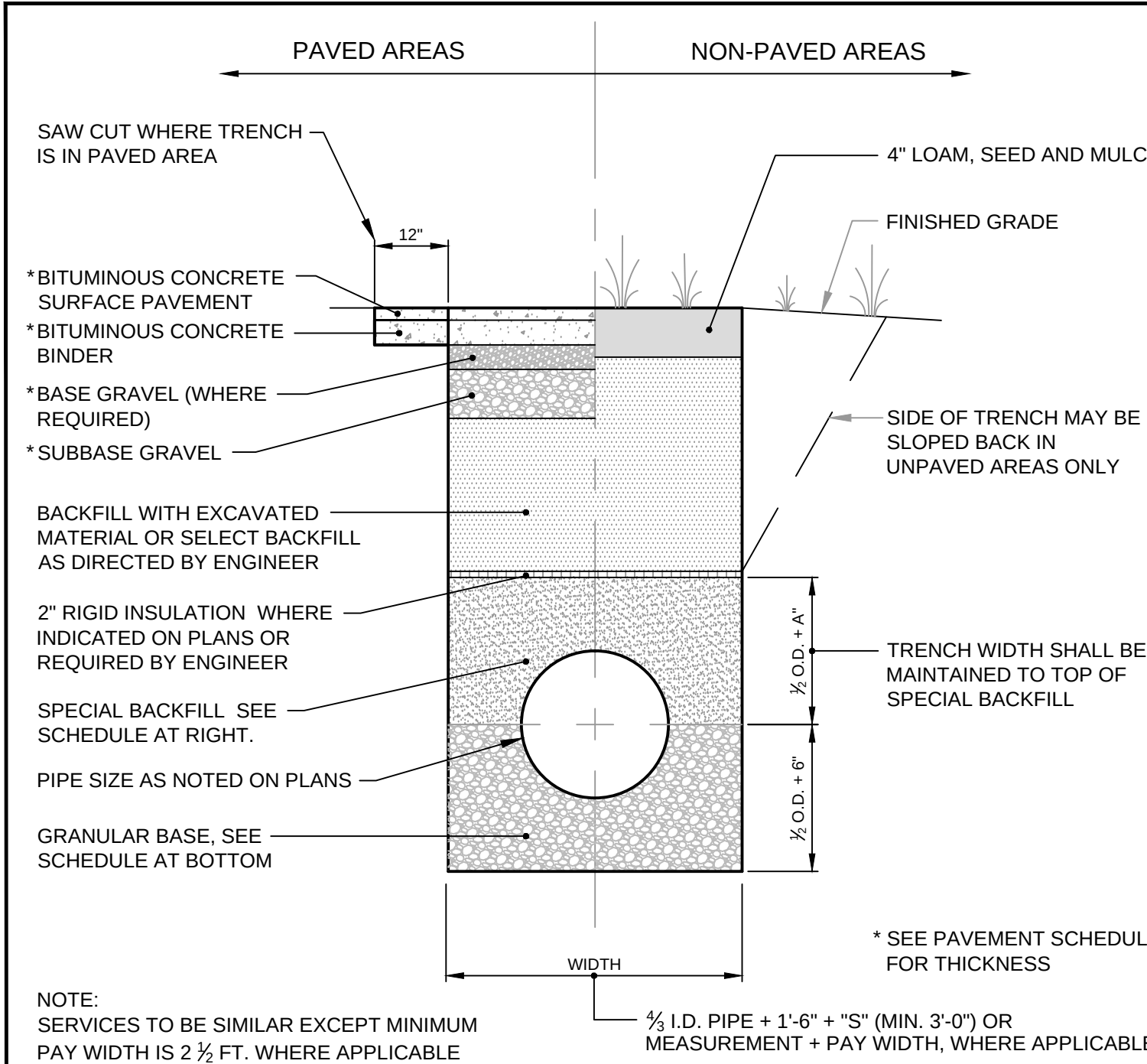
D UTILITY TRENCH - PRIMARY ELECTRIC,
TELEPHONE & COMMUNICATIONS
N.T.S.



E SILT SACK® DETAIL & SPECIFICATIONS
N.T.S.



F PAVEMENT SAWCUT DETAIL
N.T.S.

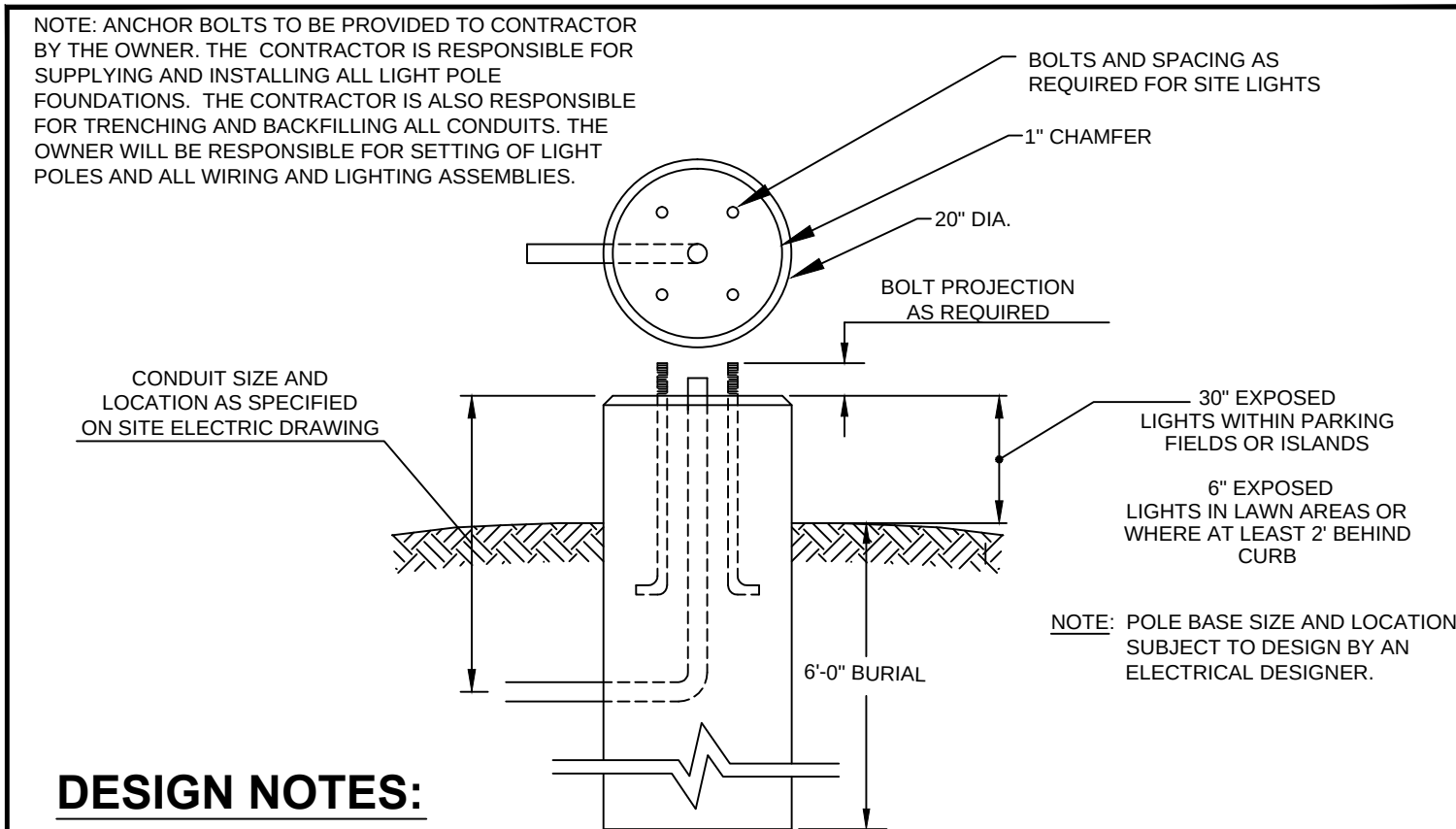


NOTE: SERVICES TO BE SIMILAR EXCEPT MINIMUM PAY WIDTH IS 2 1/2 FT. WHERE APPLICABLE

SCHEDULE OF BASE BACKFILL				
TYPE OF PIPE	BEDDING MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL COVER "A" (IN)	SELECT BACKFILL
CONCRETE	GRANULAR AASHTO M145 49-A-3 OR BETTER	GRANULAR AASHTO M145 49-A-3 OR BETTER	12	GRANULAR AASHTO M145 49-A-3 OR BETTER
PVC	3/4" CRUSHED STONE	GRANULAR AASHTO M145 49-A-3 OR BETTER	6	GRANULAR AASHTO M145 49-A-3 OR BETTER
CMP	3/4" CRUSHED STONE	GRANULAR AASHTO M145 49-A-3 OR BETTER	6	GRANULAR AASHTO M145 49-A-3 OR BETTER
D.I.	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145 49-A-3 OR BETTER	6	GRANULAR AASHTO M145 49-A-3 OR BETTER

NOTE: 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.

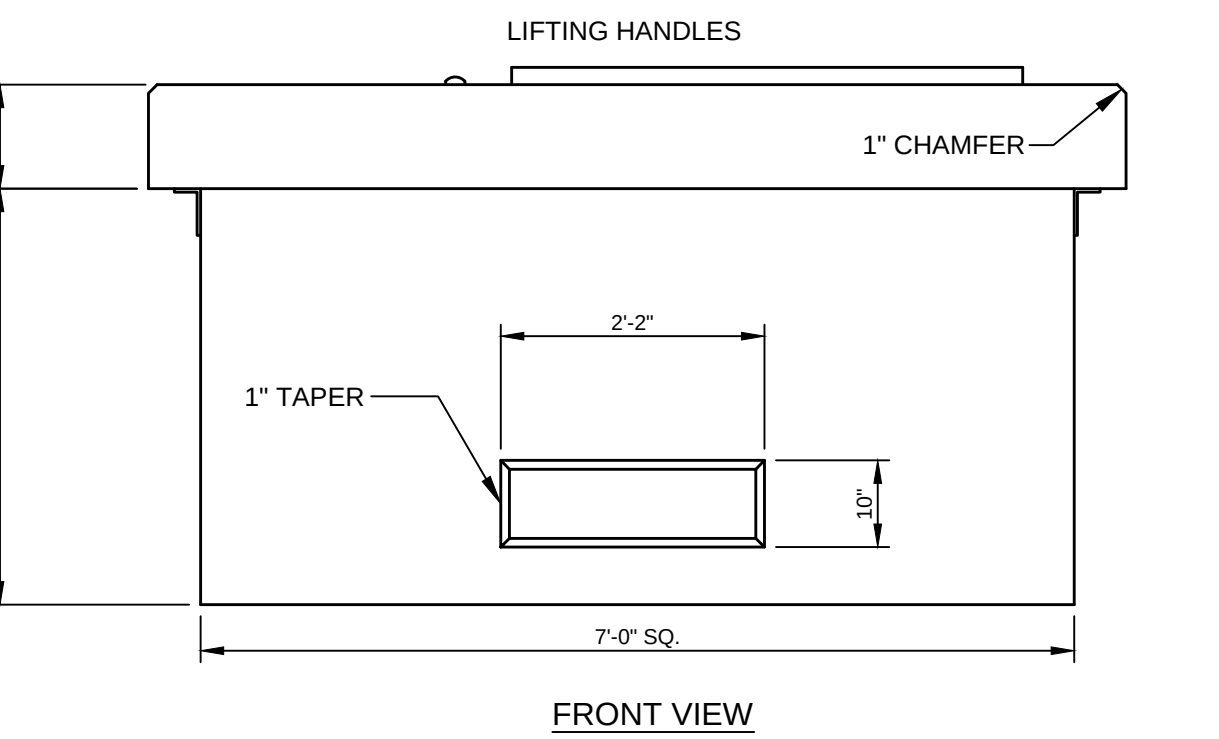
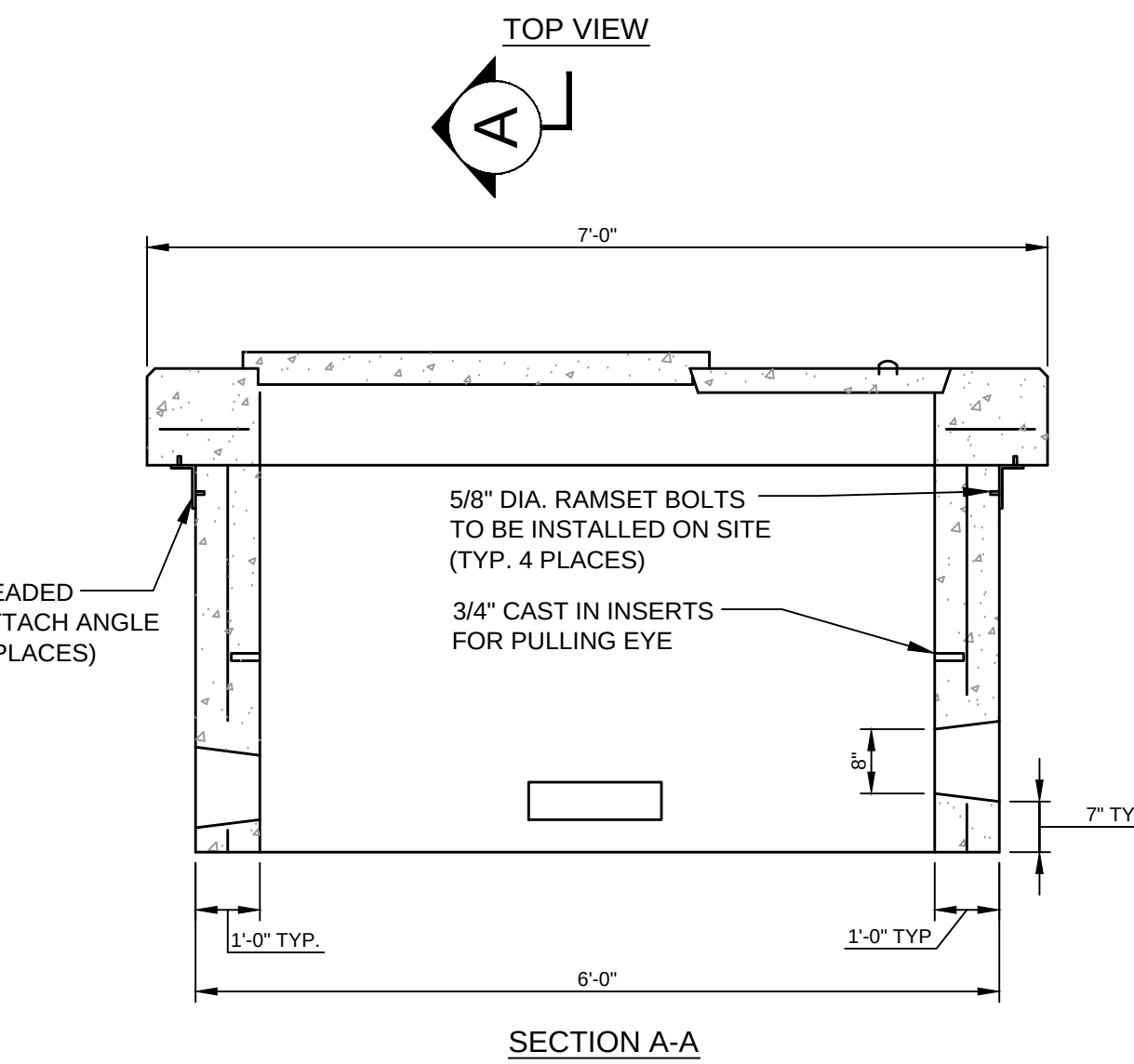
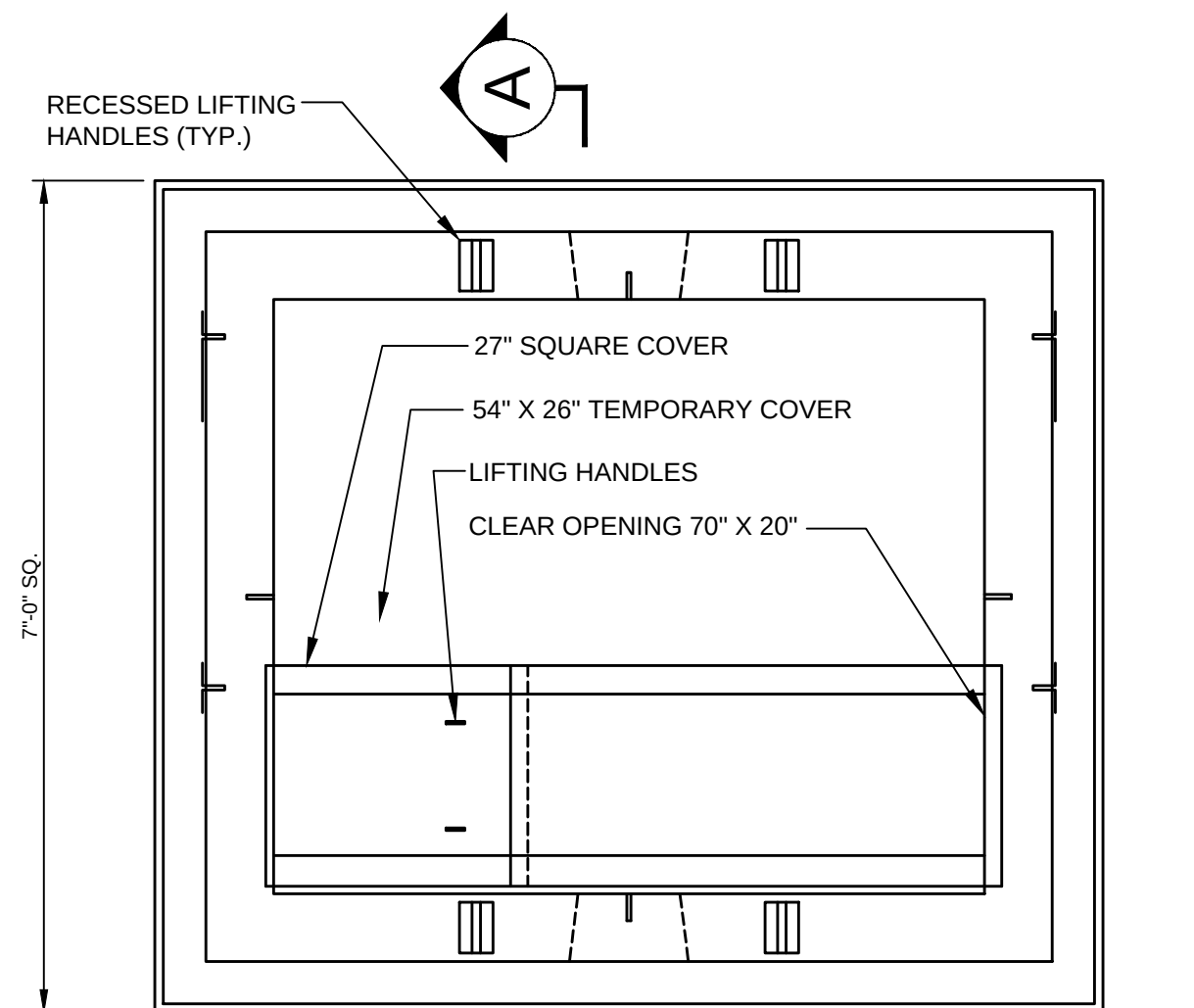
G TYPICAL TRENCH DETAIL
N.T.S.



DESIGN NOTES:

1. CONCRETE 4,000 PSI AT 28 DAYS
2. REINFORCING #4 BARS AT 6" O.C. EACH WAY
3. ANCHOR BOLTS AND GROUNDING AS SPECIFIED AND REQUIRED BY SUPPLIER.
4. EXPOSED PORTION OF CONCRETE FOUNDATION TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR.
5. FOR POLE HEIGHTS EQUAL TO OR LESS THAN 26' TALL.

H 20" ROUND PRECAST CONCRETE
LIGHT POLE FOUNDATION
N.T.S.



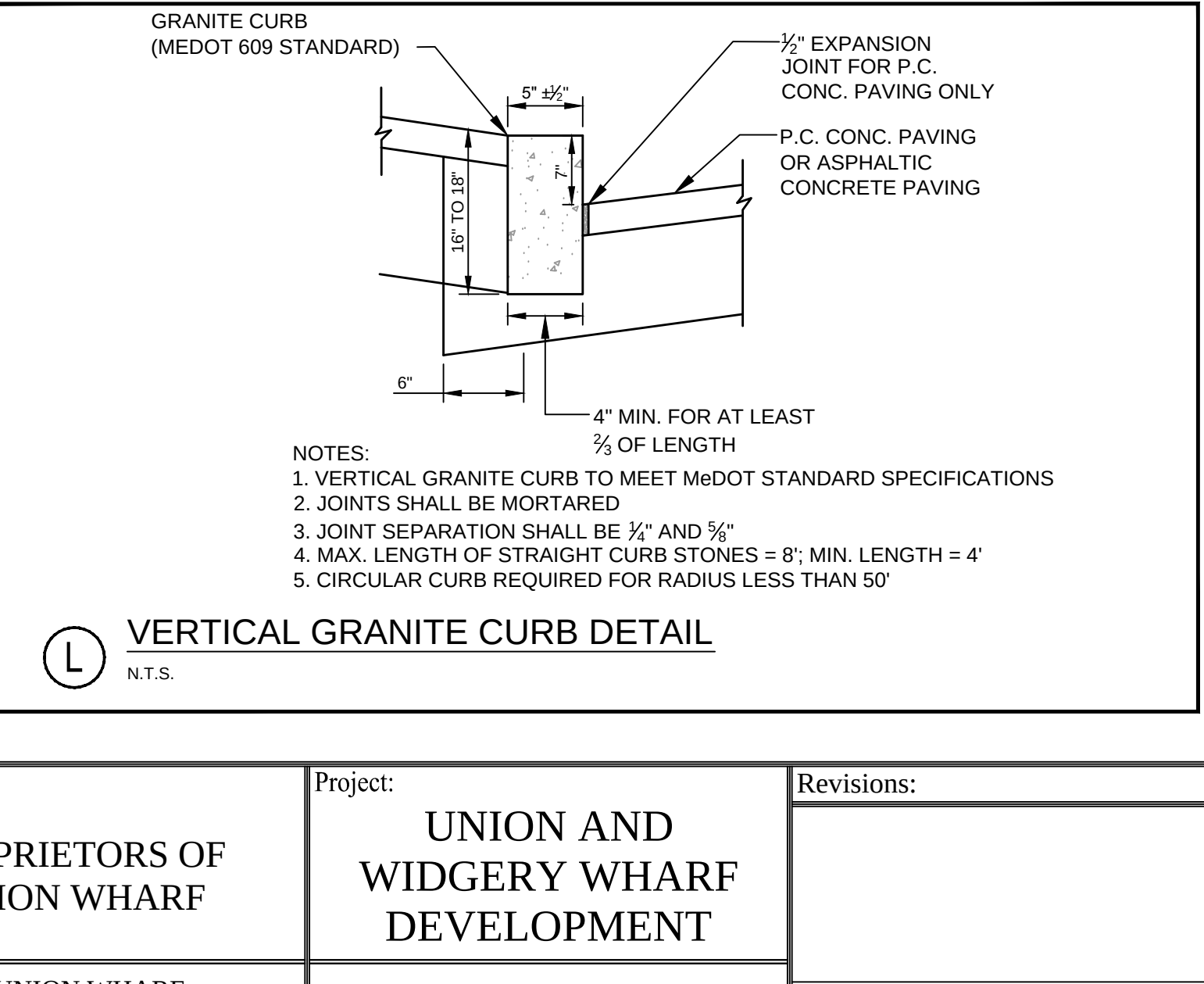
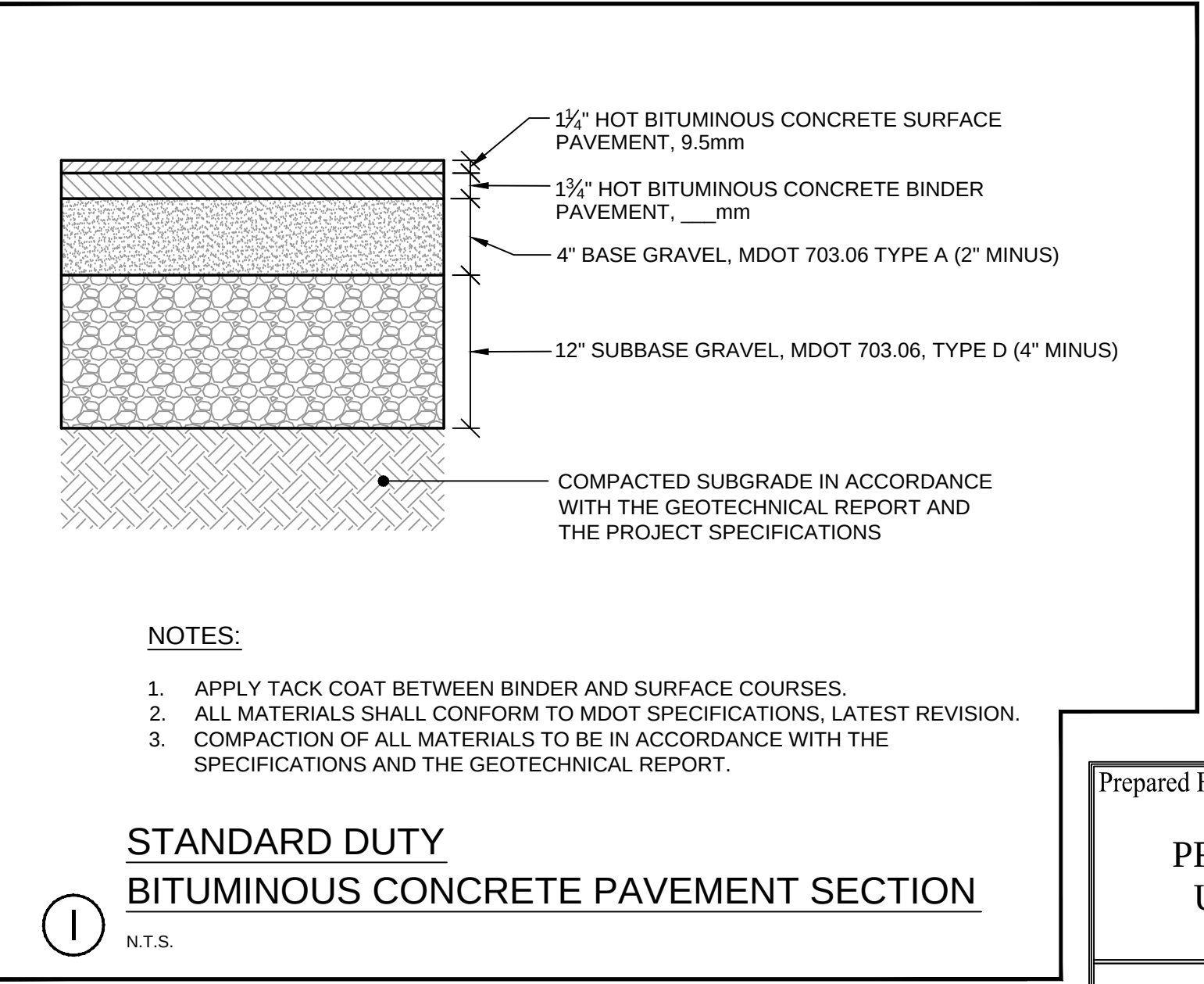
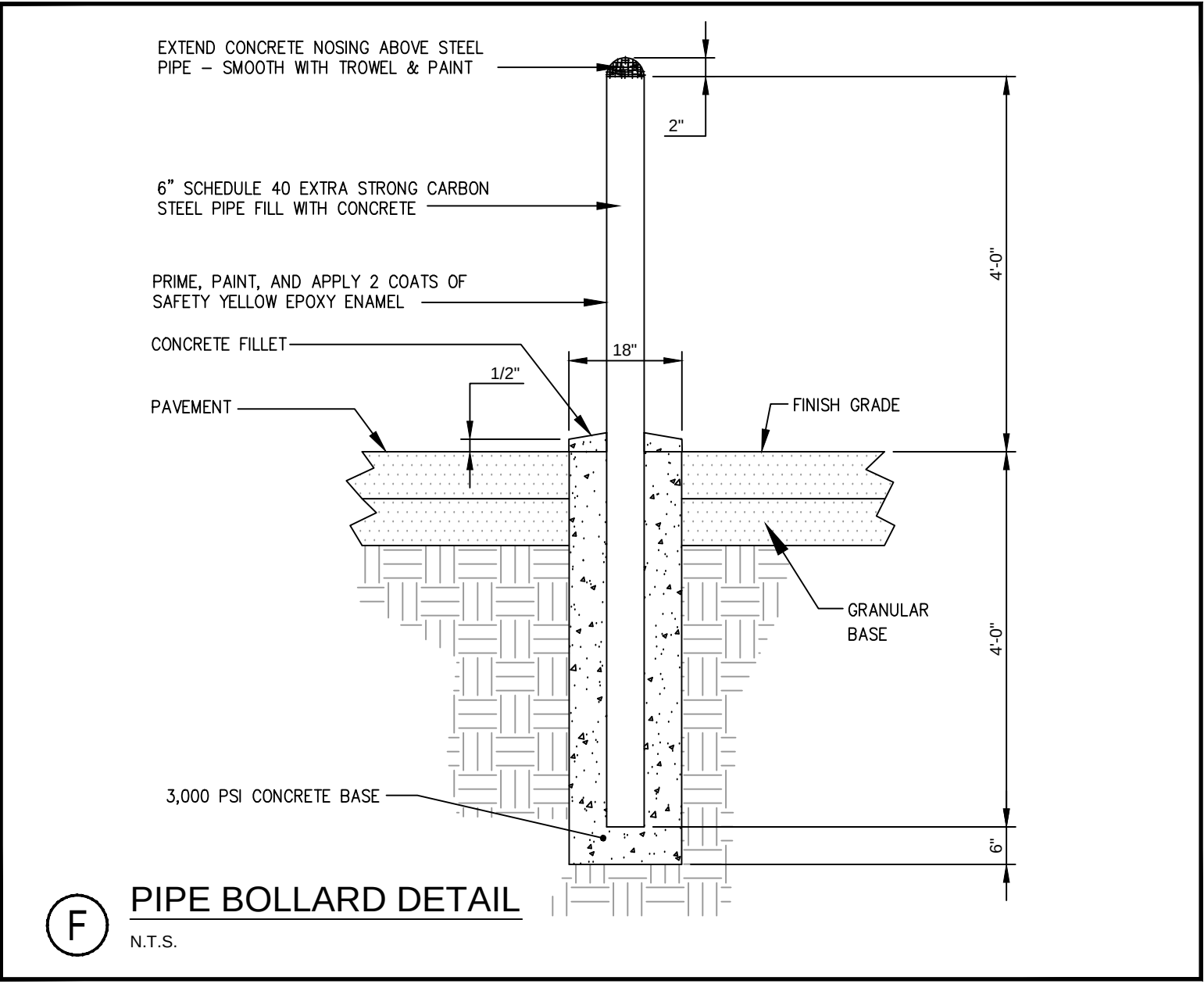
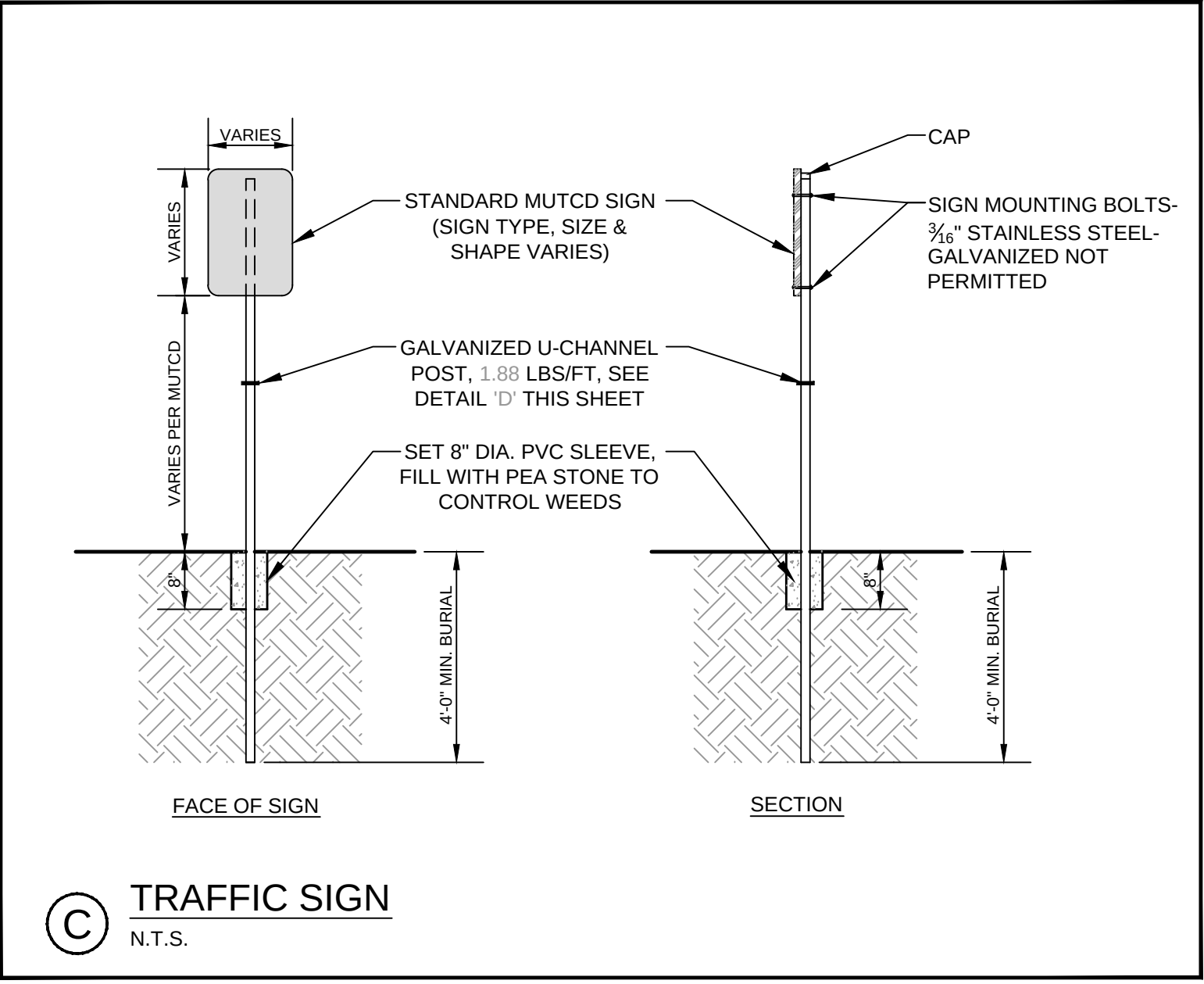
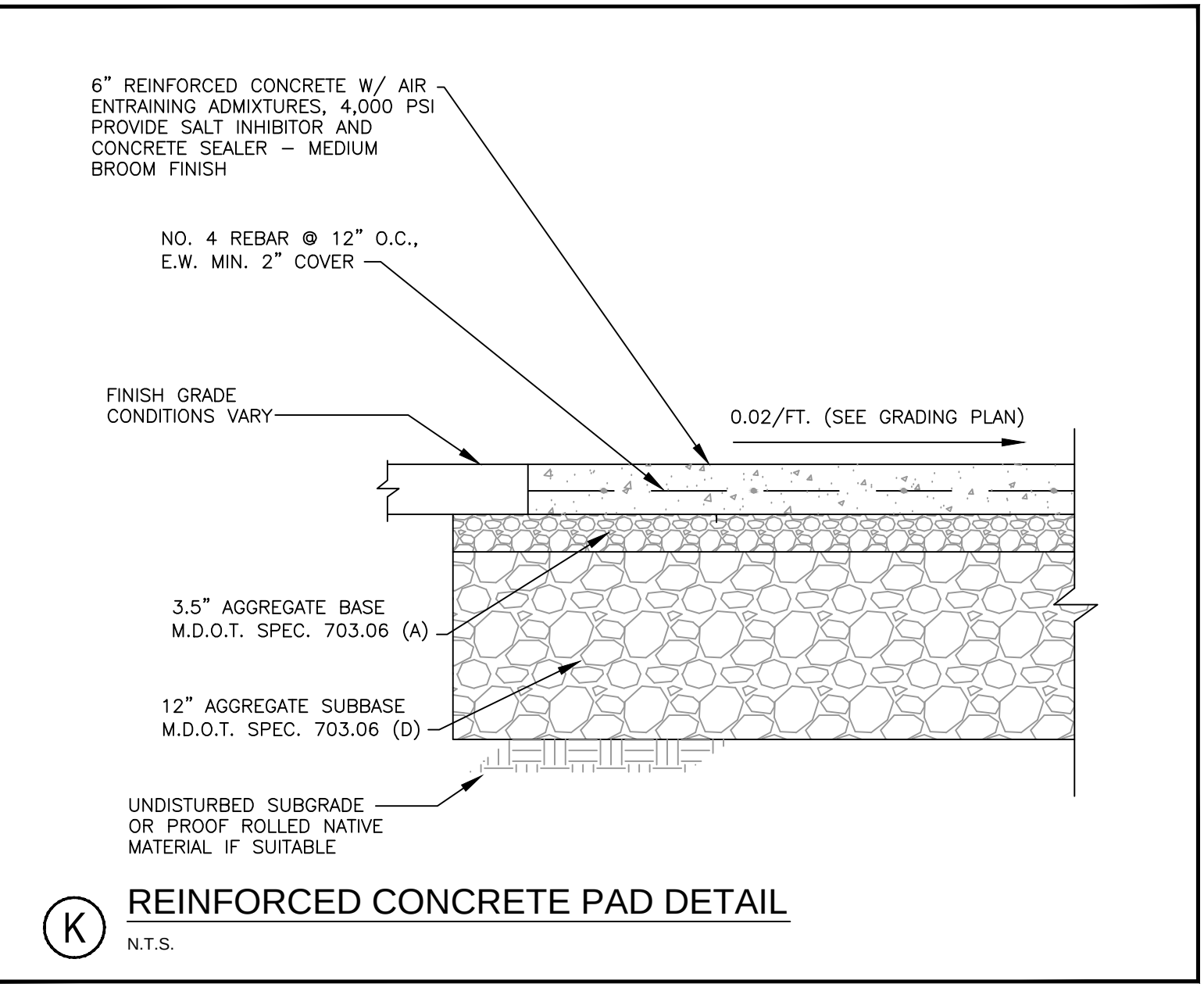
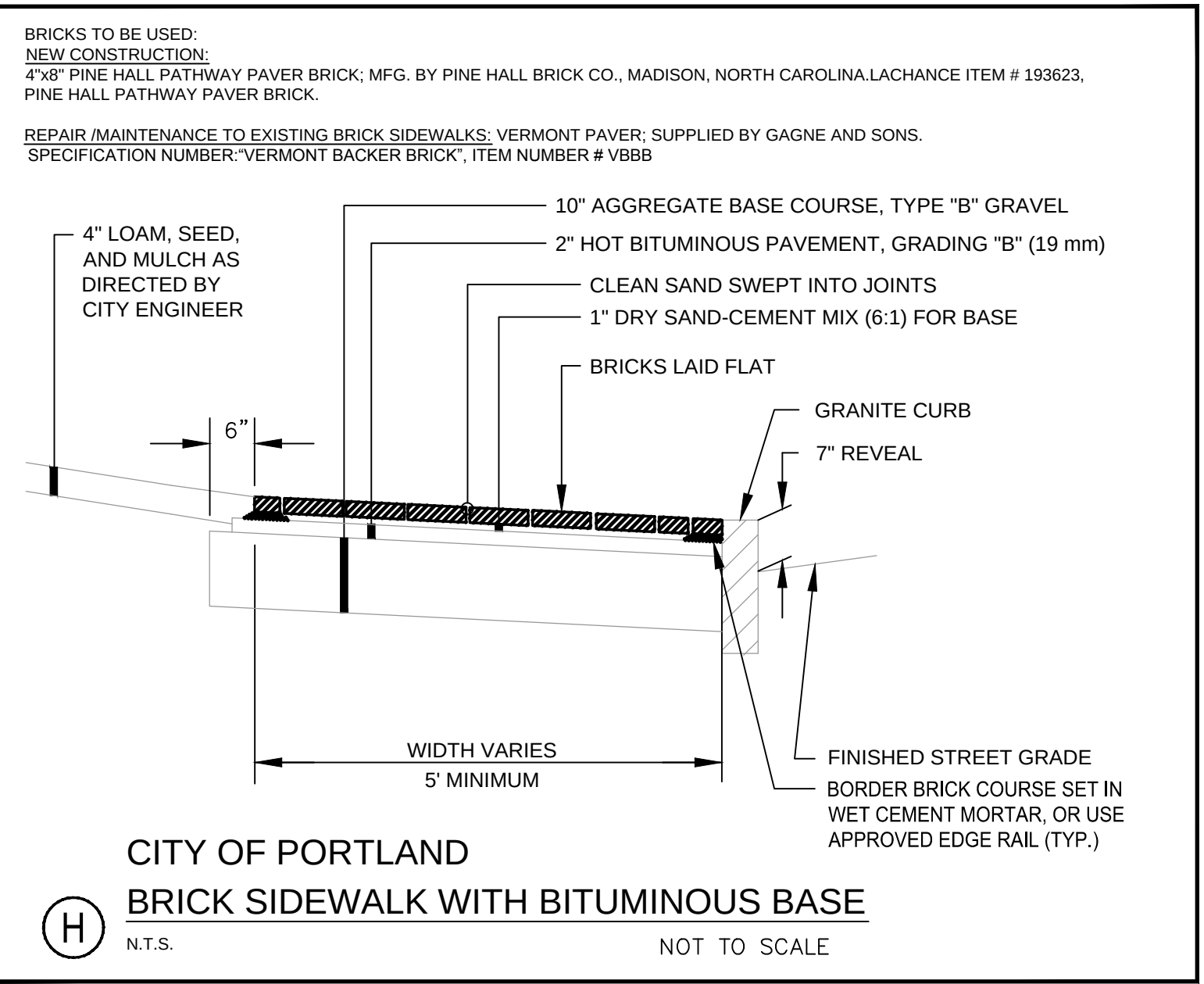
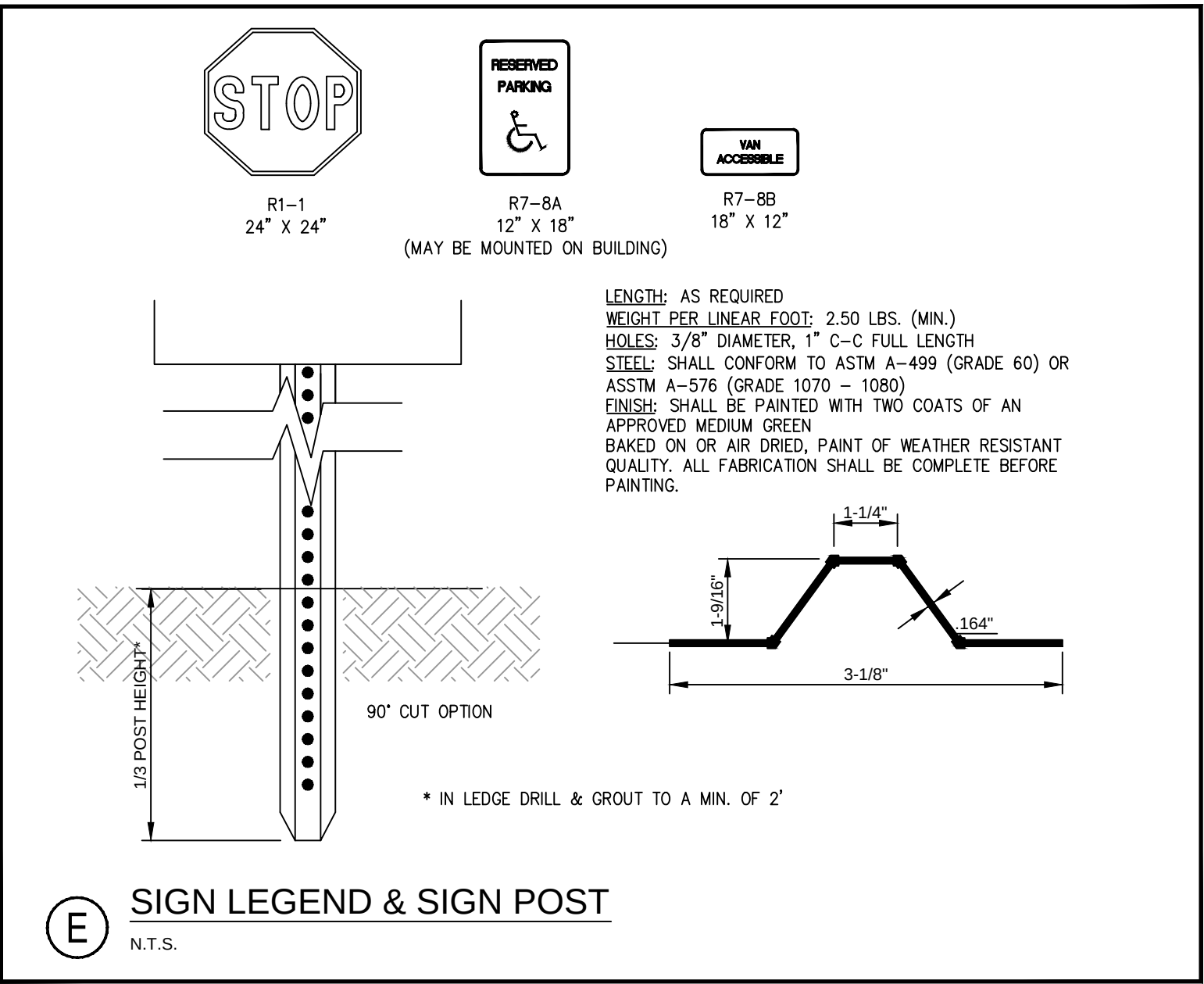
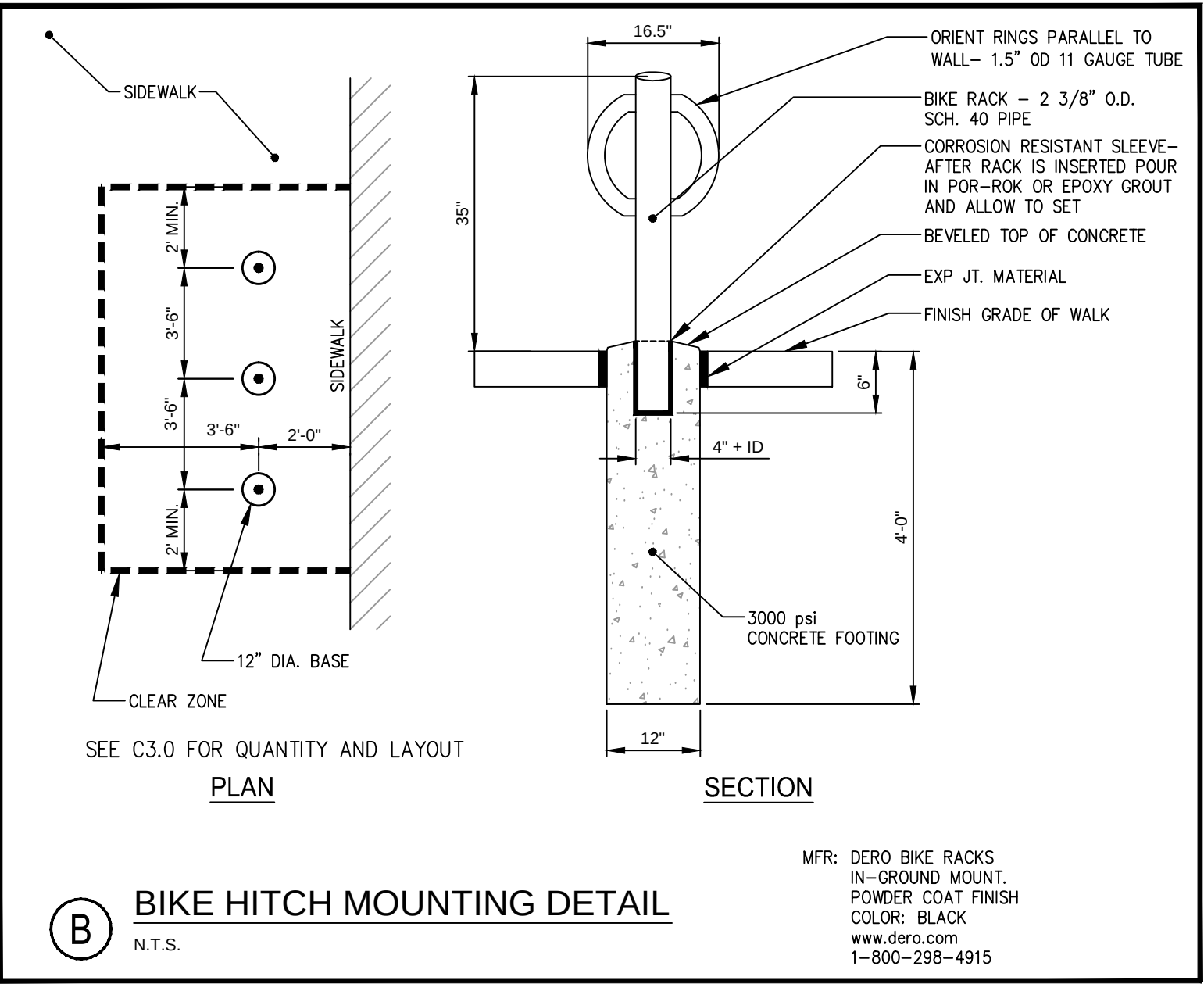
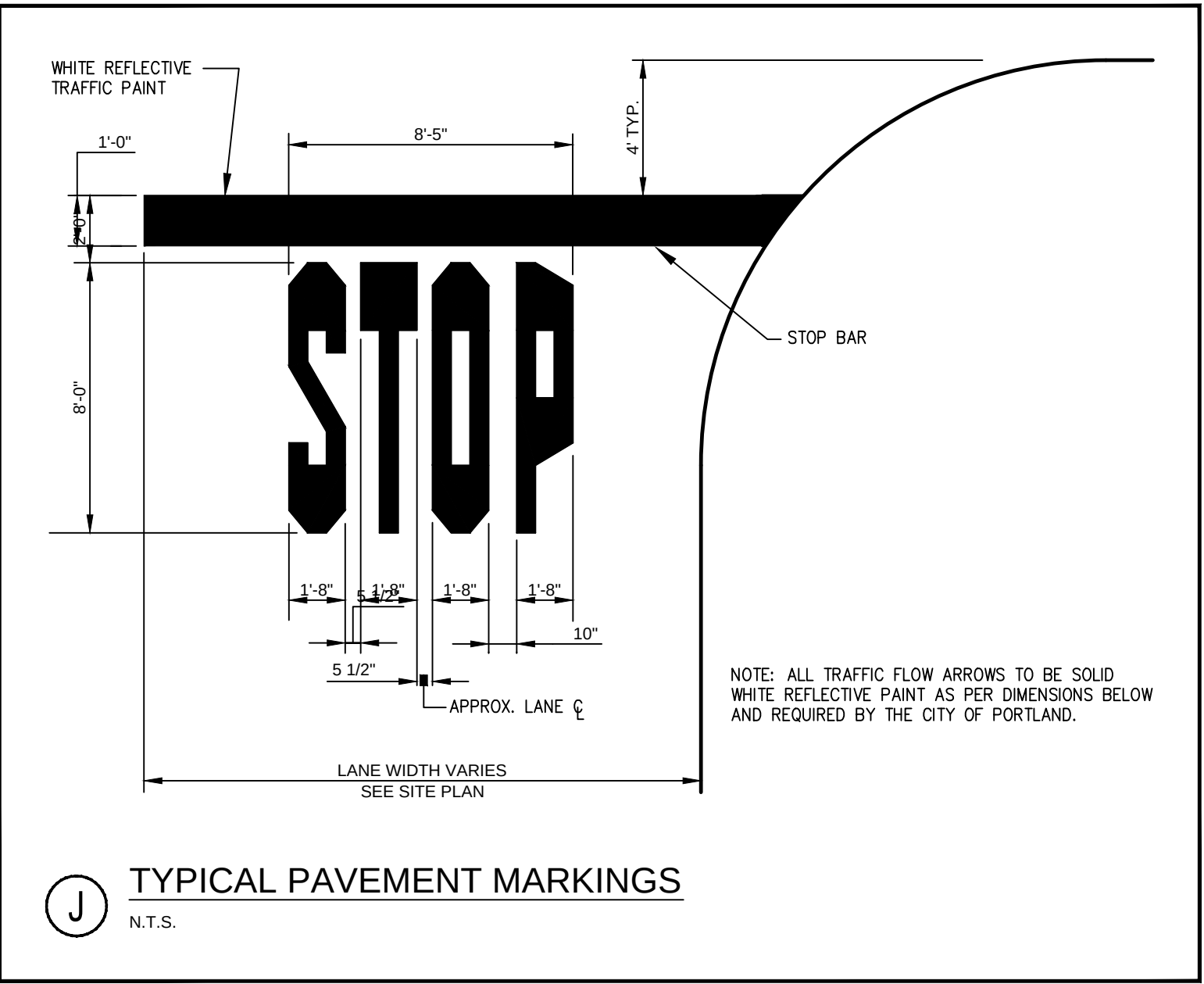
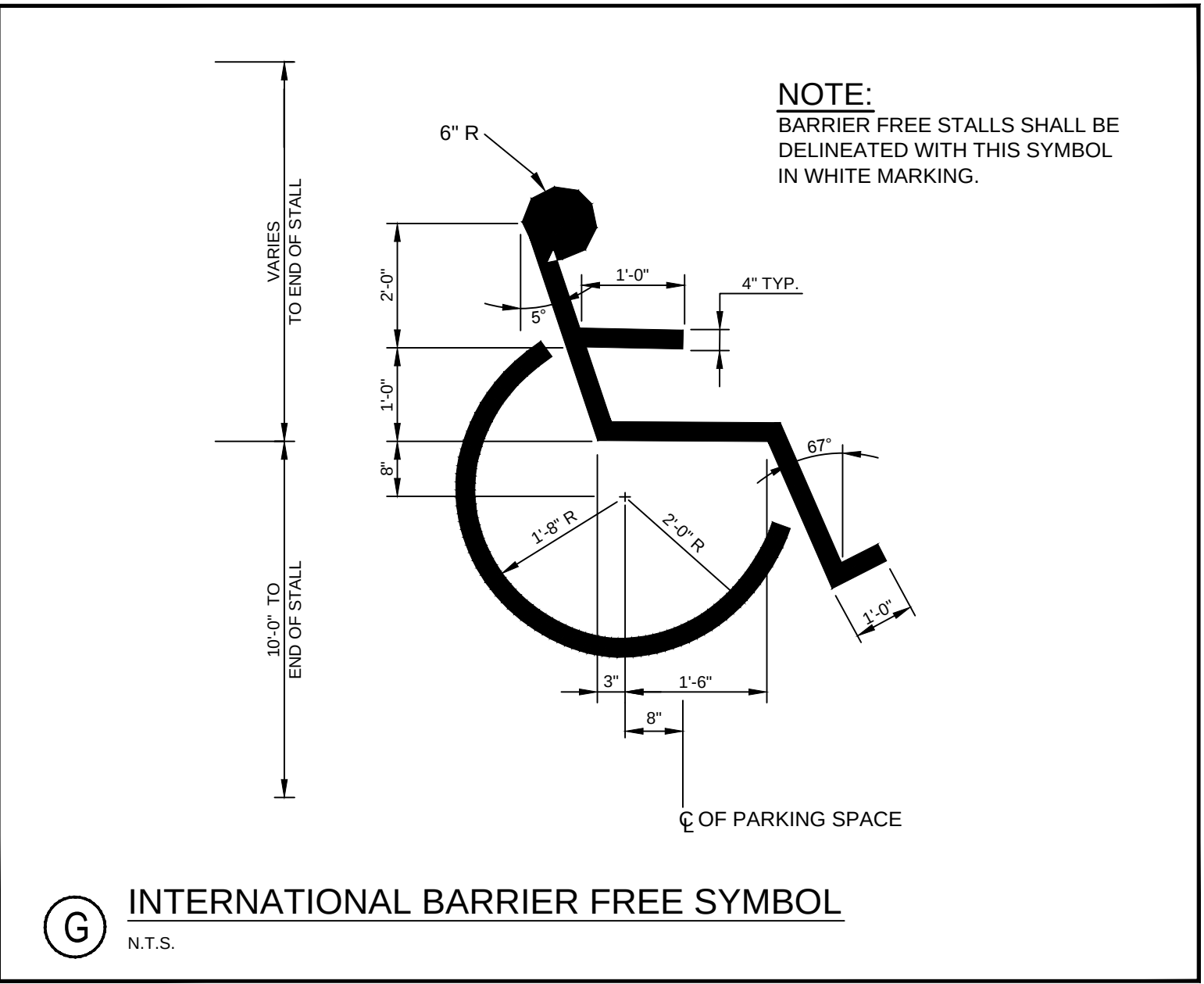
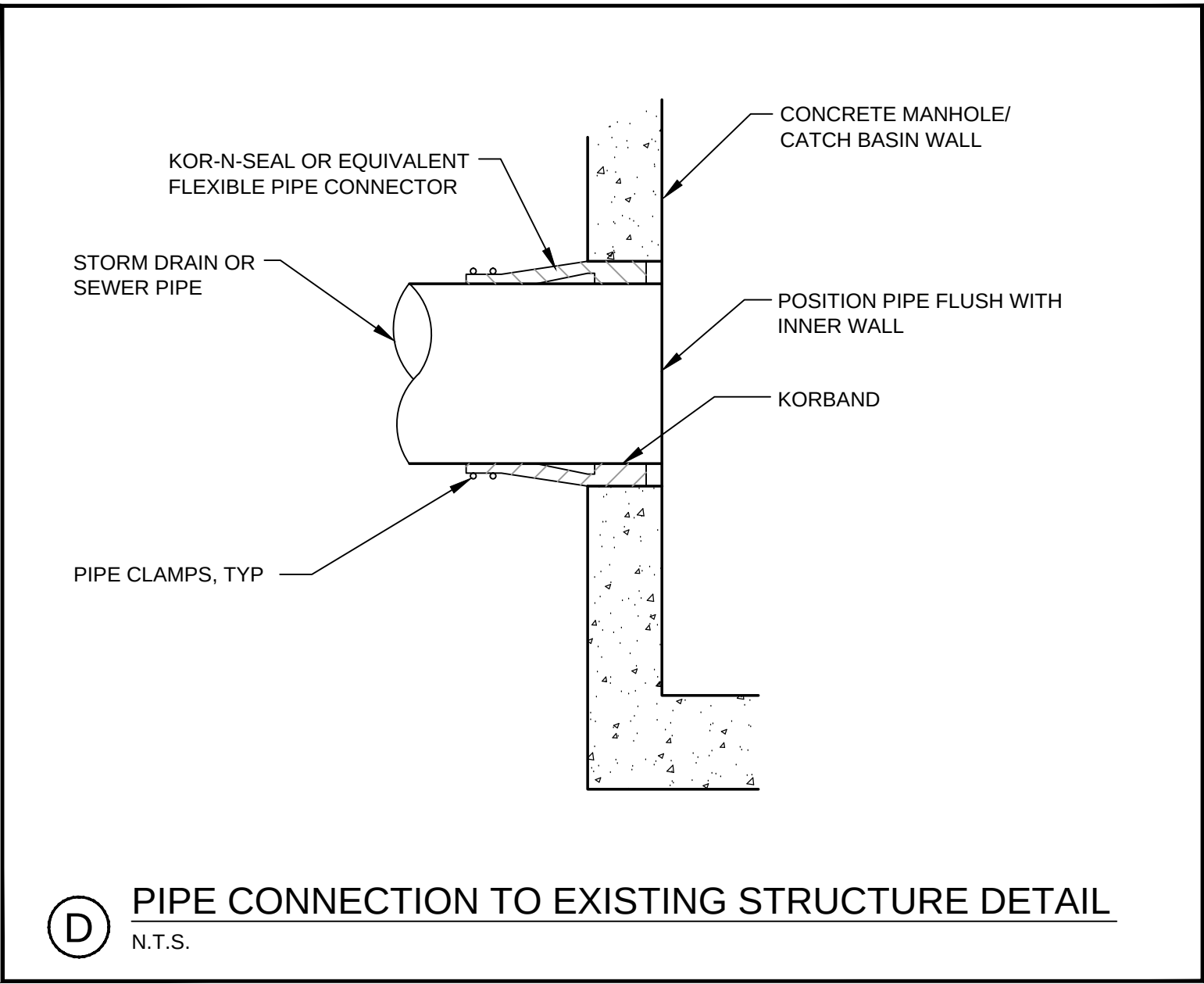
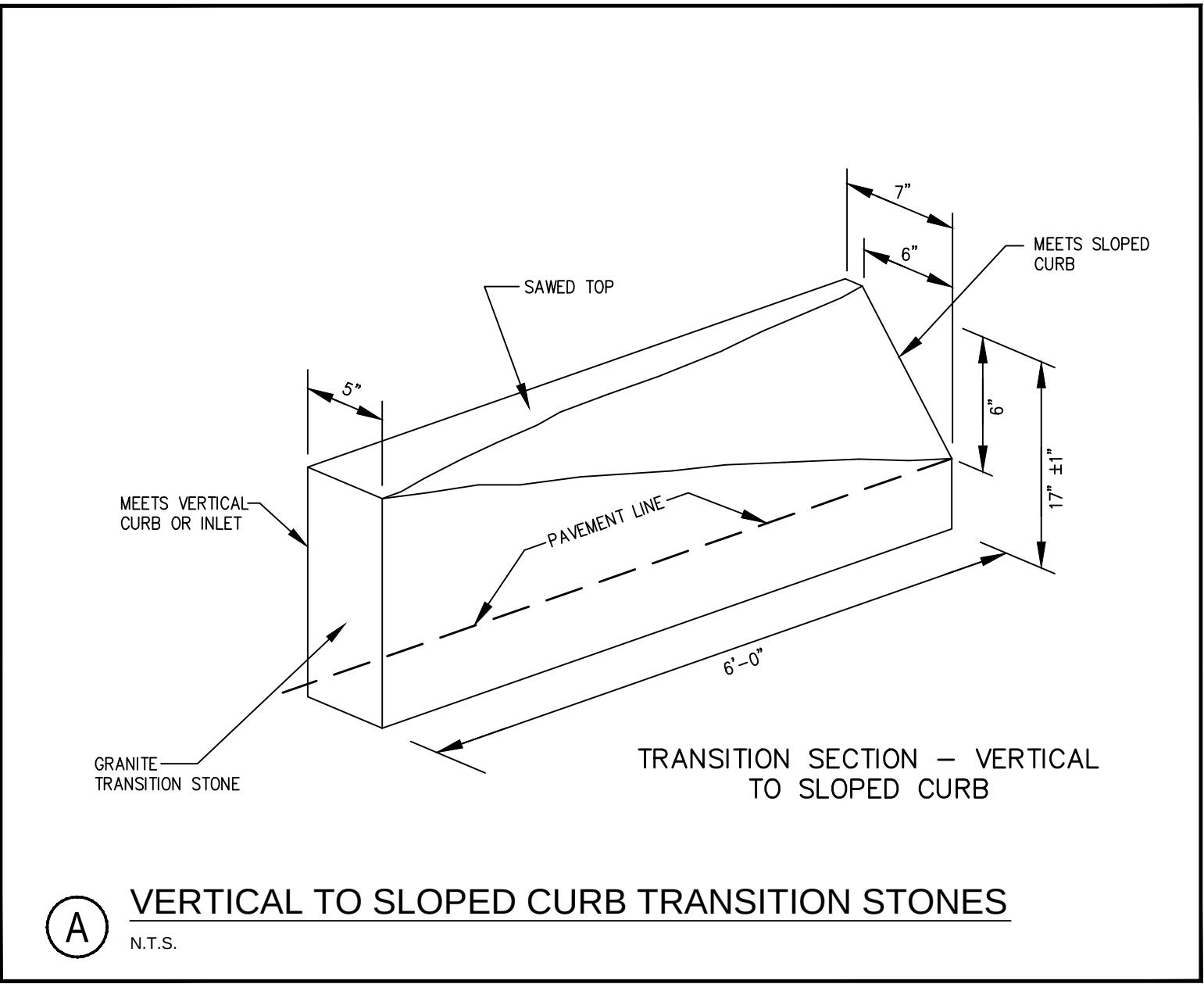
- DESIGN NOTES:
1. CONCRETE 4,000 PSI AT 28 DAYS
 2. REINFORCING #4 BARS AT 6" O.C. EACH WAY
 3. DUCT OPENINGS SHOWN ARE TYPICAL AND CAN BE MODIFIED PER REQUEST
 4. CENTRAL MAINE POWER COMPANY SPECIFICATION
 5. TEMPORARY COVER HAS (2) 3/8" THREADED LIFTING INSERTS CAST IN

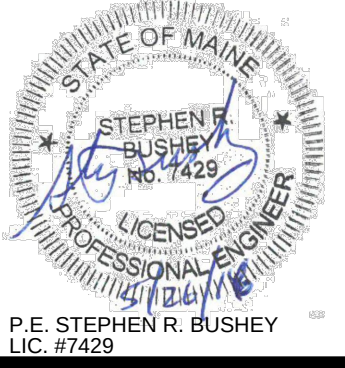
NOTE: CONFIRM TRANSFORMER PAD SIZES WITH OWNER AND/OR ELECTRICAL SITE PLANS. DIVISION 2 CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE TRANSFORMER PAD.

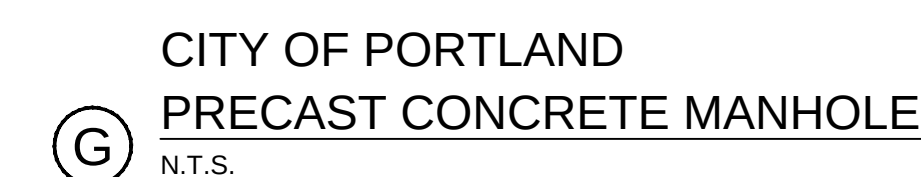
I 7'-0" TRANSFORMER PAD
N.T.S.

Prepared For:	Project:	Revisions:
PROPRIETORS OF UNION WHARF	UNION AND WIDGERY WHARF DEVELOPMENT	
36 UNION WHARF PORTLAND, ME 04101	PORTLAND, MAINE	05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY
Architect:	Date:	Scale:
ARCHETYPE architects 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056	JAN 2015	N.T.S.
STANTEC CONSULTING SERVICES INC. 482 PAYNE ROAD SCARBOROUGH COURT SCARBOROUGH ME 04074-8929 WWW.STANTEC.COM	STEPHEN R. BUSHEY P.E. #7429	DETAILS

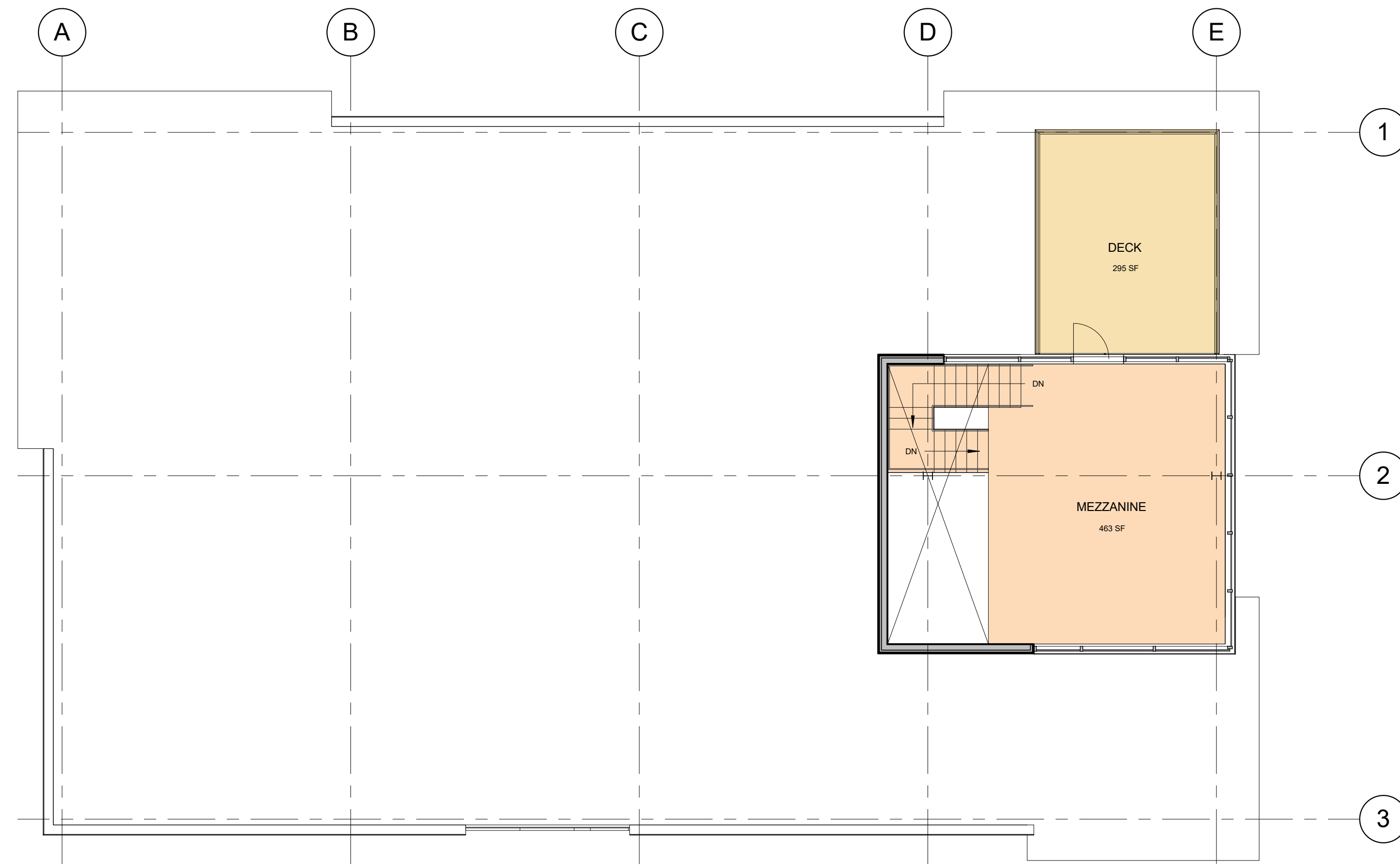
C-7.0



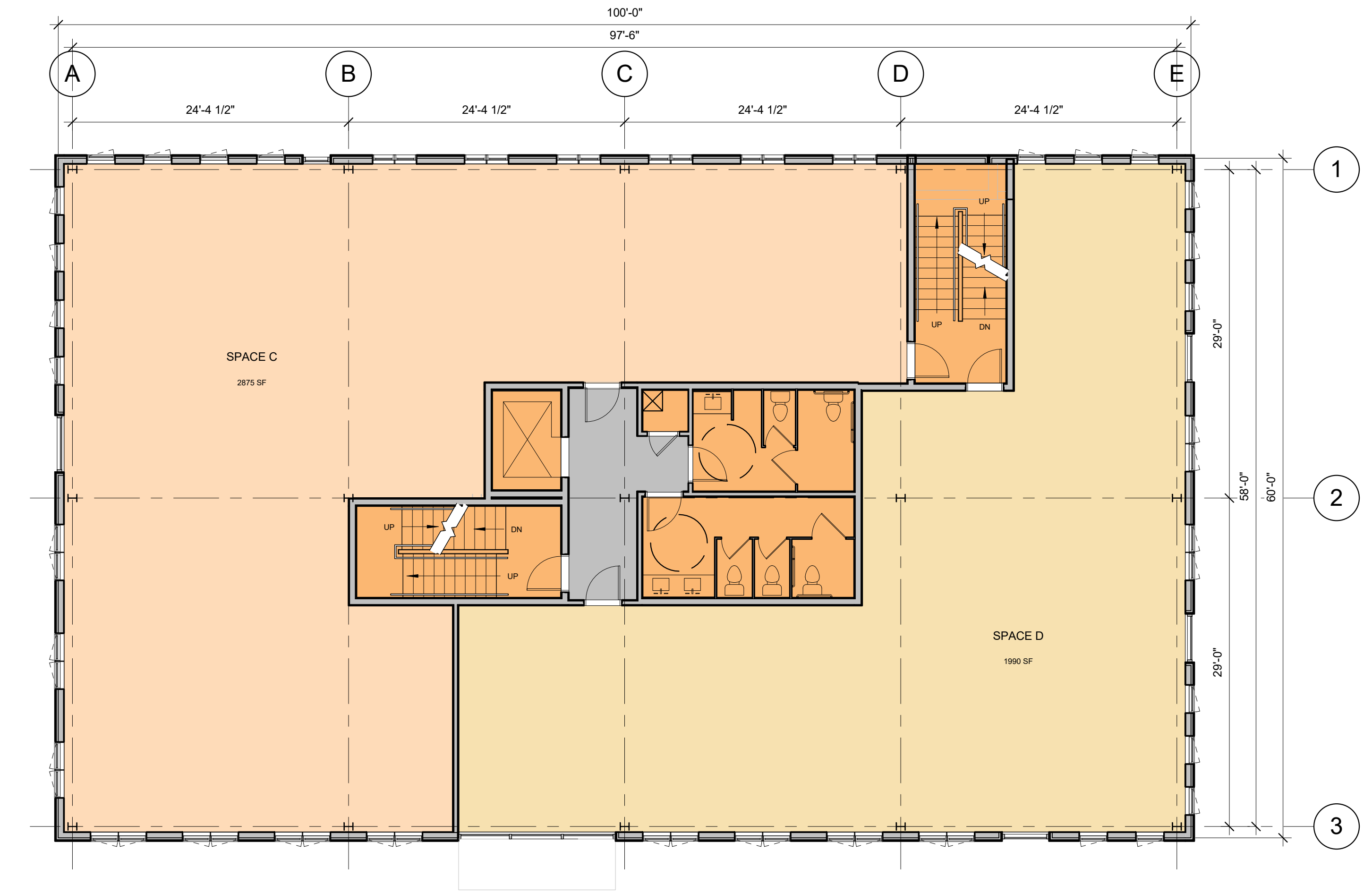
Prepared For:	Project:	Revisions:
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36 UNION WHARF PORTLAND, ME 04101	PORTLAND, MAINE	05.26.16 - PRELIMINARY PLAN SUBMISSION TO CITY
Architect:	Date:	Scale:
ARCHETYPE architects 48 Union Wharf Portland, Maine 04101 (207) 772-6022 Fax (207) 772-4056	JAN 2015	N.T.S.
STANTEC CONSULTING SERVICES INC. 482 PAYNE ROAD SCARBOROUGH COURT SCARBOROUGH ME 04074-8929 WWW.STANTEC.COM		C-7.1



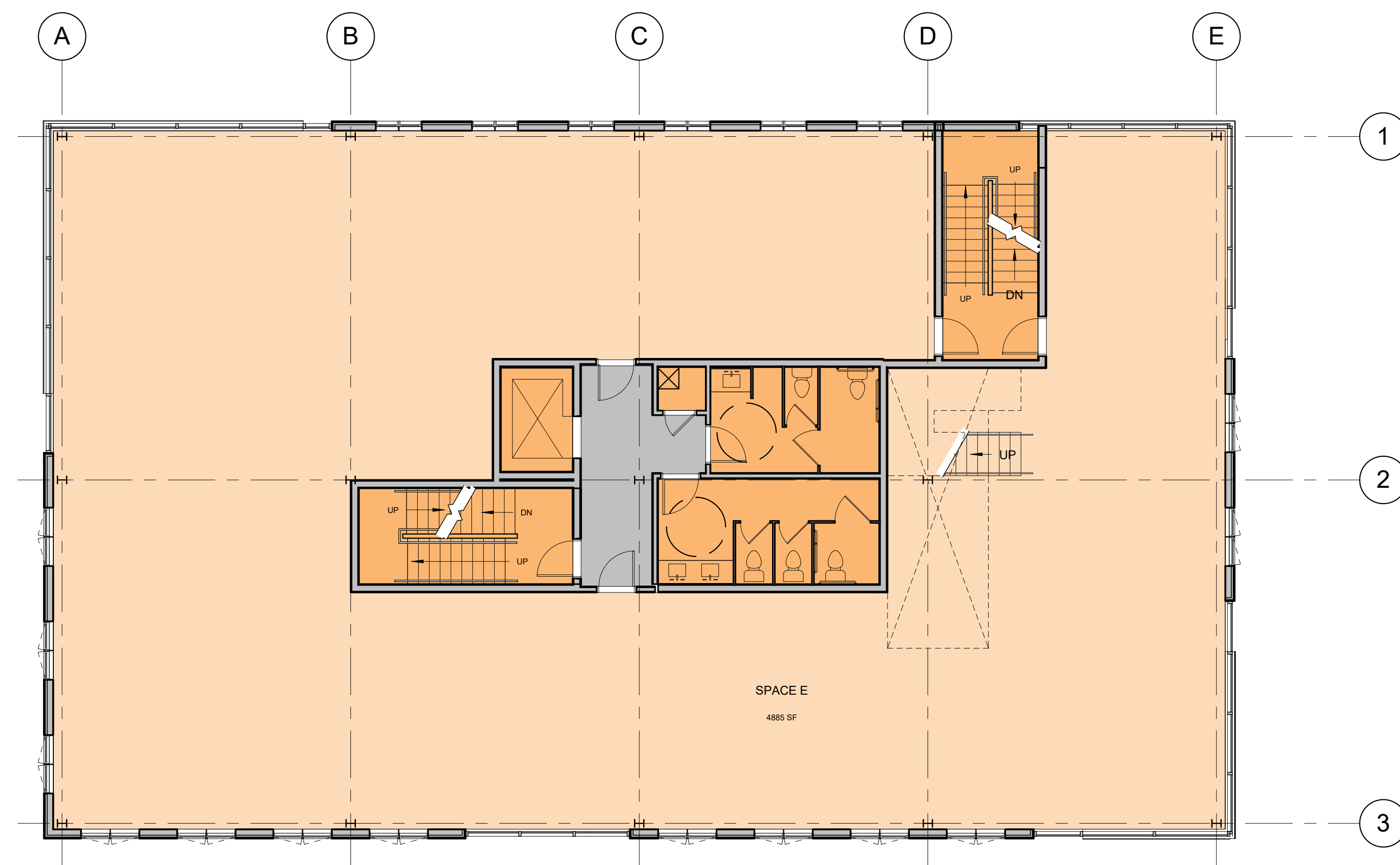
C-7.3



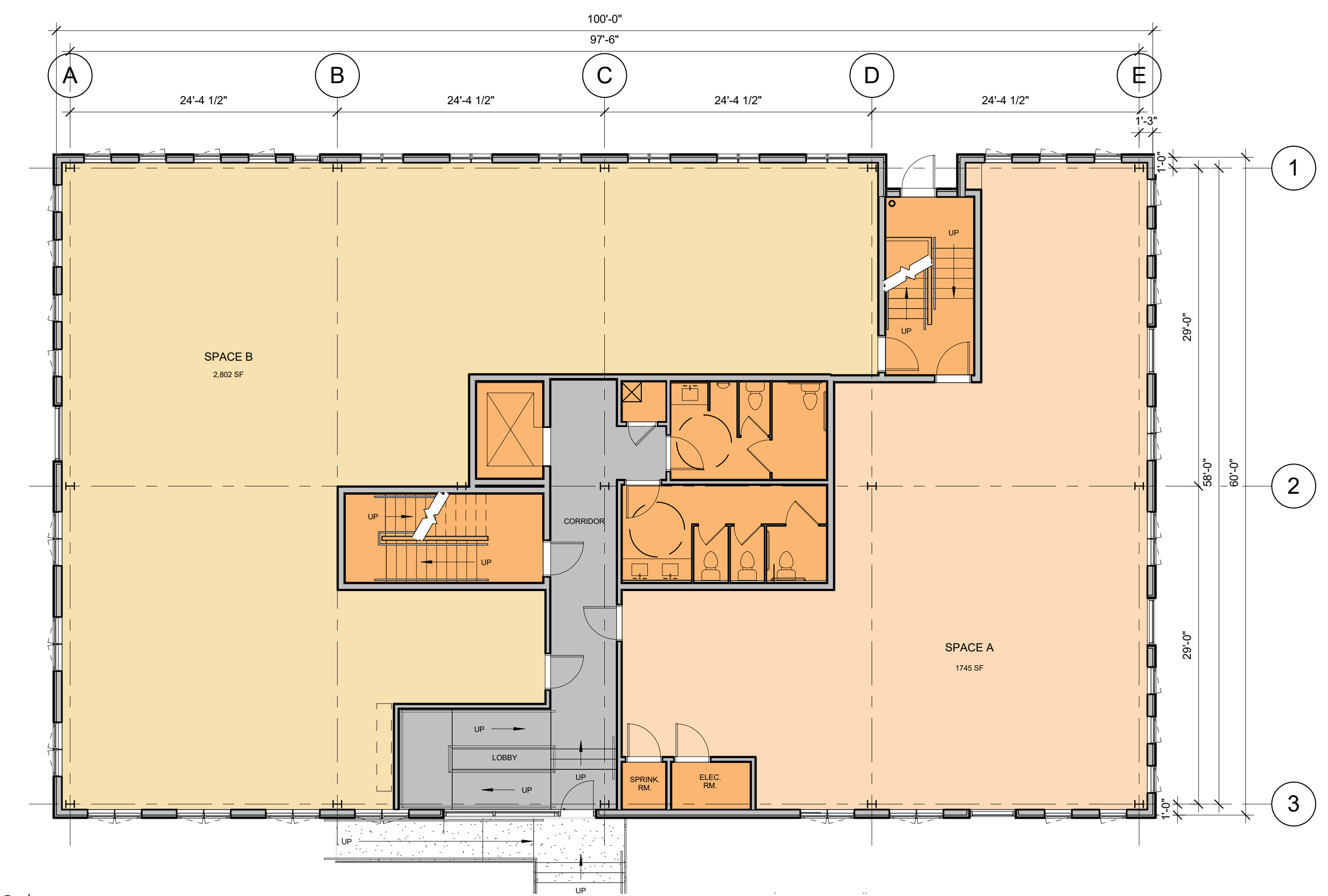
4 | ROOF
1/8" = 1'-0"



1 | TYPICAL UPPER FLOOR
1/8" = 1'-0"



3 | 3RD FLOOR
1/8" = 1'-0"



2 | 1ST FLOOR
1/8" = 1'-0"

GROSS SF: 6,094 SQ FT
FLOOR RENTABLE AREA : 5510 SQ FT
FLOOR USABLE AREA : 4996 SQ FT

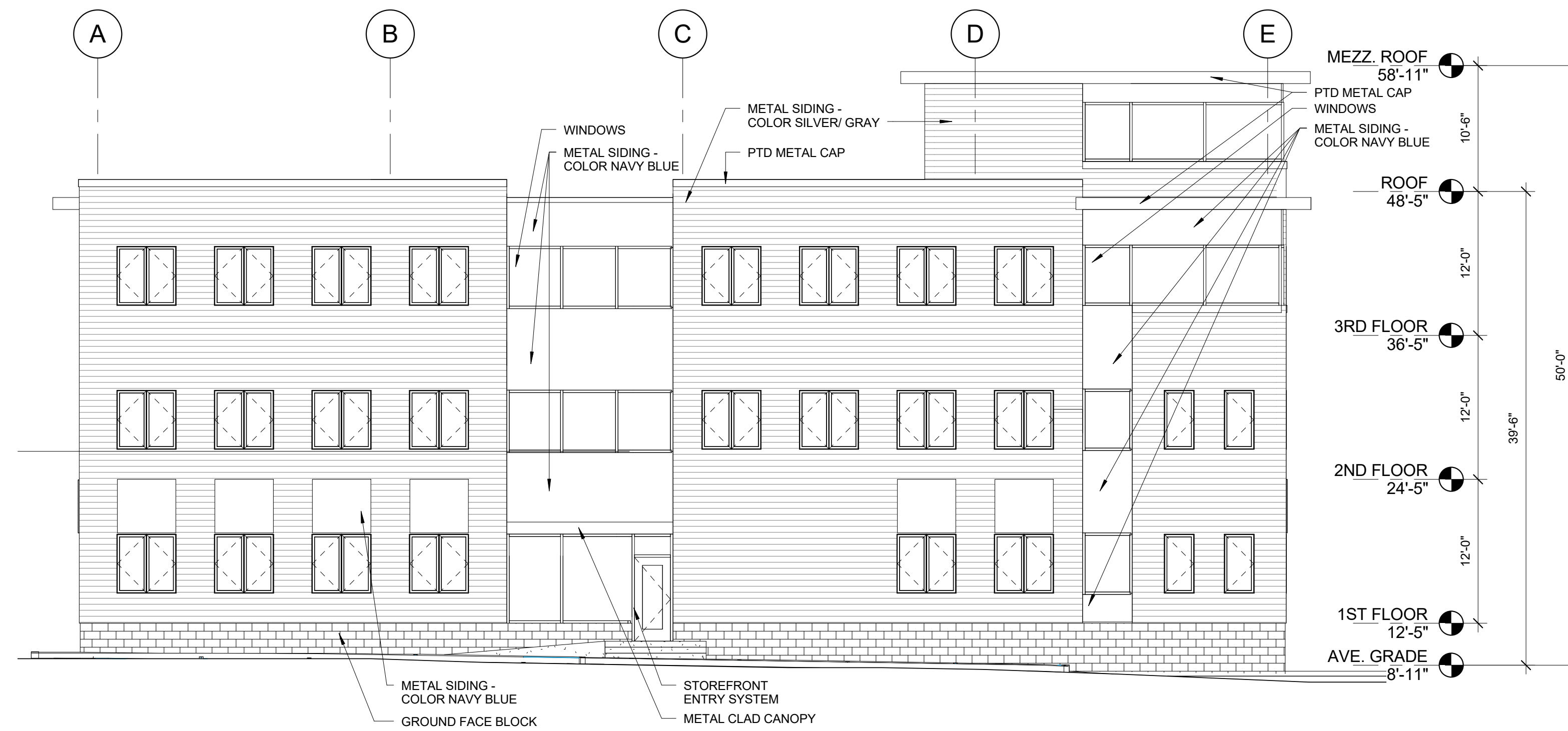
WIDGERY WHARF - BUILDING C

PORTLAND, MAINE

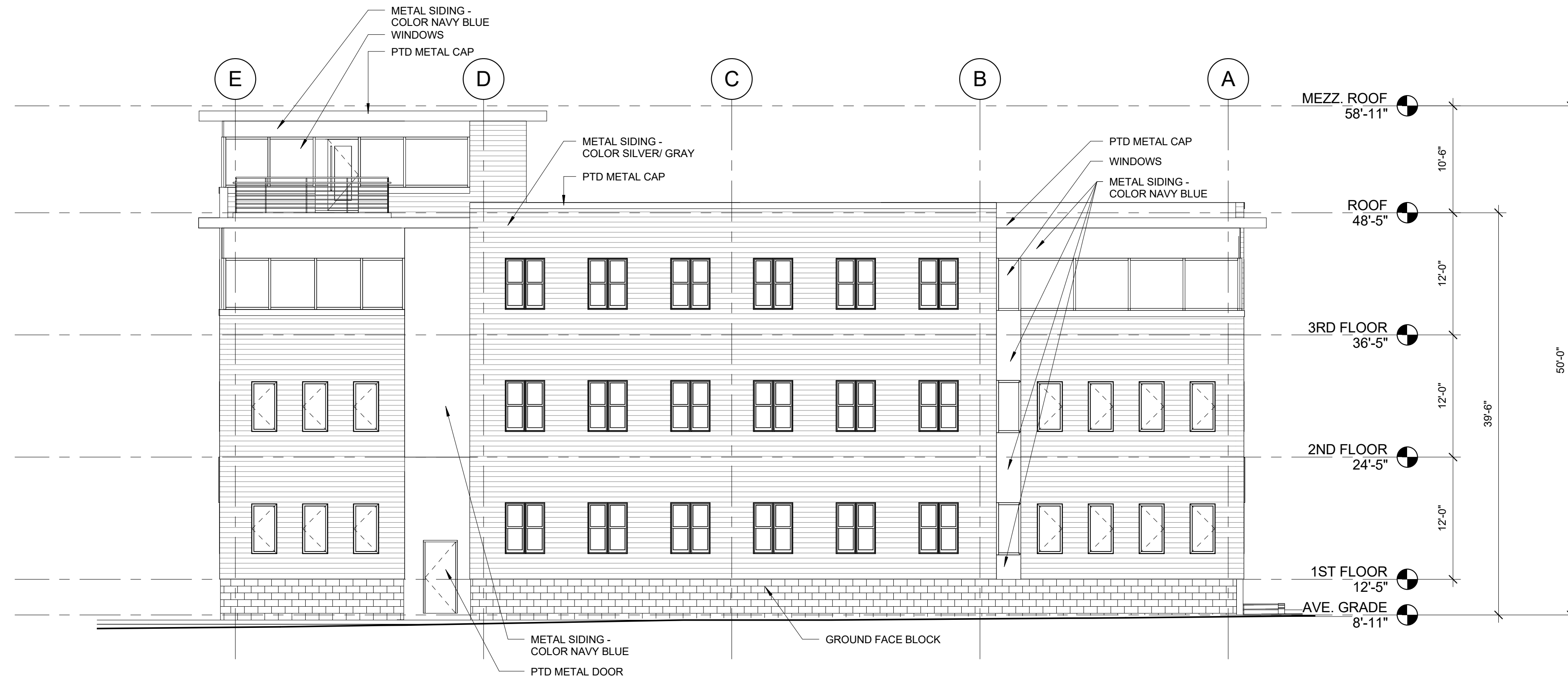
Phase 1
building

APRIL 26, 2016

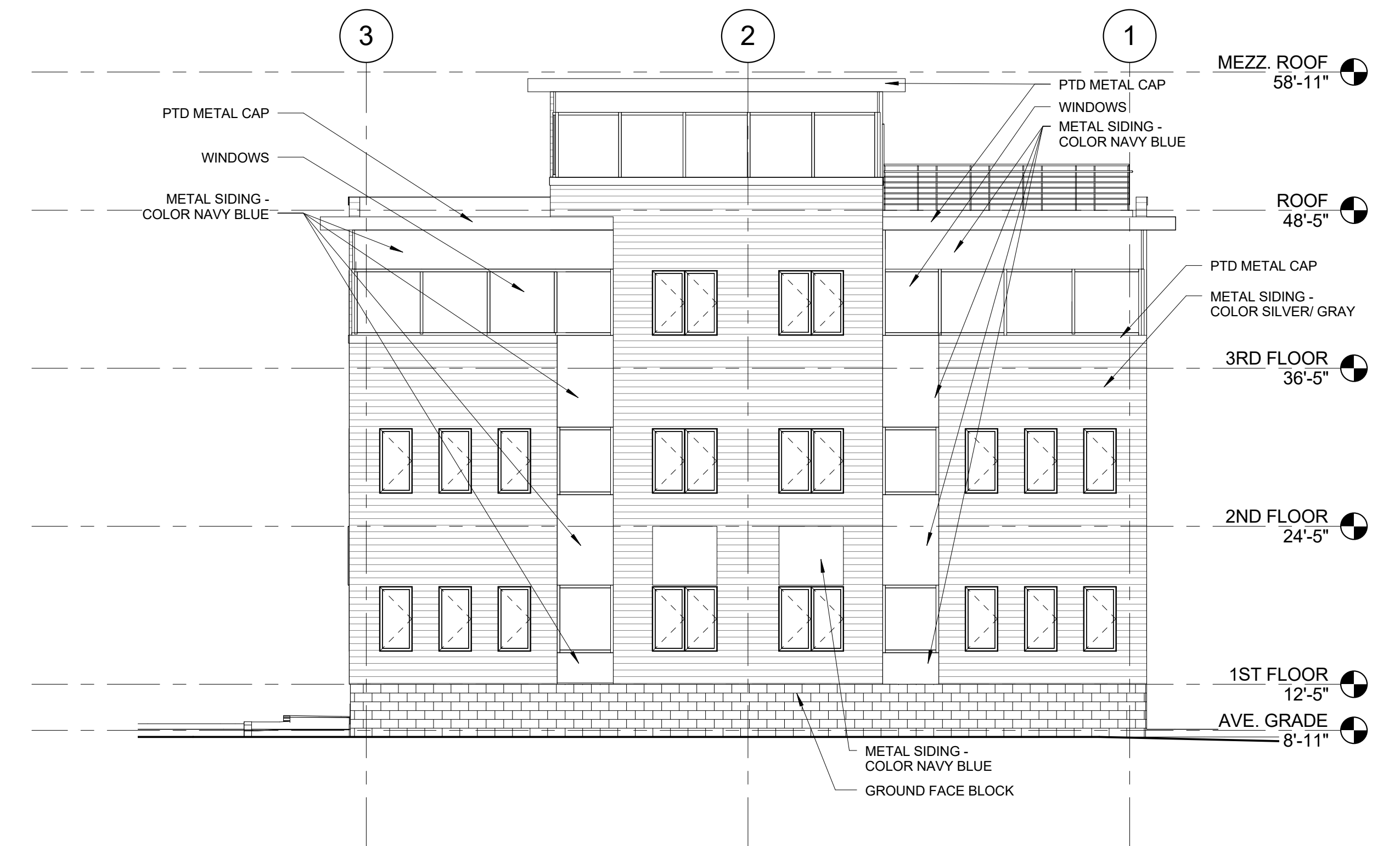
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1 | S-W ELEVATION
1/8" = 1'-0"



2 | N-E ELEVATION
1/8" = 1'-0"



3 | S-E ELEVATION
1/8" = 1'-0"



4 | N-W ELEVATION
1/8" = 1'-0"

GENERAL NOTES:
1. AVERAGE GRADE BY DEFINITION: 4 CORNER AVERAGE GRADE - N 9.7' + E 9.3' + S 9.3' + W 7.4' = 35.7' / 4 = 8'- 11" (AVERAGE GRADE)
2. BUILDING HEIGHT: THE VERTICAL MEASUREMENT FROM AVERAGE GRADE TO HIGHEST POINT OF THE ROOF BEAMS = 39' - 6" TO THE MAIN ROOF & 50'- 0" TO THE MEZZANINE ROOF

WIDGERY WHARF - BUILDING C

PORTLAND, MAINE

Phase 1
Building

APRIL 26, 2016

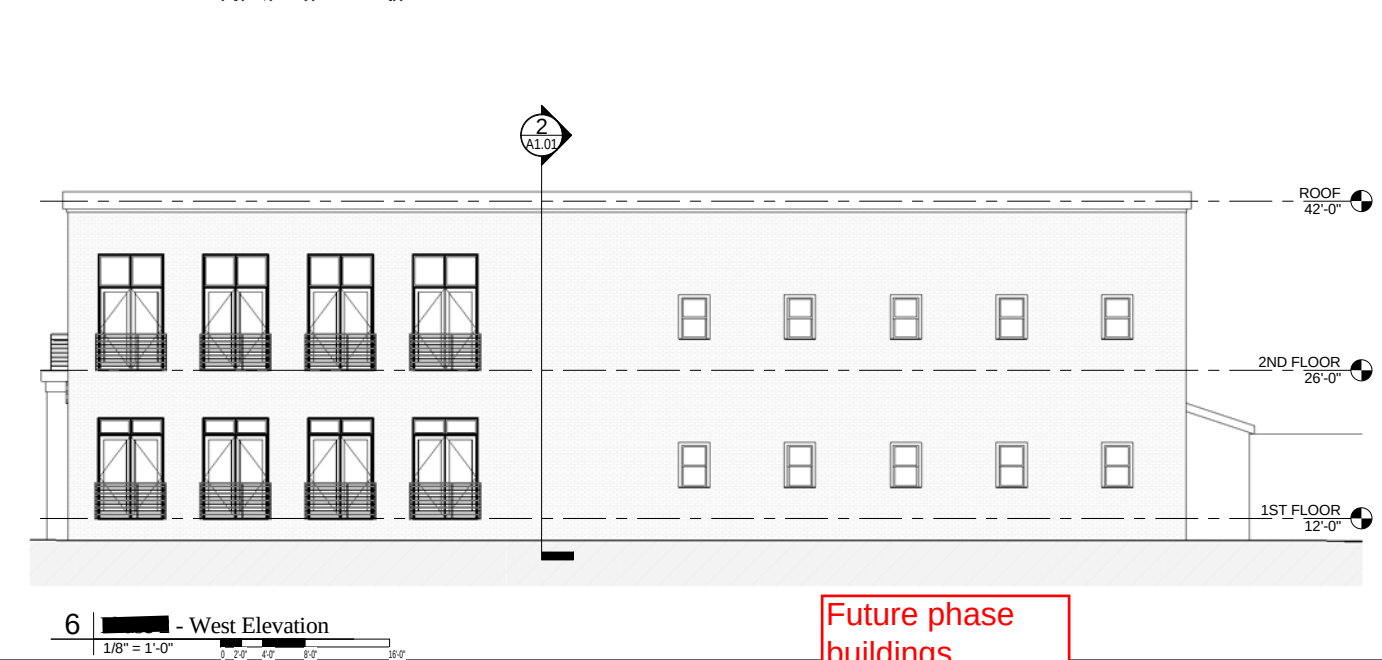
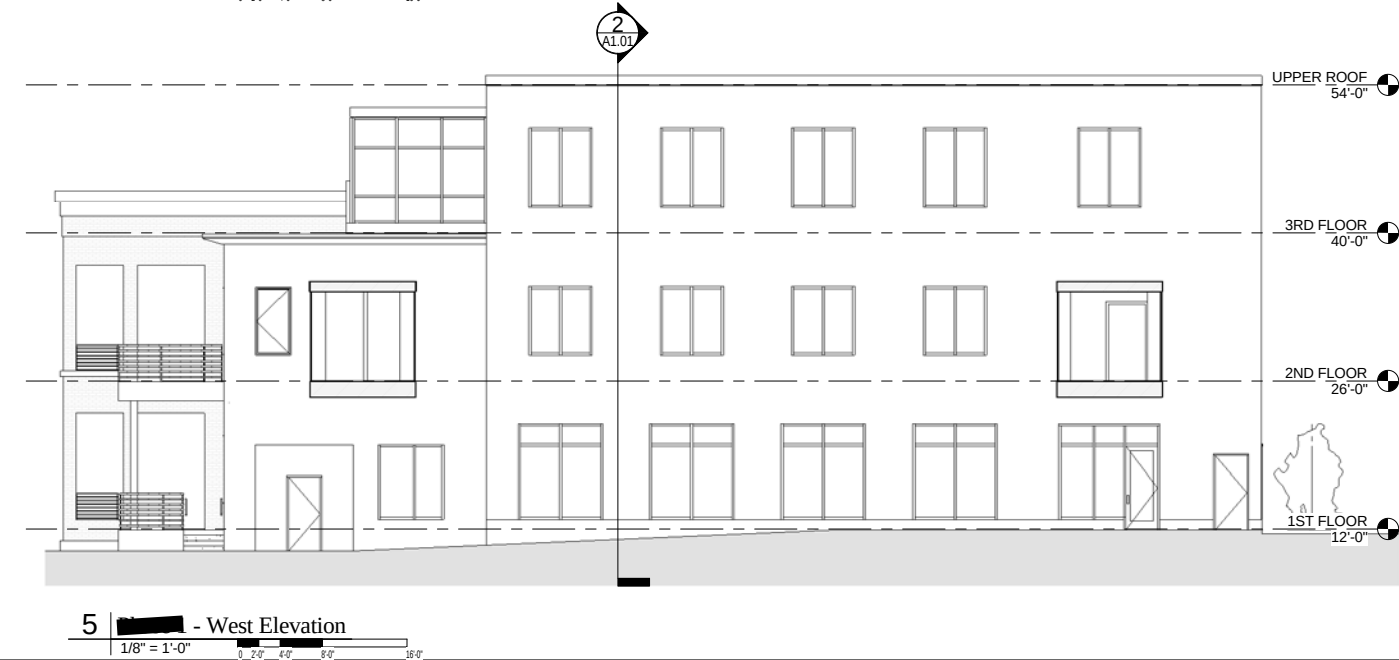
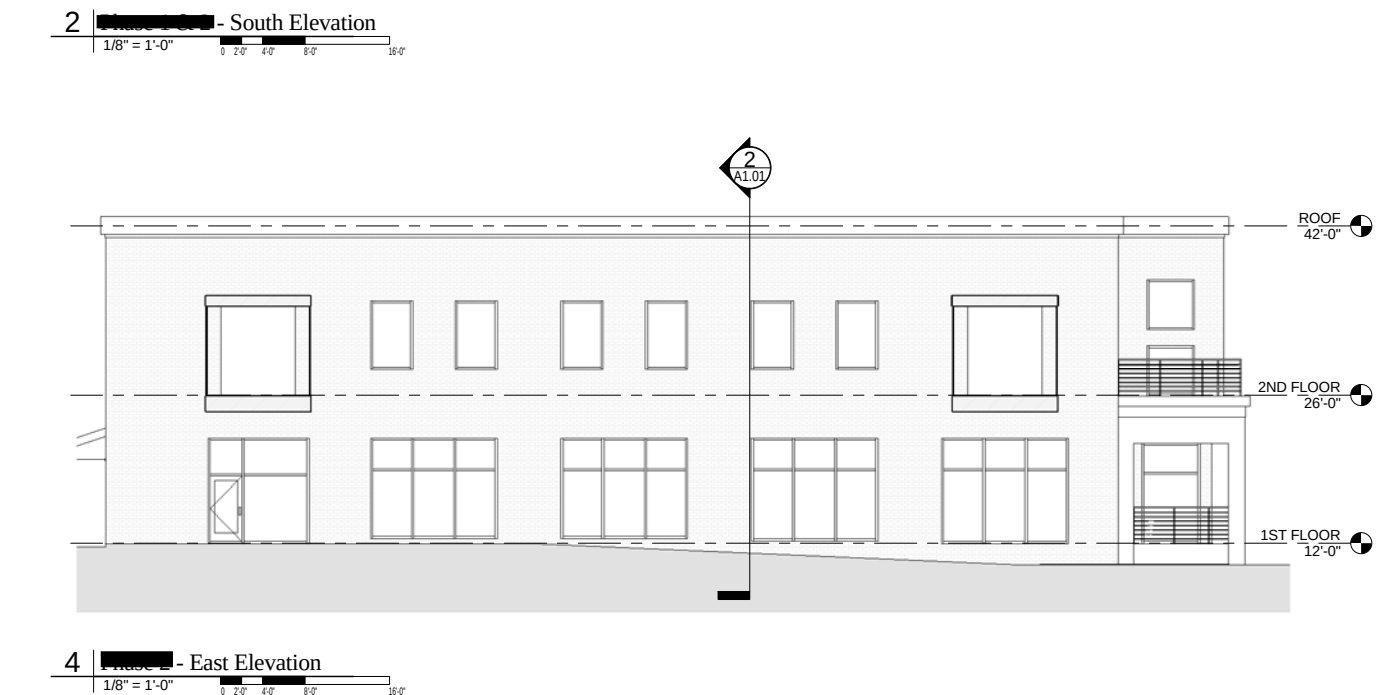
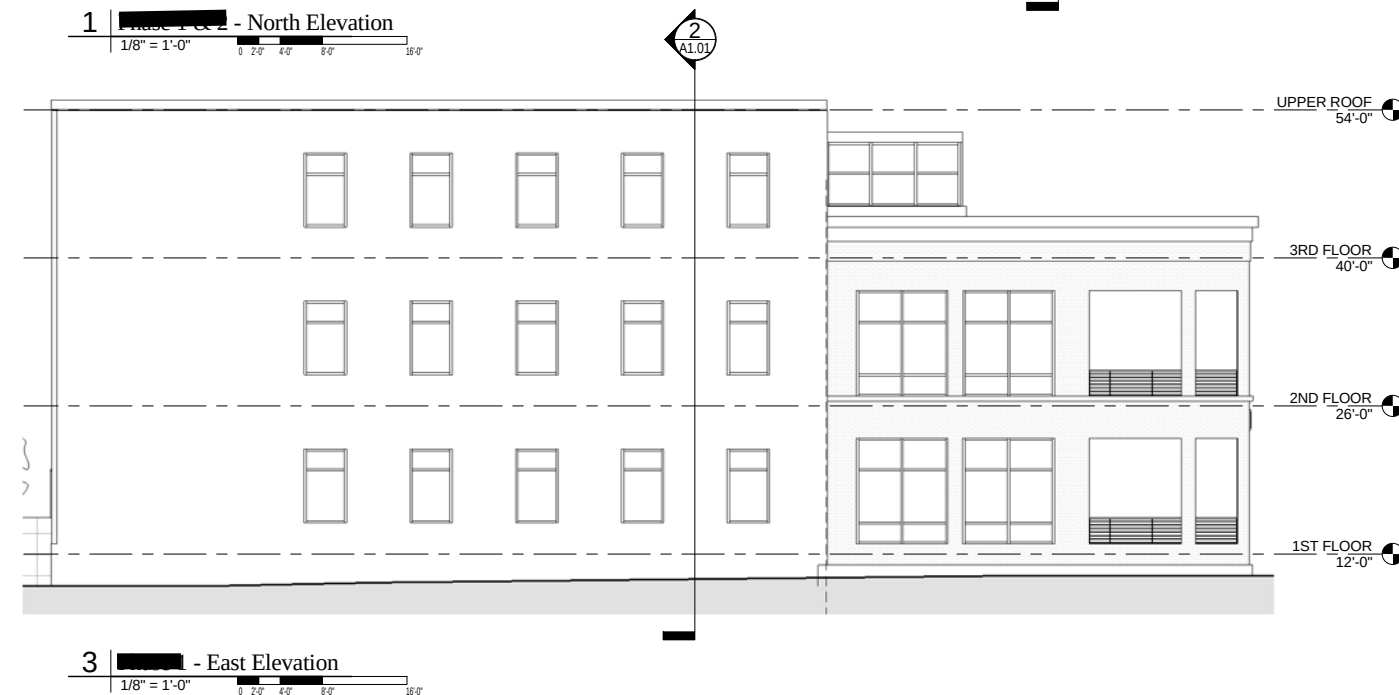
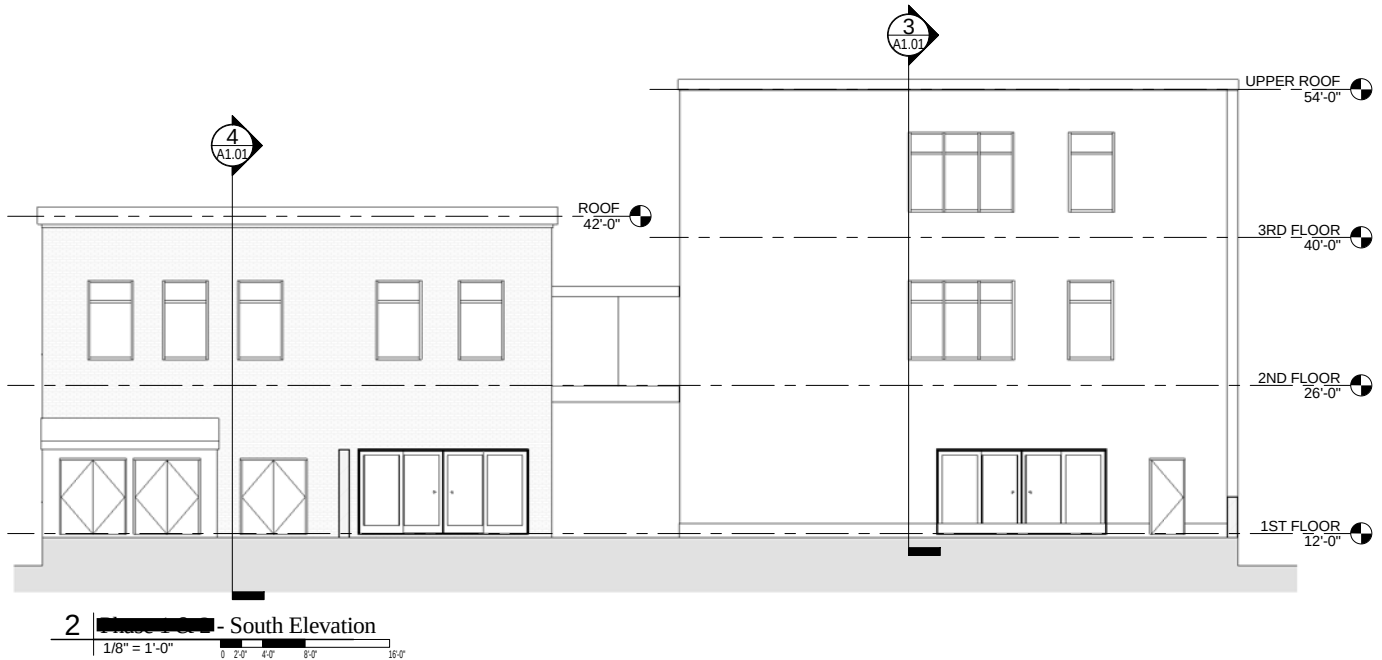
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48 Union Wharf Portland, Maine 04101



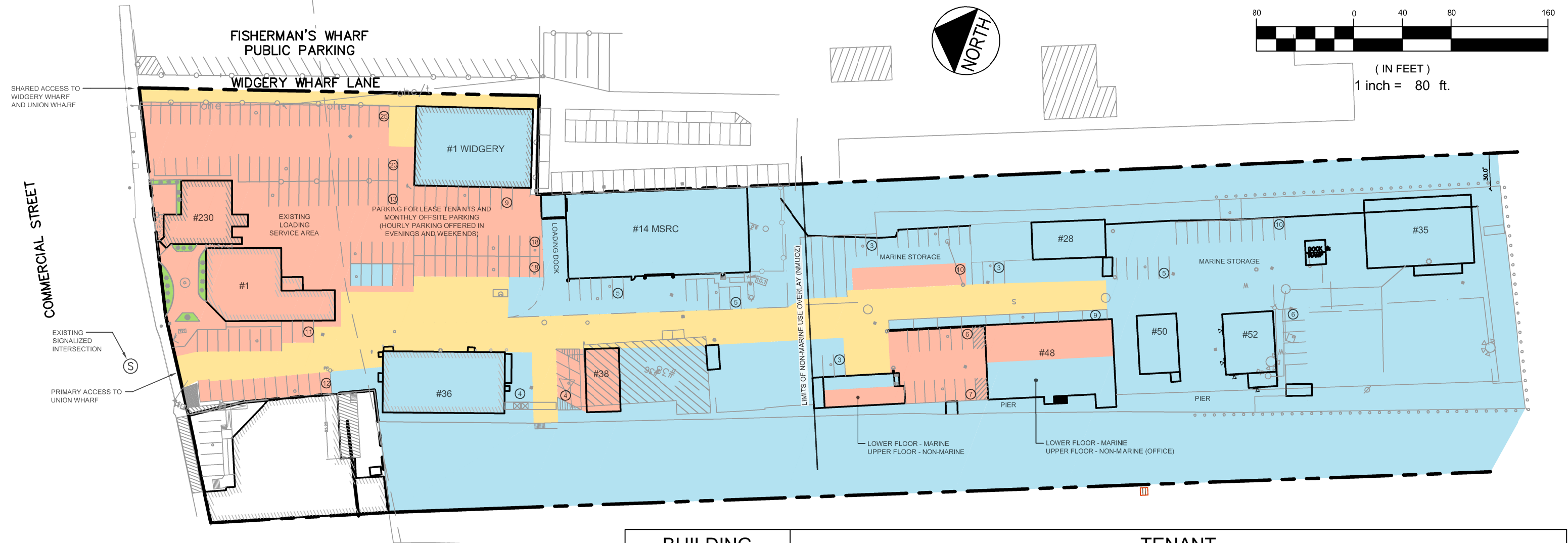
Future Phase
buildings on
Commercial Street



Future phase
buildings

Prepared For:		Owner	
		Address City, State	
Consultant:		Architect:	
Project:		ARCHETYPE architects	
		48 Union Wharf Portland, Maine 04101 (207) 774-6022 ARCHETYPE@ARCHETYPEPA.COM	
Revisions:		WIDGERY WHARF	
Date:		PORTLAND, MAINE	
		Building Elevations	
Scale:		1/8" = 1'-0"	
Date:		OCT 29, 2014	
A2.01			

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LEGEND

- COMMON CIRCULATION DRIVE
- MARINE USE (PARKING ~ 57 SPACES)
- NON-MARINE USE (PARKING ~ 156 SPACES)

PLAN REFERENCES:

- 1.) PROPRIETORS OF UNION WHARF - FIND SUBDIVISION RECORDING PLAT PREPARED BY THE SHERIDAN CORPORATION APPROVED 1/6/87 RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 161, PAGE 9
- 2.) UPDATED RECORD SITE SURVEY BY DOWNEAST SURVEYING & DEVELOPMENT, LAST REVISED 6/1/12
- 3.) UNION WHARF SITE PLAN BY DOWNEAST SURVEYING & DEVELOPMENT. DATED 4/20/15 - STATE PLANE SURVEY

BUILDING	TENANT
#1	BLACK TIE CATERING
#36	SAWYER & WHITTEN / MARINE LIFE RAFT / PROPRIETORS OF UNION WHARF
#14	MARINE SPILL RESPONSE CORPORATION
#38	LEASE TENANT
#41	LUCKY CATCH
	WINKELMAN ARCHITECTS
#48	LEASE TENANT
	ARCHETYPE ARCHITECTS
#50	MAINE LOBSTER DIRECT
#52	CBS BAIT
#35	COZY HARBOR
#28	CBS BAIT
#1 WIDGERY	WAREHOUSE
#230 COMMERCIAL	SAPPARO RESTAURANT



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PROPRIETORS OF UNION WHARF
UNION AND WIDGERY WHARF DEVELOPMENT

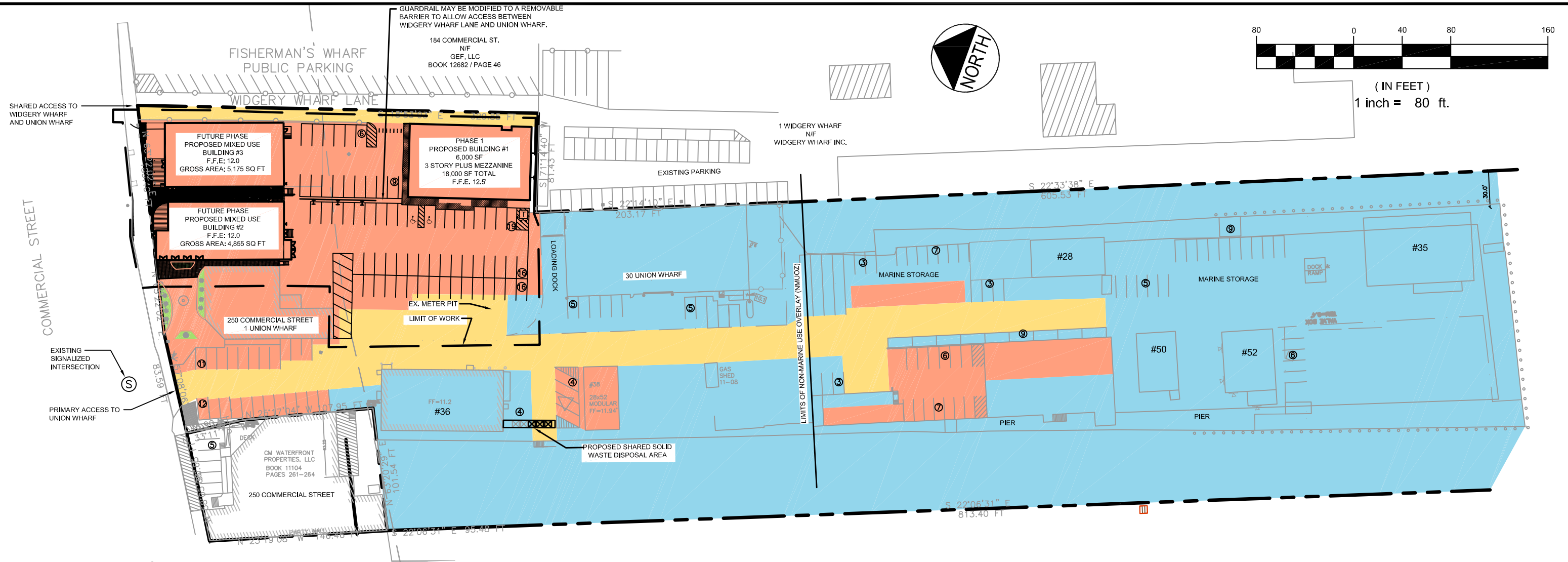
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EXISTING USE AND PARKING PLAN

File Name: BA-M041 SP
DED DWN. SRB CHKD. SRB DSGN. 16.06.21 DATE

Figure No.
C-3.3

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LEGEND

- COMMON CIRCULATION DRIVE
- MARINE USE (PARKING ≈ 52 SPACES)
- NON-MARINE USE (PARKING ≈ 116 SPACES)

PLAN REFERENCES:

- 1.) PROPRIETORS OF UNION WHARF - FIND SUBDIVISION RECORDING PLAT PREPARED BY THE SHERIDAN CORPORATION APPROVED 1/6/87 RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS PLAN BOOK 161, PAGE 9
- 2.) UPDATED RECORD SITE SURVEY BY DOWNEAST SURVEYING & DEVELOPMENT, LAST REVISED 6/1/12
- 3.) UNION WHARF SITE PLAN BY DOWNEAST SURVEYING & DEVELOPMENT. DATED 4/20/15 - STATE PLANE SURVEY



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PROPRIETORS OF UNION WHARF
UNION AND WIDGERY WHARF DEVELOPMENT

File Name: BA-M041 SP	DED	SRB	SRB	16.06.21
	DWN.	CHKD.	DSGN.	DATE

Title

PROPOSED USE AND PARKING PLAN

Figure No.

C-3.4

PLANNING BOARD REPORT PORTLAND, MAINE



Suburban Propane, 636 Riverside Street
Level III Subdivision and Site Plan Review
2016-047
Suburban Propane

Submitted to: Portland Planning Board Date: June 23, 2016 Public Hearing Date: June 28, 2016	Prepared by: Nell Donaldson, Planner CBLs: 322-A-3 Project #: 2016-047
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I. INTRODUCTION

Forefront Partners, working on behalf of Suburban Propane, has requested a final Level III site plan and subdivision review for the development of a new lot in the city's Riverside Street Subdivision. The plans include the creation of a 4.12 acre lot through an amended subdivision plat and the development of that lot with office, garage, and fuel storage facilities. The proposal also includes the construction of a shared access driveway prescribed in the original Riverside Street Subdivision plat, parking, stormwater infrastructure, and utility connections. In the time since the Board's preliminary workshop on this project, the applicant has added a sidewalk from Riverside Street to the major points of building access, modified the drive to include turnoffs to the adjacent lots and two approach lanes at Riverside Street, relocated an access gate to eliminate the need for an easement from the adjacent city-owned lot, and relocated the office/garage building to avoid an existing drainage easement on the site.

This development is being referred to the Planning Board for compliance with the site plan and subdivision standards of the land use code. A total of 76 notices were sent to property owners within 1,000 feet of the site and a legal ad ran in the *Portland Press Herald* on June 20 and 21, 2016.

Applicant: Forefront Partners, LP

Consultant: Bo Kennedy, Stantec

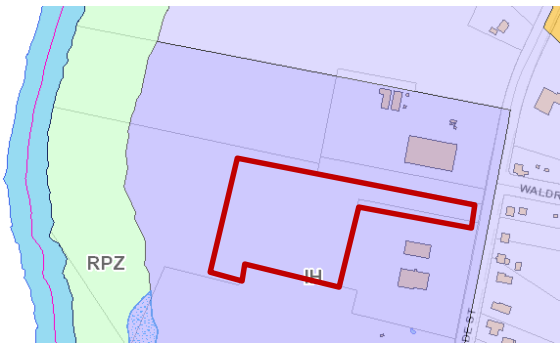
II. REQUIRED REVIEWS

Waiver Requests	Applicable Standards
Flooding Standard, limiting peak flows of discharge from the site <i>Supported by consulting civil engineer</i>	<i>Technical Manual Section 5/Maine DEP Chapter 500</i>
Review	Applicable Standards
Site Plan	<i>Section 14-526</i>
Subdivision	<i>Section 14-497</i>

III. PROJECT DATA

Existing Zoning	I-H
Existing Use	Vacant
Proposed Use	Mixed use (commercial and residential)
Proposed Development Program	Office building, garage, cylinder storage dock, and fuel storage
Parcel Size	4.12 acres

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	0 SF	13,446 SF	13,446 SF
Building Floor Area	0 SF	13,446 SF	13,446 SF
Impervious Surface Area	75,358 SF	104,544 SF	29,186 SF
Parking Spaces (on site)	0	50	50
Bicycle Parking Spaces	0	4	0
Estimated Cost of Project	\$2,000,000		



Figures 1, 2, and 3:
Existing conditions
from above (top);
existing zoning (bottom
left); existing site from
Riverside Street
(bottom right)



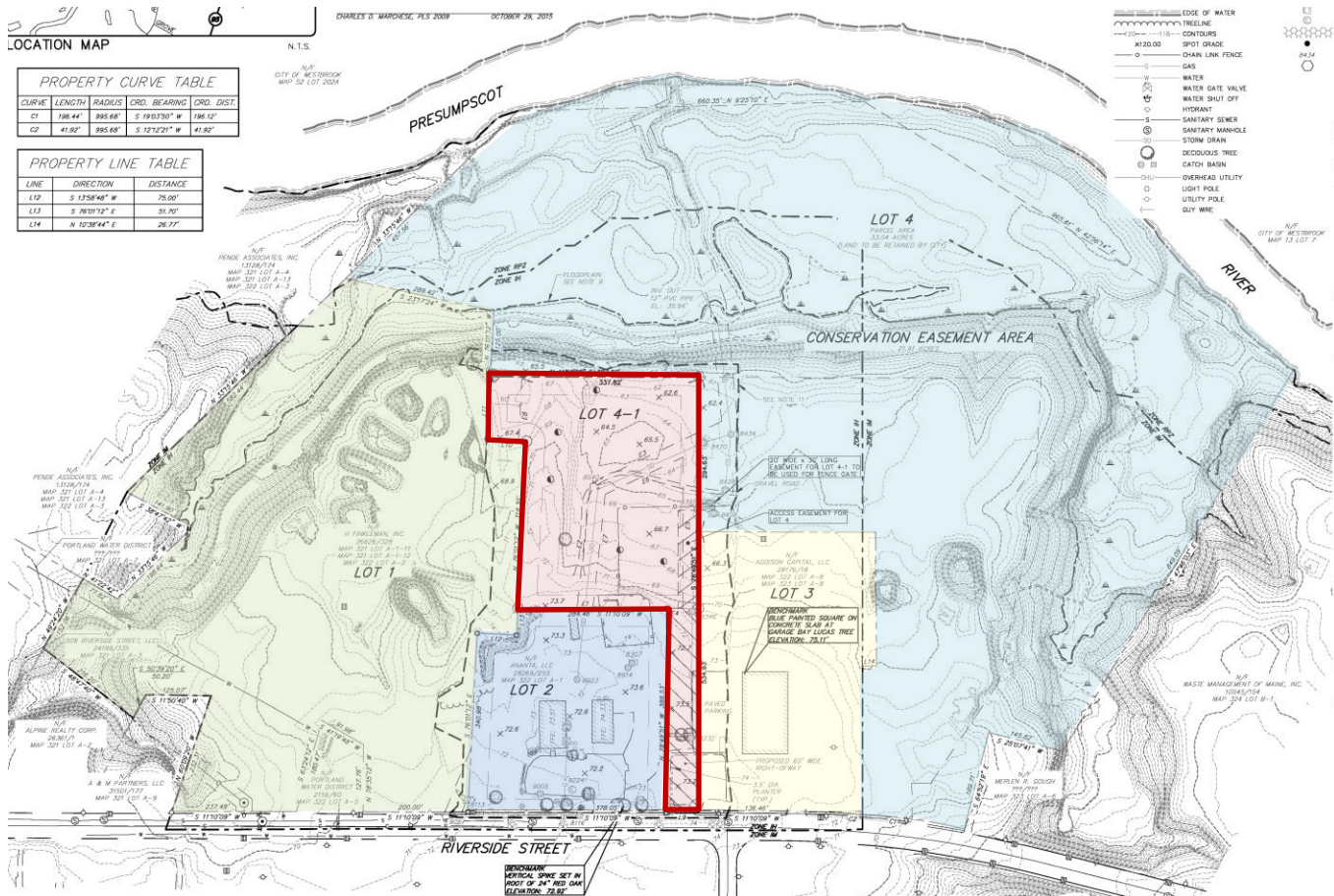


Figure 4: Draft subdivision plat, showing Suburban Propane site (Lot 4-1)

IV. BACKGROUND & EXISTING CONDITIONS

636 Riverside Street is located on the city's western border near the intersection of Riverside Street and Forest Avenue. The site is a portion of one of four lots created by the city in 2010 when it established the Riverside Subdivision. Three of these four original lots are currently occupied: Lot 1 by Schnitzer, Lot 2 by Solaris, a solar installer, and Lot 3 by Lucas Tree. The Suburban Propane development is proposed for a portion of Lot 4. The site lies in the High Impact Industrial (I-H) zone.

The site, which is just over 4 acres in size, is a fill site, and has recently been used as a laydown, hauling, and parking area by Lucas Tree. An environmental site assessment was conducted on the property at the time of the original subdivision in 2010. Per the applicant, there are no significant environmental issues on the property. The site drains to the Presumpscot River. Currently, there are no buildings on the site. Access is from Riverside Street.

V. PROPOSED DEVELOPMENT

Under the current application, the Suburban Propane site would be split from the fourth of the four original Riverside Subdivision lots, making a new lot, labeled 4-1 on the plat, with access from Riverside Street. The applicant has proposed to construct:

1. A 7,300 SF pre-fabricated metal building to be used as Suburban Propane's district office, with up to 48 employees and a small customer service area;
2. A 2,146 SF building with a two-bay garage and associated office space;
3. A fuel storage and distribution area with a 4,000 SF elevated dock;
4. Three 30,000 gallon propane fuel storage containers with piping to bobtail connections;
5. A 24 foot wide access drive from Riverside Street which would provide vehicular and pedestrian connections to a parking area with 50 spaces for both employee and visitor use.

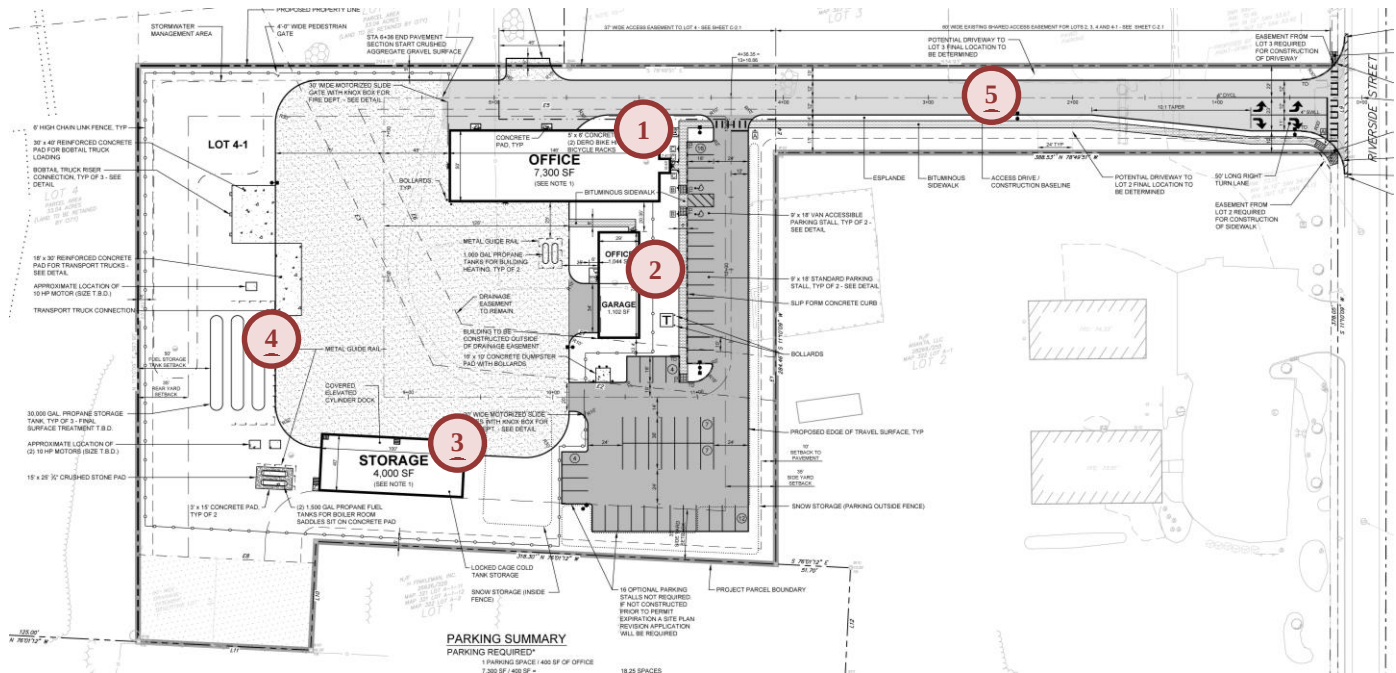


Figure 5: Preliminary site plan

The garage and fuel storage elements of the plan would be serviced by a gravel yard area and secured within a 6 foot fence with two motorized gates. All areas of the site beyond the parking and gravel yard would be loamed and seeded.

VI. PUBLIC COMMENT

Staff fielded two telephone calls. One came from a neighbor who raised concerns about the presence of rock dust on site and potential pollution to the Presumpscot River. No written comments have been submitted.

Suzanne Elisha, property owner for Solaris, expressed concerns regarding the requirement to close the curb cut. The consolidation of the curb cuts was a recommendation from the Traffic Engineer at the time of the 2010 review and an access easement was created on the plat which conveys rights of access for the shared driveway. A note on the approved access plan (refer to figure 6 below or Attachment 2 Sidewalk and Driveway Plan) states “Existing driveway to be closed upon commencement of a development requiring administrative or Planning Board site plan approval or upon construction of Lot #4 shared access driveway. Install curing and remove pavement from esplanade. Provide 4” loam and seed.” This condition was included within the purchase and sales agreement for the Solaris Site. No written comments have been submitted.

The applicant has submitted minutes from a neighborhood meeting held on Monday, May 9 (*Attachment O*). Meeting minutes showed that the two attendees who signed in raised concerns about public safety, traffic impacts, and construction.

VII. RIGHT, TITLE, & INTEREST

The applicant’s submittal includes a purchase and sale agreement between the City of Portland and Thompson’s Point Development Company as evidence of right, title, and interest (*Attachment D*). Under the existing arrangement, Thompson’s Point Development Company will develop the site on behalf of Suburban Propane and deed the property to Suburban Propane following development.

A number of easements exist on the site:

- A drainage easement to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC) to allow storm drainage to cross the site;

- A shared access driveway easement to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC) to allow access to and from a shared drive on the site;
- A public access easement to the City of Portland for portions of sidewalk which lie in the city's right-of-way in Riverside Street.

VIII. FINANCIAL & TECHNICAL CAPACITY

The estimated cost of the development is approximately \$2 million. The applicant has submitted a letter from Androscoggin Bank indicating vouching for Thompson's Point Development Company's financial capacity (*Attachment E*).

IX. ZONING ANALYSIS

The applicant has provided a zoning analysis documenting that the plans meet the dimensional requirements of the I-H zone (*Attachment C*).

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

The applicant has provided an amended subdivision plat depicting the new lot (*Plan 7*). This plat has been reviewed by Bill Clark, the city's surveyor, and he has indicated his approval. However, there are several outstanding items with respect to the plat, including the completion of additional easements will be necessitated by the development but have yet to be drafted:

- An easement to extend access rights from the driveway to the remainder of Lot 4;
- An easement from Lot 4 to Lot 4-1 to allow the site's drainage to cross Lot 4 and ensure access to Lot 4 for purposes of future inspection and maintenance; and
- A utility easement from Lot 3 for purposes of an overhead electrical line from Riverside Street.

The submission of these easements and their inclusion on the plat has been drafted as a condition of approval.

The applicant has also noted in their submittal that a Notice of Intent to Comply with the Maine Construction General Permit will be required. This has also been included as a condition of approval.

Lastly, the applicant has submitted a construction management plan (*Attachment H*). Of this plan, Tom Errico, the city's consulting civil engineer, writes,

A construction management plan will be required for utility work in Riverside Street....It should be noted that the expectation of the work zone is that two travel lanes are provided during construction.

The applicant has suggested in their final submittal that temporary easements may be necessary from Lots 2 and 3 for the construction of the proposed sidewalk ramps and driveway. A final construction management plan and these easements have 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 site currently serves as a laydown area for Lucas Tree, with about half of the site, or 1.73 acres, covered in gravel. The project will disturb approximately 92% of the parcel. Under the proposed site plan, impervious would increase to 2.4 acres.

The applicant has proposed a grassed underdrained soil filter to treat an area equivalent to the net new impervious area and obtain an additional water quality management credit against the city's stormwater service charge

(Attachment C). The underdrained soil filter would outlet to existing drainage infrastructure on the remainder of Lot 4, and from there to the Presumpscot River. The rest of the lot would drain directly to the existing drainage infrastructure on the site and, subsequently, the river, with the exception of a small area at the head of the entrance drive which would sheet flow to Riverside Street.

Lauren Swett, consulting civil engineer, has reviewed the stormwater systems proposed for the site and found that they meet the city's site plan and technical manual standards with a waiver of the flooding standard as requested (Attachment 2). No detrimental water or air quality impacts are anticipated.

2 & 3. Adequacy of Water Supply

The plans show water service from an existing 12" cast iron water main in Riverside Street. The plans show 6" fire service and 2" domestic service running from a single 6" connection in the main. Fire service would extend to a hydrant proposed to the northeast of the office building and further to the propane storage dock, which will contain a sprinkler system. Domestic service would be provided to each of the three buildings proposed. Evidence of water capacity has been provided (Attachment M).

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 has provided a trip generation estimate (Attachment C). This analysis assumes 48 employees at maximum capacity and an AM peak hour trip generation of 23 trips. Per the application, "a negligible impact to Riverside Street" is anticipated (Attachment C). Mr. Errico has reviewed the trip generation and found it to be acceptable (Attachment 1).

6. Sanitary Sewer/Stormwater Disposal

The applicant has proposed 6" and 8" sanitary sewer lines from the garage and office buildings respectively which would combine in a single 8" line to the adjacent 12" sewer main in Riverside Street. Evidence of wastewater capacity has been provided (Attachment M).

As noted above, the proposed development would direct the vast majority of stormwater runoff to existing drainage infrastructure within the subdivision, which outlets to the Presumpscot River. Ms. Swett has reviewed the plans and found that they generally meet the city's standards, with one waiver as requested.

7. Solid Waste

The applicant has identified solid waste volumes anticipated to be generated both during and post-construction. A dumpster pad is proposed on the site. They also note that small amounts of auto repair waste will be "properly managed, stored, and disposed of inside the garage" (Attachment I). There are no anticipated detrimental impacts as a result of solid waste generation on this site.

8. Scenic Beauty

This proposal is not deemed to have an adverse impact on the scenic beauty of the area.

9. Comprehensive Plan

The project is deemed to be generally consistent with the comprehensive plan, in that it develops a city-owned subdivision intended for industrial use.

10. Financial and Technical Capacity

As noted above, the applicant has provided evidence of financial and technical capacity (Attachment E).

11. Wetland/Water Body Impacts

There are no anticipated impacts to wetlands.

12. Groundwater Impacts

There are no anticipated impacts to groundwater supplies.

13. Flood-Prone Area

The site does not abut a flood zone. Per the subdivision plat, no development will occur within the flood zone (*Plan 7*).

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**

As noted above, the applicant has provided a trip generation analysis based on the proposed site use, which estimates a peak trip generation of 23 trips during the AM peak hour, mostly as a function of employees on the site, who will include "a mix of sales representatives, accountants, and district managerial staff" (*Attachment L*). The applicant writes, "[t]rips generated by customers or fueling trucks are anticipated to visit the site during off-peak hours and will be relatively minimal" (*Attachment C*). In the final submittal, the applicant has provided additional information on the size of the fueling fleet and the proposed level of industrial/fueling traffic to and from the site, noting that a maximum of six fleet vehicles could be expected with up to three trips per day. Mr. Errico has reviewed the trip generation analysis and anticipates no major impacts to the adjacent street infrastructure (*Attachment 1*).

a. Access and Circulation

The plans include a new 24' access drive from Riverside Street. The final plans show two "potential" points of access from this drive to the adjacent lots (Lot 2 and Lot 3). These access points are a product of the original Riverside Subdivision plat. Pursuant to the development of this subdivision plat, the City of Portland granted a shared access driveway easement to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC "for the purpose of and conveying the right to perpetually enter at any and all times" over the access to Lot 4 from Riverside Street (*Attachment D*). Subsequently, the parties developed a Shared Access Driveway Maintenance Agreement, which stipulates that, when Lot 4 is developed, the owner of Lot 4 is to be responsible for constructing the shared access driveway, that the owner Lot 3 is entitled to access their lot via the driveway by providing written notice to the owners of Lots 2 and 4, and lastly, that the owners of Lot 4 will share maintenance of the shared driveway "with Lot 2 and/or Lot 3 in a reasonable proportionate share reflecting the length of the shared access driveway used by each lot and the approximate number of trips made by vehicles to and from each lot" (*Attachment D*). The applicant has acknowledged that the final location of these access points will be resolved pending future discussions with the adjacent property owners. Mr. Errico writes,

The plan notes approximate driveway locations for Lots 2 and 3. I find the currently depicted locations to be acceptable. Any changes to the locations shall be reviewed and approved by the City.

A condition of approval has been drafted to address this likelihood.

With respect to pedestrian access to the site, the final application includes the construction of new ADA ramps at the entrance drive on Riverside Street, as well as a sidewalk connection on the south side of the entrance drive to the office building and parking area as required.

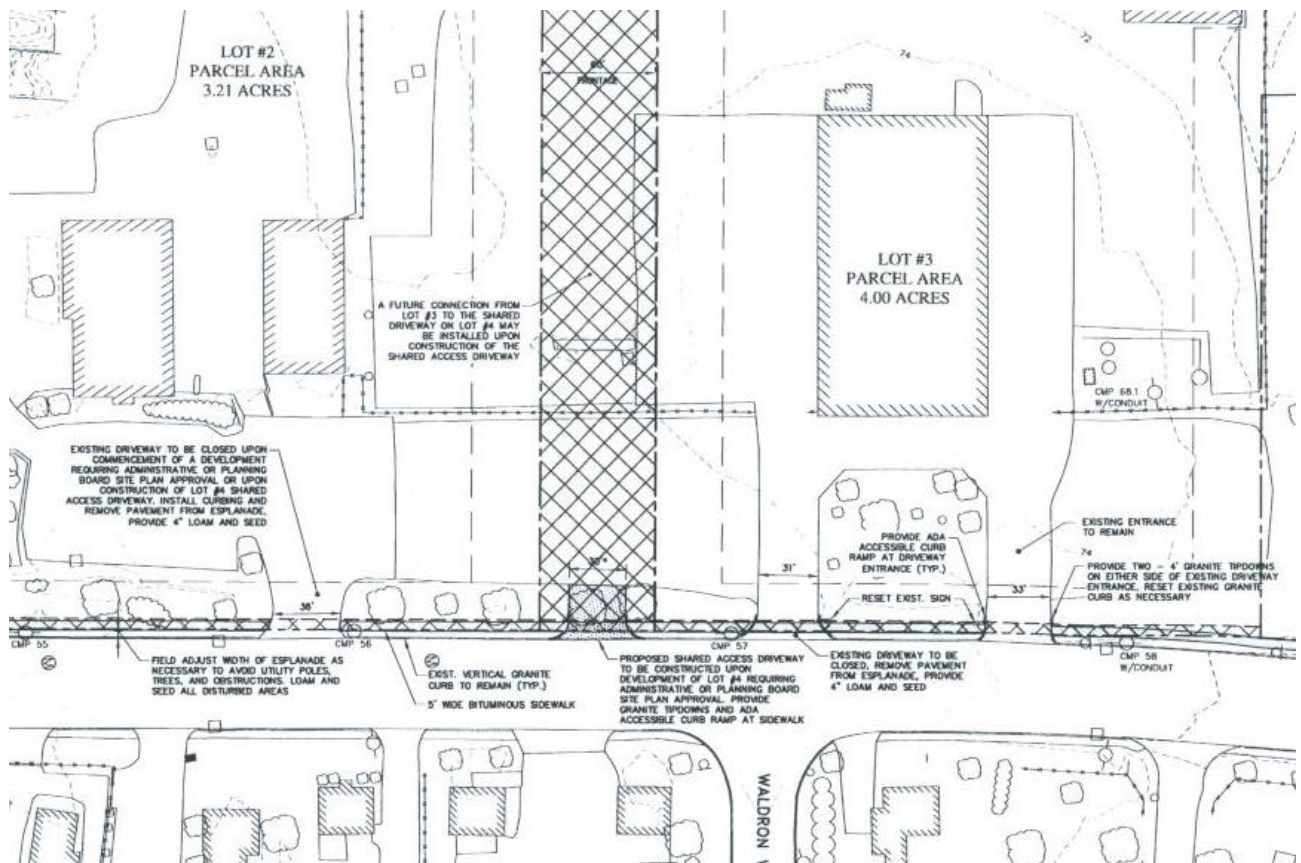


Figure 6: Sidewalk and Driveway Plan, Riverside Subdivision Plat

b. *Public Transit Access*

The project is not located on an existing transit route. No public transit access is required.

c. *Parking*

Division 20 of the land use ordinance establishes a parking requirement of 1/400 SF for office spaces and 1/1,000 SF for industrial buildings not catering to retail trade and with floor area over 3,000 SF. Based on these ratios, 24 parking spaces are required. The applicant's final plans show 50 spaces in a paved parking lot to serve the 30-34 existing full time employees and 14 additional employees that might be housed at the site in the future. The applicant has noted in their final submittal that they may elect not to build these spaces. Mr. Errico has requested additional clarity on this point, writing,

The plans should either illustrate parking spaces intended for construction or they shall be removed them from the plans.

A condition of approval has been drafted to address the parking as shown in the site plan.

Technically, per the ordinance, four bicycle spaces are required. The applicant has included these spaces in two bicycle racks near the front door of the office building.

d. *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 applicant's final submittal notes that a landscaping plan addressing the site plan standards will be provided. Jeff Tarling, the city's arborist, has reviewed this plan and writes,

The proposed 636 Riverside Street project would benefit from a landscape / tree planting plan. The landscape plan should address any new parking areas, commercial property to city right of way interface, this would be the view to the site and landscape treatment to improve circulation. The landscape improvements could be incremental to the proposed site work vs the entire site.

Staff has requested that the applicant add notes to the plan clarifying that areas beyond the gravel yard be shown as loamed and seeded. A proposed condition of approval is included that requires a landscaping plan be submitted for review and approval by the City Arborist and Planning Authority.

c. *Water Quality/Storm Water Management/Erosion Control*

As noted above, the applicant plans to increase impervious area by approximately 29,200 SF, and proposes to treat an area of runoff greater than this area through the use of an underdrained soil filter which would outlet to the Presumpscot River. Ms. Swett has reviewed the design of the stormwater system and found that it meets the city's basic and general standards. The applicant has requested a waiver from the flooding standard, which regulates the quantity of stormwater leaving the site. Ms. Swett writes,

The applicant is seeking a waiver from the MaineDEP Chapter 500 Flooding Standard, as the project parcel is tributary to a major river segment (Presumpscot River). Given that the proposed underdrained soil filter will manage the discharge rate of the Water Quality Volume generated from the new impervious area, and given that the site discharges almost directly to the Presumpscot River, we support the Applicant's request for a waiver from the Flooding Standard.

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 preliminary plans show all proposed propane storage within a locked, fenced area. A private hydrant is proposed on site, and the propane cylinder storage building will be sprinkled (*Attachment G*). Keith Gautreau, Assistant Fire Chief, has reviewed the final submittal and indicated his approval (*Attachment 5*).

c. *Availability and Capacity of Public Utilities*

As noted above, the plans show domestic water and fire service from an existing 12" cast iron water main in Riverside Street. Evidence of water and sewer capacity has been provided (*Attachment M*).

Electrical service is proposed from the overhead lines in Riverside Street. Overhead service would be extended along the shared access drive and along the front of the site to a riser pole directly in front of the office/garage building. From there, electrical service would drop underground to a pad mounted transformer and subsequently to the three buildings on site. As noted above, this electrical service would require an easement from Lot 3.

4. Site Design Standards

a. *Massing, Ventilation, and Wind Impact*

The bulk, location, or height of the buildings are not likely to result in health or safety problems from a reduction in ventilation to abutting structures.

b. *Shadows*

The project is proposed in the I-H zone; as such, this standard does not apply.

- c. *Snow and Ice Loading*
No adverse snow and ice loading impacts are anticipated.
- d. *View Corridors*
Riverside Street is not a designated view corridor.
- e. *Historic Resources*
The project will not affect historic resources.
- f. *Exterior Lighting*
The applicant has submitted a revised photometric plan in the final submittal which conforms with the city's *Technical Manual* standards (*Plan 27*).
- g. *Noise and Vibration*
The applicant has stated that noise and vibration levels will meet the standards of the zone.
- h. *Signage and Wayfinding*
No signage or wayfinding is proposed at this time. All commercial signs will be required to meet Division 22 of the land use ordinance.
- i. *Zoning-Related Design Standards*
There are no design standards for the I-H zone.

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 Suburban Propane project at 636 Riverside 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 June 28, 2016 for application 2016-047 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 on the consulting civil engineer's review, that extraordinary conditions exist or undue hardship may result from strict compliance with the *Technical Manual* standard (*Section 5.III.E*) which requires that projects must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the site do not exceed the pre-development condition, that substantial justice and the public interest are secured with the proposed variation in this standard, and that the variation is consistent with the intent of the ordinance, as the stormwater drains directly into the Presumpscot River. The Planning Board **waives/does not waive** the *Technical Manual* standard (*Section 5.III.E*) to allow stormwater management and drainage as proposed in the final plan.

B. SUBDIVISION

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 June 28, 2016 for application 2016-047 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 the Department of Public Works, Corporation Counsel, and the Planning Authority;
2. The applicant shall provide evidence of all necessary easements for review and approval by Corporation Counsel and the Planning Authority, including but not limited to the following:
 - An easement from Lot 4-1 to Lot 4 to extend access rights from the driveway to the remainder of Lot 4;
 - An easement from Lot 4 to Lot 4-1 to allow the site's drainage to cross Lot 4 and ensure access for purposes of future inspection and maintenance; and
 - A utility easement from Lot 3 for purposes of an overhead electrical line from Riverside Street.

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 June 28, 2016 for application 2016-047 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 and **approves/does not approve** the application, subject to the following conditions of approval that must be met prior to the issuance of a building permit, unless otherwise stated:

1. The applicant shall provide evidence of a Notice of Intent to Comply with the Maine Construction General Permit for review and approval by the Planning Authority;
2. The applicant shall provide a final construction management plan, including any necessary temporary construction easements, for review and approval by Corporation Counsel, the Department of Public Works, and the Planning Authority;
3. The applicant shall provide a revised plan set which:
 - a. depicts the final location of driveway access points to Lots 2 and 3; and
 - b. depicts only such parking as is intended for construction under the current application.
4. The applicant shall provide a landscaping plan meeting the standards of the city's site plan ordinance for review and approval by the City Arborist and Planning Authority.

XIV. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. Traffic Engineer review (memo from Thomas Errico, 6/15/16)
2. Civil Engineer review (memo from Lauren Swett, 6/14/16)
3. Department of Public Works review (memo from David Margolis-Pineo, 6/13/16)
4. City Arborist review (memo from Jeff Tarling, 4/11/16)
5. Fire Prevention Bureau review (memo from Keith Gautreau, 6/13/16)

APPLICANT'S SUBMITTALS

- A. Cover Letter (from Bo Kennedy, 2/29/16)
- B. Level III Site Plan application
- C. Development Description
- D. Right, Title, and Interest
- E. Technical and Financial Capacity
- F. Utilities
- G. Fire Safety
- H. Construction Management Plan
- I. Solid Waste

- J. Conformity with Applicable Design Standards
- K. Elevations and Floor Plan
- L. Response to Comments (from Bo Kennedy, 6/10/16)
- M. Utility Capacity Letters
- N. Storm Drain Outlet Photographs
- O. Neighborhood Meeting Minutes

PLANS

- Plan 1. Original Riverside Subdivision Recording Plat
- Plan 2. Sidewalk and Driveway Plan, Riverside Recording Plat
- Plan 3. 1st Amended Riverside Subdivision Plat
- Plan 4. Cover Sheet
- Plan 5. General Notes and Legend
- Plan 6. Existing Conditions Plan of Land
- Plan 7. 2nd Amended Riverside Subdivision
- Plan 8. Site Layout Plan
- Plan 9. Grading and Drainage Plan
- Plan 10. Utility Plan
- Plan 11. Erosion Control Plan
- Plan 12. Erosion Control Notes
- Plan 13. Erosion Control Details
- Plan 14. Stormwater Management Filter Details
- Plan 15. Stormwater Management Filter Notes
- Plan 16. Stormwater Management Details
- Plan 17. Utility Details
- Plan 18. Utility Details
- Plan 19. Site Details
- Plan 20. Site Details
- Plan 21. Electrical and Lighting Details
- Plan 22. Sanitary Sewer Profiles
- Plan 23. Storm Drain Profiles
- Plan 24. Storm Drain Profiles
- Plan 25. Water Profile
- Plan 26. Access Drive Profile
- Plan 27. Photometric Plan



Helen Donaldson <hcd@portlandmaine.gov>

636 Riverside Street/Suburban Propane - Final Traffic Comments

2 messages

Tom Errico <thomas.errico@tylin.com>

Wed, Jun 15, 2016 at 2:40 PM

To: Helen Donaldson <HCD@portlandmaine.gov>

Cc: David Margolis-Pineo <dmp@portlandmaine.gov>, Katherine Earley <kas@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Jeff Tarling <jst@portlandmaine.gov>

Hi Nell – I have reviewed the revised application materials and offer the following final traffic comments as a status update of my April 11, 2016 preliminary comments.

- I have reviewed the trip generation estimate for the site and find it to be acceptable. In my professional opinion the project will not create traffic congestion or safety problems.

Status: No response needed.

- A sidewalk shall be constructed on the proposed drive between Riverside Street and the project site. This shall include a pedestrian facility on-site to the building entrance.

Status: The plans have been revised and now include a sidewalk. I have no further comment.

- The proposed driveway to Riverside Street is noted to be 25-feet wide. While acceptable, a 24-foot wide driveway would be permitted.

Status: The plans have been revised to include a 24-foot road and I find the plans to be acceptable. I have no further comment.

- The construction of the proposed drive triggers the closing of the driveway to the south on Riverside Street and construction of a new access/egress drive on the proposed drive. Details of these two actions (closing the driveway and providing a connection) shall be provided.

Status: The plan notes approximate driveway locations for Lot's 2 and 3. I find the currently depicted locations to be acceptable. Any changes to the locations shall be reviewed and approved by the City.

- The plans illustrate future parking spaces. It is recommended that the spaces either be part of this application or their designation be removed from the site plan.

Status: The plans should either illustrate parking spaces intended for construction or they shall be removed them from the plans.

- Given traffic levels on Riverside Street, two approach lanes (separate left and right lanes) on the driveway should be provided.

Status: The plans have been revised to address this comment and I have no further comment.

Additional Comment:

- **A construction management plan will be required for utility work in Riverside Street. The applicant will be required to provide a construction management plan for review and approval by the City. It should be noted that the expectation of the work zone is that two travel lanes are provided during construction.**

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director

TYLIN INTERNATIONAL T.Y. Lin International

12 Northbrook Drive

Falmouth, ME 04105

[207.781.4721](tel:207.781.4721) (main)

[207.347.4354](tel:207.347.4354) (direct)

[207.400.0719](tel:207.400.0719) (mobile)

[207.781.4753](tel:207.781.4753) (fax)

thomas.errico@tylin.com

Visit us online at www.tylin.com

Twitter | Facebook | LinkedIn | YouTube

"One Vision, One Company"

Please consider the environment before printing.

Helen Donaldson <hcd@portlandmaine.gov>
To: Tom Errico <thomas.errico@tylin.com>

Thu, Jun 16, 2016 at 9:39 AM

Thanks, Tom.

[Quoted text hidden]

—

Nell Donaldson
Planner, City of Portland
874-8723
hcd@portlandmaine.gov

MEMORANDUM



TO: Nell Donaldson, Planner
FROM: Lauren Swett, PE
DATE: June 14, 2016
RE: 636 Riverside Street – Final Level III Site Plan and Amended Subdivision Application

Woodard & Curran has reviewed the Response to Comments provided for the Final Level III Site Plan and Amended Subdivision Application for the proposed Suburban Propane site located at 636 Riverside Street in Portland, Maine. The project involves the construction of a new office, storage, and distribution facility for Suburban Propane. Three structures are proposed, including a 7,300-sf office building, 2,146-sf two bay garage with associated office space, and a 4,000-sf cylinder storage dock. Additionally, site improvements will include fuel distribution storage cylinders, driveways, parking areas, and stormwater management areas. The project will develop 3.80 acres of the 4.12 acre site. The net developed area as part of the project is estimated at 2.07 acres. The net impervious area created as part of this project is estimated to be 0.68 acres.

Documents Reviewed by Woodard & Curran

- Suburban Propane Development Final Level III Site Plan and Amended Subdivision Application Response to Comments and attachments, dated June 10, 2016, prepared by Stantec on behalf of Thompson's Point Development Co., Inc.
- Engineering Plans, C-2.1, C-3.0, C-4.0, C-5.0, C-6.0, C-8.0, and C-9.4, dated June 10, 2016, prepared by Stantec on behalf of Thompson's Point Development Co., Inc.

Comments

- 1) The Applicant has noted that the Notice of Intent to Comply with the Maine Construction General Permit will be filed prior to construction, and will be provided to the City. We concur with the Applicant's recommendation that this be a condition of approval.
- 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 Standards: The Applicant has submitted plans, details and a report that addresses 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 and Chapter 32 of the City of Portland Code of Ordinances.
 - b) General Standards: The applicant proposes an underdrained soil filter system to provide water quality treatment in accordance with the General Standards for an impervious area equivalent to the proposed net increase in impervious area, and has submitted design calculations and details for the system. Based on our review, we find that the project is compliant with the MaineDEP General Standards for the new impervious area.
 - c) Flooding Standard: The applicant is seeking a waiver from the MaineDEP Chapter 500 Flooding Standard, as the project parcel is tributary to a major river segment (Presumpscot River). Given that the proposed underdrained soil filter will manage the discharge rate of the Water Quality Volume generated from the new impervious area, and given that the site discharges almost directly to the Presumpscot River, we support the Applicant's request for a waiver from the Flooding Standard.
- 3) All comments have been addressed.



Helen Donaldson <hcd@portlandmaine.gov>

Suburban Propane revised submittal - comments by Wednesday if possible

David Margolis-Pineo <dmp@portlandmaine.gov>

Tue, Jun 14, 2016 at 8:47 AM

To: Helen Donaldson <hcd@portlandmaine.gov>

Let's leave it. At this point it just muddies the waters. Not really that important anyway.

On Tue, Jun 14, 2016 at 8:36 AM, Helen Donaldson <hcd@portlandmaine.gov> wrote:

David,

These did get to me, and I'm pretty sure I forwarded them, even though they came in after Mike's. I also noticed that Bo didn't respond to them.

If you'd like to push on them, I'm happy to. They wouldn't be that hard for them to address!

Nell

On Tue, Jun 14, 2016 at 7:52 AM, David Margolis-Pineo <dmp@portlandmaine.gov> wrote:

Nell,

The Wastewater Capacity Application approval has been sent to the applicant and is in Urban Insight. I guess the following comments did not get to you. Forget about them at this point. Not that important.

May 23, 2016

Memo To: Nell Donaldson

Barbara Barhydt

From: David Margolis-Pineo

Re: 636 Riverside Street – Suburban Propane

The Department of Public Services has the following review comments on the above project.

1. Please move the proposed 2” water tap off the proposed 6” water main out of the Riverside Street right of way.

2. Please add general note stating that, "All proposed work within the City road right of way shall meet City of Portland Technical Manual standards."
3. Prior to construction, drainage easements should be in place between all applicable lots owners to cover the underground drainage system.
4. The applicant may wish to review other options to installing a 22' deep manhole with external drop connection in the middle of Riverside St.

We have no further comments at this time.

On Mon, Jun 13, 2016 at 9:18 AM, Helen Donaldson <hcd@portlandmaine.gov> wrote:

All,

Revised plans for Suburban Propane are now in ePlan. I am attaching Bo Kennedy's response to comments here.

I am on vacation next week, so I am trying to get final comments from you *by this Wednesday*. If that seems completely un-doable to you, can you please let me know as soon as possible?

Thanks in advance for scrambling on this one.

Nell

--

Nell Donaldson
Planner, City of Portland
874-8723
hcd@portlandmaine.gov

--

David Margolis-Pineo
Deputy City Engineer
Department of Public Services
55 Portland St.
Portland, ME 04101
Office [207-874-8850](tel:207-874-8850)
Cell [207-400-6695](tel:207-400-6695)
dmp@portlandmaine.gov

--

Nell Donaldson
Planner, City of Portland
874-8723
hcd@portlandmaine.gov

--

David Margolis-Pineo
Deputy City Engineer
Department of Public Services
55 Portland St.
Portland, ME 04101
Office [207-874-8850](tel:207-874-8850)
Cell [207-400-6695](tel:207-400-6695)
dmp@portlandmaine.gov



Helen Donaldson <hcd@portlandmaine.gov>

636 Riverside Street Project

Jeff Tarling <jst@portlandmaine.gov>

Mon, Apr 11, 2016 at 12:56 PM

To: Helen Donaldson <hcd@portlandmaine.gov>

Hi Nell -

The proposed 636 Riverside Street project would benefit from a landscape / tree planting plan. The landscape plan should address any new parking areas, commercial property to city right of way interface, this would be the view to the site and landscape treatment to improve circulation. The landscape improvements could be incremental to the proposed site work vs the entire site.

Thanks

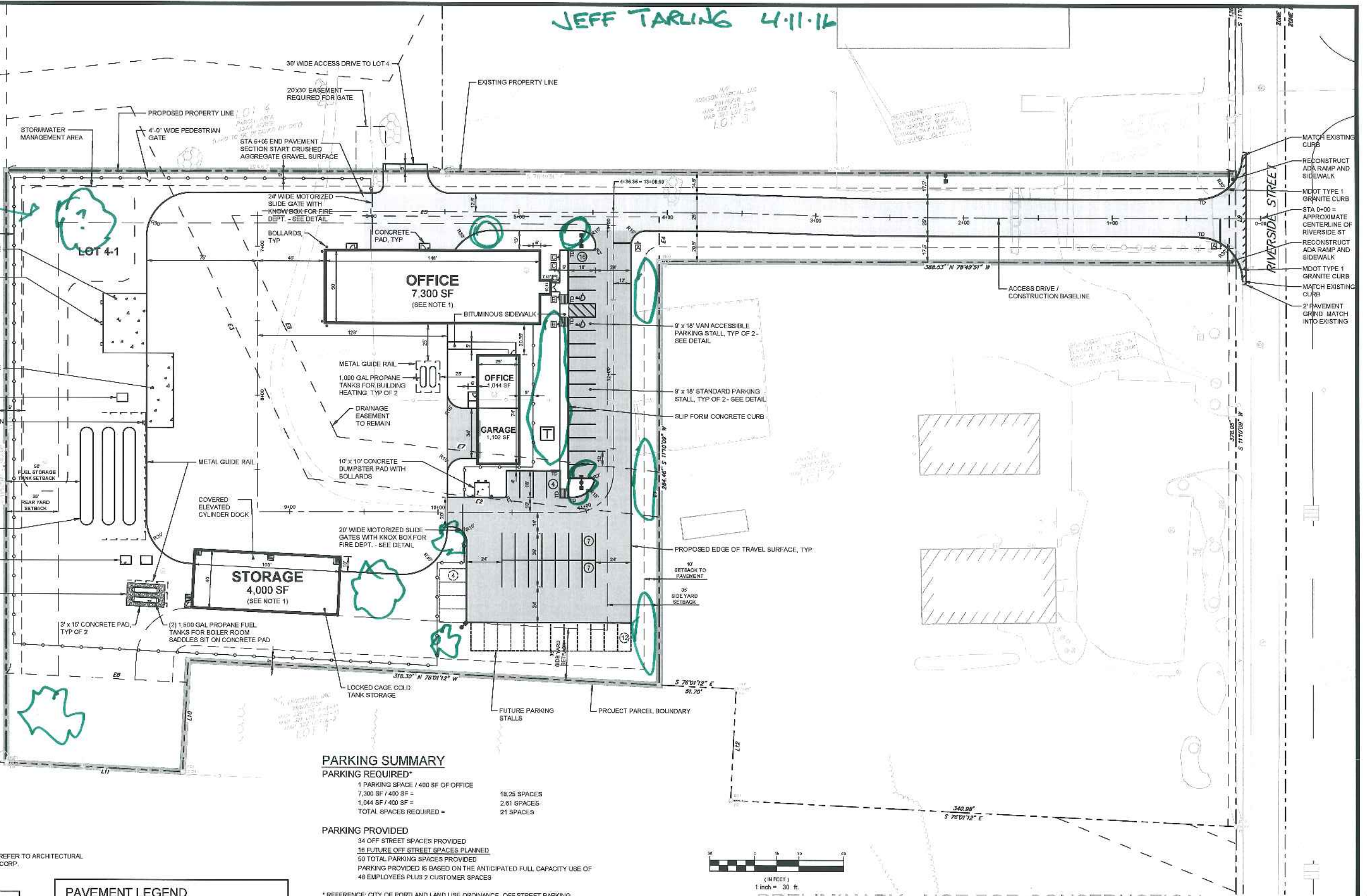
Jeff

Jeff Tarling
Portland Parks & Recreation - City Arborist
55 Portland Street
Portland, ME. 04101
(207) 874.8820
jst@portlandmaine.gov

JEFF TARLING 4.11.16



Swamp
Whisk oak
or maple



PARKING SUMMARY

PARKING REQUIRED*	
1 PARKING SPACE / 400 SF OF OFFICE	
7,300 SF / 400 SF =	18.25 SPACES
1,044 SF / 400 SF =	2.61 SPACES
TOTAL SPACES REQUIRED =	21 SPACES

PARKING PROVIDED

34 OFF STREET SPACES PROVIDED
16 FUTURE OFF STREET SPACES PLANNED
50 TOTAL PARKING SPACES PROVIDED
PARKING PROVIDED IS BASED ON THE ANTICIPATED FULL CAPACITY USE OF 48 EMPLOYEES PLUS 2 CUSTOMER SPACES

* REFERENCE: CITY OF PORTLAND LAND USE ORDINANCE, OFF STREET PARKING REQUIREMENTS SECTION 14.452 DIVISION 20

SPACE AND BULK SUMMARY IH - INDUSTRIAL ZONE

	REQUIRED	PROVIDED
MINIMUM LOT SIZE	NONE	4.12 AC
MINIMUM STREET FRONTAGE	60'	60'
MINIMUM FRONT YARD	25'	N/A
SIDE YARD	35'	35' (COLD STORAGE DOCK)
REAR YARD	35'	>120' (COLD STORAGE DOCK)
MAXIMUM BUILDING HEIGHT	75'	<20'
MAXIMUM IMPERVIOUS RATIO	65%	55%
MINIMUM PAVEMENT SETBACK	10'	14.5'

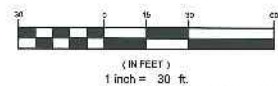
NOTE:
1. FOR BUILDING PLANS AND DIMENSIONS REFER TO ARCHITECTURAL AND STRUCTURAL PLANS BY SHERIDAN CORP.

SIGN LEGEND

R1-1 24"x36" A
R1-6 12"x18" R2-8P 12"x6" B
12"x15" C

PAVEMENT LEGEND

HEAVY DUTY PAVEMENT
STANDARD DUTY PAVEMENT
BITUMINOUS PAVEMENT SIDEWALK
CRUSHED AGGREGATE GRAVEL
CONCRETE
3/4" CRUSHED STONE



PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS			PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
3	02.19.16		FINAL SITE PLANS AND SUBDIVISION PLANS SUBMITTED TO CITY		
2	01.22.16		SUBMITTED TO OWNER FOR REVIEW		
1	02.11.15		SUBMITTED TO CONTRACTOR FOR PRICING		
REV	DATE		DESCRIPTION		
			SHEET TITLE SITE LAYOUT PLAN		CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.
			DRAWN: DED DATE: JAN 2016		Stantec
			DESIGNED: BEK SCALE: 1" = 30'		
			CHECKED: BEK JOB NO. 165350142		FILE NAME: SP-M157 SITE
			SHEET C-3.0		

P:\ME\SP-M157-Suburban Propane Relocation\Add\Permit Set\SP-M157 SITE.dwg, C-3.0 Site Layout Plan, 2/28/2016 3:04:47 PM, davis_d, 1:1



Helen Donaldson <hcd@portlandmaine.gov>

Suburban Propane revised submittal - comments by Wednesday if possible

Keith Gautreau <kng@portlandmaine.gov>

Mon, Jun 13, 2016 at 11:13 AM

To: Helen Donaldson <hcd@portlandmaine.gov>

Hi Nell,

I'm all set with the responses from Bo. Let me know if you need something else.

Keith

On Mon, Jun 13, 2016 at 9:18 AM, Helen Donaldson <hcd@portlandmaine.gov> wrote:

[Quoted text hidden]

--

Keith Gautreau, Assistant Fire Chief
Fire Prevention Bureau
Community Outreach Branch
Portland Fire Department
380 Congress Street
Portland, ME 04101
(207)874-8409
kng@portlandmaine.gov



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



February 29, 2016

Ms. Barbara Barhydt

Planning and Urban Development Department
City of Portland
389 Congress Street
Portland, ME 04101-3509

**Subject: Suburban Propane Development
Vicinity of 636 Riverside Street
Final Site Plan and Amended Subdivision Application
Applicant: Thompson's Point Development Co. Inc.**

Dear Barbara:

On behalf of Thompson's Point Development Co., Inc., we are pleased to provide the accompanying package of Final Site Plan and Amended Subdivision submission materials related to the proposed Suburban Propane facility adjacent to 636 Riverside Street. This submission package is intended to meet the City's Final Plan Submission Requirements as outlined in the Level III Final Site Plan Application procedures. These materials represent the design development for the proposed Suburban Propane office, storage, and distribution facility for the property generally bounded by Riverside Street (east), Solaris (east), Lucas Tree (east), Conservation land and Presumpscot River (West), undeveloped land (north), and Schnitzer Northeast (south). It is the Applicant's intent to construct three structures; a 7,300 s.f. office building, 2,146 s.f. two bay garage with associated office space, 4,000 s.f. cylinder storage dock, and fuel distribution storage cylinders. The site plan includes three (3) 30,000 gpd size LP fuel storage tanks and related ancillary equipment. The development site is an approximately 4.12-acre area that is currently unimproved yard area. The site is vacant of any buildings and consists of existing drainage and haul paths from previous fill operations associated with other development activities with-in the subdivision. The Applicant currently has a purchase and sale agreement to acquire the property from the current Owner (on file with the City's Economic Development Group). The development proposal is part of a broader development initiative whereby Suburban's operations are relocated from their current location on Thompson's Point.

The existing site was previously reviewed and approved as part of a Subdivision Application on behalf of the City of Portland Economic Development Department. The lot approved as Lot 4 is proposed to be split into two parcels identified in the submission materials as Lot 4 and Lot 4-1. The project use is permitted in the I-H zone as outlined in Section 14-262 (d).



Ms. Barbara Barhydt
February 29, 2016
Page 2

You will find in the accompanying materials, information including the Final Site Plan, Lighting Package, and Building Elevations that provide details for the building development activities. Information pertaining to the project's utilities needs and statements regarding compliance with the City's Standards are contained within this submission.

On behalf of the Thompson's Point Development, Inc. and Suburban Propane Team, we look forward to your assistance on the project and we look forward to the next available workshop meeting with the Planning Board. Please find one (1) hard copy of the application materials including one set each of 11x17 and full size plans, along with a CD containing PDF files for all submitted materials.

If you have any questions with the information provided, please contact our office.

Sincerely,

STANTEC CONSULTING, INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207.775.1121
Fax: 207.879.0896
Bo.Kennedy@stantec.com

Attachments

c: Chris Thompson

P:\ME\SP-M157-Suburban Propane Relocation\Admin\Permitting\Local\Level III Site Plan & Amended Subdivision Application\SP-M157 2016.02.29-Barhydt-Cover Letter.docx

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:

February 29, 2016

Date:

Bo Kennedy, P.E.

I have provided digital copies and sent them on:

February 29, 2016

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.

PROJECT NAME: Suburban Propane Development

PROPOSED DEVELOPMENT ADDRESS:

Vicinity of 636 Riverside Street, Portland, Maine

PROJECT DESCRIPTION:

Relocation of Suburban Propane Facility from Thompson's Point to Riverside
Street Industrial Park

CHART/BLOCK/LOT: 322/A003/1

PRELIMINARY PLAN

N/A (date)

FINAL PLAN

2/29/16 (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Chris Thompson Business Name, if applicable: Thompson's Point Development Co. Inc. Address: 501 Danforth Street City/State : Portland, ME Zip Code: 04102	Applicant Contact Information Work # 207-747-5288 Home# Cell # 207-347-1614 Fax# 207-747-5941 e-mail: parrallaxpartners@gmail.com
Owner – (if different from Applicant) City of Portland - Economic Development Name: Attn: Greg Mitchell Address: 389 Congress Street City/State : Portland, ME Zip Code: 04101	Owner Contact Information Work # 207-874-8721 Home# Cell # Fax# 207.456-8258 e-mail: gmittchell@portlandmaine.com
Agent/ Representative Bo E. Kennedy, P.E. Name: Stantec (formerly Fay, Spofford & Thorndike) Address: 778 Main Street, Suite 8 - suite 1A City/State : So. Portland, ME Zip Code: 04106	Agent/Representative Contact information Work # 207-775-1121 Cell # e-mail: bo.kennedy@stantec.com
Billing Information Name: SAME AS APPLICANT Address: City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Bo E. Kennedy, P.E. Name: Stantec (formerly Fay, Spofford & Thorndike) Address: 778 Main Street, Suite 8 City/State : So. Portland, ME Zip Code: 04106	Engineer Contact Information Work # 207-775-1121 Cell # Fax# e-mail: bo.kennedy@stantec.com
Surveyor Sebago Technics Name: Attn: Charles Marchese, PLS Address: 75 John Roberts Road City/State : South Portland, ME Zip Code: 04106	Surveyor Contact Information Work # 207-200-2100 Cell # Fax# e-mail:
Architect Sheridan Corp. Name: Attn: Thomas J. Anuszewski, P.E., LEED AP Address: 739 Warren Avenue City/State : Portland, ME Zip Code: 04103	Architect Contact Information Work # 207-774-6138 Cell # Fax# e-mail: Tanuszewski@sheridancorp.com
Attorney Name: Address: City/State : Zip Code:	Attorney Contact Information 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) ☒ 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) ☐ 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 <u>Subdivision Amendment</u> ☐ Change of Use ☐ Flood Plain ☐ Shoreland ☐ Design Review ☐ Housing Replacement ☐ Historic Preservation
--	--

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan and each document submitted as separate files. Naming conventions for the individual files 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: February 29, 2016
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PROJECT DATA

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

Total Area of Site	179,467 sq. ft.
Proposed Total Disturbed Area of the Site	165,528 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)	75,358 sq. ft.
Impervious Area (Total Proposed)	104,544 sq. ft.
Building Ground Floor Area and Total Floor Area	
Building Footprint (Total Existing)	0 sq. ft.
Building Footprint (Total Proposed)	13,446 sq. ft.
Building Floor Area (Total Existing)	0 sq. ft.
Building Floor Area (Total Proposed)	13,446 sq. ft.
Zoning	
Existing	I - H
Proposed, if applicable	N/A
Land Use	
Existing	N/A
Proposed	Office/Fuel Storage
Residential, If applicable	
# of Residential Units (Total Existing)	N/A
# of Residential Units (Total Proposed)	
# of Lots (Total Proposed)	
# of Affordable Housing Units (Total Proposed)	
Proposed Bedroom Mix	
# of Efficiency Units (Total Proposed)	N/A
# of One-Bedroom Units (Total Proposed)	
# of Two-Bedroom Units (Total Proposed)	
# of Three-Bedroom Units (Total Proposed)	
Parking Spaces	
# of Parking Spaces (Total Existing)	0
# of Parking Spaces (Total Proposed)	50
# of Handicapped Spaces (Total Proposed)	2
Bicycle Parking Spaces	
# of Bicycle Spaces (Total Existing)	0
# of Bicycle Spaces (Total Proposed)	0
Estimated Cost of Project	\$2,000,000

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST
N/A		1	Completed Application form
N/A		1	Application fees
N/A		1	Written description of project
N/A		1	Evidence of right, title and interest
N/A		1	Evidence of state and/or federal approvals, if applicable
N/A		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
N/A		1	Written requests for waivers from site plan or technical standards, if applicable.
N/A		1	Evidence of financial and technical capacity
N/A		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST
N/A		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
N/A		1	Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)
N/A			Proposed grading and contours;
N/A			Existing structures with distances from property line;
N/A			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;
N/A			Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);
N/A			Preliminary infrastructure improvements;
N/A			Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;
N/A			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);
N/A			Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);
N/A			Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;
N/A			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)
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 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
N/A		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;
N/A			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
N/A			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;
N/A			A traffic control plan as detailed in Section 1 of the Technical Manual;
N/A			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
N/A			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;
N/A			Proposed buffers and preservation measures for wetlands;
X			Existing soil conditions and location of test pits and test borings;
N/A			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;
N/A		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
N/A		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;
N/A		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.



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447

(Date)

Dear Neighbor:

Please join us for a Neighborhood Meeting to discuss our plans for an office and propane storage facility in the vicinity of 636 Riverside Street, Portland, Maine.

Meeting Location: TBD

Meeting Date: TBD

Meeting Time: TBD

(The City Code requires that property owners within 500 feet (except notices must be sent to property owners within 1,000 feet for industrial zoning map amendments and industrial subdivisions) 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 feel free to contact Bo Kennedy, P.E. at 207-775-1121.

Sincerely,

STANTEC CONSULTING, INC.

Bo Kennedy, P.E.
Senior Civil Engineer

Note: Under Section 14-32(C) and 14-525 of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within three weeks of submitting a preliminary application or two weeks of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101 or by email to: bab@portlandmaine.gov

R:\2982.05 Amended Site Plan Part II\Admin\Permitting\Abutters\01.08.2015 \Neighborhood Meeting Letter.docx

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- Section 1: Attachment A – Existing Site Photographs
Attachment B – Traffic Impact Assessment
Attachment C – Parking Demand Estimate
Attachment D – Stormwater Management Report
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- Section 5: Attachment G – Portland Fire Department Review Checklist & NRPA 1 Review
- Section 6: Attachment H – Construction Management Plan
- Section 7: Attachment I – Architectural Elevations and Floor Plan

LIST OF PLANS

SHEET #	TITLE
C-1.0	COVER SHEET
C-1.1	GENERAL NOTES AND LEGEND
C-2.0	EXISTING CONDITIONS PLAN OF LAND
C-2.1	2 ND AMENDED RIVERSIDE SUBDIVISION
C-3.0	SITE LAYOUT PLAN
C-4.0	GRADING AND DRAINAGE PLAN
C-5.0	UTILITY PLAN
C-6.0	EROSION CONTROL PLAN
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C-6.2	EROSION CONTROL DETAILS
C-7.0	STORMWATER MANAGEMENT: GRASSED UNDERDRAIN FILTER DETAILS
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1. DEVELOPMENT DESCRIPTION

Att. B

1.1 PROJECT OVERVIEW

The project comprises the development of Lot 4 of the formerly approved Industrial Business Park in the vicinity of 636 Riverside Street in the City of Portland to provide an office, fuel storage and distribution operations for Suburban Propane.

1.2 PROJECT PURPOSE AND NEED

The existing site is currently vacant and unused. The project presents an opportunity to relocate an existing industrial use from the new economic development area known as Thompson's Point to a more appropriate location, and to help catalyze the further development of the industrial subdivision at Riverside Street as originally planned by the City of Portland. Suburban Propane has entered into an agreement with Thompson's Point Development Co., Inc. ("Applicant") which entails the exchange of the parcel of land that Suburban Propane owns adjacent to Thompson's Point with the parcel of land that the Applicant has under contract with the City of Portland in the Riverside Industrial Park and which is the subject of this application. Development of the proposed property would trigger the development of a shared use driveway condition required under the current Riverside Street subdivision approvals, a key step in furthering the development of the neighboring industrial sites. This is particularly significant as this was the City's original goal in undertaking the original land acquisition, and given the current need for industrial properties in the City of Portland. The community benefits provided by the project include the following:

- Facilitate the redevelopment and revitalization of Thompson's Point, and support ongoing efforts to expand the Portland Transportation Center.
- Foster the long-desired development of suitable industrial sites, including City-owned parcels whose development will be assisted by the development of this parcel.
- Provide an appropriate location for the current use.

1.3 EXISTING CONDITIONS

The project parcel is described as Tax Map 323, Block A, Lots 3 & 5 and has frontage on Riverside Street via a 60 foot wide shared use right of way. The total site area is approximately 179,500 SF (4.12 acres), and there are no buildings on the site which has a total existing impervious area of approximately 1.73 AC. The existing impervious area is used as laydown, hauling, and parking by the current Lucas Tree operations. Figures are included in Attachment D of the Stormwater Management Report which depict the project location on various available resource maps.

The remainder of the site is compacted overgrown undeveloped area located behind the existing Solaris site. There is currently an existing curb cut onto the property from Riverside Street. This curb cut will need to be modified to provide better access to industrial vehicles. There is sidewalk along the property frontage on Riverside Street, and although there are existing accessible ramps for the driveway they would need to be reconstructed as part of the driveway improvements. The proposed development will not generate a need for dedicated pedestrian access from Riverside Street.

Stormwater generally flows overland to a series of existing catch basins and drains from the interior of the site that are connected to a shared drainage system to an outlet at the edge of the

Presumpscot River. The outer portions of the property drain by sheet flow off the property to the abutting Presumpscot River.

The City of Portland has record of a 12" PVC sanitary sewer main in Riverside Street but does not provide for a service exiting the proposed parcel. We have received confirmation from the Portland Water District on current water main and hydrant locations in the proximity of the property, but there are no records of existing services to the parcel. The site will require an electrical service connection from Riverside Street, connecting overhead to a drop pole on the easterly side of the proposed buildings. The power would then be distributed across the site from a pad mounted transformer.

Photographs of the existing site conditions are included as Attachment A.

1.4 SITE HISTORY

The site was previously undeveloped; however, it has been used by Lucas Tree as part of their landscaping and tree cutting facility. An environmental site assessment was performed as part of the original subdivision application prepared by Woodard & Curran on behalf of the City of Portland. The environmental assessment conducted on the property was intended to identify and classify potential soil contaminants associated with the original filling operations of the property on made land, and the previous uses of the site. The site assessment is on file with the City and available upon request. There are no significant environmental issues on the property.

1.5 PROPOSED DEVELOPMENT

The development program includes the following components.

The applicant proposes development of the site which is consistent with the Zoning Ordinances and City's intent for development in this area. The site will consist of five major site improvement components.

First, the development will include an approximately 400 ft. long by 25 ft. wide paved access drive to the main portion of the parcel. Abutting parcels will have the ability to access this drive, subject to their participation in an equitable cost-sharing arrangement.

Second, a 34 space parking lot includes 2 van accessible barrier free parking stalls and provisions for up to 16 future parking spaces for a total of 50 spaces. The parking lot is sized to accommodate the employees and customers who may visit the site. Provisions are provided for 16 future parking spaces should demand warrant this. The employees and visitors will access the main office building via a door on the outside of the fence gate.

The remaining portions of the site will be enclosed with a 6'-0" high chain link fence with two separate motorized gates. The gated area will house the last three components of the site. A 7,300 SF pre-fabricated metal building will be the home of Suburban Propane District's Office and a small customer service area.

A proposed 2,146 SF building will have a two bay garage and attendant office space. This building will be used to repair and maintain the current Suburban Propane delivery vehicle fleet.

The last component of this development includes the fuel storage and distribution area of the site. A 4,000 SF elevated dock with a protective roof structure will be used for small cylinder storage and filling. Additionally, the site proposes provisions for three 30,000 gallon propane

fuel storage containers with distribution piping to 3 bobtail connections. The bobtail connections will be used for filling of distribution fuel trucks (Single Unit – SU30) for the delivery of propane to customers.

The fenced gravel yard between all of these structures will be used to maneuver vehicles to the different facilities and storage of empty tanks.

The site is void of any formal landscape plantings other than loam and seed to provide permanent erosion control of pervious areas. Landscaping in the IH – High Impact Industrial Zone is not required and the site lacks a significant street presence.

The site grading plan was prepared with the intent to balance common excavation and fill quantities to the extent practicable; however, any unusable excavated materials that cannot be left onsite and appropriately covered may be hauled off-site for disposal in a local contractor stockyard or pit. Portions of the existing drainage system at the site appear to be serviceable; pipes and structures will be replaced as necessary if found to be in poor structural condition.

Provision for solid waste handling is provided by a small dumpster pad.

1.6 LAND ORDINANCE REVIEW

1.6.1 OVERVIEW

The project is located in the IH – High Impact Industrial Zone. The proposed uses include:

- (d) Warehousing and distribution facilities
- (f) Repair services, including all types of automotive repair services

These uses are all allowed by right in the zone.

Space and Bulk Criteria for the IH Zoning District		
Description	Required	Provided
Minimum Lot Size	None	4.12 AC
Minimum Street Frontage	60 FT	60 FT
Minimum Front Yard	25 FT	N/A
Side Yard	35 FT	35 FT
Rear Yard	35 FT	>120 FT
Maximum Building Height	75 FT	< 20 FT
Minimum Pavement Setback	10 FT	14.5 FT
Maximum Impervious Ratio	85%	58%

1.6.2 SHORELAND ZONING

The site is not located within the Shoreland Zoning District.

1.7 STATE AND FEDERAL PERMITS

The project as presented does not require any additional Federal or State level site permits.

1.8 EASEMENTS OR OTHER BURDENS

The proposed parcel is subject to a number of easements as shown on the Amended Subdivision Plan of which they include drainage easements and shared access easements.

1.9 TRAFFIC

Please see the attached Traffic Impact Assessment. This is included as Attachment B.

1.10 PARKING DEMAND

The proposed use will serve approximately 30 to 34 full time employees and a small amount of short term visitors. Additionally, the plan anticipates that upwards of 14 employees may be reassigned to this office location in the future. The site plan proposes the initial construction of 34 paved parking spaces “outside” of the fence which includes two parking stalls designated for van accessible barrier free spaces and three visitor parking stalls, and the provision for adding additional spaces in the future should demand warrant. This will provide enough spaces for all of the office employees and a few visitors.

The City of Portland Land Use Ordinance, Section 14-492, Division 20 requires that 1 off street parking space is available for every 400 SF of office space. Based on this calculation, the Land Use Ordinance requires 21 parking spaces. The 34 proposed parking stalls exceed this minimum standard.

1.11 SOILS/GEOTECHNICAL REVIEW

Summit Geoengineering Services conducted geotechnical investigations at the project site, including seven borings. The subsurface soils were found to consist of top soil overlaying urban fill/re-worked native soil, overlying glacial marine soil (silty clay), overlying a marine fan deposit, overlying glacial till, overlying bedrock. The urban fill was found to consist of a mixture of silty clay with little to some sand and brick fragments, ash, organics, and wood pieces. Evidence of groundwater was found around 19 ft. below finished grade with anticipated fluctuations for seasonal influences. The Geotechnical Report concludes that building additions can be supported on conventional spread footings with suitable subgrade preparation.

1.12 NATURAL FEATURES

There are no natural features on the site. The site is adjacent to a portion of land designated as “Conservation Easement Area”. This conservation area is adjacent to the Presumpscot River which is present at the westerly most boundary of the existing Lot 4. The proposed parcel is approximately 40 vertical feet above the river elevation.

1.13 UTILITIES AND STORMWATER

The water, sewer, and electrical services on the site will need to be extended to serve the proposed development of the site. Further details of planned utility upgrades are included in Section 3 of this narrative.

The project is a redevelopment of an existing site, and as such is not large enough to require a Site Location of Development or Stormwater Permit as required by the Maine DEP. According to the City of Portland Technical Manual **portions** of the site area are subject to meet the Basic and General Standards under Chapter 500, Stormwater Law (City of Portland Technical Manual, Section 5 – Portland Stormwater Management and Maine DEP Chapter 500, 3 (e)). The stormwater management is discussed in detail in Attachment D of this application. The existing drainage patterns, grades, and slopes will be maintained to the maximum extent practical, and there will be no detrimental impacts to downstream infrastructure or receiving waters.

A detailed Soil Erosion and Sedimentation Control Plan has been produced for the project and this is included as Appendix H of Attachment D.

1.14 ATTACHMENTS

Attachment A – Existing Site Photographs
Attachment B – Traffic Impact Assessment
Attachment C – Parking Demand Estimate
Attachment D – Stormwater Management Report

ATTACHMENT A

Existing Site Photographs



**PHOTO 1 – Gravel parking at the proposed entrance to the site.
Looking easterly.**



**PHOTO 2 – Gravel and paved parking on the existing Lucas Tree site
portion to become Suburban Propane. Looking westerly.**



**FAY, SPOFFORD &
THORNDIKE NOW STANTEC**
778 Main Street, Suite 8
South Portland, ME 04106
Toll Free: 800.835.8666
Main: 207.775.1121
Fax: 207.879.0896

**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 3 – Gravel drive leading onto the site. Looking westerly.



PHOTO 4 – Gravel drive on the site. Looking northerly.



**FAY, SPOFFORD &
THORNDIKE NOW STANTEC**
778 Main Street, Suite 8
South Portland, ME 04106
Toll Free: 800.835.8666
Main: 207.775.1121
Fax: 207.879.0896

Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)



PHOTO 5 – Gravel and meadow site conditions. Looking northerly.



PHOTO 6 – Overview of the site. Looking northerly.



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THORNDIKE NOW STANTEC**
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Fax: 207.879.0896

**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**

ATTACHMENT B

Traffic Impact Assessment

Traffic Impact Assessment

This traffic study was based on the proposed use of the site which includes:

- 7,300 SF Office Building
- 2,246 SF Office/Garage Building
- 4,000 SF Cylinder Storage Building/Dock

The site will be accessed via a 25 foot wide paved shared use access drive on Riverside Street. The drive will be extended from an existing curb cut in Riverside Street and serve as the only access into the site from the Public Right-of-Way. Riverside Street is a two lane road with a central dual left turn lane in front of the site.

The trip generation for this project is anticipated to be 23 trips in the Peak Hour Generator (PHG) for the proposed uses. The computations for this trip generation estimate are included with this analysis. The PHG is anticipated to occur during the weekday AM commute due to the type (office space) of use for the proposed site. Trips generated by customers or fueling trucks are anticipated to visit the site during off-peak hours and will be relatively minimal.

This number of trips is not large enough to warrant a MDOT traffic movement permit or a separate right turn lane. A new driveway permit is not required because the site will utilize the existing curb cut. The proposed development is anticipated to have a negligible impact to Riverside Street.

Attachment – Calculations

Suburban Propane Re-Location Parking Requirement Calculations
JN: SP-M157
DATE: 2016.02.18
Stantec
Calculated by: Bo Kennedy

Task: Calculate number of vehicle trips for proposed Suburban Propane Facility
--

Assumptions: The main traffic generator will be the office space. The industrial usage(ie fueling) will be minimal. Total anticipated Employees at Maximum Capacity = 48 Total Office Space Building Area = 8,344 SF = 7,300 SF (Main Building) & 1044 SF (Garage Office) ITE Trip Generation per Employee = Weekday AM Peak Hour Generator 0.48 per emp Weekday PM Peak Hour Generator 0.46 per emp Saturday Peak Hour Generator 0.09 per emp
--

Trip Calculation:		
Employees	48	EA
Weekday AM PHG	23.04	Trips
Weekday PM PHG	22.08	Trips
Saturday PHG	4.32	Trips

References: ITE Trip Generation Manual, 7th Edition, Volume 3 fo 3

ATTACHMENT C

Parking Demand Estimate

Suburban Propane Re-Location Parking Requirement Calculations
JN: SP-M157
DATE: 2015.11.20
FST ENGINEERS
Calculated by: Bo Kennedy

Task: Calculate number of required parking spaces for Suburban Propane Office building
--

Givens: 1 Parking space is required per every 400 SF of Office Space Building Area Total Office Space Building Area = 7,300 SF (Main Building) 1044 SF (Garage Office)

Calculation:		
Area	8,344.00	SF
SF per Space	400.00	SF/Space
Total Spaces	20.86	Spaces

References: City of Portland Land Use Ordinances, Section 14-492, Division 20 (off-street parking requirements)

PARKING REQUIREMENT SUMMARY					
ZONE	BUILDING SPACE	BUILDING AREA (sf)	BUILDING AREA REQUIRED PER 1 PARKING SPACE (sf)	PARKING SPACES REQUIRED	PARKING SPACES PROVIDED
IH	OFFICE	8344	400	20.86	34
References: City of Portland Land Use Ordinance, Section 14-492, Division 20 (off-street Parking Requirements)					

ATTACHMENT D

Stormwater Management Report

**STORMWATER MANAGEMENT REPORT
(BASIC AND GENERAL STANDARDS)**

**SUBURBAN PROPANE RELOCATION
PORTLAND, ME**

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO. INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

FEBRUARY 2016

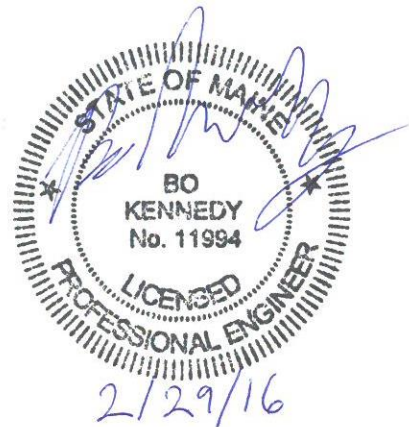


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Appendices

- A – Figures
- B – Existing Conditions Photographs
- C – Impervious Area and Watershed Figures
- D – Stormwater Quality Treatment Computation Summary Sheet
- E – Underdrained Soil Filter Stage Storage Computations
- F – Drawdown Time Calculations – Grassed Underdrain Soil Filter
- G – Geotechnical Report
- H – Erosion Control Plan
- I – Inspection & Maintenance Manual for Stormwater Management and Related Stormwater Facilities
- J – City of Portland – Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development

STORMWATER MANAGEMENT REPORT

1.0 Introduction

Stantec has been retained by Thompson's Point Development Co. Inc. for the preparation of site design and site permitting for the proposed relocation of Suburban Propane from Thompson's Point to a parcel of land located behind 636 Riverside Street (Solaris) in Portland, Maine. The development will include an office building, garage building, cold storage building and propane storage and truck filling stations.

The project's 4.12-acre site is primarily an undeveloped overgrown and heavily compacted "meadow" lot with evidence of existing gravel haul roads. The overall site is rectangular shaped with a 60 ft. wide shared use "right-of-way" extending easterly to Riverside Street. The proposed parcel will be subdivided from Lot 4 of the existing Riverside Street Subdivision prepared for the City of Portland. The westerly property line abuts land to be retained by the City and is restricted by a conservation easement. The southerly line is bound by a development on Lot 1 of the Riverside Street subdivision. The easterly lot line abuts developments on Lots 2 (Solaris) and Lot 3 (Lucas Tree). The northerly lot line abuts land to be retained by the City and developed at a later date.

This proposed project will create a total of 3.80 ac of developed area of which 2.40 ac will be newly constructed structure area (building and other impervious surfaces). Construction of the facility will result in net new structure area of 0.68 ac. Because the net new structure area is less than 1 acre this project does not meet the thresholds which require a MeDEP Stormwater Law permit; however, Chapter 32 of the City of Portland Stormwater Regulations require MeDEP basic and general standards be met for all Level III Site plans. The stormwater management design presented herein will show that it meets the criteria of the City of Portland Stormwater Requirements and the adopted MeDEP Chapter 500 Regulations for the basic and general standards where applicable.

The site flows overland sheet flow in a northerly direction to an existing storm drainage system which discharges to the Presumpscot River. The Presumpscot River is a major water body and therefore the site is eligible for a waiver from the Stormwater flooding standards as detailed in MeDEP Chapter 500 and previously approved as part of the original subdivision.

Runoff from portions of the proposed site will drain to a new inlet and conveyance system and it will be discharged to a stormwater treatment facility. Stormwater storage will be comprised of an open detention basin. The stormwater detention basin will provide channel protection storage meeting the MeDEP General Standards requirements. The stormwater management system is not designed to manage the flows from major storm events and will release flows for the 2, 10 and 25-year storm event at the runoff rate. A grassed underdrain soil filter will be utilized to exceed the stormwater quality standards required under the general standards as outlined in the adopted MeDEP Chapter 500 Stormwater Management Technical Manual. The intent of exceeding the required treatment volume is to make the tributary area eligible for the City of Portland's Stormwater Service Charge Basic and Extra Credits.

USGS, aerial photographs, and related maps are appended to this report in Appendix A.

On behalf of the applicant, Stantec has prepared this report to show the proposed Stormwater Management Plan meets the City's General Stormwater Standards.

2.0 Existing Site Conditions

The site is a 4.12 acre parcel within an industrial business park subdivision and is currently undeveloped with the exception of gravel areas found throughout the site from former site activities, resulting in the following land cover:

TABLE 1 – LAND COVER	
Current Land Cover	Area (acre)
Impervious (gravel)	1.73
Meadow	2.39
Total	4.12

Existing impervious surfaces are depicted in Figure C-1 in Appendix C.

Topography slopes from east to west with slopes ranging from 3% to 14%. The site elevations range from 61 to 73 based on survey completed by Sebago Technics in October of 2015 and topography from the Subdivision Recording Plat prepared by Woodard & Curran in October of 2010.

The soils on the site are shown on the USDA medium intensity soils map to be primarily Elmwood fine sandy loam. Geotechnical explorations by Summit Geoengineering Services in November 2015 show that the soils are predominantly fine sandy silt topsoil overlying silty sand reworked native soils with some gravel and fill overlying glacial marine soil (silty clay) overlying a marine fan deposit of silty fine sand overlying bedrock. The Geotechnical Report is included in Appendix G of this report. Figure 3 appended to the report provides the USDA medium intensity soils map for the site.

The site is in the IH Industrial – High Impact Zone and the proposed use is a permitted use according the Chapter 14 – Land Use in the City of Portland Code of Ordinances.

The existing conditions are shown on Drawing C-2.0 and supplemented by photographs appended to the end of this narrative in Appendix B.

The proposed development portion of Lot 4 is not located in a mapped 100-year floodplain and is denoted as Zone X areas determined to be outside of the 500-year floodplain based upon the Dec. 8, 1998 FEMA mapping. Portions of the overall 2nd amended subdivision as depicted by Sebago Technics on Sheet C-2.1 of the plan set does fall within a special flood hazard area as delineated on the flood insurance rate map for the City of Portland, Maine, Cumberland County, Community-Panel number 2300510006 C, having an effective date of December 8, 1988. Portions of the subdivision property in proximity to the Presumpscot River, its tributaries and adjacent areas fall within a Zone AE, areas of 100-year flood, having a base flood elevation of 35 in the subject area. Flood zones are depicted on Figure 2 provided by MGIS Firm Panel # 230051 Panel #06-C.

The stormwater runoff from the site is tributary to the Presumpscot River. A portion of the site is captured in an existing stormwater management system that begins at Lot 2 and discharges in northerly portion of the existing Lot 4 in the direction of the river.

3.0 **Proposed Project**

The proposed project is generally described below and is shown on Drawing C-3.0. The project will develop 3.80 acres of the 4.12 acre site. The net developed area as part of this project is 2.07 acres. The net impervious area created as part of this project is 0.68 acres as shown on Figure C-2 in Appendix C.

The proposed project will include construction of a 7,300 s.f. office building, a 2,146 s.f. garage/office building and a 4,000 s.f. cylinder storage building. The development will also include paved parking and driveway around the property, a new paved entrance to the site, and a stormwater treatment area on the northwesterly portion of the site. The proposed impervious surfaces are depicted in Figure C-3 Appendix C and summarized in Table 2 below.

The proposed land use for the site after development will be as follows:

TABLE 2 – LAND USE (ONSITE ONLY)		
Proposed Land Cover	Area (acre)	Change from Current (acre)
Meadow	0.32	-2.07
Lawn/Landscaped Planting Areas	1.39	+1.39
Pavement/Roof	2.40	+0.68
Total	4.12	0

The Erosion Control Plan contained in Appendix H of this section outlines the erosion control measures which will be required for the project (Basic Stormwater Standards).

4.0 **Watershed Delineation Method**

The following resources were used for watershed delineation:

- USGS Topographic Mapping
- Field Reconnaissance
Adrienne Fine, EI, Engineer Stantec
Reviewed by Bo Kennedy P.E., Senior Civil Engineer, Stantec
- Site Topographic Survey
Sebago Technics, dated October, 2015.
- Hydrologic Soil Group Information
USDA SCS Medium Intensity Mapping

5.0 **References**

- Urban Hydrology for Small Watersheds from the USDA SCC Technical Release SS, dated 1986
- Erosion and Sediment Maine Erosion and Sediment Control BMPs”, published by the MeDEP in 2003 <http://www.maine.gov/dep/blwg/docstand/escbmps/index.htm>
- City of Portland – Code of Ordinances, Section 32 Rev. 9-17-09
- Portland Stormwater Management – Section 5 Adopted 7-19-10.
- Stormwater Management for Maine Volume III – BMP Technical Design Manual
- Chapter 500 DEP Rules, revision October 2010.

6.0 **Modeling Software**

- Microsoft Excel 2010, Microsoft Corporation – used for spreadsheet computations.

7.0 **Design Storms**

TABLE 3 – RAINFALL	
Rainfall Amount (inches/hr) IDF Curve – City of Portland	
25-Year Storm	5.8

8.0 **Presentation of Analysis**

The stormwater analysis has been performed for the project to determine the requirements of the City of Portland, Section 5 and adopted MeDEP Chapter 500 Stormwater Rules and to show a plan which will generally meet the requirements with the exceptions noted herein. The analysis is documented with supporting spreadsheet computations appended to this narrative.

9.0 **Modeling Assumptions**

- The Tc flow paths were assumed to be a min. of 6 minutes as recommended in the TR-55 technical manual.

10.0 **Predevelopment Analysis**

This applicant is seeking a waiver from the MeDEP Chapter 500 Flooding Standards because the project parcel is tributary to a major river segment (Presumpscot River). Therefore, peak discharge rates are not calculated for predevelopment conditions. Runoff from the existing site flows from the east in a westerly direction and generally passes over the property line as sheet flow. A portion of the stormwater runoff from the existing site enters an existing stormwater management system that flows from the southeast to the northwest and discharges through a 12” PVC pipe towards the Presumpscot River. The existing stormwater management system consists of drainage pipes, catch basins and manholes and originates at the industrial site on Lot 2 of the subdivision.

Runoff from a small portion of the site in the eastern corner adjacent to Riverside Street flows easterly along the existing gravel drive and ultimately enters the City of Portland storm drainage system tributary to the Presumpscot River. This area of the site does not contribute to the new impervious area of the site and does not contribute to the existing or proposed stormwater management system so it is excluded from this analysis.

11.0 Postdevelopment Analysis

The proposed project will develop 3.80 acres of the 4.12 acre site with a net developed area of 2.07 acres and a net impervious area of 0.68 acres. This project is not required to meet the Flooding Standard so peak discharge rates at the points of discharge are not calculated for postdevelopment conditions.

The development is broken into nine (9) subcatchments which enter a series of catch basin inlets that are tributary to either the proposed stormwater management underdrained soil filter or the existing stormwater drainage system on site. Subcatchments 1, 2, 3, 4 and 9 are tributary to the proposed underdrained soil filter. These subcatchments are summarized in the Stormwater Quality Treatment Computation Sheet attached in Appendix D.

The Rational Method was used to calculate postdevelopment flows to size stormwater collection pipes. The stormwater collection and treatment system is shown on the Grading and Drainage plan on Sheet C-3.0 of the plan set.

Each subcatchment has been modeled using the Rational Method and routed to a catch basin inlet. The Rational Method was used to determine the peak flow rates entering the stormwater underdrained soil filter. For the calculations it was assumed that each subcatchment has a minimum Time of Concentration (T_c) of 6.0 min. The 25-year storm intensity of 5.8 inch/hr was used based on the IDF curve for the City of Portland. The resulting stormwater discharge entering the proposed underdrained soil filter computed using the Rational Method is 4.41 cfs. Rational Method calculations are also summarized in the attached Appendix D.

Flows from larger storms such as the 25-year event and 100-year event storms are anticipated to surcharge the stormwater conveyance system and flow overland to directly to the Presumpscot River as it does in the Pre-development conditions.

12.0 Stormwater Management Objectives

The goal of the Stormwater Management Plan is to design, operate, and maintain the development to avoid downstream erosion or significant water quality impairment.

This goal will be achieved by:

- Designing the project to meet the Portland Stormwater Management Standards adopted 7/19/10 and Basic Standards and General Standards of MeDEP (revised January 2015).

- Designing water quality measures to provide long-term removal of non-point contaminants.
- Implementing a plan to control erosion, sedimentation, or fugitive dust emissions during construction.
- Maintenance of the Stormwater Management System in accordance with the Stormwater O&M Manual (provided as a separate document).

The plan has been designed in accordance with the City of Portland Stormwater Rules.

13.0 Stormwater Management Quantity Summary

A waiver is being requested from the flooding standard because the project site is directly tributary to a major river.

14.0 Stormwater Management Quality Summary

The City of Portland Site Plan requirements classify this project as a Level III Site Plan Application because the proposed development will disturb 3.00 or more acres of area. Due to this classification the City also requires MeDEP Chapter 500 Stormwater Rules be met for projects requiring a level III Site Plan. MeDEP Chapter 500 states the Basic Standards be met for projects with 1.00 acre or more of impervious area. The Chapter 500 General Standards must also be met for projects with greater than 1.00 acre but less than 3.00 acres of impervious area. However, the MeDEP Stormwater Management Law provides for relief from the General Standards for redevelopment sites, stating that the redevelopment of impervious area in existence as of November 16, 2005 is not required to meet General Standards provided that the new use of the existing impervious area is not likely to increase stormwater impacts beyond the level of impact already caused by runoff from the existing impervious area.

The General Standards have been applied to the net impervious area of 0.68 acres based on the MeDEP Stormwater Management Law for projects including redevelopment. Based on our analysis it was determined that the Basic Standards must be met and the General Standards must be met only for the net impervious area of 0.68 acres.

This stormwater management system is designed to treat a volume exceeding the MeDEP General Standard requirements in an effort to seek relief from the City of Portland Stormwater Service Charge. The volume for 1.6" of runoff from the tributary area will make portions of the site eligible for the basic and extra levels of credits.

Implementation

Our office has laid out a plan which utilizes a Grassed Underdrained Soil Filter as described in Chapter 7.0 Filtration BMPs of the MeDEP Volume III BMPs Technical Design Manual to meet the minimum treatment standards as required by the General Standards. The plan shown on Sheet C-4.0 incorporates an underdrained soil filter with surface area 2,471 SF to best utilize the site conditions. The plan sheets detailing this system are enclosed in the full plan set.

A water quality summary chart of the project is appended with this application in Appendix D. The basis of design of the Grassed Underdrained Soil Filter treatment method is as follows:

- **Grassed Underdrained Soil Filter:**

The Grassed Underdrained Soil Filter has been designed to treat 100% of the net new impervious area and gain an additional 25% water quality management credit of the City of Portland stormwater service charge.

To meet Chapter 500, the Channel Protection Volume provided must be equal to or greater than the following:

1"/12 x impervious area (0.78 ac) plus 0.4"/12 x landscaped area (0.44 ac) = Water Quality Volume (3,457 cubic feet)

To gain an extra 25% water quality management credit of the City of Portland stormwater service charge the filter will be sized to treat 1.6" of rainfall instead of 1" (shown above). The resulting 1.6" Water Quality Volume is 5,152 CF.

Computations of the water quality volume requirements are appended in Appendix D.

The water quality volume provided is equal to 5,195 cubic feet in the grassed underdrained soil filter at an elevation of 58.00 which exceeds the required 1" WQV of 3,457 CF and 1.6" WQV of 5,152 CF. The filter stage storage calculations are appended in Appendix E.

Based on Chapter 7 of the MeDEP Best Stormwater Practices the Grassed Underdrained Soil Filter shall be sized to treat the entire water quality volume in 24 to 48 hours. The discharge from the filter is collected in 4" underdrain and the rate is controlled with an orifice plate sized to meet the required 24 to 48 hour drawdown time. The orifice drawdown computations are appended in Appendix F.

Discharge from larger storm events overflows through a 15" outlet pipe set at elevation 59.63 (i.e. the basin stage when the 1.6" water quality volume has been reached) into a precast concrete outlet control structure. The overflow piping network is sized to handle runoff from a 25-year storm event. A rain event exceeding the storm drainage network capacity would flood the channel protection basin and discharge over the reinforced turf overflow spillway at the northwest corner of the basin.

Pretreatment for flow entering from the inlet pipe to the underdrained soil filter will be provided via the installation of a riprap lined sediment forebay.

Therefore, water quality goals for the Grassed Underdrained Soil Filter meet the General Stormwater Standards of the November 2005 Chapter 500 Rules of MeDEP (rev. January 2015) and gain an additional 25% water quality management credit of the City of Portland stormwater service charge. Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development is included in Appendix J.

15.0 Chapter 500 Treatment Percent Compliance

The proposed redevelopment project creates 0.68 acres of newly constructed impervious area and 1.39 acres of pervious area for a total disturbed area of approximately 2.07 acres.

The proposed Stormwater Management Plan provides treatment for 0.78 acres or greater than 100 percent of the 0.68 acres of net new impervious area to satisfy the minimum requirements stated in the City of Portland Stormwater Standards.

16.0 Erosion Control

An Erosion Control Narrative, Plan, and Details have been prepared for the project and accompanies this submission in Appendix H.

17.0 Operations and Maintenance

An Operations & Maintenance Manual has been prepared and accompanies this application in Appendix I.

18.0 Permit Requirements

City of Portland review and permitting of the Stormwater Management Plan is required and will be completed with the review of the Site Plan Application submitted to the City of Portland Planning Authority.

19.0 Drainage Network Pipe Sizing

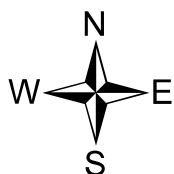
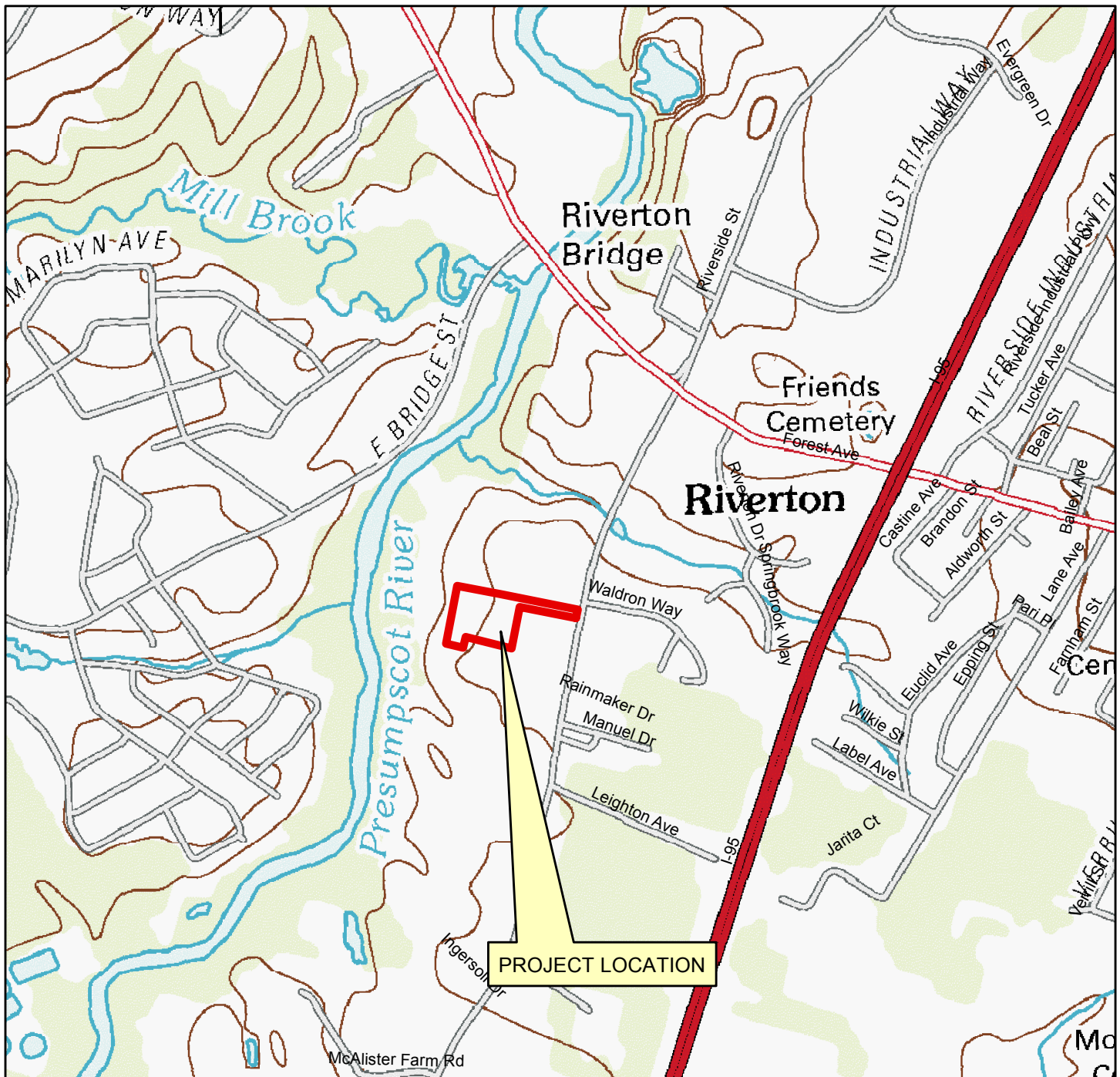
The drainage network has been sized using the flows computed by the Rational Method in Microsoft excel. The pipe sizes are noted on the drawings.

20.0 Appendices

- A – Figures
- B – Existing Conditions Photographs
- C – Impervious Area and Watershed Figures
- D – Stormwater Quality Treatment Computation Summary Sheet
- E – Underdrained Soil Filter Stage Storage Computations
- F – Drawdown Time Calculations – Grassed Underdrained Soil Filter
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APPENDIX A

Figures



USGS LOCATION MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 USGS
SCALE:	1 inch = 1,000 feet

FIGURE

1



FLOOD MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

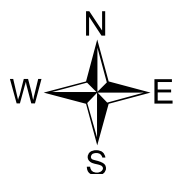
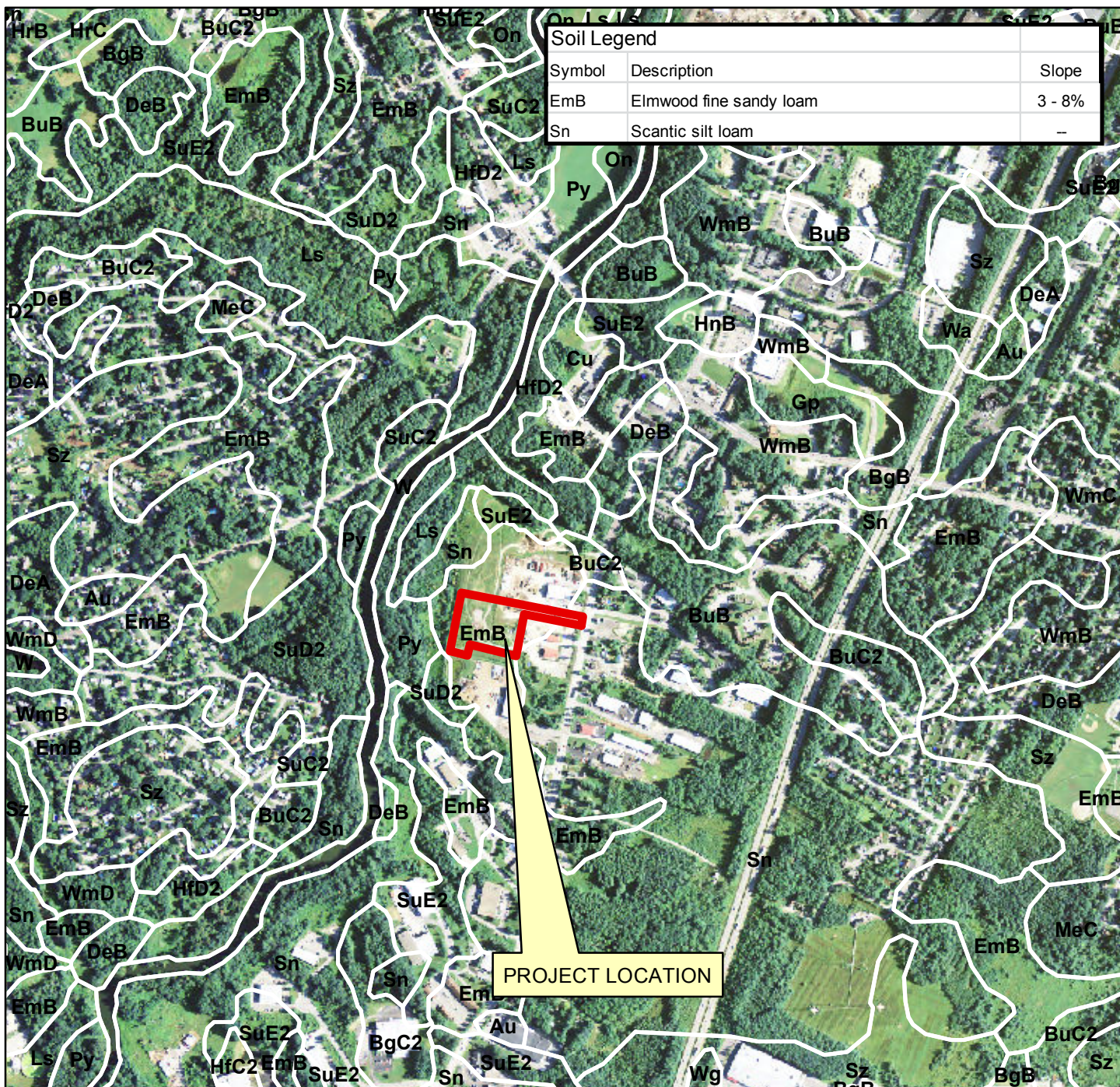
778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 FLOOD
SCALE:	1 inch = 1,000 feet

FIGURE

2



SOILS MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN: DED
CHECKED: ARF
DATE: JAN 2015
FILENAME: SP-M157 SOILS
SCALE: 1 inch = 1,000 feet

FIGURE

3



AERIAL PHOTOGRAPH SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 AERIAL
SCALE:	1 inch = 1,000 feet

FIGURE

4



TAX MAP
SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 TAX MAP
SCALE:	1 inch = 1,000 feet

FIGURE

5

APPENDIX B

Existing Conditions Photographs



**PHOTO 1 – Gravel parking at the proposed entrance to the site.
Looking easterly.**



**PHOTO 2 – Gravel and paved parking on the existing Lucas Tree site
portion to become Suburban Propane. Looking westerly.**



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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 3 – Gravel drive leading onto the site. Looking westerly.



PHOTO 4 – Gravel drive on the site. Looking northerly.



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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 5 – Gravel and meadow site conditions. Looking northerly.



PHOTO 6 – Overview of the site. Looking northerly.

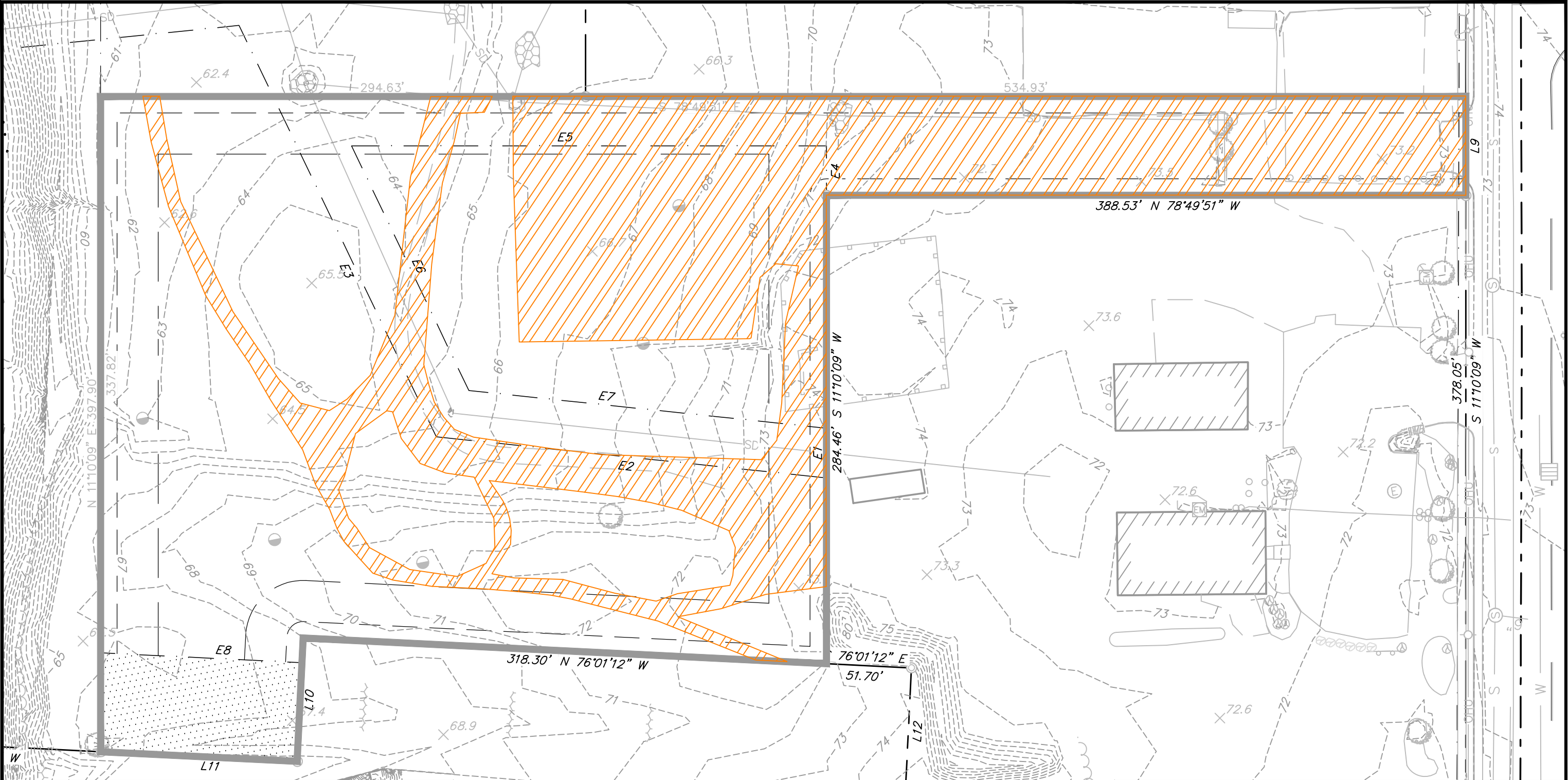


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Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)

APPENDIX C

Impervious Area and Watershed Figures



PLAN REFERENCE:

1. "EXISTING CONDITIONS PLAN OF LAND" DATED OCTOBER 29, 2015 PREPARED BY SEBAGO TECHNICS
2. GOOGLE EARTH AERIAL IMAGERY ©2015
3. FIELD OBSERVATIONS PERFORMED BY A. FINE ON DECEMBER 12, 2015

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM

DRAWN:	ARF	DATE:	JAN 2016
DESIGNED:	BEK	SCALE:	1" = 60'
CHECKED:	BEK	JOB NO.	195350142
FILE NAME:	SP-M157 XC		

GRAPHIC SCALE

0 30 60 120

1 inch = 60 ft.

**SUBURBAN PROPANE
RELOCATION**

LEGEND:

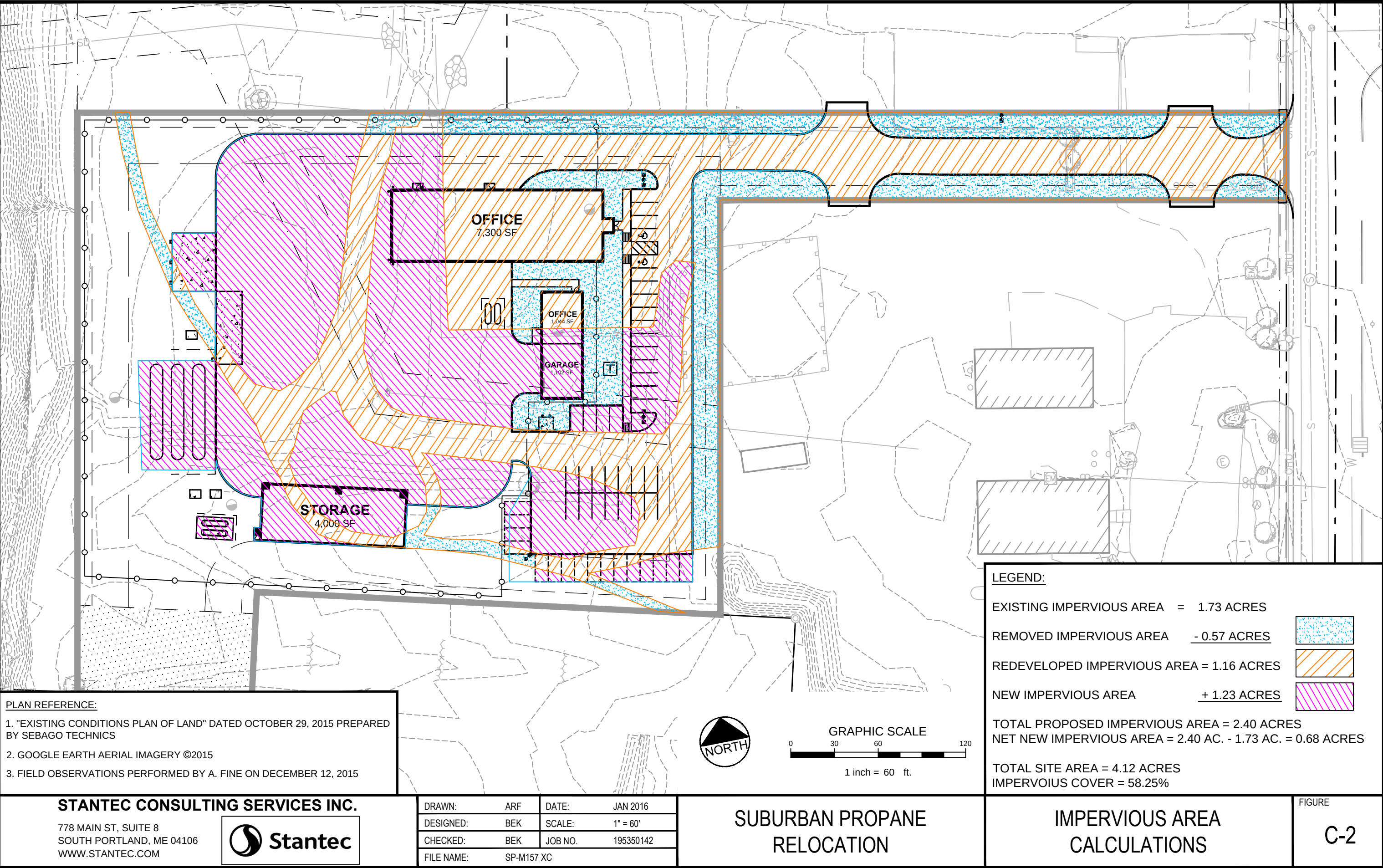
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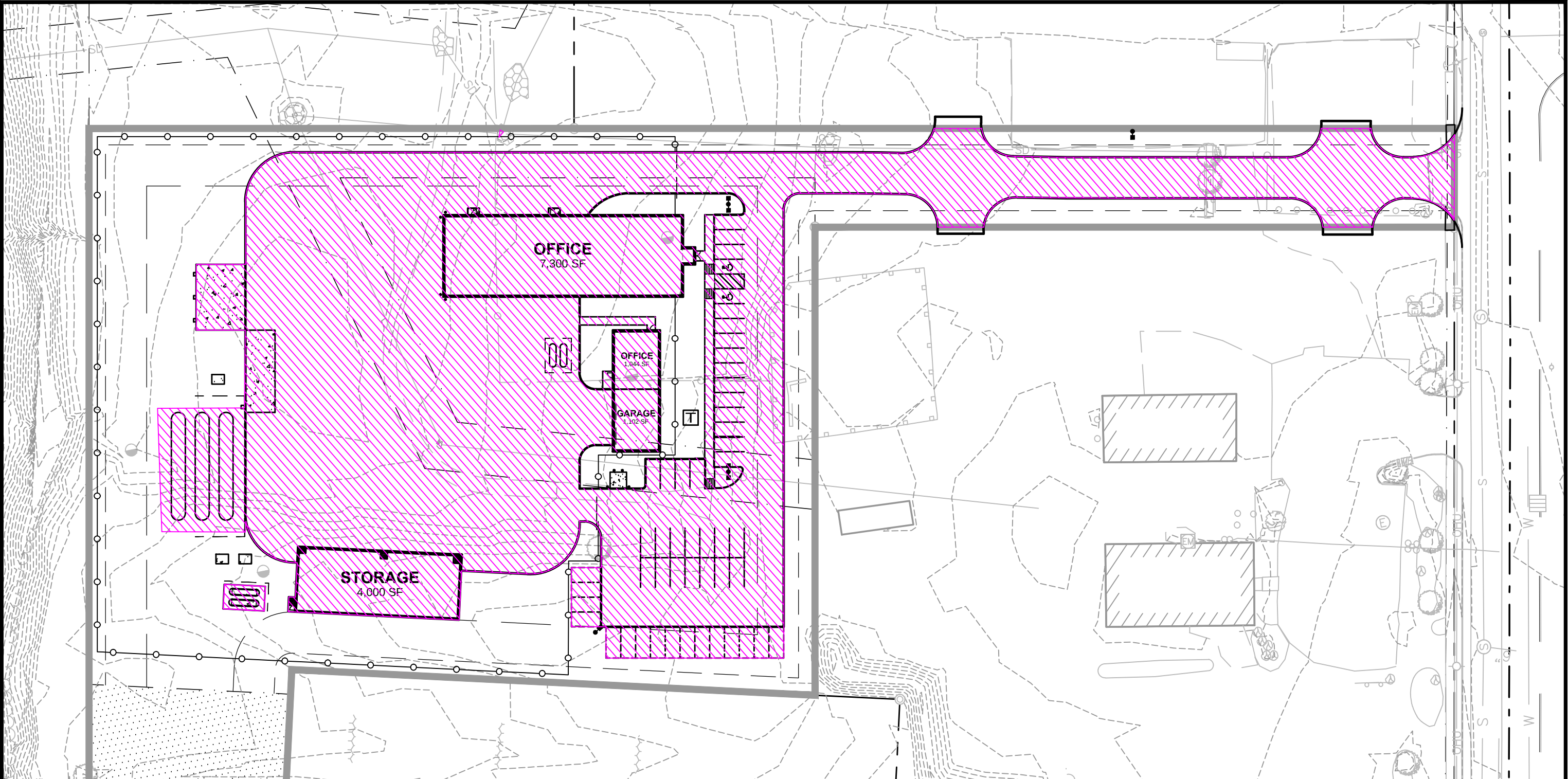
TOTAL SITE AREA = 4.12 ACRES

**EXISTING CONDITIONS
IMPERVIOUS AREA**

FIGURE

C-1





PLAN REFERENCE:

1. "EXISTING CONDITIONS PLAN OF LAND" DATED OCTOBER 29, 2015 PREPARED BY SEBAGO TECHNICS
2. GOOGLE EARTH AERIAL IMAGERY ©2015
3. FIELD OBSERVATIONS PERFORMED BY A. FINE ON DECEMBER 12, 2015

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	ARF	DATE:	JAN 2016
DESIGNED:	BEK	SCALE:	1" = 60'
CHECKED:	BEK	JOB NO.	195350142
FILE NAME:	SP-M157 XC		



GRAPHIC SCALE

0 30 60 120

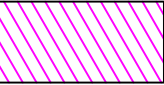
1 inch = 60 ft.

**SUBURBAN PROPANE
RELOCATION**

LEGEND:

PROPOSED IMPERVIOUS AREA = 2.40 ACRES

TOTAL SITE AREA = 4.12 ACRES
IMPERVIOUS COVER = 58.25%



**PROPOSED CONDITIONS
IMPERVIOUS AREA**

FIGURE

C-3

APPENDIX D

Stormwater Quality Treatment Computation Summary Sheet

Stormwater Quality Treatment Computation Sheet Grassed Underdrain Filter - Updated February 19, 2016														
Water Quality Treatment Sizing								Rational Method						
Subcatchment ID / Catch Basin	Total Area (SF)	Impervious Area (SF)	Pervious Area (SF)	Treated Impervious Area (SF)	Treated Pervious Area (SF)	1" Water Quality Volume (1 in x imp + 0.4 in x pervious) (CF)	1.6" Water Quality Volume (1.6 in x imp + 0.4 in x pervious) (CF)	A (acres)	Impervious %	Pervious %	C	Tc	i	Q=CiA (cfs)
CB 1	17,646	16,795	851	16,795	851	1,428	2,268	0.405	0.952	0.048	0.907	6	5.8	2.130
CB 2	4,513	2,291	2,222	2,291	2,222	265	380	0.104	0.508	0.492	0.507	6	5.8	0.305
CB 3	2,754	1,598	1,156	1,598	1,156	172	252	0.063	0.580	0.420	0.572	6	5.8	0.210
CB 4	9,779	9,487	292	9,487	292	800	1,275	0.224	0.970	0.030	0.923	6	5.8	1.202
9 - Direct Runon to Pond	18,198	3,717	14,481	3,717	14,481	792	978	0.418	0.204	0.796	0.234	6	5.8	0.567
Subtotal Tributary to WQ Treatment Area ^{1 2}	52,890	33,888	19,002	33,888	19,002	3,457.41	5,152						Total Flow to Filter ³	4.413
Required Treatment of Net Impervious Area ⁴		29,621		29,621		2,468	3,949							
CB 5	22,829	15,425	7,404	-	-	-	-	0.524	0.676	0.324	0.658	6	5.8	2.000
CB 6	4,360	295	4,065	-	-	-	-	0.100	0.068	0.932	0.111	6	5.8	0.064
CB 7	14,603	13,304	1,299	-	-	-	-	0.335	0.911	0.089	0.870	6	5.8	1.691
CB 8	10,603	1,010	9,593	-	-	-	-	0.243	0.095	0.905	0.136	6	5.8	0.192
Total Proposed Site	158,174	127,431	60,364	33,888	19,002									

Notes:

1. Pond Surface Area required based on area tributary to water quality treatment filter (5% imp + 2% pervious) = 2,074 SF and is used in Appendix D: Underdrained Soil Filter Stage Storage Computations
2. Areas and water quality volumes bolded in this table are used in calculations in Appendix D: Underdrained Soil Filter Stage Storage Computations
3. Total flow to the underdrained soil filter of 4.413 cfs was used to determine appropriate pipe sizes in and out of the filter. Other flows (Q) for each CB calculated using the Rational Method were used to size the stormwater collection system
4. Treatment required for this project is based on the net impervious area of 0.68 acres (29,621 sf) calculated on Figure C-2

APPENDIX E

Underdrained Soil Filter Stage Storage Computations

Job No. SP-M157
Suburban Propane
1/12/2016

Underdrained Soil Filter

Tributary Area (Subcatchments 1, 2, 3, 4 and 9)

Impervious	33,888 SF
Landscape	19,002 SF

Required Treatment Volume = (1.0 or 1.6 inch X Impervious area) + (0.4 inch X Landscape area)

1" Required Treatment Volume:	3,457 CF
1.6" Required Treatment Volume:	5,152
Treatment Volume Provided:	5,195 CF

Minimum Filter Area = (5% of the Impervious area) + (2% of the Landscaped area)

Minimum Filter Area:	2,074 SF
Filter Area Provided:	2,471 SF

Stage	Surface Area (sf)	Incremental Volume (cf)	Cumulative Volume (cf)	Notes
58	2,471	0	0	Filter Bottom
59	3,347	2,898	2,898	
59.2	3,421	677	3,575	
59.5	3,827	1,792	4,690	
59.63	3,945	118	5,195	Treatment Volume
59.7	4,008	783	5,474	
59.8	4,100	1,189	5,879	
60	4,285	2,027	6,717	

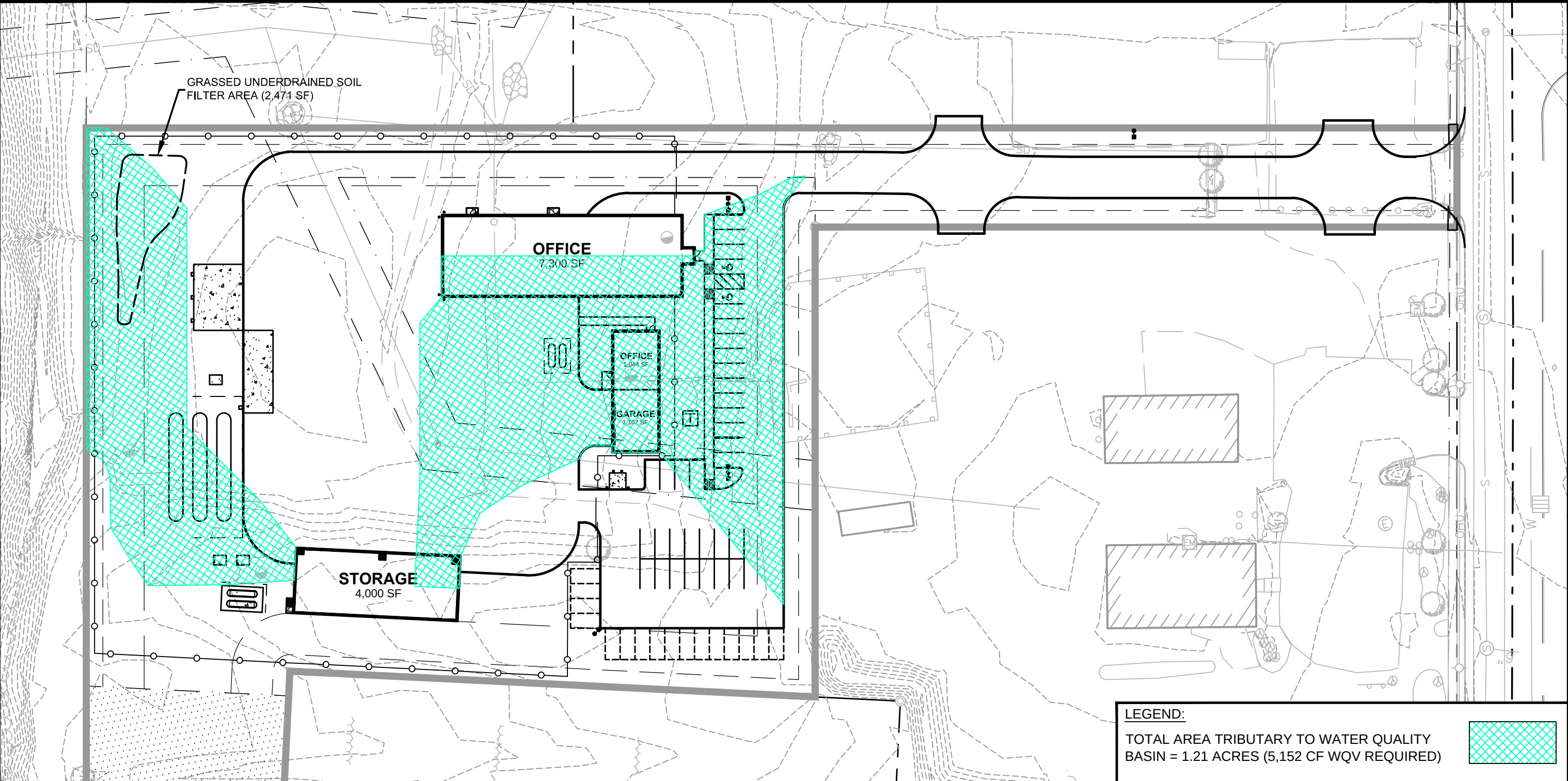
Pretreatment Sizing:

Sediment Loading @ 50CF/ACRE-YR =

39 CF Required

Sediment Forebay w/

57 CF Storage Provided



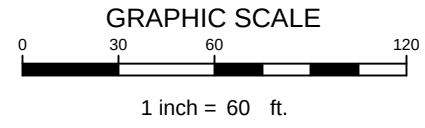
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FILE NAME:	SP-M157 XC		



SUBURBAN PROPANE RELOCATION

LEGEND:

TOTAL AREA TRIBUTARY TO WATER QUALITY BASIN = 1.21 ACRES (5,152 CF WQV REQUIRED)

IMPERVIOUS AREA TO BASIN = 0.78 ACRES (2,824 CF WQV 1") (4,518 CF WQV 1.6")

LANDSCAPED AREA TO BASIN = 0.44 ACRES (633 CF WQV)

5,195 CF WQV (1.6") PROVIDED IN 2,471 SF FILTER AREA

APPENDIX F

Drawdown Time Calculations – Grassed Underdrained Soil Filter

Underdrained Soil Filter

DRAWDOWN CALCULATIONS
Suburban Propane Relocation
Portland, ME

SP-M157
ARF
January 2016

ORIFICE DIAMETER FOR GRASSED UNDERDRAIN SOIL FILTER

Updated 2016.01.11

Description of Elevation	Elevation	Depth (ft)	Surface Area (sq.ft)	Area End (sq.ft)	Area End Depth (ft)	Incremental Stage Volume (c.f)	Cumulative Volume (c.f.)	Head (ft)	Orifice Flow (cfs)	Drawdown Time (secs)	Drawdown Time (hours)
Overflow Weir Elev	61.00	3.00	5,241.00	4331.00	1.80	7795.80	11355.60	5.33	0.039	200988.38	55.8
	60.00	2.00	4,285.00	4115.00	0.37	1522.55	6666.04	4.33	0.035	43551.34	12.1
1.6" WQV	59.63	1.63	3,945.00	3683.00	0.43	1583.69	5143.49	3.96	0.033	47369.24	13.2
	59.20	1.20	3,421.00	3384.00	0.20	676.80	3559.80	3.53	0.032	21441.09	6.0
	59.00	1.00	3,347.00	3102.00	0.50	1551.00	2883.00	3.33	0.031	50589.87	14.1
Bottom of Forebay	58.50	0.50	2,857.00	2664.00	0.50	1332.00	1332.00	2.83	0.028	47128.64	13.1
Bottom of Filter	58.00	0.00	2,471.00	0.00	0.00	0.00	0.00	2.33	0.026	0.00	0.0
TOTAL									0.116	TOTAL	27.1

$$CA (2gh)^{1/2}$$

Orifice Diameter	0.8	inch
Area	0.0035	sq.ft
Head		feet
g	32.174	ft/s ²
C	0.6	Orifice/Grate

APPENDIX G

Geotechnical Report



MEMORANDUM

Date: December 15, 2015
To: Chris Thompson, Thompson's Point Development Company
From: William Peterlein, P.E., Summit Geoengineering Services
RE: Proposed Suburban Propane Facility, Storage Tank Footing Subgrade Preparation and Bearing Capacity, Portland, Maine #15185

Summit Geoengineering Services (SGS) has evaluated the subsurface conditions in the area of the proposed 30,000 gallon propane storage tanks. Based on site plans provided to us, there will be a total of 3 tanks near the back end of the site (north end).

SGS drilled a boring (Boring B-5) close to the area of the proposed tanks. Based on the results from our explorations, we recommend that the footings for the propane tanks be sized using an allowable bearing pressure of 3,000 psf, provided that the following subgrade preparation methods are completed:

- All topsoil is removed from within the proposed tank area.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Footing trenches are overexcavated 1 foot below bottom of footing elevation. Exposed soil at the bottom of the excavation is proofrolled with a minimum of 4 passes with a walk-behind plate compactor.
- A geotextile is placed on top of the proofrolled subgrade soil. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard and should be extended a minimum of 2 feet beyond the proposed edge of footing on all sides.
- 12" of ¾" crushed stone or Structural Fill (SF) is placed on top of the geotextile beneath the bottom of footing elevation. If SF is used, it should be compacted to 95% of its optimum dry density in accordance with ASTM D1557. If crushed stone is used, it should be compacted with a minimum of 4 passes with a walk-behind plate compactor.

Note that these are the same footing subgrade preparation methods as the cold storage building. The gradation requirements for SF can be found in our geotechnical report. If you have any questions, please feel free to contact us.



GEOTECHNICAL REPORT

Proposed Suburban Propane Facility 656 Riverside Street Portland, Maine

Prepared for:

Fay, Spofford, & Thorndike
778 Main Street, Suite 8
South Portland, Maine 04106

Prepared by:

Summit Geoengineering Services
145 Lisbon St.
Lewiston, Maine

Project #15156
November 2015



November 18, 2015
SGS #15156

Bo Kennedy, P.E.
Fay, Spofford, & Thorndike
778 Main Street, Suite 8
South Portland, Maine 04106

Reference: Geotechnical Recommendations, Proposed Suburban Propane
656 Riverside Street, Portland, Maine

Dear Bo;

Summit Geoengineering Services, Inc. (SGS) has completed a geotechnical investigation for the proposed Suburban Propane facility at the site reference above. Our scope of services included the drilling of 7 borings throughout the proposed development and preparing this geotechnical report summarizing our findings and providing geotechnical recommendations.

Our scope of services for this project did not include an environmental site assessment or further investigation for the presence or absence of hazardous or toxic material on, below, or around the site. Any statements in this report, or on the soil boring logs, regarding odors or unusual soil conditions observed are for informational purposes and are not intended to constitute an environmental assessment.

1.0 Project Description

We understand that the project consists of the construction of a new office building, garage with office space, and cold storage building at the site referenced above. We understand that the office will have a footprint of approximately 7,300 square feet with a finish floor elevation of 67.2 feet. The garage and additional office space will have a combined footprint of approximately 1,780 square feet and a finish floor elevation of 68.7 feet. The cold storage building will have a footprint of approximately 4,000 square feet with a finish floor elevation of 74.86 feet, raised from the surrounding finish grade for truck loading/unloading access. Construction will also include paved parking and driveway around the property, a new paved entrance to the site, and a stormwater treatment area on the western end of the site near the crest of the slope adjacent to the Presumpscot River.

The site is located at 656 Riverside Street in Portland, Maine, behind the Lucas Tree Experts warehouse. The proposed site area is divided by a chain-link fence near the eastern edge of the property. Inside the fence (east of the fence) the ground surface is relatively flat at approximately elevation 68 feet with a gravel surface. This is the area of the proposed office and mixed garage/office space. Outside of the fence (west of the fence), the ground surface slopes gently downward in a westerly direction and is heavily vegetated. There is a berm running along the southern side of the property. The new office building and garage/additional office space are

proposed to be constructed at or near existing grade. The finish floor elevation for the cold storage building is approximately 3 to 6 feet above existing grade.

2.0 Exploration

2.1 Exploration

Summit Geoengineering Services (SGS) observed the subsurface conditions at the site with the drilling of 7 borings on October 13, 2015. Borings B-1, B-2, and B-6 were drilled to refusal while the remainder of the borings were terminated before refusal was encountered. Refusal ranged from 18.1 to 45.2 feet below ground surface, increasing in depth towards the southwestern end of the site towards the Presumpscot River. Borings were advanced using either 3" diameter casing or 2 1/2" hollow stem augers. During the borings, split spoon sampling was conducted in general accordance with ASTM D1586 to collect blow counts and soil samples. Collected samples were visually classified and pocket penetrometer testing was performed on samples exhibiting cohesion.

Locations of the seven borings were marked by SGS prior to the day of drilling by measuring from surrounding landmarks. These locations can be seen in the Boring Location Plan in Appendix A. The boring logs can be found in Appendix B.

3.0 Subsurface Conditions

3.1 Soil

The soil at the site generally consists of topsoil overlying fill/reworked native soil overlying glacial marine soil (silty clay) overlying a marine fan deposit overlying glacial till overlying bedrock.

The topsoil, present in B-5, B-6, and B-7, is described as dark brown fine sandy silt with roots, rootlets, and organics. The layer ranged in thickness from 6" to 8", is humid and loose and classifies as ML in accordance with the Unified Soil Classification System. This layer only occurred in the vegetated area of the site west of the chain link fence. Fill (see below) was present at the ground surface for borings B-1, B-2, B-3, and B-4.

The fill/reworked native soil encountered at the site varied in composition and depth between the borings inside of the fence (B-1, B-2, B-3, and B-4) and the borings outside of the fence (B-5, B-6, and B-7). For the borings inside of the fence, the fill is present at the ground surface and is described as brown silty fine to coarse sand with little to some gravel. It is humid, compact, and ranges in thickness from 1.5 feet to 3 feet. It appears that the fill was placed to provide a working surface for the Lucas Tree Experts wood chipper. Standard Penetration Test blow counts (SPT-N) in the layer ranged from 7 to 24 with an average of 16. It classifies as SM or SP-SM in accordance with the Unified Soil Classification System.

The fill/reworked native soil encountered in the borings outside of the fence is located below the topsoil and is described as olive gray to black silty clay with little to some sand and no to some

gravel. Brick fragments, ash, organics, and wood pieces were present at various depths throughout the layer. It is soft to compact, humid, and contains a slight petroleum odor. SPT-N in the layer ranged from 6 to 28 with an average of 14. The fill/reworked native ranges in thickness from 9.5 feet to 11.5 feet. It classifies as ML, CL, or SP in accordance with the Unified Soil Classification System.

The glacial marine soil was encountered in 6 of the 7 borings and is described as olive brown to olive gray stiff silty clay with occasional silt seams. It is mottled, blocky, humid, and ranges in pocket penetrometer measurements (a rough estimate of unconfined compressive strength) from 3,000 psf to greater than 9,000 psf. The thickness of this layer is approximately 10 feet. It classifies as CL in accordance with the Unified Soil Classification System.

In boring B-7, the stiff silty clay transitioned into soft, gray silty clay at approximately 19 foot depth. A pocket penetrometer reading in this sample was approximately 500 psf. This apparently isolated layer also classifies as CL.

The marine fan deposit, encountered in borings B-1 and B-2 is described as dark tan silty fine sand with little gravel. The layer is slightly to moderately mottled, humid to damp, and compact. The layer starts at depth 13 feet below ground surface and is approximately 3.5 feet thick. SPT-N in this layer ranged from 18 to 24 with an average value of 21. The layer classifies as SM in accordance with the Unified Soil Classification System.

The glacial till was encountered in boring B-1 and B-2 is described as gray gravelly clay with little sand and silt. It ranges in thickness from 1.5 feet to 4 feet and directly overlies bedrock. SPT-N in this layer ranged from 20 to 37. The glacial till is very stiff and humid and classifies as ML in accordance with the Unified Soil Classification System.

3.2 Groundwater

Groundwater was not encountered in any of the borings on the day of the explorations. However, based visual inspection of the moisture from the soft, silty clay collected from Boring B-7, groundwater is anticipated to be at approximately 19 feet depth in this location (elevation 54 feet). Mottling of the glacial marine deposit indicates that the groundwater rises seasonally or during wet periods.

3.3 Bedrock

Bedrock was encountered at the site ranging from 18.1 feet to 45.2 feet below existing ground surface. The bedrock surface appears to slope downward at the site in a southwesterly direction. Bedrock mapping by the Maine Geological Survey classifies the bedrock at the site as the Berwick Formation consisting of fine-grained medium gray quartz-plagioclase biotite gneiss and granofels with minor light medium gray calc-silicate gneiss or granofels.

4.0 Evaluation

The key geotechnical issues at the site include the following:

- Presence of unsuitable soils at the proposed bottom of footing elevation for the cold storage building.
- Potential for settlement of the clay under the 3 to 6 feet of fill required for the cold storage slab.
- Presence of poorly-drained soils within the proposed paved driveway entrance.

Based on our explorations, proposed site grades, and the proposed finish floor elevation of the cold storage building, the subgrade soil beneath the footings will consist of reworked clay/silt with brick, ash and intermixed gravel/sand. Local ground improvement is recommended beneath the cold storage building footings as recommended in Section 5.1.2. These recommendations only apply to the cold storage building and are not necessary for the office and office/garage buildings.

Up to 6 feet of fill will be required to construct the slab for the cold storage building. Explorations in this area indicate that the stiff, silty clay transitioned into a softer deposit at approximately 20 feet below ground surface. Refusal was encountered at approximately 45 feet. We believe that if the fill is constrained within the building footprint and is limited to a thickness of 6 feet, that the settlement of the clay will remain within tolerable limits of the building.

Stiff, silty clay was encountered at approximately 1.5 feet below ground surface at Boring B-3, within the proposed paved driveway entrance to the site. This soil is poorly drained and has high frost-susceptibility. Recommendations for constructing the proposed driveway are presented in Section 7.0.

5.0 Foundation Recommendations

5.1. *Allowable Bearing Pressure*

Based on our explorations and the proposed finish floor elevations, we anticipate that the interior and exterior footings for the office and office/garage buildings will be supported on stiff clay and the footings for the cold storage building will be supported on reworked clay/silt. We recommend that footings for all of the buildings be proportioned using an allowable bearing pressure of 3,000 psf, assuming that the recommendations from this report are followed. Total settlement is expected to be less than 1.0" and differential settlement is expected to remain within tolerable limits. The allowable bearing pressure above is based on the following conditions:

5.1.1 *Office and Office/Garage Buildings:*

- All topsoil is removed from within the proposed building footprints.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Foundation underdrains are included for the buildings as described in Section 5.5.
- Footing excavations are completed using a smooth-edged bucket to reduce local

disturbance to the silty clay soil. Proofrolling of the exposed silty clay is not necessary. If granular soil (existing fill) is exposed at the bottom of the footing excavation, it should be proofrolled with a minimum of 4 passes with a walk-behind plate compactor.

- Soft or unsuitable soils are removed and replaced with ¾" crushed stone or Structural Fill (SF, See Section 5.2 for gradation requirements). This includes portions of the exposed silty clay which become softened upon exposure to rain or surface water.
- All placed fill within the building footprint consists of SF placed in a maximum of 12" lifts and compacted to 95% of its optimum dry density in accordance with ASTM D1557.

5.1.2 Cold Storage Building:

- All topsoil is removed from within the proposed building footprint.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Foundation underdrains are included for the buildings as described in Section 5.5.
- Interior and exterior footing trenches are overexcavated 1 foot below bottom of footing elevation. Exposed soil at the bottom of the excavation is proofrolled with a minimum of 4 passes with a walk-behind plate compactor.
- A geotextile is placed on top of the proofrolled subgrade soil. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard and should be extended a minimum of 2 feet beyond the proposed edge of footing on all sides.
- 12" of ¾" crushed stone or SF is placed on top of the geotextile beneath the bottom of footing elevation. If SF is used, it should be compacted to 95% of its optimum dry density in accordance with ASTM D1557. If crushed stone is used, it should be compacted with a minimum of 4 passes with a walk-behind plate compactor.

5.2 Slabs-on-grade

5.2.1 Office and Office/Garage Buildings:

Based on a finish floor elevation of 67.2 feet for office building and 68.7 feet for the office/garage building, we anticipate that the slab will be supported by a combination existing fill and imported fill. We have assumed that the office/garage space will be continuously heated.

We recommend that the slab-on-grade in both office and the garage/office be constructed on a minimum of 12" of compacted Structural Fill (SF, see table below for gradation requirements). Exposed soil (existing fill) beneath the SF should be proofrolled with a minimum of 4 passes with a vibratory roller with a minimum operating weight of 10 tons. Any exposed soft or unsuitable soil should be removed and replaced with compacted SF.

The portion of SF passing the 3" sieve shall meet the following gradation requirements:

STRUCTURAL FILL (SF)	
Sieve Size	Percent finer
3 inch	100
½ inch	35 to 80
¼ inch	25 to 65
No. 40	0 to 30
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type D

The maximum particle size should be limited to 6 inches. Structural Fill should be placed in 6 to 12 inch lifts and should be compacted to a minimum of 95 percent of its maximum dry density, determined in accordance with ASTM D1557.

For the conditions described above, the slab can be designed using a subgrade modulus value of 175 pci.

5.2.2 Cold Storage Building:

Based on a finish floor elevation of 74.85 feet for the cold storage building and existing grades provided to us, 3 to 6 feet of fill will be required to raise the grade within the building footprint for the slab. We recommend that all imported fill beneath the slab consist of Gravel Borrow (GB, see table below for gradation requirements) overlying a non-woven geotextile. Once the topsoil has been removed from within the building footprint, the exposed subgrade should be proofrolled prior to the placement of the geotextile. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard.

The portion of GB passing the 3" sieve shall meet the following gradation requirements:

GRAVEL BORROW (GB)	
Sieve Size	Percent finer
¾ inch	0 to 70
No. 200	0 to 10

Reference: MDOT Specification 703.20, Gravel Borrow

The maximum particle size should be limited to 6 inches. GB should be placed in 6 to 12 inch lifts and should be compacted to a minimum of 95 percent of its maximum dry density, determined in accordance with ASTM D1557.

For the conditions described above, the slab can be designed using a subgrade modulus value of 150 pci.

5.3 Frost Protection and Foundation Backfill

Based on a 10-year design air freezing index of 1,200 degree F days for the Portland, Maine

region, all foundation walls or isolated footings exposed to freezing temperatures should be constructed at a minimum depth of 4 feet below finish exterior grade (or finish floor elevation for interior columns). We recommend that interior columns in heated portions of the buildings be constructed at a minimum of 2 feet below the finish floor grade. We recommend that the exterior of all foundation elements exposed to freezing temperatures be backfilled with Foundation Backfill (FB). The portion of FB passing the 3" sieve size should meet the following gradation requirements:

FOUNDATION BACKFILL (FB)	
Sieve Size	Percent finer
3 inch	100
¼ inch	25 to 100
No. 40	0 to 50
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type E

Maximum particle size should be limited to 6 inches. Foundation Backfill should be placed in 6 to 12 inch lifts and compacted to 95% of its optimum dry density determined in accordance with ASTM D1557.

5.4 Seismic Site Class and Design Criteria

Based on the blow counts collected during split spoon sampling, the depth to bedrock encountered in the borings, and the proposed finish floor elevations, the site classifies as Site Class D "stiff soil" in accordance with the 2012 International Building Code. The following seismic site coefficients should be used:

SEISMIC DESIGN COEFFICIENTS	
Seismic Coefficient	Site Class D
Short period spectral response (S_S)	0.246
1 second spectral response (S_1)	0.079
Maximum factored spectral response (S_{MS})	0.393
1 second factored spectral response (S_{M1})	0.190
Design short period spectral response (S_{DS})	0.262
Design 1 second spectral response (S_{D1})	0.127

No liquefiable soils were encountered in our subsurface exploration.

5.5 Groundwater Considerations

Groundwater was encountered at approximately elevation 54 feet. Soil samples recovered in the office and office/garage area were heavily mottled, indicating that the groundwater table rises above its current elevation during wet periods. Accordingly, we recommend that perimeter underdrains be constructed around the foundation walls of these buildings. However, for the cold

storage building, underdrains are not strictly necessary. It is generally good practice, however, that foundation underdrains be installed around the perimeter of the building. Perimeter underdrains, if used, should consist of 4" rigid perforated PVC surrounded by a minimum of 6" of crushed stone wrapped in filter fabric to prevent clogging from the migration of fine soil particles into the backfill soil. The underdrains should be placed at the base of the foundation and outlet to a free draining location or pumped if necessary.

6.0 Stormwater Design

We understand that a stormwater treatment system is being proposed near the southwest corner of the site, near the crest of the slope adjacent to the Presumpscot River. The subgrade at this location is primarily fill/reworked soil consisting of sandy/gravelly clay and silt. Permeability of this soil should be considered low, on the order of 0.15 to 0.0015 in/hr. Groundwater can be assumed to be at elevation 54 feet.

7.0 Pavement Section Recommendations

The mean annual freezing index for the Portland area is estimated at 900 degree days. Based on the subgrade and mean annual freezing index, the anticipated mean annual frost penetration depth is 36 inches. We recommend a minimum total pavement section thickness of 50% of the mean annual frost penetration or approximately 18 inches. We further recommend that the pavement section consist of the following materials.

PAVEMENT SECTION MATERIALS AND THICKNESSES		
Material	Thickness (in)	Specification
Asphalt Surface Course	1	MDOT 703.09, Type 9.5 mm
Asphalt Binder Course	2	MDOT 703.09, Type 19 mm
Base Soil	3	MDOT 703.06 Type A
Subbase Soil	12	MDOT 703.06 Type D

We recommend the following gradation requirements be used for Base and Subbase Soil:

MATERIAL SPECIFICATIONS		
Sieve Designation	Percent Passing a 3-inch Sieve	
	MDOT Type A (Base)	MDOT Type D (Subbase)
3 Inch	100	100
2 Inch	100	--
½ Inch	45 – 70	35 - 80
¼ Inch	30 – 55	25 – 65
No. 40	0 – 20	0 – 30
No. 200	0 – 6	0 - 7

The material specifications are referenced to the Maine Department of Transportation Standard Specifications, 2014 Edition.

8.0 Construction Consideration

Based on the groundwater levels observed from our explorations, we do not anticipate that groundwater will be encountered within the building foundation excavations. Diversion and control of surface water should be performed to prevent water flow from adjacent wet areas or from rain or snowmelt from entering the excavations.

Excavations deeper than 4 feet should be sloped no greater than 1.5H to 1V for fill or previously disturbed soils and 0.75H:1V for the stiff silty clay soil. Excavations below groundwater should be limited to 1.5H to 1V. These slopes are based on the current OSHA Excavation Guidelines.

The silty clay subgrade is susceptible to softening if it is disturbed when wet. Disturbed, wet, and soft areas beneath the foundations should be removed and replaced with SF, $\frac{3}{4}$ " crushed stone, and/or geotextile.

If a significant quantity of soft, unsuitable, and/or non-mineral soil is exposed in the footing trenches for the cold storage building, it should be brought to the attention of SGS.

9.0 Closure

Our recommendations are based on professional judgment and generally accepted principles of geotechnical engineering. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially from those described in this report, or should building loads and configurations change significantly, SGS should be notified so that we can re-evaluate our recommendations.

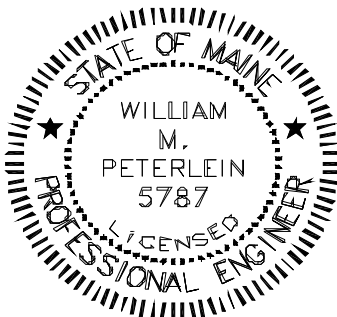
We recommend that a qualified geotechnical consultant be retained to monitor and test soil materials used during construction and confirm that soil conditions and construction methods are consistent with this report.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

Sincerely,
Summit Geoengineering Services, Inc.



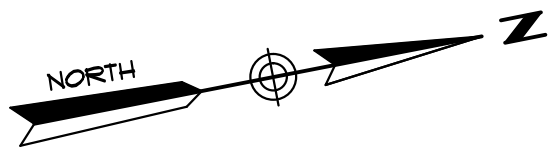
Mathew Hardison, EI
Geotechnical Engineer



William M. Peterlein, PE
Principal Geotechnical Engineer

APPENDIX A

BORING LOCATION PLAN

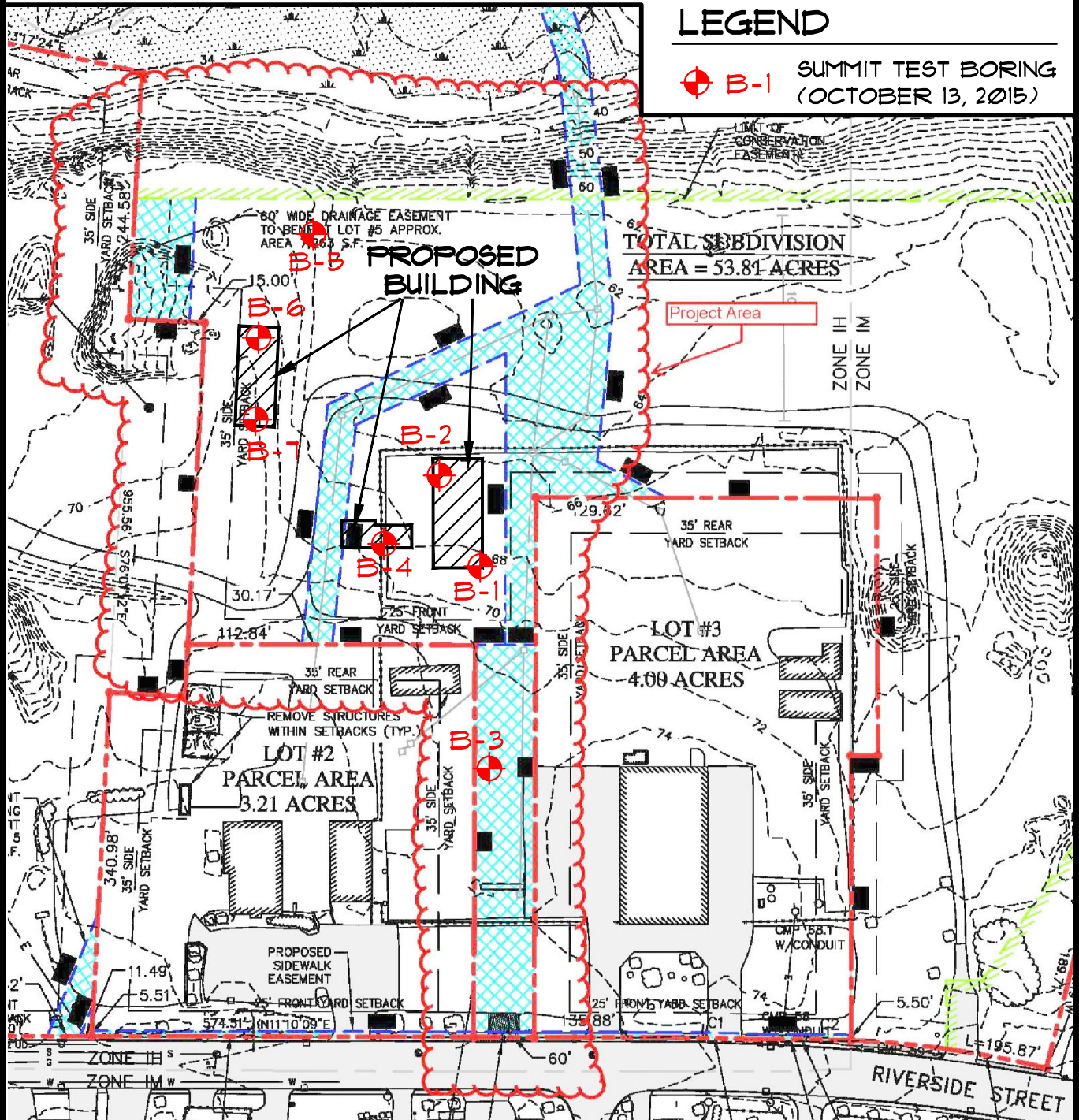


PLAN REFERENCE

"SUBDIVISION RECORDING PLAT, RIVERSIDE
SUBDIVISION", DATED SEPTEMBER 8, 2010,
PREPARED BY WOODARD & CURRAN

LEGEND

 **B-1** SUMMIT TEST BORING
(OCTOBER 13, 2015)



TEST BORING LOCATION PLAN SUBURBAN PROPANE SITE

656 RIVERSIDE STREET - PORTLAND, MAINE

PREPARED FOR

FAY, SPOFFORD & THORNDIKE

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

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT

GEOENGINEERING SERVICES
www.summitgeoeng.com

DATE: 10-15-2015	DRAWN BY: KRF	CHECKED BY: UMP
JOB: 15156	SCALE: 1" = 200'	FILE: 15156 BOR

APPENDIX B
BORING LOGS



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:

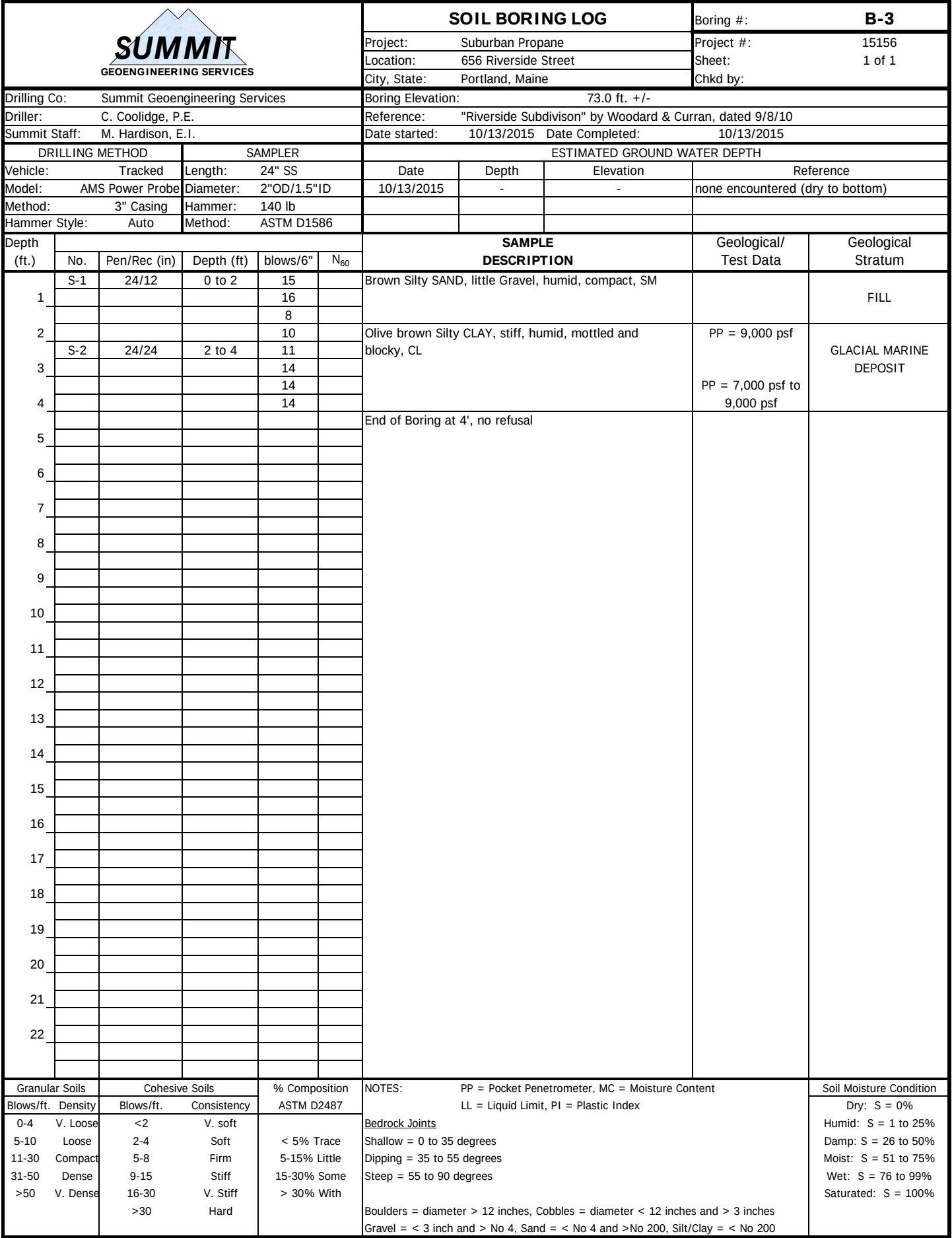
Boulders:	Over 12 inches	Trace:	Less than 5%
Cobbles:	12 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 30%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 30%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

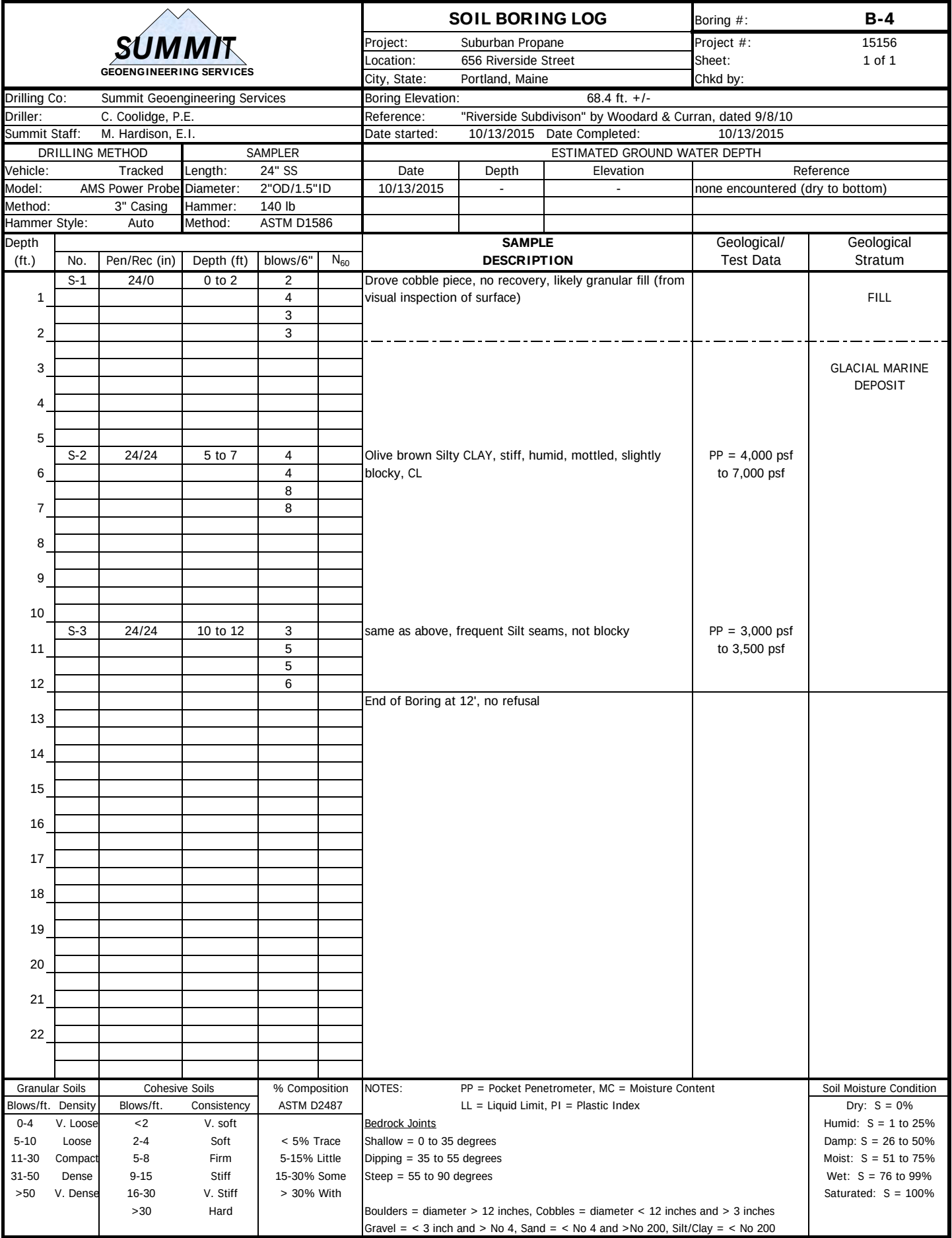
Density of Granular Soils and Consistency of Cohesive Soils:

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		

						SOIL BORING LOG			Boring #: B-1	
						Project: Suburban Propane			Project #: 15156	
						Location: 656 Riverside Street			Sheet: 1 of 1	
						City, State: Portland, Maine			Chkd by:	
Drilling Co: Summit Geoengineering Services						Boring Elevation: 68.0 ft. +/-				
Driller: C. Coolidge, P.E.						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10				
Summit Staff: M. Hardison, E.I.						Date started: 10/13/2015 Date Completed: 10/13/2015				
DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH						
Vehicle: Tracked		Length: 24" SS		Date	Depth	Elevation	Reference			
Model: AMS Power Probe		Diameter: 2"OD/1.5"ID		10/13/2015	-	-	none encountered (dry to bottom)			
Method: 3" Casing		Hammer: 140 lb								
Hammer Style: Auto		Method: ASTM D1586								
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum		
1	S-1	24/16	0 to 2	5		Brown Silty fine to coarse SAND, trace Gravel, humid, compact, SM			FILL	
				10						
				6						
2				6		bottom 6" dark gray fine Silty SAND, clay balls and intermixed wood pieces (reworked native)				
3										
4										
5										
6	S-2	24/24	5 to 7	4		Olive brown Silty CLAY, stiff, humid, mottled, slightly blocky, CL	PP = 6,000 psf to 9,000 psf		GLACIAL MARINE DEPOSIT	
				6						
				8						
				8						
7										
8										
9										
10										
11	S-3	24/24	10 to 12	3		same as above, not blocky	PP = 3,000 psf to 4,000 psf			
				4						
				6						
				7						
12										
13										
14										
15									MARINE FAN DEPOSIT	
16	S-4	24/24	15 to 17	5		Dark tan Silty fine SAND, mottled, damp, compact, little Gravel in spoon tip, SM				
				9						
				15						
17				22						
18										
19										
20										
21	S-5	24/2	20 to 22	50/2"		Gray Gravelly CLAY, very stiff, little Sand and Silt, CL				
22						End of Boring at 20.2', spoon refusal on likely bedrock			BEDROCK	
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487					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%	
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							

						SOIL BORING LOG				Boring #: B-2			
						Project: Suburban Propane				Project #: 15156			
						Location: 656 Riverside Street				Sheet: 1 of 1			
						City, State: Portland, Maine				Chkd by:			
Drilling Co: Summit Geoengineering Services						Boring Elevation: 66.0 ft. +/-							
Driller: C. Coolidge, P.E.						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10							
Summit Staff: M. Hardison, E.I.						Date started: 10/13/2015 Date Completed: 10/13/2015							
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH							
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference				
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	-	-	none encountered (dry to bottom)				
Method: 3" Casing			Hammer: 140 lb										
Hammer Style: Auto			Method: ASTM D1586										
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data	Geological Stratum			
1	S-1	24/10	0 to 2	4		Brown Gravelly SAND, little to some Silt, humid, compact SP-SM				FILL			
				8									
				8									
2				6		bottom 4" dark gray fine Silty CLAY, wood pieces, (reworked native)							
3						Olive brown Silty CLAY, stiff, humid, mottled, slightly blocky, CL			PP = 5,000 psf to 5,500 psf	GLACIAL MARINE DEPOSIT			
4													
5													
6	S-2	24/24	5 to 7	3									
7				5									
8				6		same as above, not blocky, trace intermixed fine sand			PP = 3,000 psf to 4,000 psf				
9				6									
10				8									
11	S-3	24/24	10 to 12	2									
12				4									
13				6		Dark tan Silty fine SAND, trace Clay, little Gravel in bottom 6", humid, slightly mottled, SM				MARINE FAN DEPOSIT			
14				6									
15													
16	S-4	24/24	15 to 17	5									
17				7									
18				9		Gray Gravelly CLAY, very stiff, little Sand and Silt, CL				GLACIAL TILL			
19				11									
20													
21						End of Boring at 18.1', casing refusal on likely bedrock				BEDROCK			
22													
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487								Dry: S = 0%	
0-4	V. Loose	<2	V. soft	< 5% Trace 5-15% Little 15-30% Some > 30% With		Humid: S = 1 to 25%							
5-10	Loose	2-4	Soft			Damp: S = 26 to 50%							
11-30	Compact	5-8	Firm			Moist: S = 51 to 75%							
31-50	Dense	9-15	Stiff			Wet: S = 76 to 99%							
>50	V. Dense	16-30	V. Stiff			Saturated: S = 100%							
		>30	Hard										





						SOIL BORING LOG				Boring #: B-5		
Drilling Co: Summit Geoengineering Services						Project: Suburban Propane				Project #: 15156		
Driller: C. Coolidge, P.E.						Location: 656 Riverside Street				Sheet: 1 of 1		
Summit Staff: M. Hardison, E.I.						City, State: Portland, Maine				Chkd by:		
Boring Elevation: 66.0 ft. +/-						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10						
Date started: 10/13/2015						Date Completed: 10/13/2015						
DRILLING METHOD		SAMPLER				ESTIMATED GROUND WATER DEPTH						
Vehicle: Tracked		Length: 24" SS				Date	Depth	Elevation	Reference			
Model: AMS Power Probe		Diameter: 2"OD/1.5"ID				10/13/2015	-	-	none encountered (dry to bottom)			
Method: 3" Casing		Hammer: 140 lb										
Hammer Style: Auto		Method: ASTM D1586										
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data		Geological Stratum	
1	S-1	24/12	0 to 2	1		Dark brown Sandy SILT, humid, loose, rootlets, ML					TOPSOIL	
				2		Olive gray Sandy CLAY, little to some Silt, slightly mottled, loose, humid, CL					FILL/REWORKED NATIVE	
				4								
2				4								
3						Gray Gravelly CLAY, little to some Silt, little Sand, humid, compact, CL						
4												
5												
	S-2	24/20	5 to 7	2								
6				11								
				17								
7				12		Dark brown Sandy SILT, some wood pieces and organics, plastic piece, trace Clay, ML						
8												
9												
10						End of Boring at 12', no refusal						
	S-3	24/22	10 to 12	2								
11				4								
				2								
12				2								
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16												
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						SOIL BORING LOG		Boring #: B-6		
						Project: Suburban Propane		Project #: 15156		
Location: 656 Riverside Street						Sheet: 1 of 1		Chkd by:		
City, State: Portland, Maine						Boring Elevation: 69.0 ft. +/-				
Drilling Co: Summit Geoengineering Services						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10				
Driller: C. Coolidge, P.E.						Date started: 10/13/2015 Date Completed: 10/13/2015				
Summit Staff: M. Hardison, E.I.										
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH				
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference	
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	-	-	none encountered (dry to bottom)	
Method: 3" Casing			Hammer: 140 lb							
Hammer Style: Auto			Method: ASTM D1586							
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION		Geological/ Test Data	Geological Stratum	
1	S-1	24/18	0 to 2	4		Dark brown Sandy SILT, humid, loose, rootlets, ML			TOPSOIL	
				5		Brown to black Silty CLAY, brick fragments, intermixed gravel, cobble piece, CL				
				14						
	2			10						
3										
4										
5										
6	S-2	24/12	5 to 7	5		Gray Gravelly SAND, little SILT, humid, SP				
7				4		Gray Silty CLAY, intermixed Sand and Gravel, humid, soft, CL				
8				5						
9										
10										
11	S-3	24/24	10 to 12	3		Dark brown Silty CLAY, intermixed wood and organics, soft, humid, CL or ML		PP = 7,000 psf to 9,000 psf	GLACIAL MARINE DEPOSIT	
12				4		Olive gray Silty CLAY, very stiff, humid, mottled and blocky, CL				
13				7						
14				9						
15										
16	S-4	24/24	15 to 17	4		same as above, stiff, not blocky, heavily mottled				
17				6						
18				9						
19										
20										
21	S-5	24/24	20 to 22	4		same as above		PP = 4,000 psf		
22				5						
				6						
45				7						
						Pushed spearhead probe to refusal				
						End of Boring at 45.2', probe refusal on likely bedrock			REFUSAL	
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487					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%	
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							

						SOIL BORING LOG			Boring #: B-7		
						Project: Suburban Propane			Project #: 15156		
						Location: 656 Riverside Street			Sheet: 1 of 1		
						City, State: Portland, Maine			Chkd by:		
Drilling Co: Summit Geoengineering Services						Boring Elevation: 72.0 ft. +/-					
Driller: C. Coolidge, P.E.						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10					
Summit Staff: M. Hardison, E.I.						Date started: 10/13/2015 Date Completed: 10/13/2015					
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH					
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference		
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	19.0 ft.	54 ft. +/-	observed from recovered soil samples		
Method: 3" Casing			Hammer: 140 lb								
Hammer Style: Auto			Method: ASTM D1586								
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data	Geological Stratum	
1	S-1	24/12	0 to 2	2		Dark brown Sandy SILT, humid, loose, rootlets, ML				TOPSOIL	
				9		Black SILT, little Sand, Gravel, Ash, Brick, trace Clay, humid, loose, ML					
				8							
	2			5							
	3										
	4					brick fragments in auger spoils, moderate petroleum odor					
5											
	S-2	24/16	5 to 7	7		Olive gray to gray Silty CLAY, intermixed Gravel and Sand, slight petroleum odor, CL			PP = 6,000 psf	GLACIAL MARINE DEPOSIT	
6				6							
				6							
7				6							
8											
9											
10											
	S-3	24/20	10 to 12	10		Dark brown Silty CLAY, intermixed wood and organics, soft, humid, CL or ML			PP = 3,000 psf to 5,000 psf	GLACIAL MARINE DEPOSIT	
11				21							
				15		Olive brown Silty CLAY, very stiff, humid, mottled and blocky, CL					
12				12							
13											
14											
15											
	S-4	24/24	15 to 17	5		same as above, stiff, slightly mottled			PP = 500 psf		
16				6							
				7							
17				9							
18											
19											
20											
	S-5	24/24	20 to 22	1		Gray Silty CLAY, wet, soft, CL			PP = 500 psf		
21				2							
				3							
22				3							
						End of Boring at 22', no refusal					
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487						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%	
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								

APPENDIX H

Erosion Control Plan

EROSION AND SEDIMENTATION CONTROL REPORT

SUBURBAN PROPANE RELOCATION PORTLAND, ME

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO., INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

February 2016

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Figure 1 – USGS Location Map
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Attachments

Attachment A – Seeding Plan
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Attachment C – Ditch Scour Computations
Attachment D – DirtGlue™ Application and Use Requirements
Attachment E – SiteOps Computer Earthwork Analysis

A. INTRODUCTION

Stantec has been retained by Thompson's Point Development Co., Inc. for the preparation of site design and site permitting for the proposed relocation of Suburban Propane at 656 Riverside Street in Portland, Maine. The development will include an office building, garage building, cold storage building and propane truck filling stations.

A USGS Map, Flood, Soils, Aerial, and Tax Map figures are provided in Appendix A of the Stormwater Management Report to depict the location of the project. The accompanying plan set includes erosion control details and overall erosion control plan.

This study and section of the permit application presents the Erosion Sediment Control Plan designed for the project. The erosion control plans will be contained in the contract documents for implementation by the Contractor who is awarded the bid for the project. This project is coordinated with the MeDEP erosion control requirements. The Contract documents will require that turbid discharges from the site do not occur, fugitive dust emissions will be controlled, the requirements of this erosion control plan, and all permit requirements will be fulfilled. Winter construction may be required and have specific winter time construction standards. Specific erosion controls stipulated by the plan and this report are minimum requirements.

B. EXISTING SITE CONDITIONS

The current site cover conditions are summarized in the table below:

SUMMARY OF LAND USE COVER	
Current Land Cover	Area (acre)
Meadow	2.39
Impervious (gravel)	1.73
Total	4.12

C. EXISTING DRAINAGE FEATURES

The stormwater runoff from the site is tributary to the Presumpscot River. A portion of the site is captured in an existing stormwater management system that begins at Lot 2 and discharges in the northerly portion of the existing Lot 4 in the direction of the river.

Topography slopes from east to west with slopes ranging from 3% to 14%. The site elevations range from 61 to 73 based on survey completed by Sebago Technics in October of 2015 and topography from the Subdivision Recording Plat prepared by Woodard & Curran in October of 2010. Existing topography sheet flows across the westerly property line and drainage is towards the Presumpscot River.

The soils on the site are shown on the USDA medium intensity soils map to be primarily Elmwood fine sandy loam. Geotechnical explorations by Summit Geoengineering Services in November 2015 show that the soils are predominantly fine sandy silt topsoil overlying silty sand reworked native soils with some gravel and fill overlying glacial marine soil (silty clay) overlying a marine fan deposit of silty fine sand overlying bedrock.

D. OVERVIEW OF SOIL EROSION AND SEDIMENTATION CONCERNS

The susceptibility of soils to erosion is indicated on a relative “K” scale of values over a range of 0.02 to 0.69. The “K” value is frequently used with the universal soil loss equation. The higher values are indicative of the more erodible soils. The relative K values of the underlying material at the site would be as follows:

Soil Symbol	Soil Description	“K” Value
Elmwood – EmB	Fine sandy loam	0.32 - 0.43

The primary emphasis of the Erosion and Sedimentation Control Plan to be implemented for this project is as follows:

- **Temporary Measures:** Planning the project to have erosion resistant measures in place by implementing measures intended to prevent erosion from occurring.
- **Phasing Sequencing:** The plan includes measures to intercept and convey runoff to temporary sediment ponds and control devices as the construction of the project occurs. The use of small collection sumps with a clean sand filter above an underdrained discharge is recommended to supplement the principal sumps to help reduce turbidity. Turbidity should be controlled in any discharge through the use of settling, filters, or chemical coagulants.
- **Use of Type 1 Settling:** Installing sediment sumps and swales early in the construction sequence to provide secondary relief for erosion control measures within the site until late in the project when the sedimentation areas need to be removed for final restoration.
- **Restabilization:** Stabilization of areas denuded to underlying parent material must occur within stipulated time frame to minimize the period of soil exposure and stabilization of drainage paths to avoid rill and gully erosion.
- **Interim Entrapment:** The use of on-site measures to capture sediment (hay bales/silt fence, etc.) before it is conveyed to sediment sumps.
- **Long Term Site Protection:** The implementation of long-term measures for erosion/sediment and pollutant treatment through the construction of permanent water quality measures.
- **Special Winter Construction Measures:** These will be required for work between September 15 and April 15.

E. DESCRIPTION AND LOCATION OF LIMITS OF ALL PROPOSED EARTH MOVEMENTS

The construction of the project will disturb about 3.80 acres of land. The limit of disturbance is generally coincident with the limit of grading. The earthwork involved is summarized on the SiteOps computer analysis graphic and available upon request.

The earth moving will include trenching for underground utilities, excavation for the water quality measures, earthwork to prepare and shape the parking lots, and excavation attendant with the buildings and excavation and borrow for the project improvements.

F. PROPOSED DRAINAGE FEATURES

The postdevelopment plan includes consideration and design for water quality of stormwater runoff. These constitute the stormwater management.

Certain manholes on the project provide flow management by directing stormwater to different areas. The hydraulic control manholes for this project include hydraulic control manholes to regulate the discharge and overflow manholes.

The proposed cover conditions for the site upon completion of the project will be as follows:

Proposed Land Cover	Area (acre)	Change from Current (acre)
Meadow	0.32	-2.07
Lawn/Landscaped Planting Areas	1.39	+1.39
Pavement/Roof	2.40	+0.68
Total	4.12	0

G. CRITICAL AREAS

Critical resource areas include the Presumpscot River, a conservation area with wetlands west of the site, and the steep slopes on site. The Presumpscot River is approximately 550 ft. westerly downstream of the proposed project. The property just westerly of the site boundary is a conservation area with wetlands downgradient towards the Presumpscot River. On the easterly portion of the site adjacent to Lot 2 (Solaris) there is a steep slope of 2:1 that will be stabilized with reinforced turf. Slopes surrounding the stormwater management basin are 3:1 and will be reinforced with erosion control mesh. No special species habitats have been identified on the site. It is noted that certain stormwater systems including underdrained grass soil filter shall not be activated until the tributary areas have been stabilized and at least three weeks has passed subsequent to placement of bituminous concrete paving materials. It will be critical to establish the underdrained grass soil filter vegetation prior to placing it permanently online.

H. EROSION/SEDIMENTATION CONTROL DEVICES

As part of the site development, the Contractor will be obligated to implement the following erosion and sediment control devices. These devices shall be installed as indicated on the plans or as described within this report. For further reference on these devices, see the *Maine Department of Environmental Protection Erosion and Sediment Control BMPS Manual (March, 2003)*.

1. Siltation Barrier shall be installed down slope of any disturbed areas to trap runoff borne sediments until the site is revegetated. The silt barrier shall be installed per the detail provided in the plan set and inspected immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall make repairs immediately if there are any signs of erosion or sedimentation below the barrier line. If such erosion is observed, the Contractor shall take proactive action to identify the cause of the erosion and take action to avoid its reoccurrence. Typically, this requires that stabilization measures be undertaken. Proper placement of stakes and keying the bottom of silt fence fabric into the ground is critical to the fence's effectiveness. If there are signs of undercutting at the center or the edges, or impounding of large

volumes of water behind the barrier, the barrier shall be replaced with a stone check dam and measures taken to avoid the concentration of flows not directed to the silt fence.

2. Silt barrier is shown by three types, depending upon the timing and intent, as follows:

SCHEDULE OF SILT BARRIER REQUIREMENTS		
Silt Barrier	Type/Purpose	Time of Installation
Condition 1	To trap sediment along the grading edge where the new contours nearly parallel existing contours.	At initial site preparation, prior to other work.
Condition 2	To trap sediment from the work area; install in short sections parallel to existing contour; typically occurs where proposed and existing contours form a "V" shape.	At initial site preparation, prior to other work. On occasion, this needs to be deferred until the area for the silt fence installation can be reached.
Condition 3	To trap sediment along the base of proposed contours, typically in cut areas.	During construction after new grade is shaped. Time between work in area and shaping new grade to allow silt fence to be installed shall be minimized.

Conditions 2 and 3 silt barriers will be used extensively between project phases.

3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulching should be occurring several times per week when the site construction activity is high and at sufficient intervals to reduce the period of exposure of bare soils to the time limits set forth in this plan. Mulch placed on slopes of less than 10 percent shall be anchored by applying water; mulch placed on slopes steeper than 10 percent shall be covered with fabric netting as immediately after mulching as practicable and anchored with staples in accordance with the manufacturer's recommendations. Proposed drainage channels, which are to be revegetated, shall receive Curlex blankets by American Green selected for the slope, velocity, and whether the measure is temporary or intended to be in place for a sustained period. Mulch application rates are provided in Attachment A of this section. Hay mulch shall be available on site at all times in order to provide immediate temporary stabilization when necessary. Where necessary, a windrow of crushed stone and/or gravel shall be placed at the top of the slope and directed to a temporary stone channel or pipe sluice to convey runoff down slopes. A dissipation device such as stone or a plunge pool should be installed at the base of the slope and sluice outlet to dissipate the energy of the water from the sluice or channel.
4. Temporary sediment sumps will provide sedimentation control for stormwater runoff from disturbed areas during construction until stabilization has been achieved. The sediment sumps need to include a sand filter above an underdrain or a chemical coagulant to remove fine-grained sediment.

5. Riprap slopes, ditch linings, stone check dams, hay bale barriers, and culvert outlet aprons are intended to stabilize and protect denuded soil surfaces or dissipate the energy and erosive forces from concentrated flows. Installation details and stone sizes are provided in the construction plan set on the erosion control detail sheets.
6. A construction entrance will be constructed at all access points onto the site to prevent tracking of soil onto adjacent local roads and streets and the existing parking lot.
7. Stone sediment traps or a premanufactured SiltSack™ and a sediment bag will be installed at catch basin inlets to prevent silt from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.
8. Dirtbags™ will be required to be on site and available for construction dewatering. The Contractor will be required to provide four Dirtbags™ with one prepared for operation prior to commencing any trenching operations. Dirtbags™ will need to be installed above filter sand and crushed stone in accordance with the details shown on the plan set will need to be installed.
9. Loam and seed is intended to serve as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as reinforced turf mat.
10. Stone check dams will be installed in areas noted on the plan or as warranted, based upon observations during construction of the site.
11. Silt logs are an option for stone check dams and may be substituted provided the devices are well anchored.
12. Sorbent booms are intended to capture oils and the asphalt sheen from paved surfaces and shall be installed in all catch basins before pavement is installed.
13. DirtGlue™ is an acceptable means of temporary stabilization and is intended to form a “crust” on the surface that is resistant to erosion. However, applications where DirtGlue™ is used must be protected from traffic that would crack the “crust” and the DirtGlue™ has temperature limitations that restrict the periods of use. Use of this material shall conform to the requirements of Attachment D.
14. Wattles (constructed of rice straw) are to be used for small areas where the surface is irregular and where an immediate measure is needed to protect downstream measures.

I. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES

The following are planned as temporary erosion/sedimentation control measures during construction:

1. Crushed stone-stabilized construction entrances shall be placed at any construction access points from adjacent streets. The locations of the construction entrances shown on the drawings should be considered illustrative and will need to be adjusted as appropriate and located at any area where there is the potential for tracking of mud and debris onto existing roads or streets. Stone stabilized construction entrances will require the stone to be removed and replaced, as it becomes covered or filled with mud and material tracked by vehicles exiting the site.
2. Conditions 1 and 2 silt barriers shall be installed along the downgradient side of the proposed improvement areas. The silt fence will remain in place and properly maintained until the site is acceptably re-vegetated. Silt barrier needs to be checked to insure the bottom is properly keyed in and inspected after significant rains. Wood

chips or Erosion Control Mix is often used on the construction side of the silt fence to provide an extra margin of safety and security for the silt fence. This practice is encouraged, provided the chips are removed when the fence is removed.

3. Dirtbags™ shall be installed in accordance with the details in the plan set. The purpose of the Dirtbags™ is to receive any water pumped from excavations during construction. A Dirtbag™ shall be installed and prepared for operation prior to any trenching on site. When Dirtbags™ are observed to be at 50% capacity, they shall be cleaned or replaced. Stone and filter sand under the Dirtbag™ shall be removed and replaced concurrently with the replacement of the Dirtbag™.
4. Temporary stockpiles of common excavation will be protected as follows:
 - a) Temporary stockpiles shall not be located at least 50 feet upgradient of the perimeter silt fence.
 - b) Inactive stockpiles shall be stabilized within 5 days by either temporarily seeding the stockpile with a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch. If necessary, mesh shall be installed to prevent wind from removing the mulch.
5. All denuded areas except gravel areas shall receive mulch, erosion control mesh fabric, or other approved temporary erosion sediment measure within 7 days of initial disturbance of soil or before a predicted rain event of $>1/2$ " unless permanent measures are installed.
6. All soils disturbed between September 15 and April 15 will be covered with mulch within 5 days of disturbance, prior to any predicted storm event of the equivalent of $1/2$ " of rainfall in a 24-hour period, or prior to any work shutdown lasting more than 35 hours (including weekends and holidays). The mulch rate shall be double the normal rate.

For work that is conducted between September 15 and April 15 of any calendar year, all denuded areas will be covered with hay mulch, applied at twice the normal application rate, and (in areas over 10% grade) anchored with a fabric netting. The time period for applying mulch shall be limited to 5 days for all areas, or immediately in advance of a predicted rainfall event.

7. Stone check dams, silt logs, or hay bale barriers will be installed at any evident concentrated flow discharge points during construction and earthwork operations.
8. Silt fencing with a maximum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.
9. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or a premanufactured SiltSack™. Stone sediment barrier installation details are provided in the plan set. The barriers or SiltSacks™ shall be inspected after each rainfall and repairs made as necessary, including the removal of sediment. Sediment shall be removed and the barrier or SiltSack™ restored to its original dimensions when the sediment has accumulated to one-half the design depth

of the barrier. Sediment shall be removed from SiltSacks™ as necessary. Inlet protection shall be removed when the tributary drainage area has been stabilized.

10. All slopes steeper than 4:1 shall receive erosion control mesh.
11. Slopes steeper than 3:1 shall receive reinforced turf.
12. Slopes steeper than 2:1 shall receive riprap.
13. Condition 3 silt barriers shall be installed as construction progresses.
14. Areas of visible erosion and the temporary sediment sumps shall be stabilized with crushed stone. The size of the stone shall be determined by the contractor's designated representative in consultation with the Owner.
15. New catch basins and certain existing catch basins shall all be installed with an opening 2'-6" below finish grade to receive a 4" underdrain with an end cap except for inlets along underdrains and within 100 feet of nearby wells. A 3'-0" stub of underdrain surrounded by 6" of ¾" crushed stone and filter fabric shall be installed. The purpose of this measure is to provide drainage relief until site grades are at finish elevations.
16. All catch basins, which receive runoff from current or paved areas being constructed as part of this project, shall have a sorbent boom installed prior to placing the basin in operation installing binder pavement, or overlays. These sorbent booms shall be checked weekly for the three weeks following paving and replaced as necessary with the booms disposed of in accordance with local and State regulations.
17. Any flow from the site that is concentrated must be directed to a sump with sand filter and underdrained discharge.
18. Concentrated runoff shall be diverted away from slopes of over 10 percent unless the slope is armored with stone.
19. Underground utilities must be installed in compliance with the following standards and other requirements of this erosion control plan:
 - No more than 500 linear feet of trench may be opened at one time;
 - Excavated materials shall be placed on the uphill side of trenches;
 - Dewatering of the trench shall be pumped through a Dirtbag™ and appropriate sediment control facilities to avoid a turbid discharge; and
 - Stabilization shall occur as soon as practicable.
20. Rice straw wattles shall be used to control localized erosion.
21. Maintenance of the erosion control, sedimentation facilities, and control of fugitive dust must occur until the site is stabilized with permanent erosion control measures. For turf areas, stabilization shall be defined to be the establishment of a 90 percent "catch of grass" with no areas larger than 2 square feet, and no spots that cumulatively add up to more than 5 square feet per 100 square feet.

J. STANDARDS FOR STABILIZING SITES FOR THE WINTER

The construction of the project will require winter construction. The project is anticipated to require about 18 months to construct. For permitted winter construction, the erosion

control measures are substantially more stringent due to the cold temperatures and lack of weather conditions which aid in drying the subgrade soils through evaporation.

If construction activities involving earth disturbance continue past September 15 or begin before April 15, the following must be incorporated with the erosion control plan and implementation:

1. Enlarged access points must be stabilized to provide for snow stockpiling.
2. Limits of disturbance shall be reduced to the extent practicable.
3. A snow management plan including adequate storage and control of snowmelt, requiring cleared snow to be stored downgradient of all areas of disturbance shall be prepared by the contractor and submitted to the Owner for review and approval.
4. Snow shall not be stored in sediment basins or to preclude drainage structures from operating as intended.
5. A minimum 25-foot buffer maintained from perimeter controls such as silt fence shall be maintained on the "work area side" to allow for snow clearing and maintenance.
6. Drainage systems intended to operate during the winter shall be catalogued, shown on a plan, and inspected after each snow removal period to make sure the drainage structures are open and free of snow and ice dams.
7. To ensure cover of disturbed soil in advance of a melt event, areas of disturbed soil must be stabilized at the end of each work day, with the following exceptions:
 - If no precipitation within 24 hours is forecast and work will resume in the same disturbed area within 24 hours, daily stabilization is not necessary.
 - Disturbed areas that collect and retain runoff, such as house foundations or open utility trenches.
8. Standard for the timely stabilization of ditches and channels: The Contractor shall construct and stabilize all stone-lined ditches and channels on the site by September 15. The contractor shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If the Contractor fails to stabilize a ditch or channel to be grass-lined by September 1, then the Contractor shall take one of the following actions to stabilize the ditch for late fall and winter.
 - i. Install a sod lining in the ditch. The contractor shall line the ditch with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.
 - ii. Install a stone lining in the ditch. The contractor shall line the ditch with stone riprap by September 15. The contractor shall hire a registered professional engineer to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the Contractor shall regrade the ditch prior to placing the stone lining so as to prevent the stone lining from reducing the ditch's cross-sectional area.

9. Standard for the timely stabilization of disturbed slopes: The Contractor shall construct and stabilize stone-covered slopes by September 15. The Contractor shall seed and mulch all slopes to be vegetated by September 1. The Department will consider any area having a grade greater than 15% (10H:1V) to be a slope. If the Contractor fails to stabilize any slope to be vegetated by September 1, then the Contractor shall take one of the following actions to stabilize the slope for late fall and winter.
- i. Stabilize the soil with temporary vegetation and erosion control mesh. By September 15, the Contractor shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The contractor shall 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 slope by September 15, then the Contractor shall cover the slope with a layer of wood waste compost as described in item iii of this standard or with stone rip rap as described in item iv of this standard.
 - ii. Stabilize the slope with sod. The Contractor shall stabilize the disturbed slope with properly installed sod by September 15. 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 33% (3H:1V) or having groundwater seeps on the slope face.
 - iii. Stabilize the slope with wood waste compost. The Contractor shall place a six-inch layer of wood waste compost on the slope by September 15. Prior to placing the wood waste compost, the Contractor shall remove any snow accumulation on the disturbed slope. The contractor shall not use wood waste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.
 - iv. Stabilize the slope with stone rip rap. The Contractor shall place a layer of stone riprap on the slope by September 15. The Contractor shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer for underneath the riprap.
10. Standard for the timely stabilization of disturbed soil: By September 1, the Contractor shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the Contractor fails to stabilize these soils by this date, then the Contractor shall take one of the following actions to stabilize the soil for late fall and winter.
- i. Stabilize the soil with temporary vegetation. By September 15, the Contractor shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1,000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1,000 square feet, and anchor the mulch with plastic netting. The Contractor shall monitor the 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 September 15, then the Contractor shall mulch the area for over-winter protection as described in item iii of this standard.

- ii. Stabilize the soil with sod. The Contractor shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the Contractor 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.
- iii. Stabilize the soil with mulch. By September 15, the Contractor shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1,000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the Contractor shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the Contractor shall anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.
- iv. Stabilize all stockpiles with mulch within 24 hours.

K. SPECIAL MEASURES FOR SUMMER CONSTRUCTION

The summer period is generally optimum for construction in Maine, but it is also the period when intense short duration storms are most common, making denuded areas very susceptible to erosion, when dust control needs to be the most stringent, and when the potential to establish vegetation is often restricted by moisture deficit. During these periods, the Contractor must:

1. Implement a program to apply dust control measures on a daily basis except those days where the precipitation exceeds 0.25 inch. This program shall extend to and include adjacent streets used by construction vehicles.
2. Spray any mulches with water after anchoring to dampen the soil and encourage early growth. Spraying may be required several times. Temporary seed may be required until the late summer seeding season.
3. Mulch, cover, and moisten stockpiles of fine-grained materials, which are susceptible to erosion. In the summer months, the potential for wind erosion is of concern, as well as erosion from the intense, short-duration storms, which are more prevalent in the summer months.
4. Take additional steps needed to control fugitive dust emissions to minimize reductions in visibility and the airborne disbursement of fine-grained soils. This is particularly important along the adjacent streets.

These measures may also be required in the spring and fall during the drier periods of these seasons.

L. SEDIMENTATION SUMPS

The sediment sumps shall be sized in accordance with the plan and specifications. The bottom of the sumps is intended to be used for infiltration.

Discharge must be through a sand filter over an underdrained outlet to aid in the control of turbidity levels in the discharge. An emergency bypass shall be included and shall be constructed of reinforced turf and discharge to undisturbed turf.

M. PERMANENT EROSION CONTROL MEASURES

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. The drainage conveyance systems have been designed to intercept and convey the 25-year storm. In the case of open channels or swales, this includes the design of measures to resist scour of the channel. Flow computations for ditch capacity are attached as Attachment C.
2. All storm drain pipes shall have riprap aprons at their outlet to protect the outlet and receiving channel of the culverts from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized prior to directing runoff to the tributary pipe or culvert. It is noted that all inlets and outlets over 18" in diameter are to have a flared concrete inlet and an aluminum bar rack. Small pipes will be protected with rodent guards. Orifices in hydraulic control structures will be protected with a wire mesh screen with an opening of no more than 25 percent of the orifice size and a surface area of at least 25 times the area of the orifice.
3. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.), will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. Native topsoil shall be stockpiled and temporarily stabilized with seed and mulch and reused for final restoration when it is of sufficient quality.
4. Catch basins shall be provided with sediment sumps for all outlet pipes that are 12" in diameter or greater. Catch basins that are not within 100 feet of wells have been designed with an under drain connection to allow the subbase gravel to drain and reduce frost heave and movement at the basin. A sediment collection bag shall be installed in all basins.
5. Permanent seeding shall be conducted only in April through May and in late summer until September 15.
6. Turf Reinforcement shall be provided for slopes greater than 2:1 to reduce erosion effects from stormwater runoff and provide support for vegetation growing on steep slopes.
7. An Overflow Spillway shall be provided as part of the stormwater quality treatment measures to allow storm events greater than the 25-year storm to overflow the water quality basin to a stabilized channel into wetlands westerly of the site.

N. TIMING AND SEQUENCE OF EROSION/SEDIMENTATION CONTROL MEASURES

The site is quite susceptible to erosion when denuded soils are wet and caution is made to the contractor to limit construction activity during inclement weather. The Contractor must control fugitive dust emissions, respect and not impede the neighboring land uses, and control sediment laden runoff. For all grading activities, the Contractor shall exercise extreme caution not to overexpose the site by limiting the disturbed area and shall stabilize any steep slopes within 24 hours if final slope grading and stabilization will not be

completed within 7 days. Any final slopes shall have the specified erosion control measures installed within 7 days of final stabilization.

The following construction sequence shall be required, (unless otherwise authorized in writing by the Owner's project manager or authorized permit agent).

The description of the work is:

The initial onset of the project will include the removal of the overhead utility lines, the razing of existing buildings, and the installation of the sedimentation facilities to serve the construction of the project. The Contractor will need to perform the following work:

- Mark the work limits.
- Install safety fence and security signs around the perimeter of the site.
- Establish and install construction entrances with gates.
- Install silt barrier along the perimeter and other designated areas requiring Type 1 silt barrier.
- Establish Dirtbag™ area and pump system for dewatering activities.
- Construct temporary sedimentation facilities with stabilized overflow outlets to existing drainage system.
- Construct a diversion swale to direct as much of the site to the sedimentation basins as possible including the installation of culverts and rip rap where the diversion swale passes under the construction access drives.
- Install temporary seed and mulch around the perimeter of the sedimentation facility.
- Install permanent stormdrain collection and conveyance infrastructure.
- Construct site features including buildings, underground utilities and parking areas.
- Stabilize the site with pavement and permanent cover of grass and reinforced turf.
- Construct permanent water quality filter. Placement of the underdrained grass soil filter on line should not occur until the site has been stabilized and pavement has been allowed to "cure" for a period of three weeks.

The erosion control measures are shown on Drawings C-6.0, C-6.1 and C-6.2 of the plan set.

O. CONTRACTING PROCEDURE

The onsite components of the project will be constructed by a General Contractor under contract to the Developer. The Contractor shall submit a schedule for the completion of the work, which will satisfy the following criteria:

1. The construction sequence of Section M should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to prevent the duration of areas exposed or susceptible to erosion as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.
2. The work shall be conducted in sections which will:
 - a) Limit the amount of exposed area to those areas in which work is expected to be undertaken during the preceding 30 days.
 - b) Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading and temporarily stabilized within 7 days of initial disturbance or before a predicted storm event of over ½" of rain.
 - c) Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.
 - d) Achieve the parking space numbers indicated in the construction phasing.
3. Once final grade has been established, the Contractor may choose to dormant seed the disturbed areas prior to placement of mulch and placement of fabric netting anchored with staples.
 - a) If dormant seeding is used for the site, all disturbed areas shall receive 6" of loam and seed at an application rate of 5#/1,000 s.f.

All areas seeded during the winter months will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) shall be revegetated by replacing loam, seed, and mulch.
 - b) If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.
4. The area of denuded, non-stabilized construction shall be limited to the minimum area practicable. An area shall be considered to be denuded until the subbase gravel is installed in parking areas, or the areas of future loam and seed have been loamed, seeded, and mulched. The mulch rate shall be twice the rate specified in the seeding plan. [For example, 115#/1,000 s.f. x 2 = 230#/s.f.]
5. Within the exposed work area, temporary sedimentation sumps shall be provided any concentrated flow area with sand filter or chemical coagulation. Additional information is provided in prior sections of this narrative and on the Erosion Control Details of the plan set. Along the sedimentation sumps, barriers shall be provided at sufficient intervals to permit runoff to be accumulated to a minimum depth of 12" before overflowing.
6. The schedule shall be subject to the approval of the Owner.
7. The Contractor must maintain an accurate set of record drawings indicating the date when an area is first denuded, the date of temporary stabilization, and the date of final stabilization. On September 15 of any calendar year, the Contractor shall submit a detailed plan for stabilizing the site for the winter and a description of what activities are planned during the winter.

8. The Contractor must install any added measures which may be necessary to control erosion/sedimentation and fugitive dust emissions from the site, with adjustments made dependent upon forecasted and actual site and weather conditions.
9. The Contractor shall note that no area within 50 feet of a slope with a vertical drop of more than 3' in 50 feet shall remain denuded for a period of over 5 days before it is temporarily stabilized. Temporary stabilization shall be the installation of mulching. All other areas shall be stabilized within 7 days or before a predicted rain event. For construction between September 15 and April 15 of any calendar year, all areas shall be temporarily stabilized at the earlier time frames specified above.
10. Certain erosion control products (such as DirtGlue™) come in a form that a release could occur on the site or into the environs. The Contractor shall include MSDS information for all products that have the potential for release to the environment and shall be responsible for implementing a safety control program for proper handling of these materials on the site.
11. The Stormwater Pollution Prevention Plan (SWPPP) is defined to consist of the Erosion Control Report, the Stormwater Management Plan, and the Stormwater O&M Plan. The SWPPP shall be maintained at a secure locked location at the contractor's field trailer from commencement of the project. These documents shall be moved to a designated locked location inside the building(s) at the period when the contractor's trailers are removed and maintained until the Notice of Termination has been filed by the Owner.

A notice and point of contact with cell phone number shall be posted at the trailer to permit access to the records during normal work hours and in case of emergency at other times. All additions and construction records shall be copied via e-mail to the following addresses:

bo.kennedy@stantec.com [Bo Kennedy]

parallaxpartners@gmail.com [Chris Thompson]

The Owner reserves the right to add additional personnel to this list at the pre-construction conference or at reasonable intervals during the project.

12. The Owner will provide a copy of the NOI acceptance letter to the Contractor. This letter shall be maintained at the site with the SWPPP.
13. Any revisions to the SWPPP must be authorized in writing by the Preparer of the Plan (Stantec). The Preparer of the Plan shall be permitted reasonable time to review and notify the city and other agencies of said changes. Revisions to the SWPPP will be required:
 - a. Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater *discharges* from the site;
 - b. Whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c. To address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department, or other regulatory authority.

14. Should the Owner notify the contractor that the activity on the site is in violation of the SWPPP, the Contractor shall at its sole cost correct the deficiencies and file a photographic log with a list of corrective actions with the Owner within 7 days of notification by the Owner.
15. The Contractor shall engage a qualified inspector to monitor the work. This inspector shall be approved by the Owner prior to the individual being engaged on the project. This inspection shall be a part of the Contractor's Quality Control Plan for the project by the Contractor. The inspector's qualifications and duties that he shall perform are as follows:
 - a. Licensed Professional Engineer or Certified Professional in Erosion Control.
 - b. Covered by Workman's Compensation Insurance.
 - c. Experienced in this type of work, the specific erosion controls applicable to this project with a resume approved by the engineer.
 - d. Compensated on a unit rate basis with no incentives for reduced costs or subject to any type of compensation for passing inspections.
 - e. Approved by the Owner and the preparer of this plan.

The *qualified inspectors* shall conduct site inspections in accordance with the following timetable:

- a. Where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
- b. Where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the City's stormwater contact person or, in areas under the jurisdiction of a *regulated traditional land use control MS4*, the MS4 (provided the MS4 is not the *owner or operator* of the construction activity) in writing prior to reducing the frequency of inspections.
- c. Where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the City's stormwater contact person in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the Contractor shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed, and that all post-construction stormwater management practices have been constructed in conformance with

the SWPPP by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the Notice of Termination. The *owner or operator* shall then submit the completed Notice of Termination form to the City of Portland.

At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of discharge to natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather which shall be consistent with the National Weather Service Forecast Office, Portland-Gray, ME and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which received runoff from disturbed areas. This shall include identification of any *discharge* of sediment to the surface water body;
- f. Identification of all erosion and sediment control practices that need repair or maintenance;
- g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
- k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

Within one business day of the completion of an inspection, the *qualified inspector* shall notify the owner the appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame, at its sole cost.

All inspection reports shall be signed by the *qualified inspector*. The inspection reports shall be maintained on site with the SWPPP and distributed via email at the time of filing.

- 16. The Owner reserves the right to have quality assurance monitoring of the work. The Contractor shall, at its sole cost, cooperate with the Owner and their quality assurance monitoring of the work including maintaining an accurate schedule for performing the work. The Owner will notify the contractor if any particular elements of the work should be uncovered or available for observation by the Quality Assurance Monitor selected by the Owner. The Owner reserves the right to conduct the quality assurance monitoring during working hours at any time during the project.

P. PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES

The project will be contracted to a General Contractor. The project is subject to the requirements of the local permits, and a state regulated Construction General Permit and Stormwater Permit.

This project requires the Contractor to prepare a list and designate by name, address and telephone number all individuals who will be responsible for implementation, inspection, and maintenance of all erosion control measures identified within this section and as contained in the Erosion and Sedimentation Control Plan of the contract drawings. Specific responsibilities of the inspector(s) will include:

- 1. Execution of the Contractor/Subcontractor Certification contained in Attachment B by any and all parties responsible for erosion control measures on the site as required by the permit authorities.

2. Assuring and certifying the Owner's construction sequence is in conformance with the specified schedule of this section. A weekly certification stating compliance, any deviations, and corrective measures necessary to comply with the erosion control requirements of this section shall be prepared and signed by the inspector(s).
3. In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on site which include:
 - Dates when major grading activities occur in a particular areas.
 - Dates when major construction activities cease in a particular area, either temporarily or permanently.
 - Dates when an area is stabilized.
4. Inspection of this project work site on a weekly basis and after each significant rainfall event (0.5 inch or more within any consecutive 24-hour period) during construction until permanent erosion control measures have been properly installed and the site has been stabilized. Inspection of the project work site shall include:
 - Identification of proper erosion control measure installation in accordance with the erosion control detail sheet or as specified in this section.
 - Determine whether each erosion control measure is properly operating. If not, identify damage to the control device and determine remedial measures.
 - Identify areas which appear vulnerable to erosion and determine additional erosion control measures which should be used to improve conditions.
 - Inspect areas of recent seeding to determine percent catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.
 - All erosion controls shall be removed within 30 days of permanent stabilization except for mulch and netting not detrimental to the project. Removals shall include but not be limited to all silt fence, hay bales, inlet protection, and stone check dams.
 - Accumulated silt/sediment should be removed when the depth of sediment reaches 50 percent of the barrier height. Accumulated silt/sediment should be removed from behind silt fencing when the depth of the sediment reaches 6 inches.
 - Silt sacks should be removed and replaced at least every three months and at any time where the weekly inspection reveals that siltation has significantly retarded the rate of flow through the silt sack.
5. If inspection of the site indicates a change should be made to the erosion control plan, to either improve effectiveness or correct a site-specific deficiency, the inspector shall immediately implement the corrective measure and notify the Owner of the change.
6. Arranging for an on-site meeting prior to commencing winter construction to assure that all special winter construction measures will be implemented and to review the specific requirements of this plan for winter construction.

All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed with the Owner, and the Permit File contained on the project site. All written

certifications, inspection forms, and written reports must be filed within one (1) week of the inspection date.

The Contractor has sole responsibility for complying with the erosion/sediment control report, including control of fugitive dust, and shall be responsible for any monetary penalties resulting from failure to comply with these standards.

Once construction has been completed, long-term maintenance of the stormwater management system will be the responsibility of the applicant. Inspection and Maintenance items with a list of maintenance requirements and frequency are described in a separate document. In the event of defective workmanship or any failure by the contractor and its subcontractors to adhere to the Standards set forth in these documents, the Contractor shall be responsible to correct, at its sole cost, any latent defects together with reimbursement of Owner for any expenses borne by the Owner up to the time of said correction. This provision shall remain in effect beyond any stated or implied warranty period.

Q. PRECONSTRUCTION CONFERENCE

Prior to any construction at the site, representatives of the Contractor, the Owner, and the site design engineer and any personnel identified in the permit conditions shall meet to discuss the scheduling of the site construction and the designation of the responsible parties for implementing the plan. The Contractor shall be responsible for scheduling the meeting. Prior to the meeting, the Contractor will prepare a detailed schedule and a marked-up site plan indicating areas and components of the work and key dates showing date of disturbance and completion of the work. The Contractor shall conduct a meeting with employees and sub-contractors to review the erosion control plan, the construction techniques which will be employed to implement the plan, and provide a list of attendees and items discussed at the meeting to the Owner. Three copies of the schedule, the Contractor's meeting minutes, and marked-up site plan shall be provided to the Owner.

R. ATTACHMENTS

Attachment A – Seeding Plan
Attachment B – Sample Erosion Control Compliance Certification and Inspection Forms
Attachment C – Ditch Scour Computations
Attachment D – DirtGlue™ Application and Use Requirements
Attachment E – SiteOps Computer Earthwork Analysis

S. PLAN REFERENCES

Drawings C-6.0 to C-6.2 Erosion/Sediment Control Plans, Details and Notes

ATTACHMENT A

Seeding Plan

PERMANENT SEEDING PLAN (TURF AROUND PERIMETER)

Project: Suburban Propane Relocation

Site Location: Riverside Street, Portland, ME

X Permanent Seeding Temporary Seeding

1. **Area to be Seeded:** Approximately 1.30 acre(s) or /M. Sq. Ft. (refer to Surface Treatment plan)

2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method use (do not overcompact).

3. **Apply Lime as Follows:** #/acres or 138#/M Sq. Ft. or per soil test

4. **Fertilize:** pounds of - N-P-K/ac.

20 pounds of 3-27-5 N-P-K/M Sq. Ft. or per soil test

5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.

6. **Seed with the following mixture (slice seed in each direction where practical):**

30% Perennial Rye
35% Kentucky Bluegrass
35% Penn Lawn Tall Fescue

7. **Mulching Instructions:** Apply at the rate of tons per acre or 115 pounds per M. Sq. Ft.

8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	8.0	#/1,000 s.f.
Total Mulch	115	#/1,000 s.f.
Total Other		

9. **Remarks:**

Seeding dates April 15 to May 31 and August 1 until September 1. Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis.

Deep tine aerate if soil is compacted.

If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 6%.

PERMANENT SEEDING PLAN (LAWNS)

Project: Suburban Propane Relocation

Site Location: Riverside Street, Portland, ME

X Permanent Seeding Temporary Seeding

1. **Area to be Seeded:** Approximately 0.16 acre(s) or /M. Sq. Ft.
2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method used (do not over compact).
3. **Apply Lime as Follows:** #/acres or 138#/M Sq. Ft. or per soil test
4. **Fertilize:** pounds of - N-P-K/ac.
20 pounds of 10-20-20 N-P-K/M Sq. Ft. or per soil test
5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.
6. **Seed with the following mixture:**

35% Kentucky Bluegrass
20% Creeping Red Fescue
15% Chewings Fescue
15% Perennial Ryegrass
15% Annual Ryegrass
7. **Mulching Instructions:** Apply at the rate of tons per acre or 230 pounds per M. Sq. Ft.
8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	5	#/1,000 s.f.
Total Mulch	230	#/1,000 s.f.
Total Other		

9. Remarks:

Seeding dates April 15 to May 31 and August 1 until September 1. Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 8%.

Deep tine aerate if soil is compact.

TEMPORARY SEEDING PLAN (EROSION CONTROL MIX)

Project: Suburban Propane Relocation

Site Location: 656 Riverside Street, Portland, ME

 X Permanent Seeding X Temporary Seeding

1. **Area to be Seeded:** Approximately 1 acre(s) or /M. Sq. Ft.
2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method used.
3. **Apply Lime as Follows:** #/acres or 138# /M Sq. Ft. or per soil test
4. **Fertilize:** pounds of - N-P-K/ac.
 20 pounds of 10-10-10 N-P-K/M Sq. Ft. or per soil test
5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.
6. **Seed with the following mixture:**

Annual Rye-grass	50%
Timothy	25%
Winter Rye	25%
7. **Mulching Instructions:** Apply at the rate of tons per acre or 230 pounds per M. Sq. Ft.
8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	1	#/1,000 s.f.
Total Mulch	230	#/1,000 s.f.
Total Other		

9. Remarks:

For areas with slopes >10% and fall and winter erosion control areas, mulch netting shall be used per manufacturer's specifications.

R Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 6%.

ATTACHMENT B

Sample Erosion Control Compliance Certification and Inspection Forms

**MAINE CONSTRUCTION GENERAL PERMIT
CONTRACTOR/SUBCONTRACTOR CERTIFICATION**

PROJECT INFORMATION

Project Name: Suburban Propane Relocation
Address: Riverside Street, Portland, ME

CONTRACTOR/SUBCONTRACTOR INFORMATION

Firm Name:

Address:

Telephone:

Type of Firm:

CERTIFICATION STATEMENT

"I certify under penalty of law that I understand the terms and conditions of the Maine Construction General Permit (MCGP) permit that authorizes the stormwater discharges associated with construction activity from the project site identified as part of this certification."

Signature

Typed Name

Title

Date

MAINE CONSTRUCTION GENERAL PERMIT
INSPECTION REPORT

PROJECT INFORMATION

Project Name: Suburban Propane Relocation
Address: 656 Riverside Street, Portland, ME

INSPECTOR INFORMATION

Inspector Name: _____
Firm: _____
Title: _____
Qualifications: _____
Weather and Soil Conditions: _____

INSPECTION SUMMARY

Date of Inspection: _____
Major Observations: _____

1. Attach the following to the Report:

- a. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- b. A description of the condition of all natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which received runoff from disturbed areas. This shall include identification of any discharge of sediment to the surface water body;
- c. Identification of all erosion and sediment control practices that need repair or maintenance.
- d. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- e. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

- f. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPP and technical standards;
 - g. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
 - h. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
2. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the owner the appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
 3. All inspection reports shall be signed by the *qualified inspector*. The inspection reports shall be maintained on site with the SWPP and distributed via email at the time of filing.

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN (MUST BE SUBMITTED WITHIN 2 DAYS OF INSPECTION TO OWNER FOR APPROVAL):

CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all Appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Typed Name

Title

Date

ATTACHMENT C

Ditch Scour Computations

Manning's Flow Computations for Scour Areas

Scour Areas	Area (sf)	Area (Acres)	Impervious	Pervious	Impervious %	Pervious %	C	Tc	i	Q=CiA (cfs)
Driveway North	27538	0.632	22683	4855	0.824	0.176	0.791	6	5.15	2.58
Driveway South	12808	0.294	8706	4102	0.680	0.320	0.662	6	5.15	1.00
Parking Lot East	14596	0.335	9412	5184	0.645	0.355	0.630	6	5.15	1.09

FILE NAME: [P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls](#)
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Northern Side of Driveway

CHANNEL CONFIGURATION:

BOTTOM WIDTH	2.00 FT	Manning's Flow = 2.58 cfs
LEFT SIDE SLOPE (HORZ:1 VERT)	2.67	<u>For Channel Capacity 2.31-2.71 CFS:</u>
RIGHT SIDE SLOPE (HORZ:1 VERT)	3.60	Depth in Flow = 2.75 - 3 in
DITCH SLOPE	3.90 %	Flow Velocity = 3.71 - 3.89 FPS
GRASSED SWALE MANNING'S N	0.025	Flow Velocity > 3 FPS so
		Fabric Lining Required
DEPTH INCREMENT	0.25 INCH	

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.42	0.49	0.55	0.62	0.70	0.77	0.85	0.93
WETTED PERIMETER (FT)	3.10	3.23	3.37	3.51	3.65	3.78	3.92	4.06
HYDRAULIC RADIUS (FT)	0.14	0.15	0.16	0.18	0.19	0.20	0.22	0.23
FLOW VELOCITY (FPS)	3.10	3.31	3.52	3.71	3.89	4.07	4.24	4.40
CHANNEL CAPACITY (CFS)	1.30	1.61	1.94	2.31	2.71	3.14	3.60	4.10

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	1.01	1.10	1.19	1.28	1.38	1.47	1.57	1.68
WETTED PERIMETER (FT)	4.19	4.33	4.47	4.61	4.74	4.88	5.02	5.15
HYDRAULIC RADIUS (FT)	0.24	0.25	0.27	0.28	0.29	0.30	0.31	0.33
FLOW VELOCITY (FPS)	4.56	4.71	4.86	5.01	5.15	5.29	5.42	5.55
CHANNEL CAPACITY (CFS)	4.63	5.19	5.79	6.42	7.09	7.80	8.54	9.32

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.78	1.89	2.00	2.12	2.23	2.35	2.47	2.60
WETTED PERIMETER (FT)	5.29	5.43	5.57	5.70	5.84	5.98	6.12	6.25
HYDRAULIC RADIUS (FT)	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.42
FLOW VELOCITY (FPS)	5.68	5.81	5.94	6.06	6.18	6.30	6.42	6.54
CHANNEL CAPACITY (CFS)	10.14	10.99	11.89	12.83	13.81	14.82	15.89	16.99

FILE NAME: P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Southern Side of Driveway

CHANNEL CONFIGURATION:

BOTTOM WIDTH 1.00 FT LEFT SIDE SLOPE (HORZ:1 VERT) 3.00 RIGHT SIDE SLOPE (HORZ:1 VERT) 4.00 DITCH SLOPE 3.65 % GRASSED SWALE MANNING'S N 0.025	Manning's Flow = 1.00 cfs For Channel Capacity 0.91 - 1.12 CFS: Depth in Flow = 2.25 - 2.5 in Flow Velocity = 2.93 - 3.11 FPS Flow Velocity < 3 FPS so OK
--	---

DEPTH INCREMENT 0.25 INCH

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.26	0.31	0.36	0.41	0.47	0.53	0.59	0.65
WETTED PERIMETER (FT)	2.21	2.37	2.52	2.67	2.82	2.97	3.12	3.28
HYDRAULIC RADIUS (FT)	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.20
FLOW VELOCITY (FPS)	2.75	2.93	3.11	3.27	3.43	3.59	3.73	3.88
CHANNEL CAPACITY (CFS)	0.73	0.91	1.12	1.35	1.61	1.89	2.20	2.54

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	0.72	0.79	0.87	0.94	1.02	1.11	1.19	1.28
WETTED PERIMETER (FT)	3.43	3.58	3.73	3.88	4.04	4.19	4.34	4.49
HYDRAULIC RADIUS (FT)	0.21	0.22	0.23	0.24	0.25	0.26	0.28	0.29
FLOW VELOCITY (FPS)	4.02	4.16	4.29	4.42	4.55	4.68	4.80	4.93
CHANNEL CAPACITY (CFS)	2.90	3.30	3.72	4.18	4.66	5.18	5.73	6.32

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.38	1.47	1.57	1.67	1.77	1.88	1.99	2.11
WETTED PERIMETER (FT)	4.64	4.79	4.95	5.10	5.25	5.40	5.55	5.71
HYDRAULIC RADIUS (FT)	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37
FLOW VELOCITY (FPS)	5.05	5.16	5.28	5.40	5.51	5.62	5.73	5.84
CHANNEL CAPACITY (CFS)	6.94	7.59	8.28	9.01	9.78	10.58	11.42	12.30

FILE NAME: <P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls>
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Eastern Side of Parking

CHANNEL CONFIGURATION:

BOTTOM WIDTH	1.00 FT	Manning's Flow = 1.09 cfs
LEFT SIDE SLOPE (HORZ:1 VERT)	3.00	<u>For Channel Capacity 1.02-1.20 CFS:</u>
RIGHT SIDE SLOPE (HORZ:1 VERT)	2.00	Depth in Flow = 2.75 - 3 in
DITCH SLOPE	2.58 %	Flow Velocity = 2.83 - 2.96 FPS
GRASSED SWALE MANNING'S N	0.025	Flow < 3FPS so OK
DEPTH INCREMENT	0.25 INCH	

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.24	0.28	0.32	0.36	0.41	0.45	0.50	0.56
WETTED PERIMETER (FT)	1.90	2.01	2.12	2.24	2.35	2.46	2.57	2.69
HYDRAULIC RADIUS (FT)	0.12	0.14	0.15	0.16	0.17	0.18	0.20	0.21
FLOW VELOCITY (FPS)	2.38	2.54	2.68	2.83	2.96	3.09	3.22	3.34
CHANNEL CAPACITY (CFS)	0.56	0.70	0.85	1.02	1.20	1.41	1.62	1.86

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	0.61	0.67	0.73	0.79	0.85	0.92	0.98	1.05
WETTED PERIMETER (FT)	2.80	2.91	3.02	3.14	3.25	3.36	3.47	3.59
HYDRAULIC RADIUS (FT)	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29
FLOW VELOCITY (FPS)	3.46	3.58	3.69	3.80	3.91	4.01	4.12	4.22
CHANNEL CAPACITY (CFS)	2.12	2.39	2.68	2.99	3.32	3.68	4.05	4.44

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.13	1.20	1.28	1.35	1.43	1.52	1.60	1.69
WETTED PERIMETER (FT)	3.70	3.81	3.92	4.04	4.15	4.26	4.37	4.49
HYDRAULIC RADIUS (FT)	0.30	0.31	0.32	0.34	0.35	0.36	0.37	0.38
FLOW VELOCITY (FPS)	4.32	4.42	4.51	4.61	4.70	4.79	4.89	4.98
CHANNEL CAPACITY (CFS)	4.86	5.29	5.75	6.24	6.74	7.27	7.83	8.40

ATTACHMENT D

DirtGlue™ Application and Use Requirements

DIRTGLUE™
APPLICATION INSTRUCTIONS FOR DUST CONTROL

METHODOLOGY

A. Heavy Duty Driving Surface

Application Rates (per surface area)

<i>DirtGlue</i> ™ polymer emulsion:	2,400 gallons
Water:	3,600 -14,400 gallons

Application Process

1. Loosen the existing soil using a scarifying attachment mounted on a grader (or similar piece of equipment) or a tractor with an agriculture disk attachment. If additional soil is required, it should be applied and mixed into the existing soil at this time. It is important to loosen the soil to ensure penetration of the *DirtGlue*™/water mixture into the soil.
2. Apply *DirtGlue*™/water mixture to soil using a water truck equipped with a gravity feed drip bar, spray bar, or automated distributor truck. Multiple passes will be necessary to get the desired amount of *DirtGlue*™ polymer emulsion for the specific application. Multiple passes will also ensure gradual, thorough saturation of the soil.
3. Thoroughly blend the *DirtGlue*™/water mixture into the soil with a rototiller, "S" harrow, or similar attachment. The soil must be evenly mixed and saturated with the *DirtGlue*™/water mixture to a depth of four (4") inches.
4. Grade the soil to finish grade with a grader, a small dozer or other suitable equipment.
5. Compact the soil with a vibratory roller. The final compaction should be greater than asphalt (Strive for 100% compaction, but always in excess of 95%).
6. Immediately after compacting, apply a topcoat of *DirtGlue*™ polymer emulsion to seal the road surface. In order to ensure a longer life and superior performance of the application, an additional coat should be applied between twenty four to forty eight hours after completion and then annually as an ongoing maintenance procedure. This topcoat should be applied at a rate of 250 gallons per surface acre.

B. Temporary Light Duty Driving Surface

This type of application will provide acceptable performance when used by cars and light trucks. It is not intended for constant use by heavy-duty trucks and/or tracked construction equipment. Areas that will be used by this type of equipment should be treated as a heavy-duty application as noted above.

Application Rates (per surface acre)

<i>DirtGlue</i> ™ polymer emulsion:	1,200 gallons
Water:	3,600-6000 gallons

Application Process:

7. Loosen the existing soil for a depth of two (2") inches using a scarifying attachment mounted on a grader (or similar piece of equipment) or a tractor with a rototiller or agriculture disk attachment. If additional soil is required, it should be applied and mixed into the existing soil at this time. It is important to loosen the soil to ensure penetration of the **DirtGlue™**/water mixture into the soil.
8. Apply **DirtGlue™**/water mixture to soil using a water truck equipped with gravity feed drip bar, spray bar, or automated distributor truck. Multiple passes will be necessary to get the desired amount of **DirtGlue™** polymer emulsion for the specific application. Multiple passes will also ensure gradual, thorough saturation of the soil. Do not apply the **DirtGlue™**/water mixture so heavy as to create run-off.
9. Grade the soil to finish grade with a grader, a small dozer or other suitable equipment.
10. Compact with a vibratory roller. The final compaction should be greater than asphalt (Strive for 100% compaction, but always in excess of 95%).
11. Immediately after compacting, apply a topcoat of **DirtGlue™** polymer emulsion to seal the road surface. In order to ensure a longer life and superior performance of the application, an additional coat should be applied between twenty four to forty eight hours after completion and then again annually as an ongoing maintenance procedure.

C. Dust & Erosion Control (Non-driving Areas)

This type of application is intended for pedestrian use only. Vehicular use will break through the skin and adversely affect the performance of the application. Areas that will require any vehicular use should be treated as a light-duty application as noted above or retreated as traffic damage occurs.

Application Rates (per surface acre)

<i>DirtGlue™</i> polymer emulsion:	300 gallons (windblown dust control) 600 gallons (bank stabilization, erosion/silt, run-off control)
Water:	2,000-6,000 gallons

Application Process

1. Apply *DirtGlue™*/water mixture to existing soil using a water truck equipped with a gravity feed spray bar or tank and pump (i.e. hydro seeder).
2. Add *DirtGlue™* to water rather than water to *DirtGlue™* or place a fill hose at bottom of tank, underneath surface of liquid to prevent foaming.
3. When applying *DirtGlue™*/water mixture, dispense large droplets. Avoid any fine mist. The intent is to apply a sheet of liquid onto the soil.
4. It is important to determine the moisture content of the soil prior to starting an application. The moisture content will have an effect on the dilution ratio of the *DirtGlue™*/water mixture. Your *DirtGlue™* representative will assist you in determining the correct dilution ratio for the conditions on your site.

5. Temperature and, to a lesser extent, humidity have a significant effect on curing/drying time. Testing has shown that applications should be done only when the air temperature will be above 50° F for at least 72 hours following the application. Soil temperature must be above 40° F for several days.
6. The *DirtGlue*™ application must be protected from the rain until the curing process has formed a skin on the surface. Uncured *DirtGlue*™ is water soluble. If the application is exposed to rain before it has the opportunity to cure, the rainwater will dilute the polymer and wash it out of the soil. If this happens, the application will not be as strong.

**CONDITIONS FOR USE OF DIRTGLUE™ (REGISTERED TRADEMARK OF
DIRTGLUE™ ENTERPRISES)
APPROVED MATERIALS LIST**

Applicant: DirtGlue™ Enterprises

General Conditions

1. DirtGlue™ Enterprises shall ensure that every applicator of DirtGlue™™ is provided a copy of these conditions.
2. These Conditions do not override the need for any applicator to obtain permits (including DEP permits) or approvals that may be required (e.g., use associated with activities in or near regulated wetlands, surface waters, or other regulated natural resources).
3. DirtGlue™ shall only be used as stated in these conditions and shall not be mixed with any other chemicals, including petroleum products.
4. No application shall be conducted when the National Weather Service forecasts greater than 25% probability of precipitation in the application area to occur within 24 hours, or the temperature will drop below 35° F anytime within 24 hours after the application.
5. Applications shall not be conducted when the ground is saturated (due to precipitation or wetting) as defined by visible pools of water at or in the vicinity of the application, in order to prevent movement of DirtGlue™ beyond the shoulder of the road.
6. DirtGlue™ must not be applied or handled in a manner that could result in spillage or application within 100 feet of a wetland regulated by New York State, or 50 feet of all other water bodies and bridges.
7. Any spill which could enter the waters of the state shall be reported to the DEC Spills Hotline within two hours (1-800-457-7362). Any required response (including any needed cleanup) in addition to that being conducted shall then be determined by the DEC regional office.
8. The time of application shall be chosen to take meteorological conditions into account, to avoid significant potential airborne or odor impacts.
9. Prior to application, DirtGlue™ Material Safety Data Sheet shall be provided to applicators and others who would come in proximity or contact with the material.

ATTACHMENT E

SiteOps Computer Earthwork Analysis

(To Be Provided Upon Request)

APPENDIX I

Inspection & Maintenance Manual for Stormwater Management and Related Stormwater Facilities

**INSPECTION AND MAINTENANCE MANUAL
FOR STORMWATER MANAGEMENT AND
RELATED STORMWATER FACILITIES**

**SUBURBAN PROPANE RELOCATION
PORTLAND, ME**

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO., INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

FEBRUARY 2016

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Appendix C – Summary Checklist for Inspection and Maintenance

I. INTRODUCTION

Relatively complex stormwater management facilities are commonly installed in development projects including, commercial facilities, and many other developments. The complexity and goals of these systems vary with the nature of the receiving water, as well as the type of development. Runoff from developed areas of the project, including rooftops, paved or lawn areas, typically contain materials that can impact the receiving waters. Source control and the installation of wet ponds, infiltration galleries, and water quality units, often combined with pretreatment measures or followed by vegetated buffer strips and other best management practices, can significantly reduce the non-point pollution discharge from the developed area. These measures are particularly important to projects in the watersheds of sensitive water bodies, or projects with potential impacts to groundwater. With the increased cost of land and development, there is an increased tendency to construct portions of the stormwater management systems underground.

The effectiveness of water quality management provisions and other components of the stormwater management system are dependent on their design, upkeep, and maintenance to assure they meet their intended function over an extended period of years. It is critical that the stormwater management facilities are regularly inspected, and that maintenance is performed on an as-needed basis. It must also be recognized that the effectiveness of these facilities, and their maintenance requirements, are related to the stormwater drainage facilities that collect and transport the flow to the ponds, infiltration galleries, and other treatment measures. Thus, maintenance should be directed to the total system, not just the pond or primary stormwater management facility.

The purpose of this document is to define, in detail, the inspection and maintenance requirements deemed necessary to assure that the stormwater management facilities function as intended when they were designed. Subsequent sections identify individual maintenance items, give a brief commentary of the function and need for the item, a description of the work required, and a suggested frequency of accomplishment. While the



the suggested programs and schedules must be adapted to specific projects, the material presented should provide guidance for a successful long-term program for operation and maintenance. A supplemental section provides guidance for construction monitoring of the facilities during their installation and more detailed checklists. Certain facilities, specifically the groundwater recharge and infiltration beds are not intended to be placed in service until the tributary catchment area has the permanent cover in place and any contributing turf areas have achieved a 90% catch of vegetation (i.e. established).

A. GUIDELINES OVERVIEW

A summary of the individual components of stormwater management facilities has been prepared. The format used in the summary is as follows:

Preface: A general description of what function/benefit the element is intended to provide. This is a short summary and not intended to provide the design basis which can be found in other sources.

Inspection: This section provides the inspection requirements for the individual component.

Maintenance: The section provides general information on the routine maintenance requirements of this element.

Frequency: This section outlines the best judgment of the designer on the system to the frequency of maintenance.

Comments: This section provides any particular comment on the site-specific features of this element. This is a summary only. The owner/operator should review the design drawings and documents carefully to understand the particular elements of the project. The end of this section should allow for the owner/operator to make notes on the specific program. This may include the selected maintenance procedure, cross-references to applicable design drawings, etc.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

II. PROJECT OVERVIEW

Key permits issued (or applied for) on the project include:

- City of Portland Site Plan Review

The permit applications pending for the project include the design information for the stormwater system.

A copy of the permits for the project should be appended to this manual as Appendix B. The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The applicant has retained Stantec for civil engineering for the Suburban Propane Relocation development in Portland, Maine. Stantec has prepared the design for the stormwater management facilities and may be contacted at:

Stantec
778 Main Street, Suite 8
South Portland, Maine 04106
(207) 775-1121

It is recommended the preparer of the plan be contacted with any particular questions on the design intent or similar issues.

The applicable plans/design documents which apply to the project are:

1. Civil Site Plans/Permit Applications Prepared by Stantec
2. The Erosion Control/Sedimentation Control Plan for the project.
3. The Stormwater Management Plan for the project.

A copy of these documents should be retained with the manual.

The site is tributary to the Presumpscot River Watershed.

The proposed design will include deep sump catch basins, oil absorbent sorbent booms, a grassed underdrained soil filter basin, and collection, conveyance, and discharge systems.

The project is subject to the requirements of the City of Portland Code of Ordinances, Chapter 32. Specifically the post construction stormwater management plan. The City requirements have been reiterated for ease of reference; however, the owner shall be responsible to meet the current City code.

“Any person owning, operating or otherwise having control over a BMP required by a post construction stormwater management plan shall maintain the BMP’s in accordance with the approved plan and shall demonstrate compliance with that plan as follows:

- (a) Inspections. The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMP’s, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.*
- (b) Maintenance and repair. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action (s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action (s) to the department of public services (“DPS”) in the annual report.*
- (c) Annual report. 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 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.*
- (d) Filing fee. Any persons required to file an annual certification under this section shall include with the annual certification a filing fee established by DPS to pay the administrative and technical costs of review of the annual certification.*
- (e) Right of entry. In order to determine compliance with this article and with the post-construction stormwater management plan, DPS may enter upon property at reasonable hours with the consent of the owner, occupant or agent to inspect the BMP’s.”*

III. STANDARD INSPECTION/MAINTENANCE DESCRIPTIONS

The following narratives describe the inspection/maintenance provisions for the Stormwater Management area. These O&M procedures will complement scheduled sweeping of the pavement areas anticipated to occur at least twice per year. The

MeDEP will require the stormwater system be certified to meet the basis of design at five year increments. Proper O&M is necessary to make sure the system can be certified.

A. POND OVERFLOW

Preface: The underdrained soil filter proposed for the project includes an open detention basin. The underdrained soil filter will discharge through 4" underdrain and a 15" overflow pipe with invert set at the water quality volume into the outlet control structure for storms up to the 25-year storm. Larger storms will discharge over an 8' wide reinforced turf spillway to the wetlands on the easterly side of the property and towards the Presumpscot River.

Inspection: The spillway overflow should be checked semiannually to make sure that blockage is not impeding the spillway flow capacity. The reinforced turf mesh should be void of bubbles and separated from the ground due to overgrown vegetation.

Maintenance: The vegetation should be cut annually or bi-annually depending on the observed growth rate. Large diameter trees and bushes should not be present. The spillway should be well vegetated and the reinforce turf mesh weaved with vegetation close to the ground. The ground should be cleared, mesh re-stapled and/or replaced, and reseeded if damage is observed.

B. CONTROL STRUCTURES

Preface: The water quality volume will be detained in the underdrained grass soil filter and bleed through the treatment measure (Soil Filter). A 4 ft. dia. Manhole will control to the release from the Underdrained Soil Filter with an orifice cap on the outlet underdrain pipe. Runoff for storm events larger than 1.6" will overflow through a 15" dia. Outlet pipe through the outlet control manhole. Therefore, flow is anticipated to be released during and after every major storm event. Minor events will filter through the underdrained filter. The control structure will be designed to be inspected by removing the manhole covers and inspection of the orifice, inlets, and channels. Debris should be removed whenever observed and reported to key maintenance personnel since any debris would indicate lack of proper system O&M in the collection and conveyance system. Entry may require CONFINED SPACE ENTRY procedures and appropriately trained personnel.

Inspection: The outlet control structures must be inspected to assure it maintains its intended hydraulic characteristics. The inspection would note any debris or sediment which may accumulate in the structure and in the inlet and outlet pipes. It is noted that it does not take much debris or silt to alter the hydraulic characteristics of the discharge. The inlet should be inspected to assure it is not blocked or restricted or there is sediment to the extent that its flow characteristics may be altered.

Maintenance: Maintenance of the control structure will consist primarily of removing debris which may accumulate and sealing the bulkhead if leakage occurs.

Frequency: The control structure should be inspected quarterly, and after a high intensity rainfall event (in excess of 3 inches in a 24-hour period).

Maintenance/Inspection Responsibility:

Inspection Personnel: The maintenance personnel will be an outside agent hired by Suburban Propane and will perform the scheduled maintenance/inspection.

Dates of inspections, maintenance performed, and any observed problems should be noted in the logs/records maintained by the outside agent.

Outside Contract Services: The outlet structure should be opened/inspected by the outside agent of Suburban Propane on a quarterly basis. The logs and records of inspections and maintenance of the control structures should be maintained during each 5-year re-certification interval.

Replacement Parts/Repairs: No normal replacement parts are required. Inspection personnel should have a bucket to remove debris from the structure. If leakage of the bulkhead occurs, it is recommended that repairs be made by a professional contractor familiar with hydraulic grouts.

C. STORMWATER INLETS

Preface: The success of any stormwater facility relies on the ability to intercept stormwater runoff at the design locations. Stormwater inlets may include catch basins, open culverts, culverts with bar screens, and field inlets. Inlets exist throughout the system at the points of collection as well as at the outlet of many ponds. Bar racks are common on many inlet locations which intercept an open channel. This section is directed at maintenance of the actual inlet point. A later section addresses more substantive maintenance of the structures and conveyance facilities. The inlets contain oil absorbent sorbent booms to retain oils and avoid discharge to downgradient areas. These will become saturated with oil over time and require replacement.

Inspection: The inspection of inlet points will need to be coordinated with other maintenance items, these include:

- Roadway/parking lot maintenance areas
- Building maintenance areas
- Grounds maintenance

The key elements of the inspection are to assure the inlet entry point is clear of debris and will allow the intended water entry.

Maintenance: The key maintenance is the removal of any blockage which restricts the entry of stormwater to the inlet. The removed material should be taken out of the area of the inlet and placed where it will not reenter the runoff collection system. Snow should be removed from inlets in parking lots/roadway areas. Grass clippings and leaves should be bagged and removed particularly near the yard inlets near the building.

Frequency: All inlets should be inspected on a quarterly basis, and after/during significant storm events. A windshield survey is suitable for most inlets but off road inlets and pond structures require more rigorous inspection.

Maintenance/Inspection Responsibility:

Maintenance Personnel: The outside agent will perform the normal maintenance/inspections of the inlets and culvert crossings.

D. TRIBUTARY DRAINAGE SYSTEM

Preface: Stormwater from most of the project will be directed through a conveyance system that transports the flow to the water quality basin. This conveyance system will be principally overland flow discharging to piped drain systems. Most of the sediment carried by the drainage system is intended to be trapped in the catch basins or sediment forebay. Maintenance of this system can play a major role in the long-term maintenance costs and the effectiveness of the treatment systems.

Inspection: The tributary drainage system should be periodically inspected to assure that it is operating as intended, and that its carrying capacity has not been diminished by accumulations of debris and sediment or other hydraulic impediments. On piped systems the inlets must be inspected to ensure the rims are set at the proper elevation to optimize flow entry and are not clogged with leaves or other debris. The inlet basins are normally equipped with sumps which will remove large sediment particles from the flow stream with hooded outlets. The inlet basins may be equipped with oil absorbent sorbent booms which should be inspected for saturation. Once the boom becomes saturated it will appear brown or black in color and will be ineffective at removing oils.

The level of sediment in the sumps should be checked to assure their effectiveness. Pipelines connecting the inlets should be checked to determine if siltation is occurring. This will be most critical on drain lines laid at minimal slopes. This can usually be accomplished by a light and mirror procedure.

In some projects most of the stormwater is carried in open swales, channels, or ditches. These conveyance channels may be rip rapped or vegetated, depending on the gradient and expected flow velocities. These facilities must be inspected to insure debris or sedimentation does not reduce their carrying capacity. Excess vegetative growth must also be noted. The surface protection for the channels, either stone or vegetation, must be inspected to insure its integrity. Any areas subject to erosion should be noted.

Maintenance: Maintenance of the storm drainage system must assure that it continues to serve its design function on a long term basis, and that its operation does not transport excessive sedimentation to any downstream detention pond, or the receiving waters. Elevations on the rim of catch basins should be adjusted as needed to assure optimal water entry. Depending on the frost susceptibility of the soil, the rims may become elevated over time causing flow to circumvent the inlet. When the sump in an inlet restricts capacity and is half full with silt or other deleterious materials, the catch basin cleaning would normally be accomplished with vacuum trucks contracted as a maintenance service for the development center. The removed material must be disposed of at an approved site for such materials. The removed and replaced sorbent boom shall be disposed of in accordance with local and state regulations.

If sediment in the pipeline exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing, or by mechanical means. If hydraulic flushing is used the downstream conditions should be analyzed. In general a sump or sediment trap should be used where it can be flushed into the underground detention pond, since it will reduce pond volume and hasten the time when it must be cleaned.

Frequency: The piped drainage system should be inspected on an annual basis. Adjustment of inlet rim elevations should be on an as needed basis. Cleaning catch basin sumps and pipelines will depend on the rate of accumulation.

Maintenance/Inspection Responsibility:

Maintenance Personnel: Outside agent hired by Suburban Propane

Special Services: The owner will elect to contract with an independent agent for cleaning catch basins, sumps, pipelines, and replacement of sorbent booms. Remedial source control measures may be performed by the owner or an outside service depending upon the nature of the particular situation.

Comments: Maintenance of inlets is critical on this project.



A WELL STABILIZED VEGETATED SWALE SHOWS LITTLE SIGNS OF EROSIVE VELOCITIES OR FLOWS. THIS SWALE ALSO FUNCTIONS AS A POND SPILLWAY

E. WATER QUALITY FILTERS (ABOVE GROUND)

Preface: The soil filter is an underdrain system with multi-media aggregates. A typical section is in the site drawings for the project. This section is applicable to the underdrained grass soil filter.

Inspection: The soil filter can be inspected visually. A good time for inspection is within one day of a substantial rain event. The soil filter should be inspected after every major storm in the first year to be sure it is functioning properly. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours following a one inch storm or greater. If the system drains too fast, the outlet pipe orifice may need to be modified.

Maintenance:

Inlets

Inlets to the soil filter area should be kept open and in good working condition. This is particularly important around curb breaks and sidewalk culvert. These locations should be marked on the roadway at the completion of construction to allow for winter snow dam removal. All eroded areas should be repaired.

Initial Turf Maintenance (when applicable)

Grassed soil filters should be allowed to develop for one full growing season post-construction prior to their first mowing. This allows for natural reseeding of grass seed mixes and establishment of a healthy stand of grass.

Long-Term Turf Maintenance (when applicable)

It is preferable to only mow grassed soil filter two to three times per year. While grassed soil filters can be mown during routine lawn maintenance, excessive mowing reduces the viability of grasses and grass roots and can overcompact the surface layer of the soil filter media. Grasses should be mowed to a height no less than 6 inches.

Large Debris

Large debris within the ponding area should be removed.

Erosion in the Soil Filter Area

Any eroded areas should be repaired as soon as practicable.

Weeds in the Soil Filter Area

Periodic weeding of the soil filter area may be necessary, particularly in the landscaped soil filters. Hand weeding is required as the use of herbicides is not recommended.

Surface Mulch Layer (when applicable)

Areas devoid of mulch should be re-mulched by hand. Every year, in the spring, a fresh layer of mulch should be added to the soil filter area.

Sedimentation (or Clogging) of Soil Filter Area

If the soil filter area is holding water for a period longer than 48-72 hours, the soil mix has, more than likely, become clogged with sediment and/or the underdrains have clogged. To correct a standing water problem, the following remedial actions are recommended:

1. Evaluate the drainage area to the soil filter area to identify any potential sources of sediment, such as an erosive condition, that may be contributing to the clogging of the device. If a source is identified, it is recommended that that source be eliminated to the fullest extent practicable before proceeding with the remaining recommendations provided below.
2. Flush the underdrains. Use cleanouts to flush the underdrains. Sediment in the drains may be preventing the soil mix from draining. Make sure to provide a way to capture any flushed sediment before it enters the stream environment or storm drain system downstream of the device. If, after flushing the underdrains, the device continues to hold water, the soil mix may

be contaminated. As such, following the guidelines provided below is recommended.

3. Gage the extent of soil contamination. To do this, it is recommended that one or more test pits be dug with a shovel and that the soil layer be evaluated for contamination. Once the levels of contamination have been determined (for example, the top 4" of soil appears to be contaminated), it is recommended that you proceed with the remaining remedial actions.
4. Harvest the plants (when applicable). Care should be taken in the removal and temporary storage of the plants so that as many as possible can be harvested for replanting in the soil filter area once the functioning of the device has been restored sufficiently.
5. Remove the mulch layer.
6. Remove the top few inches of contaminated soil plus an additional 2-inch of soil, and replace the removed soil with a clean soil mix in accordance with the soil mix specification applicable to the particular soil filter area.
7. Monitor the functioning of the soil filter area during the next two to three rain events. If the device appears to be draining as intended (e.g., there is no standing water 48-72 following a rain event), proceed with the remaining remedial actions. If the area continues to hold standing water, then the entire soil filter area soil mix and the underdrains may need to be removed and replaced. Reuse of any undamaged underdrains may be possible once they have been cleaned thoroughly.
8. Replant the harvested plants, and replace any plants that were rendered unusable during or following their removal from the soil filter area.
9. Replace the removed mulch layer with fresh mulch.
10. Water the plants in the soil filter for the next two or more weeks unless there is sufficient rainfall. This will help the plants to reestablish themselves.

Frequency: The water quality filters should be inspected semi-annually and maintained as needed.

Applicability: The development has one filter. **Snow storage with-in the filter should be prohibited by Maintenance Personnel.**

F. SEDIMENT FOREBAY

Preface: The Underdrained Grassed Soil Filter will be constructed with a forebay sump constructed by installing a rip rap pool to separate the inlet from most of the pond. The purpose of this sump is to collect and detain sediment void before it is transported to the treatment filter.

Inspection: During dry periods it should be possible to inspect the forebay sump and to measure the sediment accumulation.

Maintenance: If a significant accumulation of sediment is recorded in the sump it should be removed. The material removed from the sump should be disposed of in accordance with local practice for disposing of catch basin cleanings.

Frequency: The forebay sump should be inspected four times a year if possible, preferably in the early summer after spring runoff, during late summer, and in the fall. The frequency of sump cleaning will depend on the rate of sediment buildup. Cleaning on a 1 to 2 year basis is likely. It is noted that cleaning of the forebay sump will lengthen the time between filter bed cleanings.

The rate of sediment buildup will depend on the tributary drainage facilities, i.e., faster buildup with open ditch transport systems and buildup from pipe systems with sumped catch basins. Maintenance practiced for the tributary drainage system will also impact sediment buildups.

Comments: None.



THIS SEDIMENT SUMP ALSO FUNCTIONS AS AN OUTLET PLUNGE POOL TO PROVIDE PROTECTION AND REDUCE VELOCITIES PRIOR TO DISCHARGE TO POND AREAS

G. SORBENT BOOMS

Preface: During construction, sorbent booms will be installed in the catch basins which have pavement areas. The intent of these is to absorb oil and runoff from new pavement surfaces. These will be removed and replaced when construction of the project is complete and should be inspected quarterly and replaced annually or as required.

Inspection: The sorbent boom should be raised out of the inlet, inspected, and replaced if necessary. Inspection should occur for the first year and annually thereafter concurrent with the catch basin cleaning.

Recommendation: It is recommended this project have additional sorbent booms or pillows onsite in the event of an unexpected spill or if oil sheen is observed frequently on any inlet.

Maintenance: The inspection and replacement should be conducted as part of a third party O&M contract and require disposal of used sorbent booms as "special wastes".

H. PARKING LOT CLEANING

To protect the catch basin sediment sumps, sediment forebay, and underdrained grass soil water quality filter, it is recommended the parking lot be cleaned 2 times between April and November.

Maintenance: It is recommended this service be contract with the firm that maintains lawns and landscaping.

I. LITTER

Litter should be removed as a matter of course by workers and a part of the grounds maintenance contract.

J. SUMMARY CHECKLIST

The above described inspection and maintenance items have been summarized on a checklist appended hereto as Appendix C.

IV. PROGRAM ADMINISTRATION

A. GENERAL

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities.
2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.
3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.
4. The administrative body must have the staff to accomplish the inspection and maintenance programs, or must have authority to contract for the required services.
5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

B. RECORD KEEPING

Records of all inspections and maintenance work accomplished must be kept and maintained to document facility operations. These records should be filed

and retained for a minimum 5-year time span. The filing system should be capable of ready retrieval of data for periodic reviews by appropriate regulatory bodies. Where possible, copies of such records should also be filed with the designated primary regulatory agency for their review for compliance with permit conditions. Typical inspection and maintenance record forms are attached hereto as Appendix A.

C. CONTRACT SERVICES

In some instances or at specific times, the Maintenance Personnel may not have the staff to conduct the required inspection and/or maintenance programs as outlined in this document. In such cases the work should be accomplished on a contractual basis with a firm or organization that has the staff and equipment to accomplish the required work.

The service contract for inspection and maintenance should be formal, well written legal document which clearly defines the services to be provided, the contractual conditions that will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

APPENDIX A

Sample Inspection Logs

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
ANNUAL INSPECTION & MAINTENANCE LOG

FACILITY:		YEAR:	
LOCATION:		CONTRACTOR:	
FUNCTION:		INSPECTOR:	
DATE OF INSPECTION:			
ITEM IDENTIFICATION	DESCRIPTION OF CONDITIONS	MAINTENANCE ACCOMPLISHED	DATE OF MAINTENANCE
GENERAL COMMENTS: 			

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
MONTHLY INSPECTION & MAINTENANCE LOG

FACILITY:			YEAR:			
LOCATION:			CONTRACTOR:			
FUNCTION:						
MONTH	DAY	INSPECTOR	WATER DEPTH	OVERFLOW WEIR		WEIR CONDITION
				CLEAR	DEBRIS	
JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
LIST SPECIAL MAINTENANCE UNDERTAKEN:						

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
SEMI-ANNUAL INSPECTION & MAINTENANCE LOG

SEMI-ANNUAL INSPECT 1.2	FACILITY:
DATE:	LOCATION:
INSPECTOR:	FUNCTION:
WEIR CONDITION:	
OUTLET CONDITION	

FORE BAY SUMP	EST. DEPTH SED.	REMOVED? Y/N	EST. VOL. CY	WHERE DISPOSED OF	STRUCTURAL CONDITION

CONTROL STRUCTURE:
DESCRIBE CONDITIONS FOUND & MAINTENANCE ACCOMPLISHED:

APPENDIX B

Permits for Project

(To be Added at a Subsequent Time)

APPENDIX C

Summary Checklist Inspection and Maintenance

**Stormwater Management System
Maintenance Program
Summary Checklist**

Item	Commentary	Frequency				
		Monthly	Quarterly	Semi-Annual	Annual	Long Term
Control Structure	Inspect outlet control to assure it maintains its hydraulic characteristics. Inspect inlets for blockage.		X			
Stormwater Inlets in Series	Stormwater inlets allow flow entry from a surface swale to a piped system. Entry may or may not be equipped with a bar rack. Inspect entry for debris accumulation. Remove debris to allow unimpeded entry. Lawn clippings and leaves should be removed from yard areas.		X		X Clearing	
Tributary Drainage	Inspect to assure that the carrying capacity has not been diminished by debris, sediment or other hydraulic impediments.				X	
Sediment Monitoring/ Water Quality Filters	Inspect for standing water longer than 48 hours, sedimentation, outlet control, and healthy grass growth.			X		X
Sediment in Forebay				X		
Sorbent Booms	Sorbent boom should be raised out of the inlet, inspected, and replaced if necessary.		X		X	
Parking Lot Cleaning	Parking lot should be swept 2 times between April and November.			X		
Litter	Litter should be removed daily.					

APPENDIX J

City of Portland Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development

FORM 2**Non-Residential Stormwater Credits: New Development/Re-Development
(Site Plan Review Required)**

Project Site Information		
Address:	TBD Riverside Street	04103
	Street Address	Zip Code
Parcel ID (Chart, Block, Lot # + 3-digit ID): 322/A003/1 and 323/A003 & A005		
Project ID (if assigned): Not yet assigned		
Contact Information		
Applicant (must be owner, lessee or buyer)		
Name:	Thompson Chris	
	Last	First M.I.
Business Name (if Applicable): Thompson's Point Development Co. Inc.		
Relation to Owner (lessee, buyer, etc, if Applicable):		
Mailing Address:	501 Danforth Street	
	Street Address	Apartment/Unit #
	Portland	ME 04102
	City	State Zip Code
Phone #: (207) 747- 5288 E-mail Address: parrallaxpartners@gmail.com		
Owner (if different from Applicant)		
Name:	City of Portland - Economic Development, c/o Greg Mitchell	
	Last	First M.I.
Mailing Address:	389 Congress Street	
	Street Address	Apartment/Unit #
	Portland	ME 04101
	City	State Zip Code
Phone #: (207) 874- 8721 E-mail Address: gmitchell@portlandmaine.com		
Agent/Representative		
Name:	Stantec c/o Bo Kennedy	
	Last	First M.I.
Mailing Address:	778 Main Street Suite 8	
	Street Address	Apartment/Unit #
	South Portland	ME 04106
	City	State Zip Code
Phone #: (207) 775- 1121 E-mail Address: bo.kennedy@stantec.com		

Credit Information			
Final Total Impervious Area:		<u>104,544</u> square feet	
The credit options and their corresponding credit values are listed in columns A and B, respectively. Indicate in column C the amount of impervious area that is eligible for each credit option, and note the product of columns B and C in column D. <i>The billable impervious area equal to the Total Impervious Area minus the sum of column D.</i>			
A	B	C	D
Minimum Water Quality Credit:	0.25	$\times$ _____ square feet	= _____ square feet
Minimum Water Quantity Credit:	0.05	$\times$ _____ square feet	= _____ square feet
Basic Water Quality Credit:	0.50	$\times$ _____ square feet	= _____ square feet
Basic Water Quantity Credit:	0.10	$\times$ _____ square feet	= _____ square feet
Extra Water Quality Credit:	0.75	$\times$ <u>33,176</u> square feet	= <u>25,482</u> square feet
Extra Water Quantity Credit:	0.25	$\times$ <u>101,044</u> square feet	= <u>25,261</u> square feet
Total			= <u>50,743</u> square feet
Billable Impervious Area (Total IA minus Sum of Column D):		<u>53,801</u> square feet	
Applicant Signature			
I hereby certify that I am the owner of record of the named property, or that the owner of record has authorized me to submit this application on his or her behalf. I agree to conform to all applicable laws of the City of Portland. In addition, I understand that the City of Portland Department of Public Services has the authority to enter and inspect all areas that pertain to this application at any reasonable hour to verify that the information contained in this form is accurate.			
Signature: 		Date: <u>02/26/2016</u>	

2. RIGHT, TITLE AND INTEREST

Att. C

2.1 OVERVIEW

The applicant has a Purchase and Sales Agreement on the property. A copy is on file with the City's Economic Development Department and available upon request.

**THIRD AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS THIRD AMENDMENT is made as of the 31st day of December, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014, as amended by Amendment to Purchase and Sale Agreement dated as of January 21, 2015 and by Second Amendment to Purchase and Sale Agreement dated June 25, 2015 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

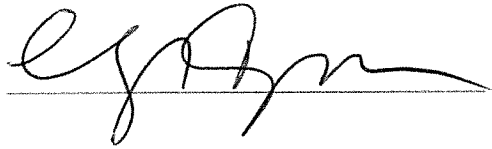
1. The Agreement is hereby amended by deleting the reference to the words "the 15th day following the latter of: A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility" in the first sentence of Section 4 of the Agreement, and replacing therefor a reference to "June 30, 2016"; meaning and intending hereby to fix the Closing Date under the Agreement to: on or before June 30, 2016.

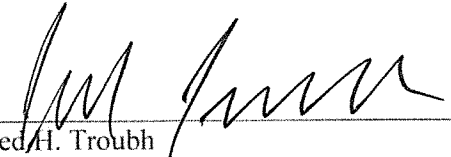
3. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



By: 
Jed H. Trough
Its President

"Buyer"

WITNESS:

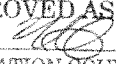
CITY OF PORTLAND



By: 
Anita LaChance
Its Deputy City Manager

"Seller"

APPROVED AS TO FORM:


CORPORATION COUNSEL'S OFFICE

**SECOND AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS SECOND AMENDMENT is made as of the 25th day of June, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014, as amended by Amendment to Purchase and Sale Agreement dated as of January 21, 2015 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

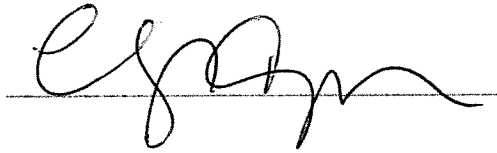
NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

1. The Agreement is hereby amended by deleting the reference to the words "the 15th day following the latter of: A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility" in the first sentence of Section 4 of the Agreement, and replacing therefor a reference to "December 31, 2015"; meaning and intending hereby to fix the Closing Date under the Agreement to: on or before December 31, 2015.
2. The Agreement is hereby amended by deleting the reference to "June 30, 2015" in the first sentence of Section 7 of the Agreement, and replacing therefor a reference to "September 30, 2015"; meaning and intending hereby to extend the deadline of the Due Diligence Period so that at 5pm Portland, Maine time on September 30, 2015 it will be the Due Diligence Completion Date under the terms of the Agreement.
3. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



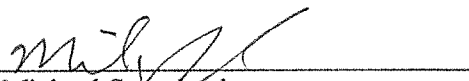
By: 
Jedd H. Trough
Its President

"Buyer"

WITNESS:

CITY OF PORTLAND



By: 
Michael Sausechuck
Its Acting City Manager

"Seller"

APPROVED AS TO FORM:

CORPORATION COUNSEL'S OFFICE

**AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS AMENDMENT is made as of the 21st day of January, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

1. The Agreement is hereby amended by deleting the reference to "365 days from the effective date" in the first sentence of Section 7 of the Agreement, and replacing therefor a reference to "until June 30, 2015 ("Due Diligence Period")"; meaning and intending to extend the deadline of the Due Diligence Period so that at 5pm Portland, Maine time on June 30, 2015 it will be the Due Diligence Completion Date under the terms of the Agreement.

2. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

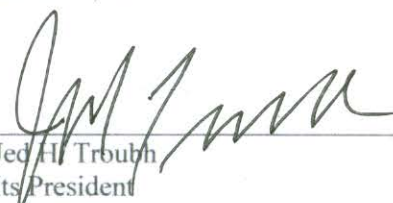
IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



By:


Jed H. Trough
Its President

"Buyer"

WITNESS:

Sonia Bean

CITY OF PORTLAND

By: Sheila Hill-Christian
Sheila Hill-Christian
Its Acting City Manager

APPROVED AS TO FORM.
Mub
CORPORATION COUNSEL'S OFFICE

"Seller"

PURCHASE AND SALE AGREEMENT

THIS AGREEMENT made and entered into as of January 21, 2014 (the "effective date"), by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller" or "City") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 55 Lisbon Street, Lewiston, ME 04340, or its assigns (the "Buyer").

WITNESSETH:

WHEREAS, Buyer expressed to Seller an interest in acquiring a portion of the Seller's property at 636 Riverside Street in Portland, Maine to provide for the construction of a facility to be used to re-locate the operations of Suburban Propane, L.P., a Delaware limited partnership ("User") which are now located on Thompson's Point, in Portland, Maine;

WHEREAS, Seller and Buyer each have an interest in effectuating this relocation; and

WHEREAS, Seller is willing to contract for the sale of a portion of such property;

NOW THEREFORE, FOR VALUABLE CONSIDERATION, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Property to be Sold. Seller agrees to sell and Buyer agrees to buy a certain lot or parcel of land with any improvements thereon, located at 636 Riverside Street in Portland, Maine, being a portion of the property shown as City of Portland Tax Map 322, Block A, Lot 003 and Lot 008 comprising approximately 3 acres of land, with sixty feet of frontage on Riverside Street, and being the area outlined in blue on the attached Sketch marked "Exhibit A" (the "Premises"). The determination of the precise area to be conveyed shall be by mutual agreement of Buyer and Seller.

2. Purchase Price; Deposit. Buyer shall pay to Seller \$95,000.00 per acre, for a total, presuming the Premises is determined to be 3 acres, of Two Hundred Eighty-Five Thousand Dollars (\$285,000.00) (the "Purchase Price") in the manner provided in this Section, and subject to the deductions as set forth in this Agreement.

a. Contemporaneously with the execution of this Agreement or, at the latest, within 5 days of execution, Buyer shall Deposit with Seller the sum of One Thousand Dollars (\$1,000.00) in immediately available funds (the "Deposit"). At the end of the Due Diligence Period, if Buyer does not terminate this Agreement, the Deposit becomes non-refundable.

b. At the closing, Buyer shall pay to Seller the balance of the Purchase Price by certified or bank cashier's check or wire transfer. The Deposit shall be credited against the Purchase Price.

c. To the degree that Buyer's performance under existing encumbrances, whether listed on Exhibit B attached hereto or of record title at Closing, including any existing or required rights of way, trail easements, or the like, add expense to the operations of the Premises to Buyer or to the User, the present value of said expenses shall be determined at Closing and a fair market value reduction in the Purchase Price shall be agreed to by the parties hereto; but only to this extent: the Seller shall not be responsible for any portion of the first Twenty-Five Thousand Dollars (\$25,000.00) of said expenses; the Seller shall only be responsible for one-half of the next Fifty Thousand Dollars (\$50,000.00) of such expense; and the Seller shall not be responsible for any portion of any additional said expense; hence, the limit of Seller's responsibility for said expense is Twenty-Five Thousand Dollars (\$25,000.00).

3. Title; Deed. Seller agrees to convey to Buyer good and marketable and insurable title to the Premises by Quitclaim Deed Without Covenant delivered at closing, free and clear of encumbrances, except: (i) as set forth in Exhibit B, (ii) easements for utilities servicing the Premises, (iii) as waived by Buyer hereunder, (iv) zoning and building laws or ordinances, and (v) real estate taxes assessed but not due and payable. In the event that Seller is unable to convey title as aforesaid, Seller shall be given a reasonable period of time (not to exceed 30 days), after notice in writing, in which to remedy any title defects. In the event that said defects cannot be corrected or remedied or in the event that Seller elects not to remedy same, then the Deposit shall be returned to Buyer and this Agreement, and Seller's and Buyer's obligations hereunder, will terminate. Buyer may, at Buyer's option, elect to close notwithstanding such defects as may exist. Seller agrees to convey the Premises using any new survey description resulting from Buyer's boundary survey.

4. Closing. Unless this Agreement is otherwise terminated, this transaction shall be closed on or before the 15th day following the latter of : A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility (the "Closing Date") in Portland, Maine at the offices of Buyer's lender or, if the Seller and Buyer shall mutually agree in advance, at another time and place. At the closing, Seller shall execute and deliver to Buyer, against payment of the Purchase Price, the following documents:

- a. a Quitclaim Deed without Covenant to the Premises; and
- b. such other customary instruments, documents and affidavits as Buyer may reasonably request.

5. Risk of Loss, Damage, Destruction and Insurance. Before closing, Seller shall bear the risk of any loss to the Premises by fire or otherwise.

6. Representations and Warranties of Seller. Seller represents and warrants to Buyer that there is no litigation, administrative hearing, arbitration, or any other proceeding pending

against Seller or with respect to the Premises for any violation of law, rule, ordinance or regulation. Seller covenants that it has received no notices of violation from any Federal or State agency alleging a violation of any environmental law, rule or regulation with respect to the Premises.

7. Due Diligence Period. Buyer shall have 365 days from the effective date to conduct due diligence including title, engineering, environmental, general feasibility and lender consent. If the results of the due diligence are unsatisfactory to Buyer in its sole discretion, Buyer may terminate contract and receive back the Deposit. At all reasonable times during this period, Buyer and any prospective lender or investor of Buyer's shall have the right to enter the Premises and perform, at Buyer's expense, any and all inspections, tests, surveys or other due diligence inquiries with respect to the Premises as Buyer deems necessary or appropriate. Buyer agrees to return the Premises as nearly as reasonably possible to their original condition after all of such tests and inspections. Seller shall cooperate with Buyer in such inspections. Buyer's option to terminate this Agreement and receive back the Deposit as provided in this Section shall expire unless such written notice is delivered to Seller not later than 5pm Portland, Maine time of the last day of the Due Diligence Period (the "Due Diligence Completion Date"). If such written notice is not delivered to Seller prior to Due Diligence Completion Date, Buyer shall be deemed to have waived its right to terminate this Agreement as set forth in this Section.

8. Possession. Seller shall deliver the Premises to Buyer at closing free and clear of all leases, tenancies and occupancies by any person.

9. Deed Conditions. The sale of the Premises is predicated upon development of a facility for the operations of the User on the Premises. If the Premises are not conveyed to the User (or an entity corporately related to the User) within 36 months of the completion of the Closing, then the City can rescind the sale and repurchase the Property for the Purchase Price. This provision shall survive the closing.

10. Subdivision and City contribution to survey costs. Buyer will obtain subdivision approval for the "creation" of the parcel which constitutes the Premises. In connection therewith, the City will, at Closing, reimburse Buyer for up to Five Thousand Dollars (\$5,000.00) of documented costs for obtaining approval of such subdivision and having a survey prepared for the Premises for such subdivision. In the event that Buyer fails to close, the Permitting Plans shall be assigned to the City and become the property of the Seller.

11. Default and Remedies. In the event that Buyer fails to close hereunder for any reason other than (i) a default by Seller or (ii) termination of this Agreement by Buyer as provided herein, Seller shall retain the Deposit as full and complete liquidated damages in lieu of any other legal or equitable remedy, whereupon this Agreement will terminate and neither party will be under any further obligation hereunder. In the event of Seller's default hereunder, Buyer shall have available all remedies at law and in equity, including without limitation the right of specific performance.

12. Assignment. Buyer may assign this Agreement and all its rights and obligations hereunder to an affiliate of Buyer.

13. Brokers. The parties represent to each other that neither has had any dealings with any real estate broker in connection with this transaction. Each party agrees to indemnify the other from and against the claims of any brokers arising from this transaction, which indemnity shall survive the closing and shall include reasonable costs of collection, including reasonable attorney's fees.

14. User. The City hereby agrees that the Buyer is purchasing the Premises to build a replacement facility for the User to operate the User's propane storage and delivery business on the Premises. Buyer is entering into this Agreement with the understanding that User's plans to operate a propane storage, delivery, and related business activities facility on the Premises is permitted under the City's land use and zoning ordinances. To the best of City's knowledge such use by the User is not in conflict with any existing encumbrances, including those listed on Exhibit B attached hereto.

15. Miscellaneous. Time is of the essence of this Agreement. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the third business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change its address for purposes of this paragraph by giving the other party notice of the new address in the manner described herein. Except as set forth in Section 12 above, the rights of Buyer under this Agreement may not be assigned in whole or in part without written consent of Seller, which shall not be unreasonably withheld. This Agreement constitutes the entire agreement between Seller and Buyer and there are no other agreements, understandings, warranties or representations between Seller and Buyer. Seller's representations and warranties, if any, shall survive the closing. This Agreement will inure to the benefit of and bind the respective successors and assigns of Seller and Buyer. This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one and the same instrument. As used in this Agreement, the singular number shall include the plural and the plural the singular. This Agreement shall be governed by and construed in accordance with the laws of Maine. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, Seller and Buyer have caused this Agreement to be executed by their duly authorized representatives or officers, as of the date first written above.

WITNESS:

CITY OF PORTLAND



By: 
~~Mark H. Rees,~~ Shona Hill Christian
Its City Manager

"Seller"

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



By: 
Christopher M. Thompson
Its President

"Buyer"


Approved: Ellen Sanborn
Finance Director


Approved as to Form: Lawrence Walden
Assoc. Corporation Counsel

Sketch of Premises

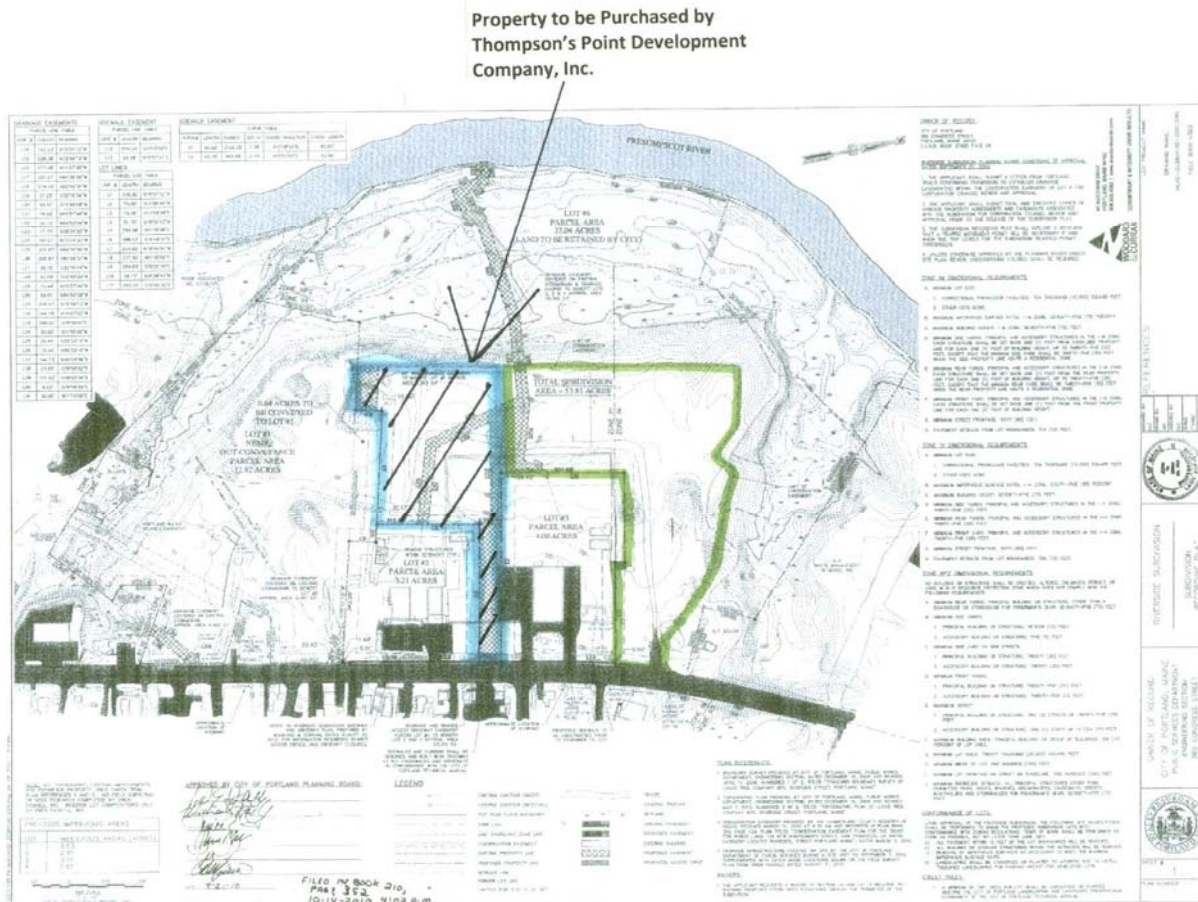


EXHIBIT B

List of Known Encumbrances/Easements

1. Possible effects of Conservation Easement from The Trust for Public Land to Portland Trails, dated March 26, 2010, and recorded in the Cumberland County Registry of Deeds in Book 27677, Page 125.
2. Drainage Easement Deed from City of Portland to Ananta, LLC and Addison Capital LLC, dated November 1, 2010, and recorded in said Registry in Book 28269, Page 304.
3. Drainage Maintenance Agreement between Ananta LLC, Addison Capital LLC, and the City of Portland, dated November 15, 2010, and recorded in said Registry in Book 28269, Page 309.
4. Shared Access Driveway Easement from City of Portland to Ananta LLC and Addison Capital LLC, dated November 1, 2010, and recorded in said Registry in Book 28269, Page 312.
5. Shared Access Maintenance Agreement between Ananta LLC, Addison Capital LLC, and the City of Portland, dated November 15, 2010, and recorded in said Registry in Book 28269, Page 314.
6. Sidewalk Easement from Ananta LLC and Addison Capital LLC to the City of Portland to, dated November, 2010, and recorded in said Registry in Book 28269, Page 317.
7. Matters, conditions and restrictions depicted and shown and referenced on the Riverside Subdivision Recording Plat, recorded in Plan Book 210, Page 352, on October 14, 2010, and Approved by the City of Portland Planning Board with date below signatures of September 21, 2010, to the extent they bear on the subject premises.
8. Matters, conditions and restrictions depicted and shown and referenced on the Conservation Easement Plan for the Trust for Public Lands, dated March 3, 2010, and recorded in Plan Book 210, Page 129, on October 14, 2010, to the extent they bear on the subject premises.

SHARED ACCESS DRIVEWAY EASEMENT

CITY OF PORTLAND, a body politic and corporate located in Cumberland County, State of Maine, whose mailing address is 389 Congress Street, Portland, Maine, (the "Grantor"), for consideration paid, hereby grants to **ANANTA LLC**, a Maine limited liability company with a mailing address of 9 Brook Rd., Falmouth, Cumberland County, Maine, and **Addison Capital LLC**, a Maine limited liability company with a mailing address of 2 Shady Lane, Falmouth, Maine 0410 (the "Grantees"), the following Shared Access Driveway Easement over premises described in the attached Schedule A:

An easement for the purpose of and conveying the right to perpetually enter at any and all times upon property described in the Riverside Subdivision Recording Plat, recorded in the Cumberland County Registry of Deeds on October 14, 2010, Book 210, Page, 352, attached hereto and incorporated herein by reference, for the purpose of accessing Grantees' property from Riverside Street.

The Grantor, by its delivery of the aforementioned Easement, and the Grantees, by their acceptance hereof, acknowledge and agree that this Easement is being granted to the Grantees for purposes of vehicular and pedestrian access across the easement areas described above.

Reserving to the Grantor, its successors and assigns, the use and enjoyment of the property for all purposes as are not inconsistent with the easements granted herein.

IN WITNESS WHEREOF, the City of Portland has caused this Easement to be executed by its duly authorized representative as of the 1 day of November, 2010

WITNESS:

Margaret M. Akelsen

CITY OF PORTLAND

Ellen Sanborn
Ellen Sanborn
Its Finance Director

STATE OF MAINE

COUNTY OF CUMBERLAND, ss.

November 1, 2010

Then personally appeared the above-named Ellen Sanborn in her capacity as Finance Director for the City of Portland, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of said City of Portland.

Before me,

Barbara J. Brewer
Notary Public
~~Attorney at Law~~
BARBARA J. BREWER

Schedule A

October 7, 2010

DEED DESCRIPTION
FOR
CITY OF PORTLAND, MAINE

2010-029P Riverside Subdivision – Drainage and Shared Access Driveway Easement Across Lot 4

A certain easement situated on the westerly side of Riverside Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the westerly sideline of Riverside Street at the southeasterly corner of Lot 3 as shown on "Recording Plat Riverside Subdivision City of Portland, Maine Sept. 1, 2010 Owen Haskell, Inc. Job No. 2010-029P";

Thence, S 11° 10' 09" W along the westerly sideline of Riverside Street 60.00 feet to the northeasterly corner of Lot 2 as shown on said plan.

Thence, N 78° 49' 51" W along the northerly line of Lot 2 a distance of 388.53 feet;

Thence, N 11° 10' 09" E across Lot 4 a distance of 60.00 feet to the southerly line of Lot 3;

Thence, S 78° 49' 51" E along the southerly line of lot 3 a distance of 388.53 feet to the westerly sideline of said Riverside Street and the point of beginning.

Said easement contains 23,312 S.F. and is shown as drainage and shared access driveway easement across Lot 4 to benefit Lots 2 and 3.

Received
Recorded Register of Deeds
Nov 16, 2010 11:00:37A
Cumberland County
Pamela E. Lovley

SHARED ACCESS DRIVEWAY MAINTENANCE AGREEMENT
Riverside Subdivision

IN CONSIDERATION OF the Subdivision approval granted by the Planning Board of the City of Portland to a plan entitled Riverside Subdivision dated October 7, 2010 and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 352 and the Shared Access Driveway Easement more particularly described in Shared Access Driveway Easement recorded in the Cumberland County Registry of Deeds on October 14, 2010 at Book 210 and Page 352, pursuant to a condition thereof, the City of Portland, a body politic and corporate in Cumberland County, State of Maine, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner") as follows:

1. Should Ananta, LLC or future owner of Lot #2 ("Lot # 2 Owner") redevelop its parcel before the development of Lot #4 occurs, it shall be responsible for building so much of the Shared Access Driveway as is required to provide access to Lot 2. The Lot #2 Owner shall also be responsible for the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse, from that portion of the Access Lane depicted on the Plat (the "Shared Access Driveway Easement") used to access Lot 2.

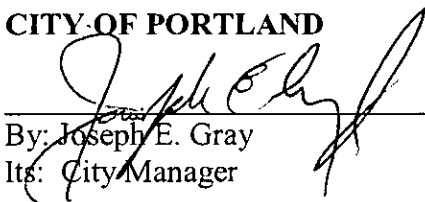
2. Addison Capital LLC, or future owner of Lot # 3 ("Lot # 3 Owner") shall be entitled to access its Lot from the Shared Access Driveway by providing written notice of such election to Lot # 2 Owner and/or Lot # 4 Owner (as defined below) as applicable. Following such election to access its Lot from the Shared Access Driveway, but not before, Lot # 3 Owner shall be responsible for its proportionate share of the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse. Lot # 2 and/or Lot # 4 and Lot # 3 Owners shall arrange and record a reasonable agreement for the maintenance of said Access Easement.

3. Should Lot # 4 be redeveloped before Lot # 2, the Owner of Lot #4 will be responsible for building its Shared Access Driveway. If Lot #2 has already developed a portion of the Shared Access Driveway for its benefit, Lot # 4 shall be responsible for continuing the driveway to its Lot. The Owner of Lot # 4 shall be responsible for the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse in the Shared Access Driveway which will be shared with Lot # 2 and/or Lot # 3 in a reasonable proportionate share reflecting the length of the Shared Access Driveway used by each Lot and the approximate number of trips made by vehicles to and from each Lot, provided that the owner of each respective Lot shall also be responsible for any damage to or the Shared Access Driveway caused by its use and that of its customers and vendors.

This Agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon its successors and assigns as their interests may appear, including Lot # 2, Lot # 3 and Lot # 4 Owners.

Dated at Portland, Maine this 15th day of November, 2010.

CITY OF PORTLAND

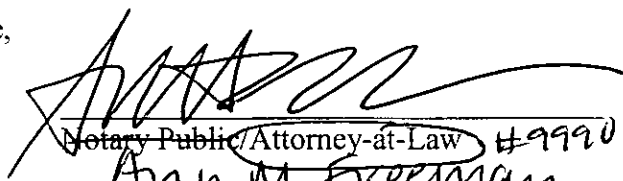

By: Joseph E. Gray
Its: City Manager

State of Maine
Cumberland, ss.

November 15, 2010

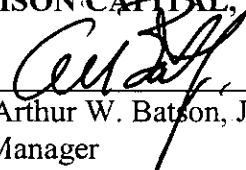
Then personally appeared the above named Joseph E. Gray, City Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of City of Portland.

Before me,


Notary Public/Attorney-at-Law #9990
Ann M. Freeman
(Print or Type Name)

Dated at Portland, Maine this 12th day of November, 2010.

ADDISON CAPITAL, LLC

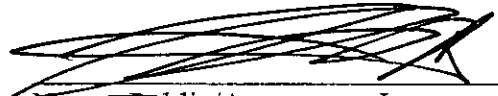

By: Arthur W. Batson, Jr.
Its Manager

State of Maine
Cumberland, ss.

November 12, 2010

Then personally appeared the above named Arthur W. Batson, Jr., Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Addison Capital, LLC.

Before me,


Notary Public/Attorney-at-Law
Richard N. Boyant, Esq.
(Print or Type Name)

Dated at Portland, Maine this 15th day of November, 2010.

ANANTA, LLC

Suzan Elichaa

By: Suzan Elichaa

Its

State of Maine
Cumberland, ss.

November 15th, 2010

Then personally appeared the above named Suzan Elichaa, Manager, and acknowledged the foregoing instrument to be her free act and deed in her said capacity, and the free act and deed of Ananta, LLC.

Before me,

[Signature]

Notary Public/Attorney-at-Law

Jonathan T. Harris

(Print or Type Name)

O:\OFFICE\ANN\ECO DEVO\Riverside Subdivision\Access Maintenance Agreement Riverside 10 12 10.doc

Received
Recorded Register of Deeds
Nov 16, 2010 11:01:32A
Cumberland County
Pamela E. Lovley

DRAINAGE EASEMENT DEED

KNOW ALL PERSONS BY THESE PRESENTS, that the City of Portland, a body politic and corporate located in Cumberland County, State of Maine, for consideration paid, receipt whereof is hereby acknowledged, does hereby grant to **ANANTA LLC**, a Maine limited liability company with a mailing address of 9 Brook Rd., Falmouth, Cumberland County, Maine, and Addison Capital LLC, a Maine limited liability company with a mailing address of 2 Shady Lane, Falmouth, Maine 04105 (the "Grantees"), with warranty covenants, the following easement over the premises described in Schedule A attached hereto and incorporated herein by reference:

An easement for the sole purpose of and conveying the right to perpetually maintain through, under and across said property existing conduits or pipelines with all necessary fixtures and appurtenances for conveying water and to lay, relay, repair, maintain, clean and remove any existing stormwater pipe or pipes upon or under said strips, with all necessary fixtures and appurtenances, together with the right at all times to make connections with said conduits or pipelines to land adjoining said drainage easement by means of pipes or other services; to trim, cut down and remove trees, bushes, and other vegetation of all kinds, to remove debris and deposits of any kind and to alter and regrade the contours of said drainage easement to such extent as in the sole judgment of the grantees is necessary or appropriate for any of the above purposes; and to enter upon said drainage easement at any and all times for any of the foregoing purposes, reserving to the grantor and its heirs and assigns the use and enjoyment of said strips and for such purposes only as will in no way interfere temporarily or otherwise with the perpetual use thereof by the grantees, their successors and assigns for the purpose above mentioned, provided that no building or permanent structure, shall be erected on said strip by the grantor, its successors or assigns, except that a fence may be erected by grantor as long as it does not interfere with purpose above mentioned; and that the grantor, its successors and assigns shall not remove earth from said drainage easement without the written permission of the grantees, their successors and assigns. Notwithstanding the foregoing, any surface alterations of any kind which occur within the boundaries of the conservation easement on the westerly portion of this drainage easement, which is more fully described in the Conservation Easement from Trust for Public Land to Portland Trails recorded in the Cumberland County Registry of Deeds Book 27677, Page 125 dated March 31, 2010, are expressly prohibited without the prior written consent of the Holder of said conservation easement. Further, notwithstanding the foregoing, the grantees shall be obligated to restore, to the

greatest extent practicable, any disturbances to the recreational trail that are consented to by Holder, pursuant to this drainage easement.

Portland Trails, holder of the aforesaid conservation easement, hereby joins in this drainage easement in order to grant its written consent.

IN WITNESS WHEREOF, Ellen Sanborn, Finance Director for the City of Portland has hereunto set her hand and seal on this 1st day of November, 2010.

WITNESS

Margaret M. Apelson

CITY OF PORTLAND

Ellen Sanborn
Its Finance Director

STATE OF MAINE
CUMBERLAND, ss.

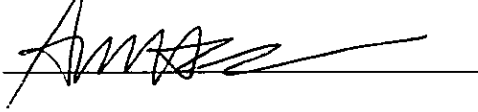
Dated: November 1, 2010

Personally appeared the above-named Ellen Sanborn, Finance Director for the City of Portland, and acknowledged the foregoing instrument to be her free act and deed and the free act and deed of said City of Portland.

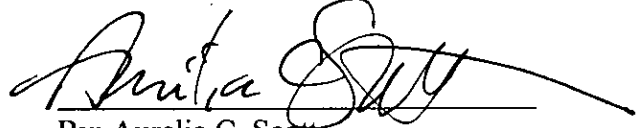
Before me,

Barbara J. Brewer
Notary Public ~~Attorney-at-Law~~

WITNESS



PORTLAND TRAILS



By: Aurelia C. Scott

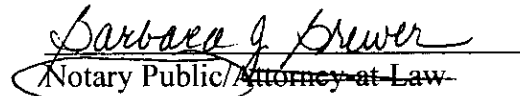
Its: President

STATE OF MAINE
CUMBERLAND, ss.

Dated: November 1, 2010

Personally appeared the above-named Aurelia C. Scott, President of Portland Trails, and acknowledged the foregoing instrument to be her free act and deed and the free act and deed of said corporation.

Before me,



Notary Public/~~Attorney at Law~~

Barbara J. Brewer

SCHEDULE A

October 7, 2010

DEED DESCRIPTION
FOR
CITY OF PORTLAND, MAINE

2010-029P Riverside Subdivision – Drainage Easement over Lot 4

A certain easement situated westerly of but not adjacent to Riverside Street in the City of Portland, County of Cumberland and State of Maine bounded and described as follows:

Beginning on the southwest corner of Lot 3 as shown on "Recording Plat Riverside Subdivision City of Portland, Maine Sept. 1, 2010 Owen Haskell, Inc. Job No. 2010-029P", which point is located N 78° 49' 51" W a distance of 534.92 feet from the southeast corner of Lot 3 on the westerly sideline of Riverside Street;

Thence, S 78° 49' 51" E along the southerly line of Lot 3 a distance of 146.39 feet;

Thence, the following courses and distances over Lot 4:

S 11° 10' 09" W a distance of 30.00 feet;
N 78° 49' 51" W a distance of 288.53 feet;
S 14° 27' 20" E a distance of 164.78 feet;
S 72° 49' 13" E a distance of 218.47 feet to the westerly line of Lot 2 as shown on said plan;

Thence, S 11° 10' 09" W along the westerly line of Lot 2 a distance of 30.17 feet;

Thence, the following courses and distances over Lot 4:

N 72° 49' 13" W a distance of 238.38 feet;
N 14° 27' 20" W a distance of 277.08 feet;
N 84° 36' 56" W a distance of 221.27 feet;
S 82° 46' 31" W a distance of 279.42 feet;
S 32° 19' 04" W a distance of 37.25 feet;
S 79° 49' 08" W a distance of 84.01 feet;
N 15° 57' 46" W a distance of 79.02 feet;
N 84° 52' 09" W a distance of 40.13 feet, more or less, to a point at the Presumpscot River;

Thence, northerly by said River 30 feet, more or less, to a point which bears a tie course of N 07° 25' 53" E a distance of 30.02 feet from the last described point at the river;

Thence, the following courses and distances over Lot 4:

S 84° 52' 09" E a distance of 59.51 feet, more or less;
S 15° 57' 46" E a distance of 72.48 feet;
N 79° 49' 08" E a distance of 43.69 feet;
N 32° 19' 04" E a distance of 38.18 feet;
N 82° 46' 31" E a distance of 296.87 feet;
S 84° 36' 56" E a distance of 251.97 feet;
S 73° 04' 20" E a distance of 151.27 feet;
N 38° 34' 30" E a distance of 77.74 feet to the westerly line of Lot 3 as shown on
said plan;

Thence, S 11° 10' 09" W along the westerly line of Lot 3 a distance of 129.62 feet to the
point of beginning;

Said easement contains 59,357 square feet, more or less, and is shown as "30' Wide
Drainage Easement Centered On Existing Stormdrain & Drainage Course to Benefit Lots
2, 3 & 4"

Received
Recorded Register of Deeds
Nov 16, 2010 10:58:33A
Cumberland County
Pamela E. Lovley

3. TECHNICAL AND FINANCIAL CAPACITY

Att. D

3.1 TECHNICAL CAPACITY

The applicant has retained a highly qualified team of professionals to undertake planning, permitting and design tasks on this project. Services will be provided by the following companies and their respective team leaders:

3.2 CONSULTANT TEAM

<i>Civil Engineer</i>	Bo Kennedy, P.E. Stantec 778 Main Street, Suite 8 South Portland, ME 04106 (207) 775-1121 – Work (207) 879-0896 – Fax (207) 318-8364 – Cell bo.kennedy@stantec.com
<i>Surveyor</i>	Charlie Marchese Sebago Technics Inc. 75 John Roberts Road #1A South Portland, ME 04106 (207) 200.2100 – Work (207) 856-2206 – Fax cmarchese@sebagotechnics.com
<i>Architect</i>	Tom Anuszewski Sheridan Corporation 739 Warren Ave Portland, ME 04103 (207) 774-6138 – Work tanuszewski@sheridancorp.com
<i>Geotechnical Engineer</i>	William Peterlein P.E. Summit Geoengineering Services 145 Lisbon Street, Suite 601 Lewiston, ME 04240 (207) 576-3313 – Work bpeterlein@summitgeoeng.com

3.3 EXPERIENCE OF PROJECT TEAM

All members of the project team have significant expertise and experience in similar projects. Resumes for key personnel can be provided upon request.

3.4 FINANCIAL CAPACITY

The applicant has adequate financial resources to undertake this project, as evidenced by the letter of support from Androscoggin Savings Bank. This is included as Attachment E.

3.5 CONSTRUCTION COST ESTIMATE

A breakdown of the preliminary project construction cost estimate includes the following:

Site Work	\$ 500,000
Building	<u>\$1,520,000</u>
Total Construction Cost	\$2,020,000

3.6 ATTACHMENTS

Attachment E – Letter of Financial Capacity

ATTACHMENT E

Letter of Financial Capacity

AndroscogginBank

October 13, 2015

Christine Grimando, AICP
Senior Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Ms. Grimando,

It is my pleasure to write to you on behalf of Forefront Partners I, LP.

The developers have been clients of the bank for many years.

They have a proven track record of successful real estate development and commercial real estate management.

They have the experience, skill, financial resources, and the wherewithal to bring Thompson's Point to fruition and make it an ongoing success.

Thank you and best regards,

Chris DeMerchant



Vice President
Androscoggin Bank
649 Turner Street, Suite 300
Auburn, ME 04210



4. UTILITIES

Att. E

The following information is made in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(7).

4.1 OVERVIEW

There are existing electrical, water, sewer, and gas mains located in Riverside Street; however, services do not exist for the proposed parcel. The adjacent properties are fed from existing services with-in the street. These services will need to be connected to the mains to serve the new proposed uses. The Development Team has contacted all governing utility agencies and companies and will continue to coordinate the provision of new or updated services as required throughout the design and construction phases of the project. The following sections outline current conditions and anticipated improvements associated with each system.

4.2 WATER SUPPLY

There are three proposed buildings which will require a domestic water service and one building which will require a fire service. A single 2" domestic service will be tapped off from a 6" fire service tapping sleeve and valve in Riverside Street. The 2" service will require a small meter pit at the ROW line due to the length of services. A domestic feed to each building will branch off from the 2" service. A new fire service will be required to support sprinkler systems in the propane storage dock only. The size and locations of the new services will be confirmed once the detailed plumbing needs of each building can be assessed.

4.2.1 Total Project Water Usage

A preliminary estimate of project water use has been undertaken using commonly accepted daily water demand criteria:

Office Building	Design Flow
Office Use 7,300 SF @ 1 employee/175 SF 72 Employees @ 12 gpd/Employee	504 gpd
Office Building	504 gpd

Garage Building	Design Flow
Office Use 1,044 SF @ 1 employee/175 SF 6 Employees @ 12 gpd/Employee	72 gpd
Garage Building	72 gpd

TOTAL ESTIMATED DEMAND	576 gpd
-------------------------------	----------------

4.3 WASTEWATER DISPOSAL

New sewer services will be provided to both office buildings. The storage building will not have a sanitary service because the water used is for makeup water with-in the heating system boiler and will not have plumbed fixtures. The services will be combined into a single 8" sanitary gravity line connected to the main in Riverside Street via drop manhole.

4.4 NATURAL GAS SUPPLY

There is believed to be a high pressure gas main located in Riverside Street. The applicant does not propose a new gas supply service at this time. On-site propane storage tanks will be used for heating and supplemented with electric heaters.

4.5 ELECTRICITY SUPPLY

Stantec has contacted Central Maine Power Company (CMP) regarding their ability to provide service to the site. CMP currently maintains overhead utilities in the area. The current proposal is to extend an overhead service parallel with the new access road to a new riser pole. A new underground service will extend from the riser pole to a pad mounted transformer and distributed to the buildings. The proposed locations of the underground services and building entrances are shown on the site plans. The applicant will continue to coordinate provision of power to the redeveloped site with CMP.

4.6 ATTACHMENTS

Attachment F– Correspondence with Utilities

ATTACHMENT F

Correspondence with Utilities



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Ms. Glissen Havu, Means Coordinator

Portland Water District
225 Douglass Street
PO Box 3553
Portland, Maine 04104-3553

**Subject: 636 Riverside Street
Suburban Propane Building
Water and Sanitary Sewer Capacity Application**

Dear Glissen:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on the Suburban Propane Commercial Building project at 636 Riverside Street in Portland. The project site is located on Map 322/Block A003/Lot 1 according to the City of Portland Tax Assessor's Maps. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the district's water system.

Based on mapping provided by the Portland Water District on July, 30 2014 the site will require tapping into the existing 12" Cast Iron main in Riverside Street. The mapping provided by PWD did show existing mains, services to abutting properties, and Hydrant locations; however, did not include any fire flow testing for applicable hydrants. Our office is requesting fire flow information and pressure data for the main in this area.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The projected water use using the typical City of Portland flows information is as follows:

Use	Design Flow
Small Office Spaces (8,402 SF) = 48 Employees (1 Employee/175 SF) @ 12 gpd/employee	576 GPD



Ms. Glissen Havu
January 22, 2016
Page 2

Based on this modest amount of flow, we trust that the existing water and wastewater collection system has adequate capacity to serve this project. We are in the process of completing a Final Level III Site Plan Application for a submission to the City Planning Staff and would appreciate your response to the Planning Department.

The property is currently undeveloped so there is no historic wastewater generation for this portion of the site.

As shown on the enclosed Utility Plan the applicant will install a 6" fire service line and a small water meter pit for a two inch domestic service. The domestic service will tap into the new 6" dia. fire service line at the property line.

Sanitary sewer will be collected and enter into the existing 12" dia. sanitary sewer main in Riverside Street via an 8" gravity sewer service. Stantec requests that the PWD provides the applicant with a preferred connection type (i.e. wye service or in-line sanitary sewer manhole). Currently, the applicant proposes to install a drop manhole in Riverside Street.

If you have any questions concerning this request, please contact me.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. David Margolis-Pineo

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

**Subject: 636 Riverside Street
Suburban Propane Building
Wastewater Capacity Application**

Dear Mr. Margolis-Pineo:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on the Suburban Propane Commercial Building project at 636 Riverside Street in Portland. The project site is located on Map 322/Block A003/Lot 1 according to the City of Portland Tax Assessor's Maps. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the municipal wastewater treatment system.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The projected water use using the typical City of Portland flows information is as follows:

Use	Design Flow
Small Office Spaces (8,402 SF) = 48 Employees (1 Employee/175 SF) @ 12 gpd/employee	576 GPD

The property is currently undeveloped so there is no historic wastewater generation for the site.

Based on this modest amount of flow, we trust that the existing wastewater collection and treatment system has adequate capacity to serve this project. We are in the



Mr. David Margolis-Pineo
January 22, 2016
Page 2

process of completing a Final Level III Site Plan Application for a submission to the City Planning Staff and would appreciate your response to the Planning Department.

Sanitary sewer will be collected and enter into the existing 12" dia. sanitary sewer main in Riverside Street via an 8" gravity sewer service. Stantec requests that the City provides the applicant with a preferred connection type (i.e. wye service or in-line sanitary sewer manhole). Currently, the applicant proposes to install a drop manhole in Riverside Street.

If you have any questions concerning this request, please contact me.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

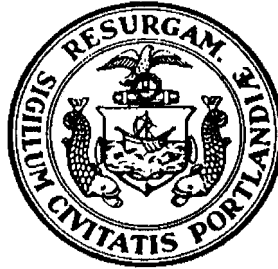
Attachments: Sheet 5.0 – Utility Plan
Sheet 9.0 – Sanitary Sewer Profiles
Wastewater Application

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

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



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

Date: January 22, 2016

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

Site Address: 636 Riverside Street - Portland, Maine 04102

Chart Block Lot Number: 332/A003/1

Proposed Use: Suburban Propane Building

Previous Use: Vacant Lot

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.

Behind Lucas Tree building located at 636 Riverside Street

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

X

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

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: Chris Thompson Parallax Partners (dba Thompson's Point Development Co. Inc.)

Owner/Developer Address: 501 Danforth Street - Portland, ME 04102

Phone: 207-747-5288 Fax: 207-747-5941 E-mail: parallaxpartners@gmail.com

Engineering Consultant Name: Bo E. Kennedy, P.E. - FST

Engineering Consultant Address: 778 Main Street, Suite 8 - So. Portland, ME 04106

Phone: 207-775-1121 Fax: 207-879-0896 E-mail: bkennedy@fstinc.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: 576 GPD

Peaking Factor/ Peak Times: 3.2 gallon/min. (office hours)

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)

***(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:

N/A

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:

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

See attached letter and Utility Plan and Profile for additional information.



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. Jamie Cough

Central Maine Power
162 Canco Road
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Cough:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify CMP's ability to provide power for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The buildings will include an above ground service extension which will terminate at a riser pole and underground service to a pad mounted transformer. Three Phase power is desired. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the CMP supply system. The enclosed Utility Plan shows the proposed service extension.

We trust that the existing power supply system has adequate capacity to serve this project. We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. Jamie Cough
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby CMP infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- CMP engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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ABS.docx

From: [Cough, Jamie](#)
To: [Bo Kennedy](#)
Cc: [Sandi Keef](#)
Subject: CMP Ability To Serve Letter
Date: Monday, January 25, 2016 5:53:24 AM
Attachments: [EDET July 2014.xls](#)
[Easement Information Worksheet.doc](#)
[Standard Easement Sample.pdf](#)
[SP-M157 2016.01.22-Cough-CMP ABS.PDF](#)

6/4/2015

Bo Kennedy
Stantec Consulting Services Inc.
South Portland, Maine 04106
Sent via email to: bkennedy@fstinc.com

RE: Ability to Serve Letter Riverside Street Office/Propane Distribution Center project, Portland, ME.

Dear Mr. Kennedy:

CMP has the ability to serve the proposed project located on Riverside 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.

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)

(<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

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



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. John Caprio

Fairpoint Communications
Engineering Dept.
5 Davis Farm Road
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Caprio:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Fairpoint Communication's ability to provide telephone service for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. John Caprio
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby Fairpoint infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- Fairpoint engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. Mark Pelletier

Time Warner Cable
118 Johnson Road
Portland, Maine 04102

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Pelletier:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Time Warner Cable's ability to provide cable service for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. Mark Pelletier
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby Time Warner Cable infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- Time Warner Cable engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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From: [Rogers, Jamie](#)
To: [Sandi Keef](#); [Bo Kennedy](#)
Cc: [Pelletier, Mark](#)
Subject: TWC
Date: Monday, January 25, 2016 9:45:04 AM

Hello, I'm sending this E-mail on Marks behalf. TWC can provide coax and or fiber to this establishment for services.

Please contact Mark for any Impact Fees.

Mark Pelletier's contact Info:

TWC Construction Coordinator

PHONE:207-253-2324

FAX:207-253-2280

Time Warner Cable

118 Johnson Road

Portland, Maine 04102

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Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



February 26, 2016

Mr. Joe Renda

Unitil
1075 Forest Avenue
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Renda:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Unitil's presence in the project vicinity. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of gas main within Riverside Street.

We look forward to your review of this request and a summary of your findings. Please include any cost projections or special requirements for working in close proximity to the existing Unitil gas main.



Mr. Joe Renda
February 26, 2016
Page 2

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bo.kennedy@stantec.com

Attachment: Sheet 5.0 – Utility Plan
Sheet 9.3 – Water Profile

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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5. FIRE SAFETY

Att. F

5.1 OVERVIEW

Stantec has completed the Fire Department checklist and will continue to perform ongoing coordination with Fire Department representatives and City Planning officials. The accompanying memorandum outlines our findings with respect to compliance with the City's Public Safety Standards as set forth in the City's Technical Manual, Section 3 – Public Safety Standards.

Generally, the site provides access from the adjacent street (Riverside Street) and will allow access to two or more sides of each building. There is an existing fire hydrant on Riverside Street approximately 737 ft. from the closest building. A private hydrant is proposed on the site, approximately 30 ft. from the office building. The propane cylinder storage building will be sprinkled and all buildings will be code compliant to current applicable standards.

Additional fire safety review and evidence of building related fire code compliance will be provided as part of the Building Permit process.

5.2 ATTACHMENTS

Attachment G – Portland Fire Department Site Review Checklist & NFPA 1 Review

ATTACHMENT G

Portland Fire Department Site Review Checklist & NFPA 1 Review



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Keith Gautreau, Assistant Chief
City of Portland Fire Department
380 Congress Street
Portland, Maine 04101

Subject: Suburban Propane Building
636 Riverside Street, Portland, Maine
Fire Department Site Review Checklist

Dear Assistant Chief Gautreau:

In accordance with instructions in the City's Level III Site Plan Review packet, please find enclosed the drawings necessary for your review of the proposed amended project. We have listed each item in your checklist below, followed by our response.

1. Name, address, telephone number of applicant.

Thompson's Point Development Co. Inc.
Attn: Chris Thompson
501 Danforth Street
Portland, Maine 04102
207-747-5288

2. Name, address, telephone number of architect.

Project Architect/Builder:
Sheridan Corporation
739 Warren Avenue
Portland, ME 04937

3. Proposed uses of any structures (NFPA and IBC classification).

Building	IBC Code	NFPA Code
Office Building	B – Business	Business
Garage and Office Building	S-1 – Storage & B – Business	Storage & Business
Cylinder Storage Dock	H-2 – High Hazard Group	High Hazard Storage

* Systems designed to meet NFPA



Keith Gautreau, Assistant Chief
January 22, 2016
Page 2

4. *Square footage of all structures (total and per story).*

Building	Footprint Area (SF)
Office Building	7,300
Garage and Office Building	2,146
Cylinder Storage Dock	4,000

5. *Elevation of all structures.*

The building finish floor elevations will be as follows:

Building	Finished Floor Elevation	Building Height (FT)
Office Building	67.2	15
Garage and Office Building	68.2	16
Cylinder Storage Dock	74.0	17

The conceptual Building Elevations are enclosed with this letter.

6. *Proposed fire protection of all structures.*

The proposed cylinder building storage will have a domestic water supply and will be sprinkled from a 6" fire service line. The office and garage building will have a 2" domestic water supply as well as multiple fire extinguishers provided in the building. The office and garage buildings will be in close proximity to a new hydrant. Please find the enclosed utility plan showing the fire water service for your review.

7. *Hydrant locations.*

A fire hydrant is currently located on Riverside Street 138 ft. to the north of the intersection of Riverside Street and Waldron Drive. The distance to the hydrant from the proposed buildings is approximately 737 ft. The applicant proposes a new private hydrant approximately 30 ft. from the office building and 70 ft. from the garage.

8. *Water main(s) size and location.*

According to the Portland Water District records, they maintain a 12" cast iron water main in Riverside Street. The proposed Development proposes a 6" fire sprinkler line is connected and extended to the site.

9. *Access to all structures (min. 2 sides).*

All structures will be accessible from all four sides.



Keith Gautreau, Assistant Chief
January 22, 2016
Page 3

10. A code summary shall be included referencing NFPA 1 and all fire department technical standards.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is accessed via a 24 ft. wide shared access road approximately 409 ft. long. The buildings are located within a fenced and motorized gate area. The site plan provides for two 22 ft. wide gates and access to a gravel yard area (approximately 203' X 240') with ample room for fire trucks to maneuver and turn around.

Additionally, Fire Truck and Public safety vehicles have access to the non-gated paved parking area with 24' access drives.

Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 ft. from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Supporting Evidence: Shared access drive is 409' in length. Turn-around access is provided in the proposed gravel yard or the public accessed parking area. The enclosed Figure AT-1 shows fire vehicle apparatus maneuvering around the site using AutoTurn CAD software.

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Supporting Evidence: The Site Plan includes an access drive that circles the building and will provide four sided access to the building.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*



Keith Gautreau, Assistant Chief
January 22, 2016
Page 4

- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Supporting Evidence: The proposed building addition and existing building will be fully accessible to emergency equipment.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Supporting Evidence: The access drive will allow an emergency vehicle to pull within 0' of the structure.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Supporting Evidence: There are no vertical obstructions for the proposed building addition.

3.4.6. Elevators shall be sized to accommodate an 80 x 24 inch stretcher.

Supporting Evidence: Not Applicable.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Supporting Evidence: The street number will be displayed on the building and/or street signage (submitted under separate application).

If you need any further information regarding this review, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

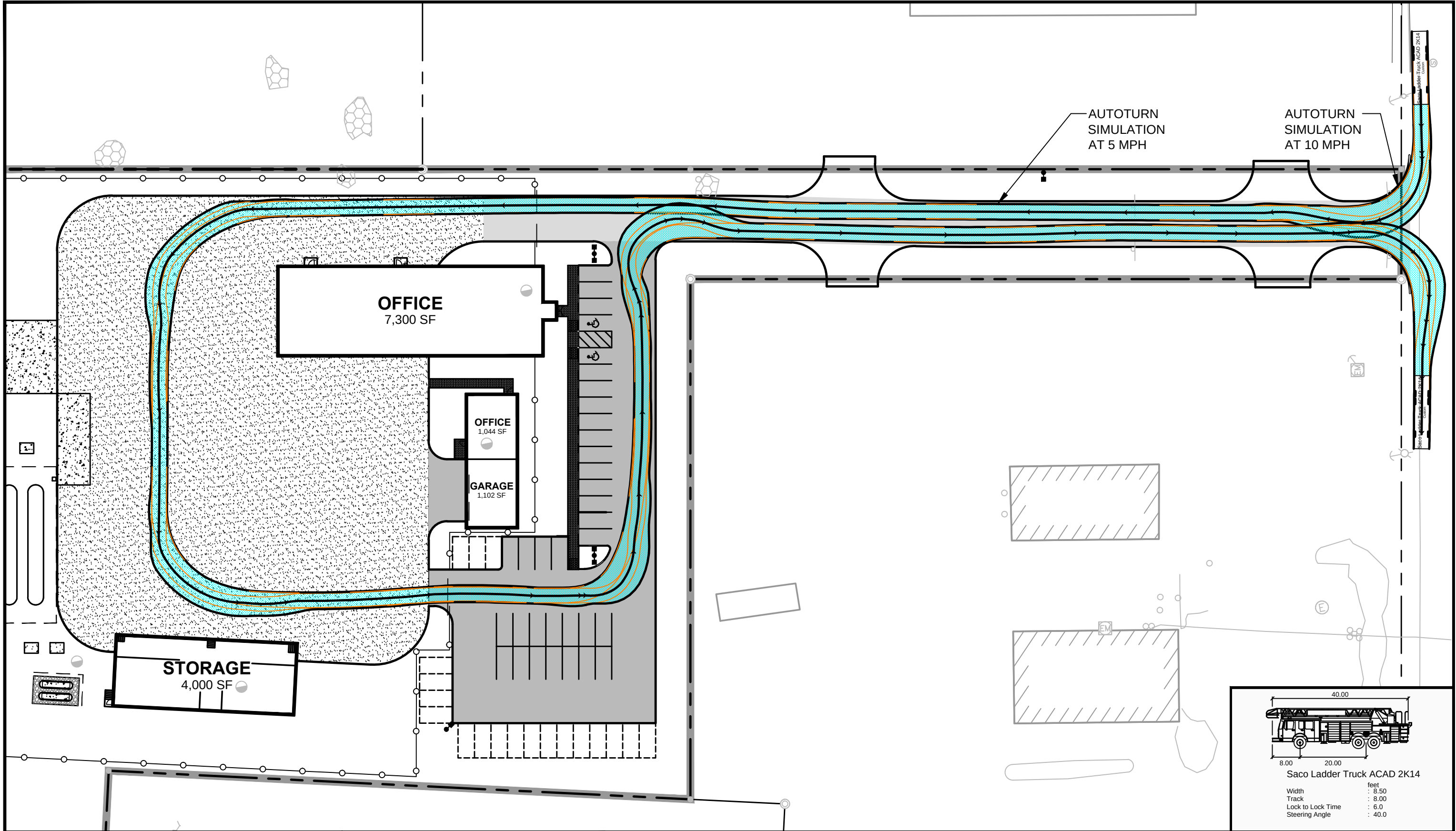


Keith Gautreau, Assistant Chief
January 22, 2016
Page 5

Attachments: Figure AT-1
Sheet 5.0 – Utility Plan

c: Captain David Petruccelli, Fire Department (via email)
Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

P:\ME\SP-M157-Suburban Propane Relocation\Admin\Correspondence Out\Utilities\SP-M157 2016.01.22-Gautreau-Fire Dept..docx



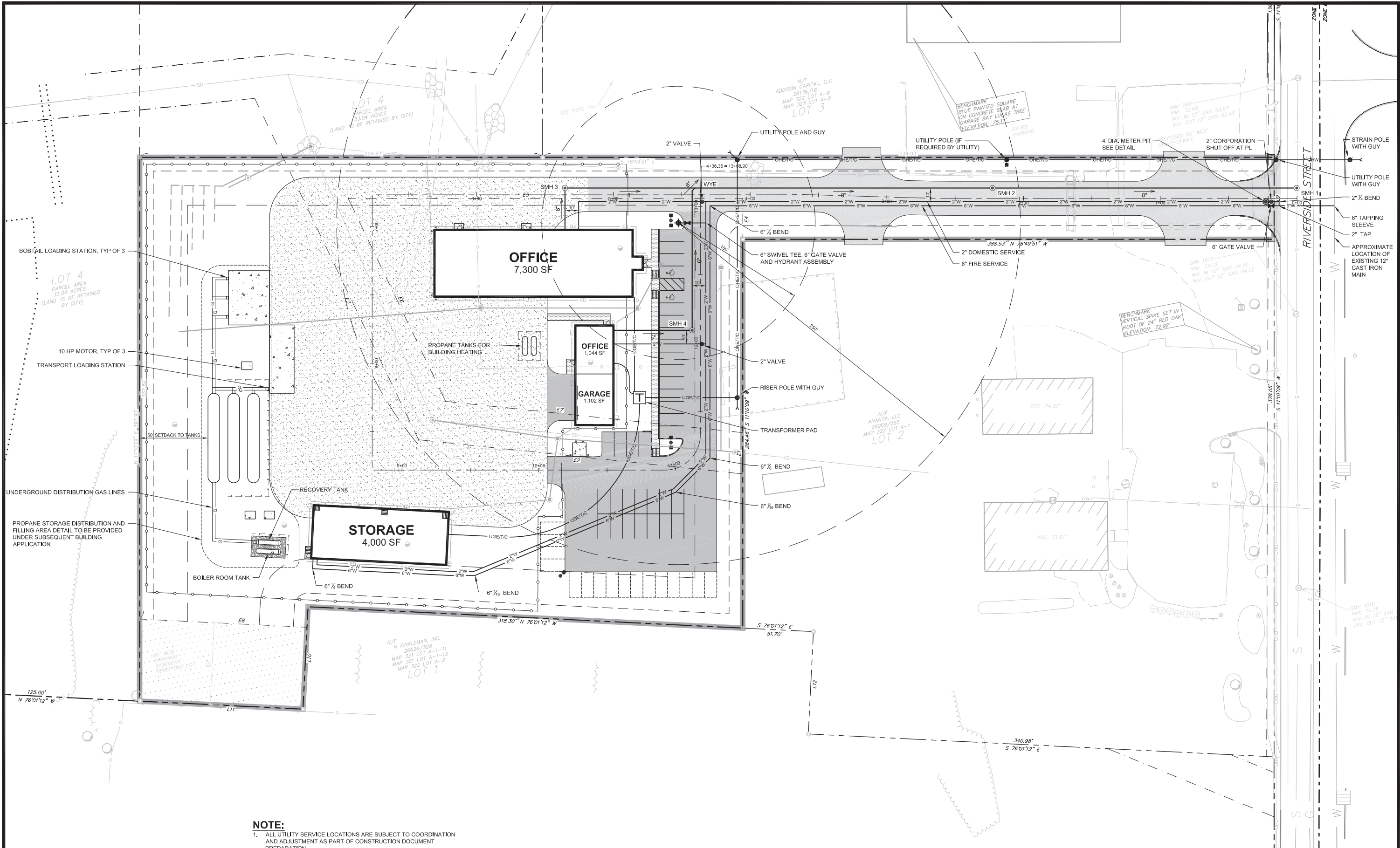
FAY, SPOFFORD & THORNDIKE
ENGINEERS • PLANNERS • SCIENTISTS
778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN:	ARF	DATE:	2016.01.11
DESIGNED:	BEK	SCALE:	1"=50'
CHECKED:	BEK	JOB NO.	SP-M157
FILE NAME:	SP-M157.DWG		

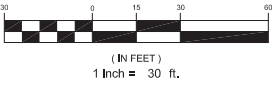
SUBURBAN PROPANE
RELOCATION PROJECT

AT-SIMULATION
LADDER TRUCK

FIGURE
AT-1



NOTE:
1. ALL UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION AND ADJUSTMENT AS PART OF CONSTRUCTION DOCUMENT PREPARATION.



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT SUBURBAN PROPANE RELOCATION			STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
SHEET TITLE UTILITY PLAN			DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 UTILITY SHEET	
CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.			DATE: JAN 2016 SCALE: 1" = 30' JOB NO. 195350142 C-5.0	
REV DATE DESCRIPTION			P.E. BO KENNEDY LIC. # 11994	
1 01.22.16 SUBMITTED TO OWNER FOR REVIEW				
REVISIONS				

6. CONSTRUCTION MANAGEMENT PLAN

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(1).

6.1 CONSTRUCTION MANAGEMENT PLAN

Thompson's Point Development Company is seeking to commence construction during the fall of 2016 and complete work by the fall of 2017. The construction will involve site preparation, site work, and building construction. The attached Construction Management Plan outlines the anticipated timeline and sequence of activities.

6.2 ATTACHMENTS

Attachment H – Construction Management Plan

ATTACHMENT H

Construction Management Plan



The Sheridan Corporation

739 Warren Ave. Portland, ME 04103

Phone (207)774-6138

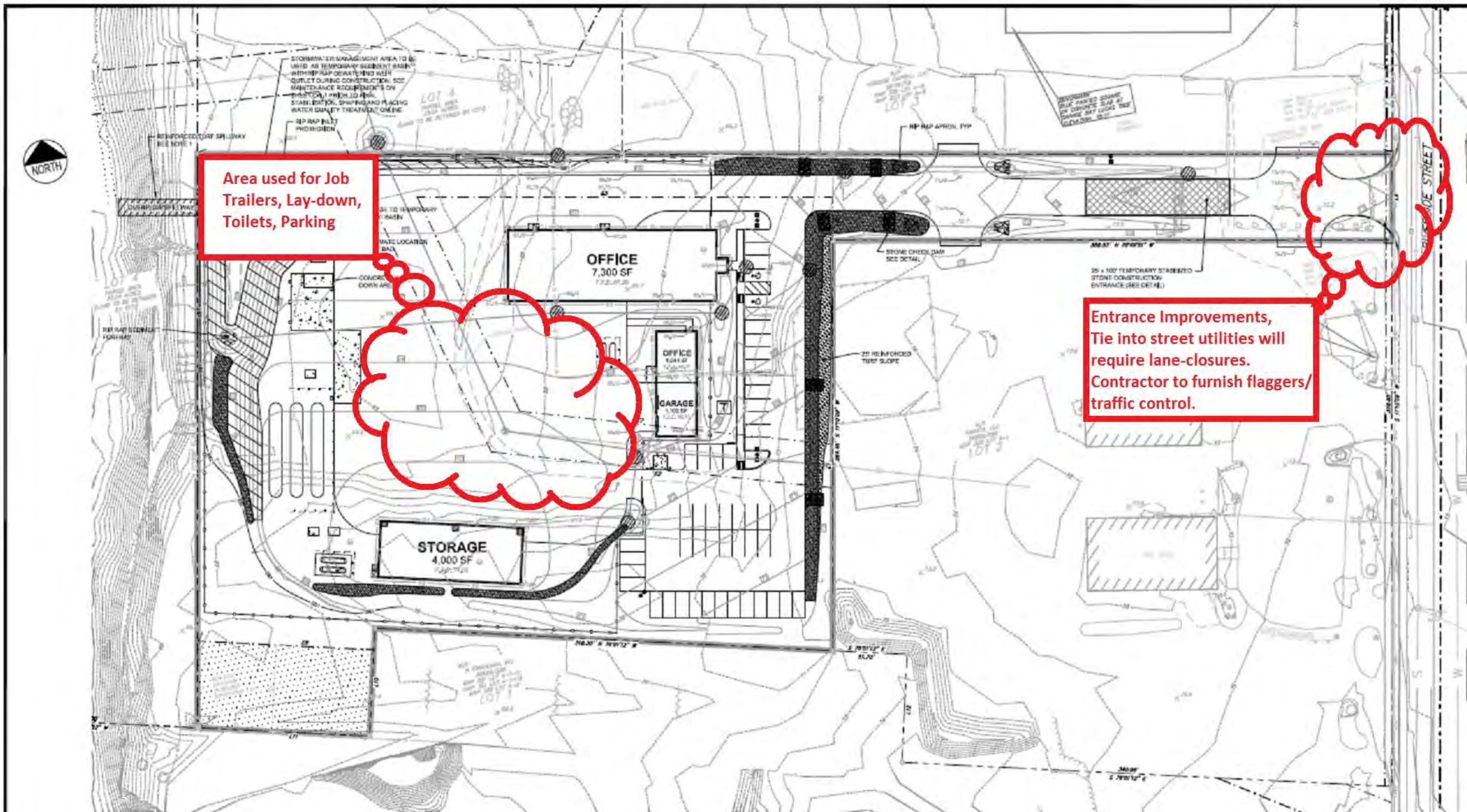
Fax (207)774-2885

www.sheridancorp.com

CONSTRUCTION MANAGEMENT PLAN
For
SUBURBAN PROPANE RELOCATION

February 1, 2016

- Construction to be managed on site by full time superintendent
- Construction time estimated at 8 months duration
- Temporary project sign to be installed at new entrance
- All materials to be delivered via new access drive
- Temporary power to utilize new power poles required for permanent power to site, located along new access drive
- See attached Site plan with annotated areas:
 - Interior yard area to be utilized for:
 1. temporary job office and storage trailers
 2. parking
 3. dumpsters
 4. temporary toilets
 5. material lay-down
 6. crane use during steel erection
 - Entrance improvements at Riverside Street and in-street utility tie-ins will require temporary lane closures
 1. Contractor to furnish flaggers / traffic control
 2. Contractor to coordinate activities with City of Portland and Portland Water District



SCHEDULE OF SILT BARRIER REQUIREMENTS

SILT BARRIER	TYPE/PURPOSE	TIME OF INSTALLATION
CONDITION 1 SILT BARRIER	TO TRAP SEDIMENT ALONG THE GRADING EDGE WHERE THE NEW CONTOURS NEARLY PARALLEL THE EXISTING CONTOURS	AT INITIAL SITE PREPARATION; PRIOR TO OTHER WORK

NOTES:

1. CUT VEGETATION DOWN TO SURFACE GRADE. PLACE REINFORCEMENT MAT (OR EQUAL) AND STAPLE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL TAKE PRECAUTION NOT TO GRUB OR DAMAGE EXISTING ROOT STRUCTURE. HYDRO SEED WITH EROSION CONTROL MIX AND SOIL TACK.
2. TO THE EXTENT PRACTICABLE THE CONTRACTOR SHALL INSTALL TEMPORARY DIVERSION DRAINS TO CONVEY RUNOFF FROM DISTURBED AREAS TO TEMPORARY SEDIMENT BUMPS AND/OR OTHER BUMPS TO REDUCE THREATS TO EXISTING ROADS. BUMPS MAY INCLUDE, BUT ARE NOT LIMITED TO, SAND FILTERS, EROSION CONTROL VEX, STRAW WADDES, FLOCCULATION CHEMICALS, GRT CLUE AND SILT BARRIERS.
3. STOCKPILES TO BE TEMPORARILY SEEDS AND MULCHED AS REQUIRED BY PROJECT SPECIFICATIONS.
4. REFER TO SHEET C-4.1 FOR A FULL LIST OF EROSION CONTROL NOTES.

7. SOLID WASTE

Att. H

The following information is made in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(8).

7.1 OVERVIEW

This section provides estimates of solid waste generation during construction and operation of the finished project. Procedures for the transport and disposal of generated wastes are described, as are measures to reduce waste loads through reuse and recycling.

The project will generate the following estimated volumes of solid waste during construction and operation:

- 147 cubic yards of waste asphalt material associated with existing pavement areas.
- 1,170 cubic yards of grubblings from existing vegetated areas.
- 500 cubic yards of construction and demolition debris (CDD) associated with new construction work (excluding recycled materials).
- 1 cubic yard of municipal solid waste (MSW) per week during operation of the office uses and an additional 1 cubic yard of recyclable materials.

7.2 SOLID WASTE GENERATED DURING THE CONSTRUCTION OF THE SITE

Demolition debris is not anticipated to be generated during the project. Waste generated during ongoing construction activities is estimated to be in the range of 20 cubic yards of mixed debris per week. The project is expected to take approximately 10 months to complete.

7.3 SOLID WASTE GENERATED FROM THE OPERATION OF THE SITE

Waste generated after occupancy is projected to consist of a single dumpster enclosure housing two (2) 4 cubic yard containers (1 to handle regular waste and 1 to handle recycling) which would be shared by all buildings on site. The two of these containers would be picked up one time per week. A small amount of oil waste and other auto repair waste elements will be properly managed, stored and disposed inside of the garage.

7.4 FLUORESCENT LIGHTS AND FIXTURES

The developer may use fluorescent light bulbs that do not have PCB ballasts. The electrical switches for the project will be specified to not contain mercury. Fluorescent bulbs and other universal wastes will be taken to Riverside Recycling Facility in Portland.

7.5 HAZARDOUS AND SPECIAL WASTES

None of the uses proposed at the site are expected to generate hazardous, or special wastes.

7.6 GRIT/SEDIMENT REMOVAL

The applicant will be responsible for the maintenance of the minor storm drain systems on the site. They, or the subsequent owner of the site, will be responsible for the long-term maintenance of the stormwater collection system, the associated structures, and the grassed underdrained soil filter including removal of sediment from catch basin sumps. Potential disposal facilities for these items include Commercial Paving and Recycling (CPRC) in Scarborough, Maine and Dragon Cement in Thomaston, Maine. Materials removed from catch basins will be delivered to CPRC where it will be kiln dried and used as suitable mixing material for asphalt based paving products. Given the limited nature of the on-site storm drainage system the quantities associated with this task are considered insignificant.

8. CONFORMITY WITH APPLICABLE DESIGN STANDARDS

Att. I

The following statement is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14-526.

8.1 OVERVIEW

This project conforms with all the applicable design standards of Section 14-526 as demonstrated in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

The proposed project will be new development with-in an existing industrial park with other relatively low traffic generators. Based on the projected traffic volumes from the proposed uses at the site, the project is not expected to have any significant impact on traffic in the neighborhood.

2. Access and Circulation:

a. Site Access and Circulation.

(i) Access to the site is provided via an existing curb cut onto Riverside Street. A new access drive would be constructed to access the main portion of the site located 400 feet from the main road (Riverside Street). The existing subdivision approval requires that a portion of the access drive, including the costs and maintenance responsibilities associated with same, is shared amongst the two abutters on Lots 2 and 3. The driveway radius would be modified from the current 18 foot radius to 30 feet to accommodate large tractor trailer vehicles. The new access drive would be constructed with two driveway locations for each lot.

(ii) There are no new vehicular access and egress points being constructed as part of this project.

(iii) The site does not feature drive up services as mentioned in this requirement.

(iv) Site access has been designed so as not to impede potential future connection to adjacent streets.

b. Loading and Servicing.

(i) Adequate provisions are made at the site for loading from fuel trucks to service the propane distribution operation. The site provides clear area in front of the solid waste enclosures for servicing and loading vehicles.

c. Sidewalks.

- (i) The project will provide new ADA ramps on Riverside Street to accommodate the new driveway radii. Due to the industrial nature of the site, a pedestrian sidewalk connection from the site to Riverside Street is not required and so one is not proposed. On-site sidewalks are provided for safe access from the parking facility to the access door.

3. Public Transit Access:

- a. The project does not comprise a residential development or a commercial development with greater than 20,000 SF of GFA and therefore is not required to meet this standard.

4. Parking:

a. Location and Required Number of Vehicle Parking Spaces:

- (i) Off-street parking is provided on the site to accommodate the proposed uses. A parking analysis has been performed for the site and indicates that a minimum of twenty-one spaces will be required to serve the proposed uses. The City ordinance has been used as a basis for the parking requirement for the office uses at the site. The applicant proposes 34 parking spaces with provisions for as many as fifty spaces to be constructed in the future if the number of employees grows to a maximum of forty-eight.
- (ii) Traffic Demand Management (TDM) strategies have not been incorporated into the design of the site and adjacent improvements.
- (iii) See above.
- (iv) The parking spaces and aisles meet the applicable dimensions detailed in the Technical Manual.
- (v) All parking lots will be paved. A portion of the site is proposed to be a gravel-aggregate surface.

b. Location and Required Number of Bicycle Parking Spaces:

- (i) Bicycle parking is not provided at this time.

c. Motorcycles and Scooter Parking:

- (i) Specific parking for motorcycle or scooter is not provided. It is expected that motorcycles or scooters would use a typical sized parking stall.

d. Snow Storage:

(i) Snow storage management will employ an onsite storage strategy:

- a. Snow storage along the perimeter of the parking areas and gravel yard area is sufficient for on-site snow storage. Snow storage is sufficient as not to inhibit emergency access or loose parking spaces.

5. Transportation Demand Management (TDM):

- a. A Transportation Demand Management (TDM) Study is not required for the project.

(b) Environmental Quality Standards

1. Preservation of Significant Natural Features:

- a. The site is previously filled, with existing impervious gravel haul roads, and contains no significant natural features.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation.

- (i) There are no existing landscape features or elements at the site.

b. Site Landscaping.

(i) Landscaped Buffers:

- (a) The solid waste storage and loading area is screened from public view naturally by being located well below the street grade and behind existing development. Per Section 4 of the Technical Manual, the project is not required to provide landscaping in an industrial zone.

- (b) The parking lot is broken up so that pavement is not continuous for 40 spaces.

- (c) Not applicable.

- (d) Not applicable.

(ii) Parking Lot Landscaping:

- a) Formal landscaping is neither required nor proposed. The proposed parking lot will be visually screened from the public ROW due to a significant drop in grade from the main street.

- b) Landscaped islands are provided such that there is no interrupted pavement exceeding forty parking spaces.

- c) The central landscaped island is curbed and twelve feet wide.
- d) Not applicable.

(iii) Street Trees:

- (a) Not Applicable

3. Water Quality, Stormwater Management and Erosion Control:

- a. The project proposes the development of the existing filled industrial site. The property is currently a mix of impervious and overgrown pervious developed area (meadow). Redevelopment of the site will increase the total impervious cover from 1.73 to 2.40, and provide a grassed underdrained soil filter designed to mitigate a portion of the peak rate of runoff, the volume of runoff, and improve water quality from the site under all storm conditions. The stormwater management strategies are detailed in the Stormwater Management Plan included in Attachment D of this application.
 - (i) The site is graded to impede drainage from adjacent lots. The access drive is designed with a shallow drainage swale to intercept flows and drain them away from the development.
 - (ii) There is currently existing storm drainage piping bisecting the proposed site. The existing piping is proposed to be maintained and/or replaced. The development will have a positive impact to abutting lots with runoff draining across the proposed site.
 - (iii) The runoff from the proposed site will be directed to new or existing storm drainage catch basins and piping with the capacity to handle flows. It will not create flooding on adjacent lots.
 - (iv) See above.
- b. The project is a development of an existing partially impervious site, and as such does not cross the threshold required to meet the General Standards under Chapter 500, Stormwater Law (City of Portland Technical Manual, Section 5 – Portland Stormwater Management and Maine DEP Ch. 500, 3 (e)). However, The City of Portland Stormwater rules state that any site eligible for a Level III Site Plan Application is required to meet the General Standards of MeDEP Chapter 500. Therefore, the General Standards have been met for the net increase in impervious cover as described in the attached Stormwater Management Report. The Basic Standards will apply to this project and a detailed Soil Erosion and Sediment Control Plan has been developed to address this and is included as an appendix to the Stormwater Management Plan in Attachment D. The applicant is requesting a waiver from the Flooding Standard because the site is tributary to the Presumpscot River.
- c. Not applicable.
- d. Not applicable.

- e. Post-construction activities at the site do not pose a high risk of groundwater contamination.
- f. The project will be connected to the public sanitary sewer system which is adequately sized for the minimal anticipated project flows.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:
 - a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure plans.
 - b. Not applicable.
2. Public Safety and Fire Prevention:
 - a. The site has been designed to promote a safe environment. The propane gas storage facility is completely protected with fencing. The parking lot is accessible to the public and has site lighting to create a safe and welcoming parking lot.
 - b. The site provides access from the main street for emergency vehicles. Knox boxes will be provided at both motorized gates for access by emergency personnel.
 - c. Fire hydrants are located adjacent to the property on Riverside Street and approximately 30 feet from the building. The storage dock/building will be sprinklered.
3. Availability and Adequate Capacity of Public Utilities:
 - a. The applicant will secure letters from all applicable utilities stating their ability to serve the site. The project will require new or updated electrical, sewer and water services to the site.
 - b. A new electrical service to the site will be aboveground. This is located in an industrial zone and considered to be acceptable.
 - c. All new utility infrastructures will meet the provisions of the Technical Manual.
 - d. The project will construct a new service connection to the public sewer system in Riverside Street.
 - e. All new sewer and stormwater infrastructure will meet City Standards.
 - f. Not applicable.

(d) Site Design Standards.

1. Massing, Ventilation and Wind Impact:
 - a. The project proposes buildings consistent with others in the area. The project will not result in any significant changes to the wind environment proximate to the site.

- b. The project will not result in any significant impacts to abutting properties.
- c. HVAC venting, if necessary, will be directed through rooftop units and will not impact any adjacent public spaces.
- 2. Shadows:
 - a. Shadows casting from the proposed buildings will not have an adverse impact on the adjacent parcels.
- 3. Snow and Ice Loading:
 - a. The building renovations will be designed in such a way that accumulated snow does not impact adjacent properties or public ways.
- 4. View Corridors:
 - a. Not Applicable
- 5. Historic Resources:
 - a. The project is not located in a historic district, historic landscape district, or City designated landmark.
 - b. The project is not located adjacent to, or within 100 ft. of, an historic district, historic landscape district, or City designated landmark.
 - c. There are no historical or archaeological resources on the project site.
- 6. Exterior Lighting:
 - a. Site Lighting
 - (i) All new exterior lighting at the site will be full cutoff with no light emitted above the horizontal plane, and in accordance with Section 12 of the Technical Manual. A photometric lighting plan has been developed demonstrating illumination levels throughout the site. Proposed lighting cut sheets are shown on Sheet P-1.0 – Photometrics Plan.
- 7. Noise and Vibration:
 - a. Project noise levels will be designed to meet the permitted standards within the zone. HVAC units may be located on the roofs of the buildings. Equipment cut sheets can be provided upon request.
- 8. Signage and Wayfinding:
 - a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

- (i) The project is not located in a historic district or subject to Article IX.
 - (ii) Proposed commercial signage has not yet been designed for the site and will be subject to a condition of approval.
 - (iii) All street and wayfinding signage is designed to meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.
9. Zoning Related Design Standards:
- a. The project is located in an Industrial Zone and these standards do not apply.

9. ELEVATIONS AND FLOOR PLAN

Att. J

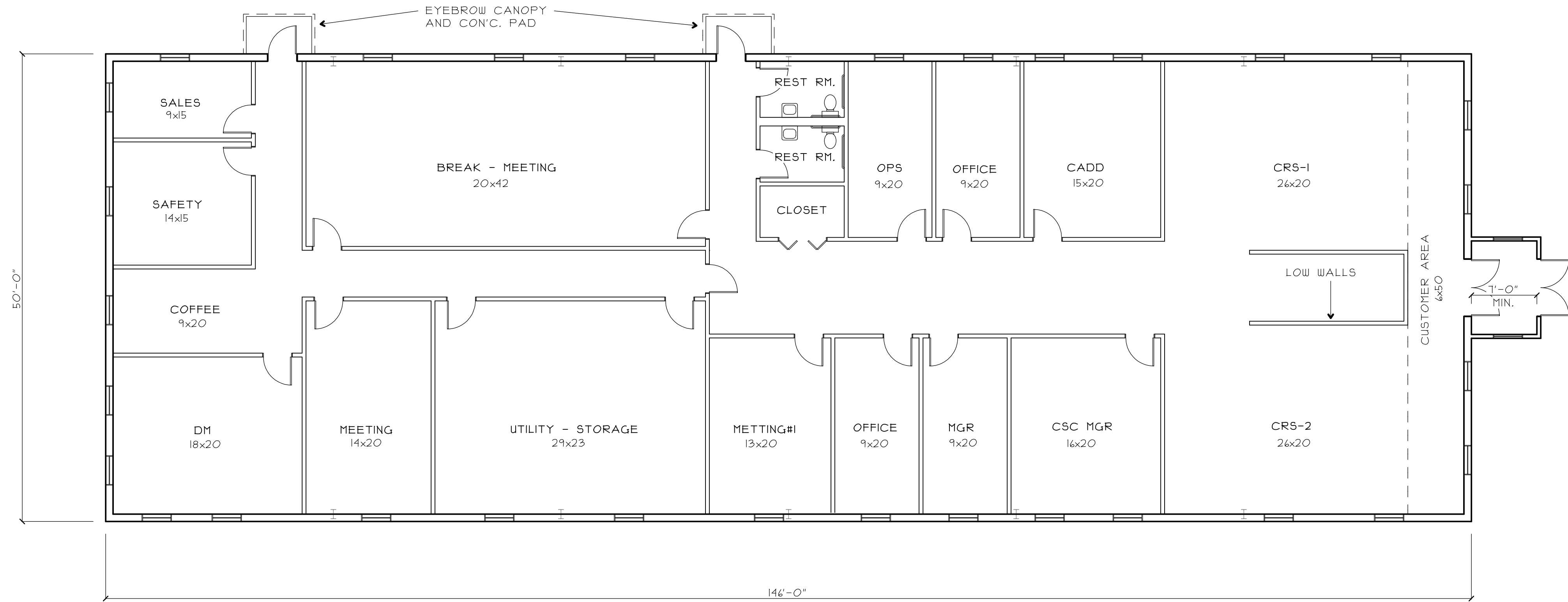
The attached elevations and floor plans have been prepared by Sheridan Corp. for this project.

9.1 ATTACHMENTS

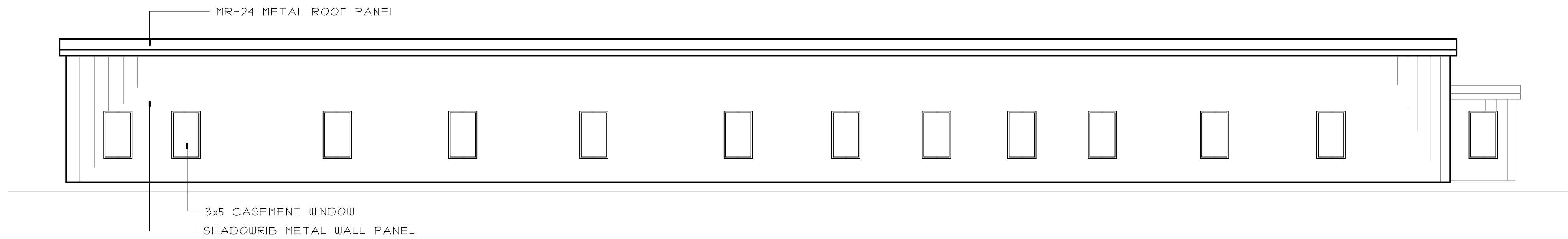
Attachment I – Architectural Elevations and Floor Plan

ATTACHMENT I

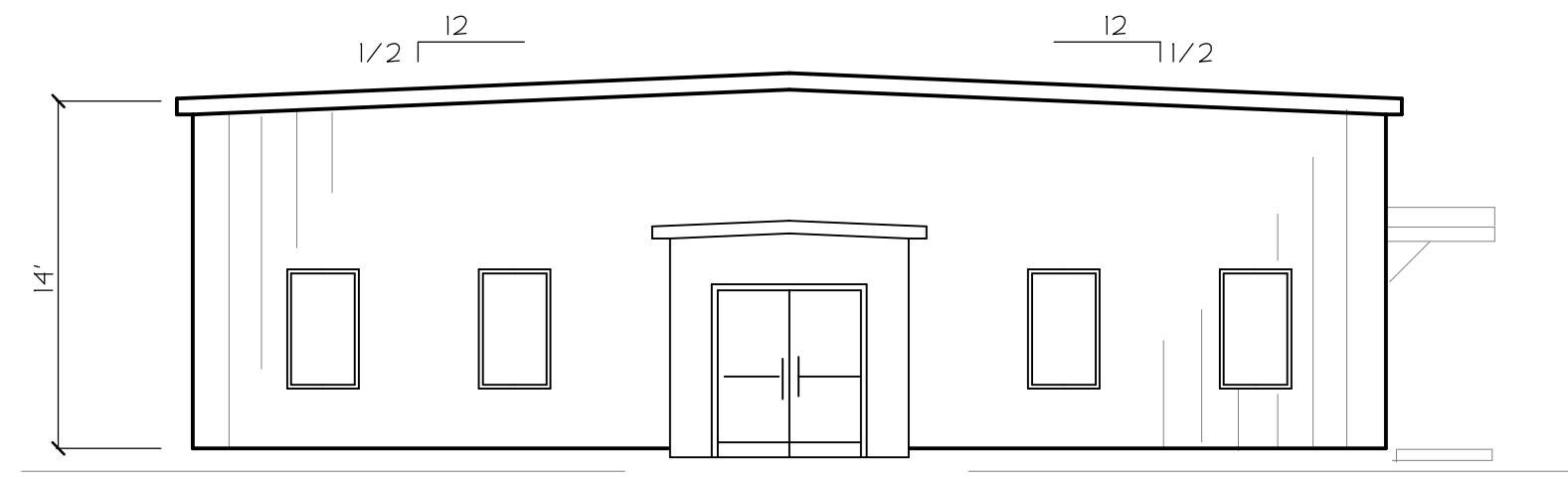
Architectural Elevations and Floor Plans



FLOOR PLAN



SIDE ELEVATION

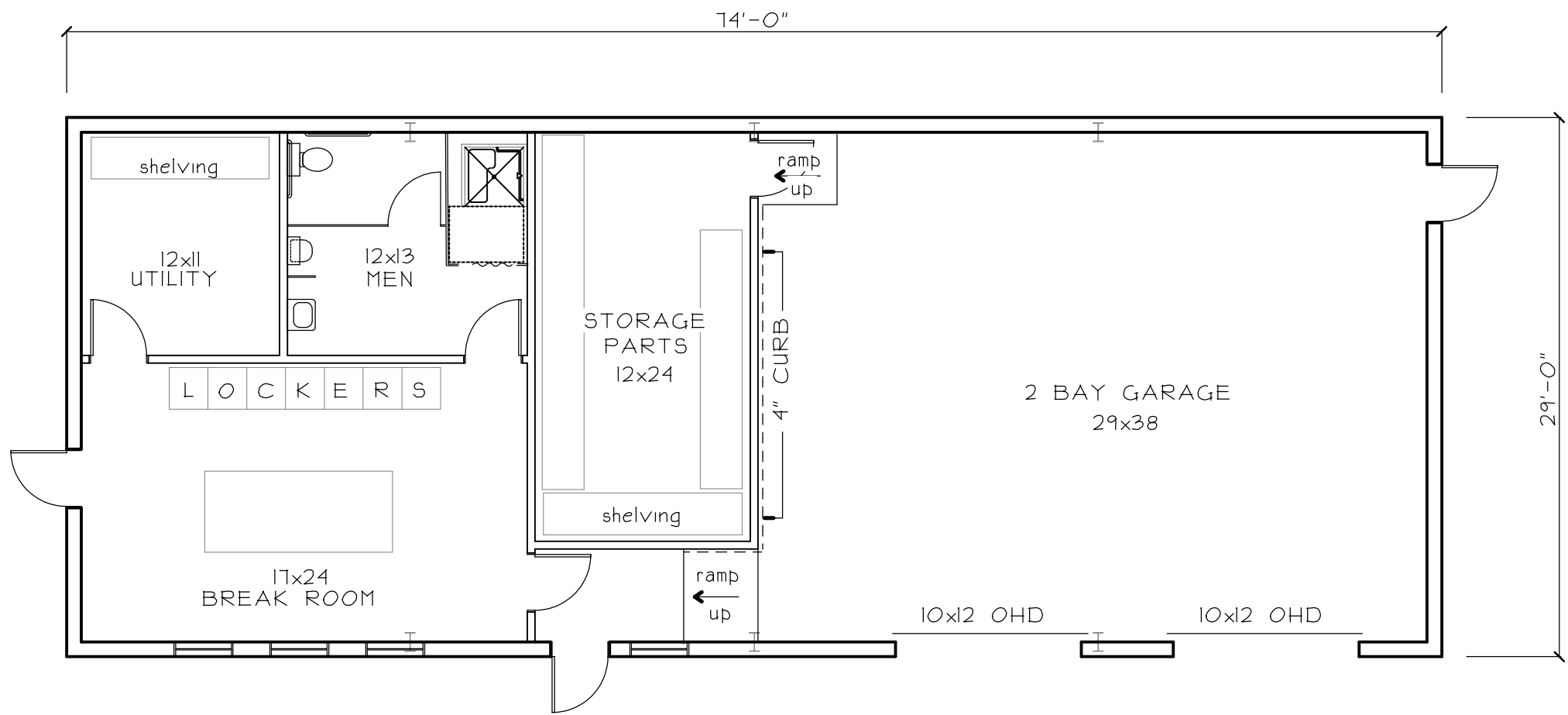


FRONT ELEVATION

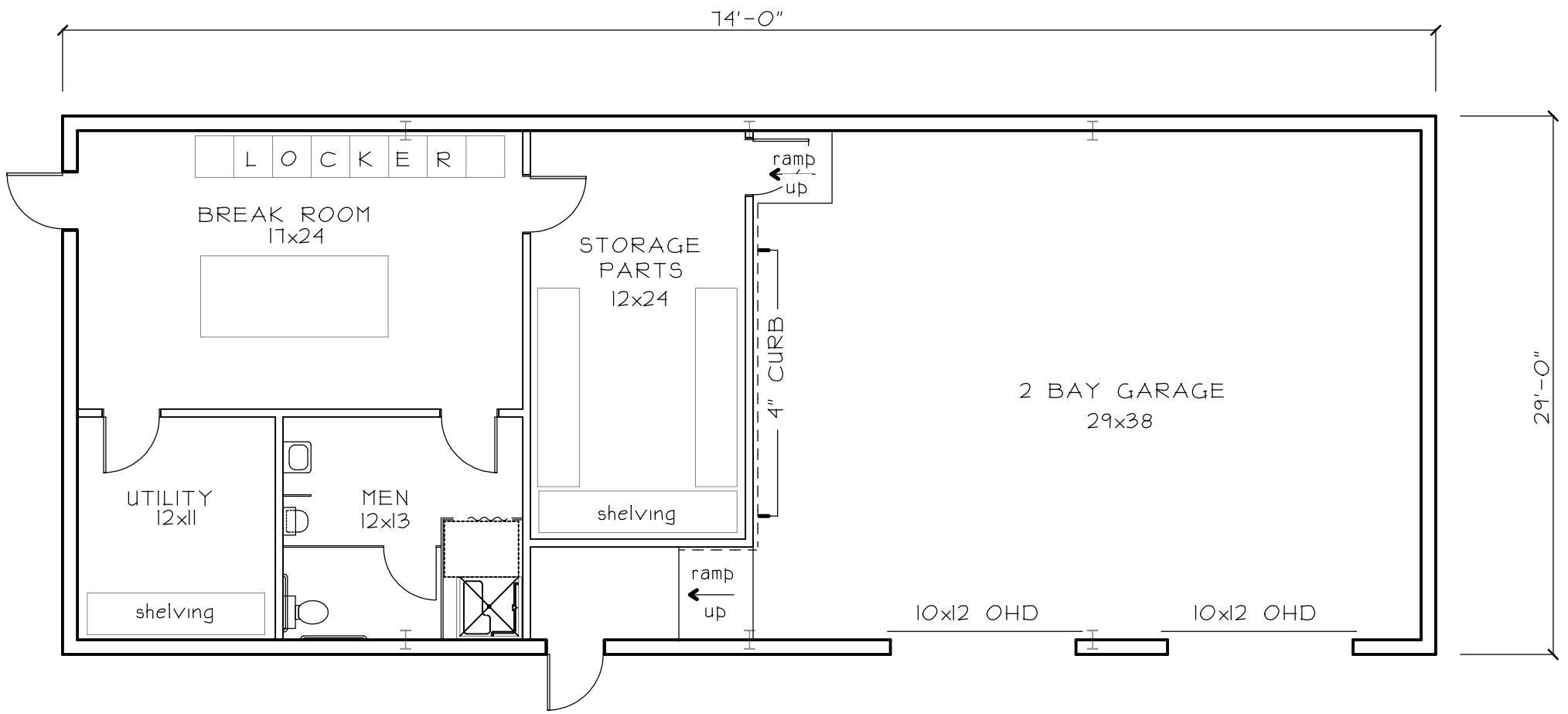
PROGRESS - FOR REVIEW ONLY

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DATE	REVISION	EST. NO	Engineering Designs For SUBURBAN PROPANE PORTLAND, MAINE		JOB NO.
		85103			
		SIZE	Title CONCEPTUAL OFFICE PLAN		ENGINEERING DWG. NO.
		TYPE			
		DRAWN BY	DI OF		
		RSP			
		REVIEWED BY	DESIGN BUILDER		
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		1/8"			
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		10-26-15			
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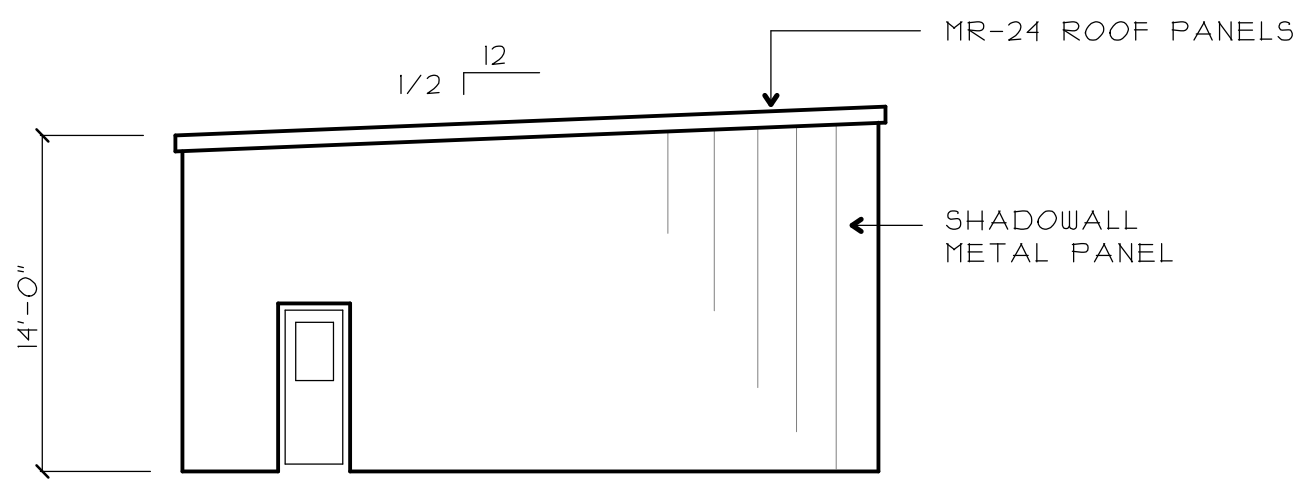




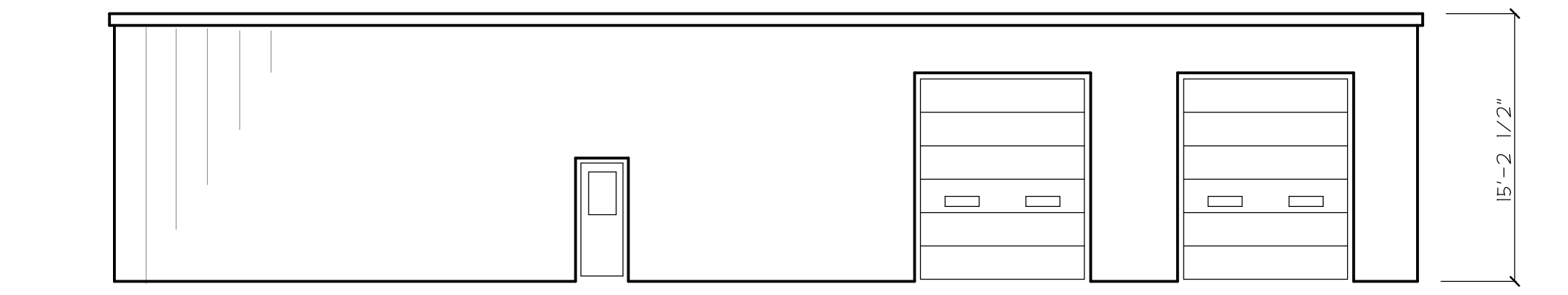
ALTERNATE FLOOR PLAN



FLOOR PLAN



SIDE ELEVATION

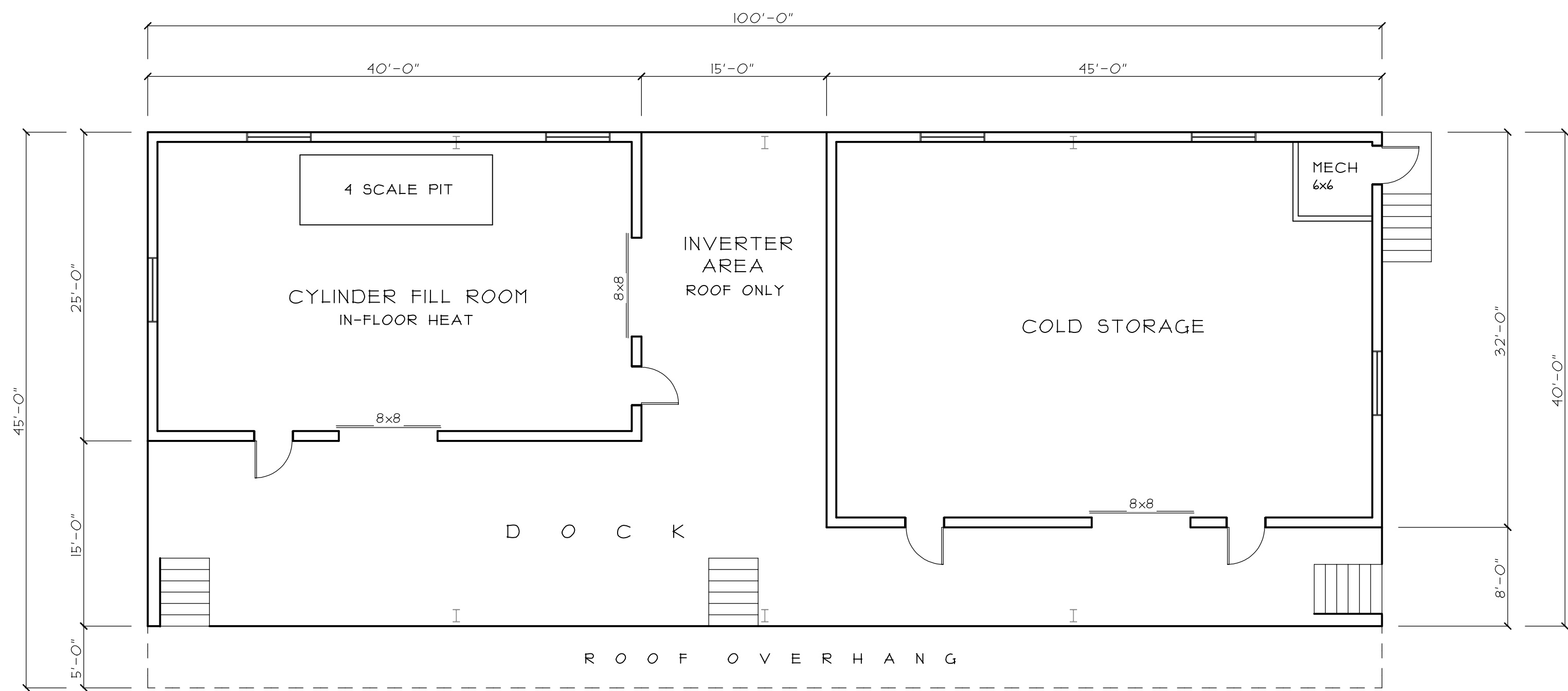


FRONT ELEVATION

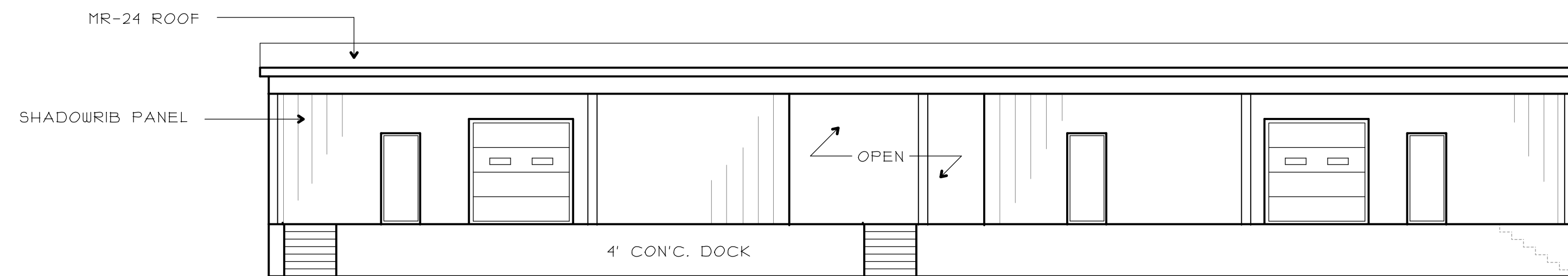
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		85103			
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		REVIEWED BY			
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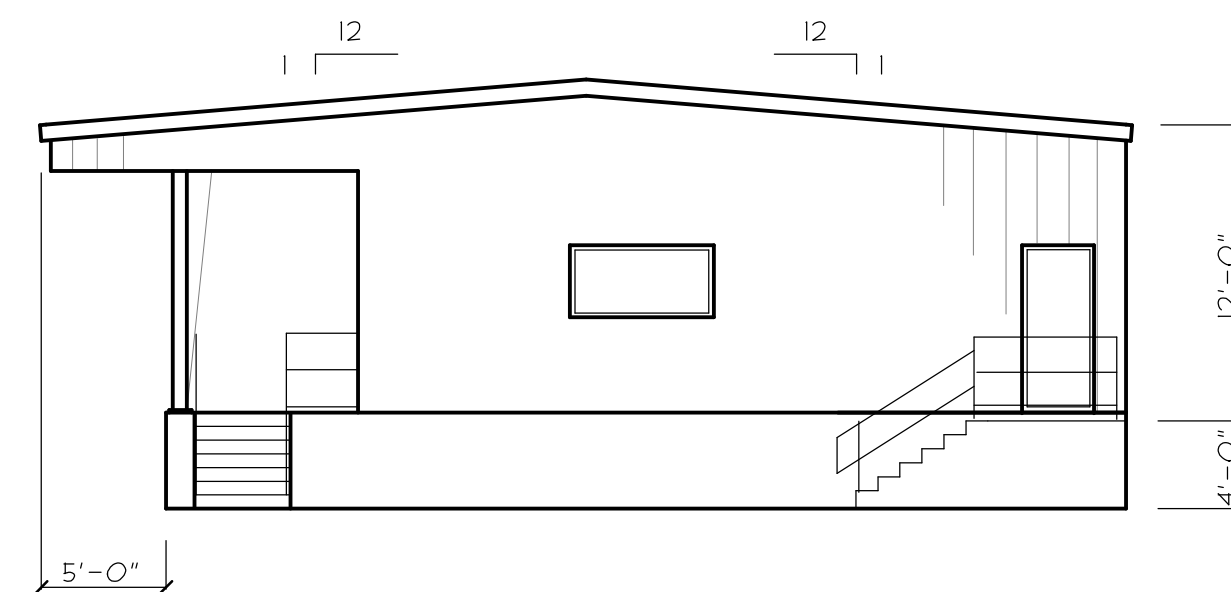




FLOOR PLAN



FRONT ELEVATION

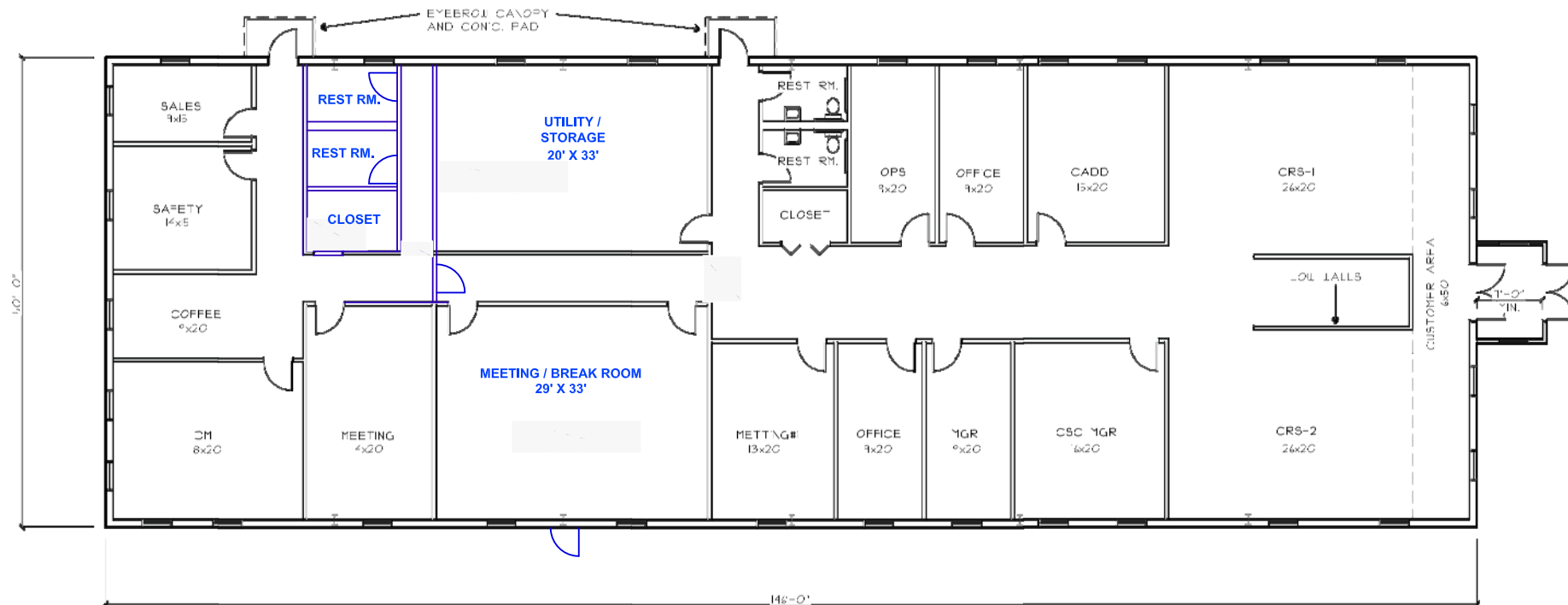


SIDE ELEVATION

PROGRESS - FOR REVIEW ONLY

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DATE	REVISION		Engineering Designs For				JOB NO.	 Sheridan www.sheridandesign.com FAIRFIELD PORTLAND MAINE	
		EST. NO	85103		SUBURBAN PROPANE PORTLAND, MAINE		ENGINEERING DWG. NO. D3 OF		
		SIZE							
		TYPE							
		DRAWN BY	RSP		Title CONCEPTUAL DOCK PLAN				
		REVIEWED BY							
		SCALE	1/8"						
		DATE	11-04-15						
FILE NAME:		G.T.V. NAME:		DESIGN BUILDER					





FLOOR PLAN

PORTLAND MAINE
OFFICE BUILDING REVISION SKETCH
 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY

SAFETY, ENGINEERING & ENVIRONMENTAL
 5793 WIDEWATERS PARKWAY
 SYRACUSE, NY

SITE PLAN
 SUBURBAN PROPANE
 RIVERSIDE INDUSTRIAL PARK
 PORTLAND, MAINE
 MARCH 2010

OWN BY:
 JJC

DATE:
 12/16/15

OFFICE SKETCH
 REVISED, PDF

FILE:

OSE-1

June 10, 2016

Ms. Helen Donaldson

Planning and Urban Development Department
City of Portland
389 Congress Street
Portland, ME 04101-3509

**Subject: Suburban Propane Development
Vicinity of 636 Riverside Street
Final Site Plan and Amended Subdivision Application
Applicant: Thompson's Point Development Co., Inc.
Letter of Response #1 to Staff and Peer Review Comments**

Dear Nell:

On behalf of Thompson's Point Development Co., Inc., we offer the following responses to peer and staff review comments related to the Final Site Plan and Amended Subdivision Application. The responses and supplemental information are provided to assist while you continue your ongoing review:

COMMENTS RECEIVED FROM PLANNING DATED 04-14-16**TRANSPORTATION****a. Impact on Surrounding Street Systems****Comment 1:**

In the final submittal, provide additional description as to the level of industrial/fueling traffic to/from the site (e.g. you mention that this traffic will be dispersed over the day. How many fleet vehicles are we talking about?)

Response:

The volume of fleet traffic to/from the site will vary some seasonally. An additional trip is required during the midday for the busier winter delivery season. This additional trip brings the total round trips to two to three per truck per day. Typically, the facility will have a maximum of six trucks leaving between 6 AM and 8 AM for their first round of deliveries. It is noted that the delivery fleet trucks will primarily moving in the opposite direction of the AM and PM peak hour generator. Additionally, it is estimated that 80% - 90% of the trucks will be taking a right out of the driveway to head to the closest highway exit.

Comment 2:

Also, please provide additional description of the nature of the office use.

Response:

The office will be open typical office hours (8AM to 5 PM) and be used by a mix of sales representatives, accountants, and district managerial staff. A small portion will be accessible to



Ms. Helen Donaldson
June 10, 2016
Page 2

the public for payment of bills. This facility will not fill individual containers of propane for retail sales as it is a distribution facility only.

b. Access and Circulation

Comment 3:

Show the existing access easement to Ananta (Lot #2)/Addison Capital (Lot #3) on the site plan.

Response:

A note referencing the shared access easement has been added to Sheet C-3.0 – Site Layout Plan.

Comment 4:

Plans should include a point of access to the Ananta property (Lot #2) from the shared access drive. Pending discussion with Lucas Tree, a point of access should also be shown to the site owned by Addison Capital (Lot #3).

Response:

A potential driveway location for Lot 2 and Lot 3 has been added to the plans. The final location will be negotiated with each lot owner prior to construction.

Comment 5:

Per the original subdivision plat, the curb cut to the Ananta property (Lot #2) must be closed upon the construction of the shared access drive. A maintenance agreement, further to that developed and recorded in 2010, will need to be developed.

Response:

The curb cut closure is the responsibility of the Lot 2 landowner. The Applicant acknowledges the need for a shared maintenance agreement and is working with the city and existing landowners (Lot 2 & 3) to draft an agreement.

Comment 6:

The easement on Lot #4-1 for purposes of access to Lot 4 should also be depicted on the site plan. This easement will need to be developed.

Response:

An access easement has been added to Sheet C-3.0 – Site Layout Plan and references the easement as defined on Sheet C-2.1 – 2nd Amended Riverside Subdivision.

Comment 7:

Could the gate be redesigned or relocated to the rear of the office building to avoid the need for an easement on Lot 4?



Ms. Helen Donaldson
June 10, 2016
Page 3

Response:

The gate location has been moved to the end of the building to permit operation of the gate within the property limits. The gate operation easement has been removed.

Comment 8:

How many fleet vehicles will be stored on the site? Where on the site will they be located when not in operation?

Response:

Approximately six (6) fleet vehicles will be stored on the site at one time. They will be parked on the inside of the fence area most likely around the perimeter of the gravel yard to allow movement of delivery trucks and storage of cylinders in the yard.

d. Parking

Comment 9:

Either eliminate 'future parking' or show as permanent spaces on site plan.

Response:

The "future" parking stalls have been designated as permanent paved parking; however, it is noted that these stalls are not required by the Land Use Code or by the Applicant at this time. The 16 stalls may not be constructed prior to occupancy of the building. It is noted on the plans that if the parking is not constructed within the permitted time limits, then an extension or appropriate permit modification would be required prior to construction.

Comment 10:

Show snow storage locations.

Response:

Snow storage locations have been added to the Site Layout Plan for both inside and outside the fence areas.

Comment 11:

4 bicycle spaces are technically required. In the revised submittal, either provide those spaces or request a waiver.

Response:

Two Dero Hitch style bike racks have been added to the site plan. This satisfies the four (4) bicycle space requirement.



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Page 4

ENVIRONMENTAL QUALITY

b. Landscaping and Landscape Preservation

Comment 12:

Define surface treatment for area beyond perimeter of gravel yard.

Response:

All disturbed area which do not receive a gravel or pavement surface will be loamed, seeded and mulch in accordance with the Erosion Control Plan.

Comment 13:

Landscaping is required at following ratios:

- *Understory plantings standard (14-526(b)2b(i)(b)): 6 shrubs (or ornamental grass or sub 3 perennials)/45 LF of frontage.*
- *Parking lot standard (14-526(b)2b(ii)(a)): 2 trees (or 1 tree & 3 shrubs)/5 spaces planted in LS island.*

Response:

The applicant proposes landscaping to satisfy the two requirements above as shown on the Landscape Plan. The Landscape Plan will be provided under separate cover.

PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY

c. Availability and Adequate Capacity of Public Utilities

Comment 14:

Need evidence of water capacity.

Response:

The attached letter from the Portland Water District confirms their ability to serve the project with water capacity.

Comment 15:

Need evidence of sewer capacity.

Response:

The attached email from the Portland Public Works confirms their ability to serve the project with sewer capacity.

Comment 16:

Could electrical service be placed underground from the pole at Riverside Street?



Ms. Helen Donaldson
June 10, 2016
Page 5

Response:

The applicant requests the flexibility to keep the electrical service above ground and obtain the necessary easements from Lot 3 for any aerial or guy infringement onto their property.

SITE DESIGN

f. Exterior Lighting

Comment 17:

Photometric plan shows site will exceed max illumination standard of 5.0 foot-candles. Either explain why necessary or revise to bring lighting levels down.

Response:

The attached Sheet P-1.0 – Photometrics Plan has been revised to lower the max illumination level to below 5.0 foot-candles.

Comment 18:

Update site plan to match light locations on photometric plan.

Response:

The attached plan has been revised to reflect the light poles/fixtures as shown on the Sheet P-1.0 – Photometric Plan.

REVIEW COMMENTS FROM DAVID SENUS, P.E., WOODARD & CURRAN DATED APRIL 4, 2016

Comment 1:

The Erosion and Sedimentation Control Report includes a sample compliance form to acknowledge contractor compliance with the Maine Construction General Permit. Because the project will result in land disturbance of greater than 1 acre, a Notice of Intent to Comply with the Maine Construction General Permit will need to be filed with the MaineDEP, and a copy should be forwarded to the City Planning Department.

Response:

This will be completed 14 days prior to the start of construction and a copy sent to the city for their files. It is recommended this be included as a condition of approval.

Comment 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 Standards: The Applicant has submitted plans, details, and a report that addresses erosion and sediment control requirements, inspection and maintenance requirements, and*



Ms. Helen Donaldson
June 10, 2016
Page 6

good housekeeping practices in general accordance with Appendix A, B, & C of MaineDEP Chapter 500 and Chapter 32 of the City of Portland Code of Ordinances.

Response:

The applicant has met this requirement.

Comment 2 (cont):

b) General Standards: *The applicant proposes an underdrained soil filter system to provide water quality treatment in accordance with the General Standards for an impervious area equivalent to the proposed net increase in impervious area and has submitted design calculations and details for the system. Based on our review, we find that the project is compliant with the MaineDEP General Standards for the new impervious area.*

Response:

The applicant has met this requirement.

Comment 2 (cont):

c) Flooding Standard: *The applicant is seeking a waiver from the MaineDEP Chapter 500 Flooding Standard, as the project parcel is tributary to a major river segment (Presumpscot River). Given that the proposed underdrained soil filter will manage the discharge rate of the Water Quality Volume generated from the new impervious area, and given that the site discharges almost directly to the Presumpscot River, we support the Applicant's request for a waiver from the Flooding Standard.*

Response:

The applicant has met this requirement.

Comment 3:

The applicant should inspect and document the condition of the existing outfall that will receive flow from the project (the 12" outfall pipe and stabilized outlet area). Any corrective action(s) identified as a result of the inspection should be added to the plans to occur as part of this work.

Response:

The engineer (Bo Kennedy, P.E.) has inspected the existing outfall. The photographs (which are included in Attachment B) are representative of the current conditions. Based on the observations, the existing outfall has an existing plunge pool with a naturalized soil bottom. A small rip stabilization pad is recommended and been added to the Erosion Control Plan.

Comment 4:

Work is proposed on Lot 4 outside of the limits of Lot 4-1, including installation of a reinforced turf overflow spillway (refer to Sheet C-6.0) and installation of a new Catch Basin (CB)-3 (refer to Sheet C- 4.0), replacing an existing CB. We anticipate that the catch basin replacement is straightforward and should not require specific notes or changes to the plat; however, the



Ms. Helen Donaldson
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reinforced turf overflow spillway will require clearing of vegetation and future inspection and maintenance, therefore it should be specifically noted on the plat amendment.

Response:

A note reserving stormwater and access rights have been added to the Subdivision Plat.

Comment 5:

The plans should show pavement repair limits (saw-cuts) for utility installations within Riverside Street, and the details should include Figure II-12 (Typical Pipe Trench Installation) from the City of Portland Technical Manual.

Response:

A trench cap repair area has been added to the utility plan and the City of Portland "Typical Pipe Trench Installation detail" has been added to sheet C-8.0.

REVIEW COMMENTS FROM MICHAEL FARMER DATED APRIL 11, 2016

Comment 1:

Can the applicant's engineers review the proposed sewer system design slopes and determine the following:

- 1. Does the proposed slope of the building sewer to the office building meets the requirements in the state plumbing code?*
- 2. Are the proposed slopes and expected wastewater flows sufficient to provide scouring velocities in the proposed sewer pipes?*

Response:

The sewer pipe inside the building will meet state plumbing code of 2%. The gravity sewer outside the building has been designed to meet the minimum sewer size and slope requirements required by the 10 state standards technical manual for 8" sewer mains.

The designed gravity sewer slope is set at the minimum slope to provide a scour velocity of more than 2 feet/sec flowing full. The pipe is not anticipated to flow full for the anticipated use but may be used by future development.

Comment 2:

The proposed overhead utility lines appear to encroach onto the Lucas Tree parcel. Are there easements that would allow such encroachment?

Response:

The applicant is in discussions with the Lot 3 owner to retain these rights and confident an agreement can be made.



Ms. Helen Donaldson
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REVIEW COMMENTS FROM KEITH GAUTREAU/FIRE DATED APRIL 11, 2016

Comment 1:

Signage or Street numbers for the address location should be located out on Riverside Street in addition to the building.

Response:

The applicant agrees and has requested permission to install a monument sign near Riverside Street. The applicant is working with the city to see if that is permissible.

Comment 2:

Emergency access to the proposed site is more than adequate. A proposed Knox Box for after hours access is proposed on the plans.

Response:

The applicant has met this requirement

Comment 3:

The proposed private hydrant location is approved per the plans.

New Fire Hydrants. Any hydrant installed, replaced or upgraded shall meet all standards utilized by the Portland Water District at the time of such installation, NFPA 24, Standard for Installation of Private Fire Service Mains and Their Appurtenances, and Section 2.4.

Response:

The proposed hydrant will meet all current Portland Water District Standards.

REVIEW COMMENTS FROM WILLIAM CLARK DATED APRIL 12, 2016

Comment 1:

Need to set property corners for the new lot. I saw other corners missing for Lot 3, but when I went to the plan for Lot 3 I saw them set as part of that project, so my notations for setting four property corners on Lot 3 are not needed.

Response:

Property corners will be set for the new lot.

Comment 2:

Show State Plane Coordinates for the two corners indicated along Riverside Street.

Response:

Coordinates have been added to the subdivision plan per the request.



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Page 9

Comment 3:

Access easement for Lot 4 beyond Lot 2 is crowded with much line work. Maybe a blowup detail to define it might help.

Response:

The enclosed Subdivision plan has been revised to show a blowup detail of the area in question.

Comment 4:

The nature of the 60 foot wide strip along Lot 1 is not stated.

Response:

The strip is designated as a drainage easement and notated on the revised plan.

Comment 5:

60 foot Right of Way from Riverside Street between Lot 2 and Lot 3. Is it in common with Lots 2, 3, 4, and 4-1? I am under the assumption that it is in fee ownership for Lot 4-1.

Response:

Yes this is an in fee ownership for lot 4-1 such that it provides the code conforming street frontage. Lots 2,3,4 have access easement rights as noted on the subdivision plan subject to cost and maintenance sharing agreements to be negotiated.

Comment 6:

Remainder of Lot 4. I believe the 33.04 acres will be reduced by the area which creates Lot 4-1.

Response:

The area of Lot 4 remainder has been revised to reflect the reduction.

REVIEW COMMENTS FROM THOMAS ERRICO/TYLIN DATED APRIL 11, 2016

Comment 1:

I have reviewed the trip generation estimate for the site and find it to be acceptable. In my professional opinion the project will not create traffic congestion or safety problems.

Response:

The applicant has met this requirement

Comment 2:

A sidewalk shall be constructed on the proposed drive between Riverside Street and the project site. This shall include a pedestrian facility on-site to the building entrance.



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Response:

A sidewalk has been added to the plan on the Lot 2 side of the shared driveway.

Comment 3:

The proposed driveway to Riverside Street is noted to be 25-feet wide. While acceptable, a 24-foot wide driveway would be permitted.

Response:

The driveway width has been reduced to 24 feet.

Comment 4:

The construction of the proposed drive triggers the closing of the driveway to the south on Riverside Street and construction of a new access/egress drive on the proposed drive. Details of these two actions (closing the driveway and providing a connection shall be provided.

Response:

The applicant is working with the Lot 2 and lot 3 landowners to determine the final location of the proposed connection to the shared driveway. One potential location has been added to the plans.

Comment 5:

The plans illustrate future parking spaces. It is recommended that the spaces either be part of this application or their designation be removed from the site plan.

Response:

The parking spaces have added to the plan; however, not required to meet the city's land use code. Therefore, the owner may exercise their right not to construct the spaces.

Comment 6:

Given traffic levels on Riverside Street, two approach lanes (separate left and right lanes) on the driveway should be provided.

Response:

Separate left and right turn lanes have been added to the plans. Separate turn lanes have created a need for a small easement to construct the sidewalk encroachment on Lot 2. This encroachment is under negotiation with the land owner. If an agreement cannot be reached then the applicant proposes to reduce the curb line radius to match the existing radius. While the second approach is less desirable for larger truck vehicles it will still accommodate the necessary vehicles proposed on Lot 4-1.

REVIEW COMMENTS FROM JEFF TARLING DATED APRIL 11, 2016

Comment 1:



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The proposed 636 Riverside Street project would benefit from a landscape / tree planting plan. The landscape plan should address any new parking areas, commercial property to city right of way interface; this would be the view to the site and landscape treatment to improve circulation. The landscape improvements could be incremental to the proposed site work vs. the entire site.

Response:

The applicant is proposing to add landscaping to the development plan. A landscaping plan will be provided under a separate cover.

If you have any questions with the information being submitted, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-887-3406
Fax: 207-887-3376
Bo.kennedy@stantec.com

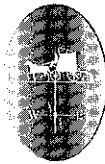
Attachments: A – Ability to Serve Correspondence
B – Photographs Taken by Bo Kennedy, P.E.

Sheet C-2.1 – 2nd Amended Riverside Subdivision
Sheet C-3.0 – Site Layout Plan
Sheet C-4.0 – Grading and Drainage Plan
Sheet C-5.0 – Utility Plan
Sheet C-6.0 –Erosion Control Plan
Sheet C-8.0 – Utility Details
Sheet C-9.4 – Access Drive Profile
Sheet P-1.0 – Photometrics Plan

c: Chris Thompson
Jed Troubh
Sue Delia

V:\1953\active\195350142\Admin\Permitting\Local\Level III Site Plan & Amended Subdivision Application\LOR\lor_1_donaldson_20160610.docx

ATTACHMENT A



Portland Water District

FROM SEBAGO LAKE TO CASCO BAY

March 3, 2016

Stantec

778 Main Street, Suite 8
South Portland, ME 04106

Attn: Bo Kennedy

Re: 636 Riverside Street - Portland
Ability to Serve with PWD Water

Dear Mr. Kennedy

The Portland Water District has received your request for an Ability to Serve Determination for the noted site submitted on January 22, 2016. 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 6-inch and 2-inch services may be installed from the water main in Riverside Street. The services should enter through the properties frontage on Riverside Street at least 10-feet from any side property lines.
- A meter pit for the domestic service will be required.
- Water District approval of water infrastructure plans will be required for the project prior to construction. As your project progresses, please submit revised design plans to the MEANS group 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.
- Once the project is ready for construction, the owner or contractor will need to make an appointment to come in and complete a service application form and pay the necessary fees.

Existing Site Service

According to District records, the project site does not currently have existing water service.



Water System Characteristics

According to District records, there is a 12-inch diameter cast iron water main on the east side of Riverside Street and a public fire hydrant located across from the site. Recent flow data is not available in this area. The most recent static pressure reading was 80 psi on April 7, 2015.

Public Fire Protection

The installation of new public hydrants to be accepted into the District water system will most likely not be required. 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

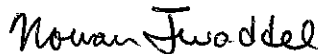
The data noted above indicates there should be adequate pressure and volume of water to serve the domestic water needs of your proposed project. Based on the high water pressure in this area, we recommend that you consider the installation of pressure reducing devices that comply with state plumbing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



For Gordon Johnson, P.E.
Engineering Services Manager

From: [David Margolis-Pineo](#)
To: [Jeff Levine](#); [Barbara Barhydt](#); [Helen Donaldson](#); [Shukria Wiar](#); [Jean Fraser](#); [Rick Knowland](#); [Nancy Gallinaro](#); [Portland, Brad Roland](#); [Rachel Smith](#); [John Emerson](#); [Scott Firmin](#); [Greg Mitchell](#); [Kennedy, Bo](#); [Eric Dudley](#); [Chris Thompson](#)
Subject: Wastewater Capacity Application Approval for 636 Riverside St - Suburban Propane
Date: Tuesday, May 17, 2016 12:31:21 PM

May 17, 2016

**RE: Capacity to Handle Wastewater Flows from 636 Riverside Street –
Suburban Propane Building (2016-047)**

Dear Mr. Thompson: (parrallaxpartners@gmail.com)

The Department of Public Works, which includes the Water Resource Division has reviewed and determined that the downstream sewers from has the capacity to convey the estimated 576 gpd of proposed wastewater which will be generated from this facility.

Please be aware that proposed wastewater flows from this facility are directed to the City of Westbrook for treatment. Unless this facility is proposing to discharge industrial waste, this will have no impact on the discharge parameters. The City of Portland sewer rates will apply to wastewater flows generated from this facility.

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 636 Riverside Street –

Suburban Propane:

**8,402 s.f. Office / 175 s.f. per employee = 48 emp. @ 12 gpd/emp. =
576 gpd**

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

Jean Fraser, Planner, Department of Planning and Urban Development, City of Portland

Rick Knowland, Planner, Department of Planning and Urban Development, City of Portland

Nancy Gallinaro, Water Resources Manager

Brad Roland – Senior Project Manager, Water Resources Division

Benjamin N. Pearson, Industrial Pretreatment Coordinator, City of Portland

Rachel Smith, Assistant Industrial Pretreatment Coordinator, City of Portland

John Emerson, Wastewater Coordinator, City of Portland

Scott Firmin, Director of Wastewater, Portland Water District

Greg Mitchell, Director of Economic Development

Bo Kennedy – Stantec Engineers

Eric Dudley – City Engineer, Westbrook

--

David Margolis-Pineo
Deputy City Engineer
Department of Public Services
55 Portland St.
Portland, ME 04101
Office 207-874-8850
Cell 207-400-6695
dmp@portlandmaine.gov

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

From: [Rogers, Jamie](#)
To: [Sandi Keef](#); [Bo Kennedy](#)
Cc: [Pelletier, Mark](#)
Subject: TWC
Date: Monday, January 25, 2016 9:45:04 AM

Hello, I'm sending this E-mail on Marks behalf. TWC can provide coax and or fiber to this establishment for services.

Please contact Mark for any Impact Fees.

Mark Pelletier's contact Info:

TWC Construction Coordinator

PHONE:207-253-2324

FAX:207-253-2280

Time Warner Cable

118 Johnson Road

Portland, Maine 04102

This E-mail and any of its attachments may contain Time Warner Cable proprietary information, which is privileged, confidential, or subject to copyright belonging to Time Warner Cable. This E-mail is intended solely for the use of the individual or entity to which it is addressed. If you are not the intended recipient of this E-mail, you are hereby notified that any dissemination, distribution, copying, or action taken in relation to the contents of and attachments to this E-mail is strictly prohibited and may be unlawful. If you have received this E-mail in error, please notify the sender immediately and permanently delete the original and any copy of this E-mail and any printout.

From: [Cough, Jamie](#)
To: [Bo Kennedy](#)
Cc: [Sandi Keef](#)
Subject: CMP Ability To Serve Letter
Date: Monday, January 25, 2016 5:53:24 AM
Attachments: [EDET July 2014.xls](#)
[Easement Information Worksheet.doc](#)
[Standard Easement Sample.pdf](#)
[SP-M157 2016.01.22-Cough-CMP ABS.PDF](#)

6/4/2015

Bo Kennedy
Stantec Consulting Services Inc.
South Portland, Maine 04106
Sent via email to: bkennedy@fstinc.com

RE: Ability to Serve Letter Riverside Street Office/Propane Distribution Center project, Portland, ME.

Dear Mr. Kennedy:

CMP has the ability to serve the proposed project located on Riverside 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.

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)

(<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

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

ATTACHMENT B



PHOTO 1



PHOTO 2



Stantec Consulting Services Inc.
482 Payne Road, Scarborough Court
Scarborough ME 04074-8929
Main: 207.883.3355 Fax: 207.883.3376

**Suburban Propane
Existing 12" Storm Drain Outlet
Photos Taken Bo Kennedy 06/09/16**

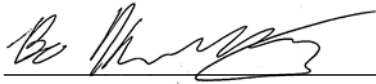
Neighborhood Meeting Certification

I, Bo Kennedy, P.E., hereby certify that a neighborhood meeting was held on Monday, May 9, 2016 at Lucas Tree, 636 Riverside Street, Portland, Maine at 6:30 P.M.

I also certify that on April 29, 2016, invitations were mailed to the following:

1. All addresses on the mailing list provided by the Planning Division, including 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 (jmy@portlandmaine.gov and ldobson@portlandmaine.gov) and the assigned planner to be forwarded to those on the interested citizen list who receive e-mail notices.

Signed,



May 9, 2016
(date)

Attached to this certification are:

1. Copy of invitation sent
2. Sign-in sheet
3. Meeting minutes



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447

April 29, 2016

Dear Neighbor:

Please join us for a Neighborhood Meeting to discuss our plans for an office and propane distribution facility in the vicinity of 636 Riverside Street, Portland, Maine.

Meeting Location: Lucas Tree – Conference Room
636 Riverside Street
Portland, Maine

Meeting Date: Monday, May 9, 2016

Meeting Time: 6:30 PM

The City Code requires that property owners within 500 feet (except notices must be sent to property owners within 1,000 feet for industrial zoning map amendments and industrial subdivisions) 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 feel free to contact Bo Kennedy, P.E. at 207-883-3355.

Sincerely,

STANTEC CONSULTING SERVICES INC.

A handwritten signature in black ink, appearing to read "Bo Kennedy", written over a horizontal line.

Bo Kennedy, P.E.
Senior Civil Engineer

V:\1953\active\195350142\Admin\Permitting\Local\Level III Site Plan & Amended Subdivision Application\Neighborhood Meeting\Neighborhood Meeting Notice 2016.04.29.docx

Note: Under Section 14-32(C) and 14-525 of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within three weeks of submitting a preliminary application or two weeks of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101 or by email to: bab@portlandmaine.gov

Anthony Donovan
27 Riverview Street
Portland, ME 04102

Barb Wood
125 Emery Street
Portland, ME 04102

Chris Castelsky
Fairpoint Communications
521 East Morehead Street
Charlotte, NC 28202

David Nowlin
215 Oxford Street
Portland, ME 04102

Deb Keenan
28 Dorothy Street
Portland, ME 04103

Devon and Pamela Platte
26 North Street, #3
Portland, ME 04101

Edward Suslovic
District 3
46 Kenwood St.
Portland, Me 04103

Greater Portland Council of Governments
970 Baxter Blvd., 2nd Floor
Portland, ME 04103

Henry Leclair
209 Range Road
Windham, ME 03087

Janice Carpenter
9 West Commonwealth Drive
Portland, ME 04103

Jennifer Munson
City of Portland
389 Congress Street
Portland, ME 04101

Jesse Thompson, RA, LEED AP
Kaplan Thompson Architects
424 Fore Street
Portland, ME 04101

John Leavitt
NE Regional Council of Carpenters
68 Bishop Street, Unit 1
Portland, ME 04103

Len Anderson
543 Allen Avenue
Portland, ME 04103

Lynn Clarkson
145 Marlborough Road
Portland, ME 04103

Mary Griffith
6 E. Promenade, Unit #2
Portland, ME 04101

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Pam Burnside
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Kimberly Dubois
1915 Congress Street
Portland, Me 04102

Peggy Morin
66 Farnham Street
Portland, ME 04101

Philip Haughey
1660 Soldiers Field Road
Boston, MA 02135

Portland Society of Architects
c/o James Sterling, AIA
PO Box 7305
Portland, ME 04112

Priscilla D. LaVallee
190 US Route 1, Unit 2
Falmouth, ME 04105-1380

Rebecca Halla
Waste Management
2000 Forest Avenue
Portland, ME 04103

REP Benjamin Dudley III
District 30
9 Ponce Street
Portland, ME 04101

REP Glenn Cummings
District 37
24 Nevens Street
Portland, ME 04103

REP Herb Adams
District 33
231 State Street
Portland, ME 04101-2361

Robert Hains
250 Holm Avenue
Portland, ME 04102

**Neighborhood Meeting Sign-In Sheet
Proposed Office and Propane Storage Facility
636 Riverside Street
Portland, Maine**

Date: Monday, May 9, 2016
Time: 6:30 PM
Location: Lucas Tree – Conference Room,
636 Riverside Street, Portland, ME

[illegible]

Thompson's Point Public Hearing

MINUTES

MAY 9, 2016

CONFERENCE ROOM
LUCAS TREET EXPERT CO.
636 RIVERSIDE STREET
PORTLAND, ME 04103

MEETING CALLED BY	Forefront Partners I, LP
TYPE OF MEETING	Neighborhood Meeting for Suburban Propane Relocation
FACILITATOR	Chris Thompson
NOTE TAKER	Sue Santerre
ATTENDEES	See attached sign in sheet

TOPIC	Introduced Property Plan for Suburban Propane 656 Riverside Street
Suburban Propane site and subdivision plans were showcased on large format presentation board for the public to view. Bo Kennedy, Civil Engineer with Stantec, explained the project and the basis of design for the site. The developers, Chris Thompson and Jed Troubh, along with Joe Carey, Area I Safety Manager for Suburban Propane, and Scott Crimmins, Operations Manager at Suburban Propane, were on hand to address questions and comments.	
PUBLIC COMMENTS AND CONCERNS	
<i>Question 1: What happens if there is an Explosion?</i> <i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> Suburban Propane takes safety very seriously. We have over 12 storage facilities in the State of Maine, 60 in New England and over 100 on the East Coast and have never had a tank explode. My primary job is to ensure safety for the public and also for our employees, technicians and staff. We work in conjunction with local Fire Departments, the Office of Homeland Security and are compliant with the National Fire Protection Association (NFPA) and the 2011 Safety Guidelines. [Carey explained these guidelines in some detail]	
<i>Question 2: What would the blast radius be if there were to be an explosion?</i> <i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> There is no real way to answer this question accurately as there are many factors that would affect this calculation. The tanks have many design features that are the result of a highly regulated review process designed to ensure nothing explodes. But if tanks were to blow up, which would require something along the lines of a laser guided missile to make that happen, the radius would be a few hundred feet. <i>Response by Bo Kennedy, Civil Engineer Stantec:</i> The tank location is over 700 feet from the Riverside Street and there is a natural barrier in that the lot where Suburban Propane tanks would be located is lower than the lot in front of it. A blast, if it ever were to occur, would not even reach Riverside Street.	
<i>Question 3: How big are the storage Tanks?</i> <i>Response by Scott Crimmins, Operations Manager at Suburban Propane:</i> Tanks are 67' long, nine feet in diameter and there will be three tanks at this location.	
<i>Question 4: What are the safety features of these tanks?</i> <i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> There are many internal safety	

features built into these storage tanks. There is emergency shut off valving, excess flow valve shut offs, internal safety valves that shut off if certain levels are reached internally.
<i>Question 5: What plans are in place to keep the tanks from being sabotaged?</i>
<i>Response by Bo Kennedy, Civil Engineer, Stantec:</i> The lot sits off the main road so many people will not even know it is there. There is a six-foot high fence completely surrounding the lot. There are two motorized gates for entrance to the area where the propane is stored and no one from the general public will ever have access to that area.
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> We have been in Portland for close to 30 years and our tanks have never been vandalized. The fences will also have stranded barbed wire at the top so you would really have to want to get hurt to gain access to the site.
<i>Question 6: How many employees will be working from this location?</i>
<i>Response by Scott Crimmins, Operations Manager at Suburban Propane:</i> We will have 28 employees at the new location.
<i>Question 7: Can the public come to get propane for their gas grills?</i>
<i>Response by Scott Crimmins, Operations Manager at Suburban Propane:</i> No, we do not sell propane tanks from this location. Our business from this facility will be to fill trucks and service homes and businesses from those trucks. Customer Service at this location is for paying bills only.
<i>Question 8: Can a rock thrown from a plow truck pierce a propane tank?</i>
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> I have never heard of that happening. We are regulated by very strict standards for constructing these tanks.
<i>Question 9: What are your hours of operation for staff and deliveries?</i>
<i>Response by Scott Crimmins, Operations Manager at Suburban Propane:</i> Our employees come to work at staggered times. The technicians arrive very early, drivers arrive @ 7:00 and office staff arrives at 8:00 AM. We will have delivery trucks arrive once a day for the majority of the year and up to three times a day in the winter months. We have 10 – 12 delivery trucks daily but they all make right hand turns, only three trucks will turn left. Our drivers are required to take the fastest, safest route to deliver propane, majority head straight to the interstate.
<i>Question 10: Should we be concerned about propane getting into the air without our knowledge?</i>
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> Propane vapor is heavier than air. On the remote chance it is released into the air, it falls to the ground and dissipates.
<i>Question 11: Can the storage tanks be seen from Riverside Street?</i>
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> Not easily. Our lot is lower than the lot in front of us by six to eight feet so it is possible that you might be able to see the top of the tanks from Riverside Street if you are stopped and really looking for them.
<i>Question 12: I keep hearing about safety but it only takes one person to make a mistake and destroy an entire area like the railcar explosion in Canada that destroyed an entire town.</i>
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i> That explosion was caused by crude oil not propane and I can't speak to the factors involved there. All I can state is what I know and that is Suburban Propane has higher safety standards than mandated by law. Technicians read every tank personally, we do not rely solely on computerized systems only, a person puts eyes, ears and a nose to every tank daily. They are trained and retrained annually and have monthly safety and management updates they work from. Drivers have over 12 safety steps they implement at every delivery. Suburban Propane compliance leads the industry.

<i>Question 13:</i>	Will the facility be manned 24 hours?
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i>	No, we do not staff 24 hours a day, we have employees on site from 6:00 Am – 5:00 PM daily.
<i>Question 14:</i>	What happen if someone calls 911?
<i>Response by Joe Carey, Area I Safety Manager for Suburban Propane:</i>	Police and fire are dispatched. Fire Department will have all our plans on file. We will be notified immediately and management and a technician will arrive to assist the fire department. We are installing a dedicated water line specifically for the Fire Department's use as an added safety measure.
<i>Question 15:</i>	Why did Suburban Propane choose Thompson's Point as its original location?
<i>Response by Chris Thompson, Developer, Forefront Partners I, LP:</i>	The parent company of Suburban Propane owned the site right after World War II, Thompson's Point was a former rail site and that propane was moved by rail car until about 20 years ago.
<i>Question 16:</i>	Will there be signage on Riverside Street?
<i>Response by Scott Crimmins, Operations Manager at Suburban Propane:</i>	We have talked with the City regarding signage but nothing has been approved at this point.
<i>Question 17:</i>	What is the projected start date?
<i>Response by Chris Thompson, Developer, Forefront Partners I, LP:</i>	Late fall – October or November of 2016.
<i>Question 18:</i>	How long will construction take?
<i>Response by Chris Thompson, Developer, Forefront Partners I, LP:</i>	About 10 months depending on winter with an opening date of late summer 2017.
<i>Question 19:</i>	What will happen at the Planning Board meeting tomorrow?
<i>Response by Chris Thompson, Developer, Forefront Partners I, LP:</i>	It is a workshop with the Planning Board, where we will present the project, and discuss staff comments on the project to date. Community members can weigh in if in attendance. The Final Planning Board meeting will likely occur in June, when we will seek final site plan and subdivision approval.
<i>Question 20:</i>	Can the City of Portland build an apartment/housing complex in the adjacent lot? That was the original plan for those lots.
<i>Response by Bo Kennedy, Civil Engineer, Stantec:</i>	It would need to be rezoned for that to happen. Now the lot is zoned Industrial M.

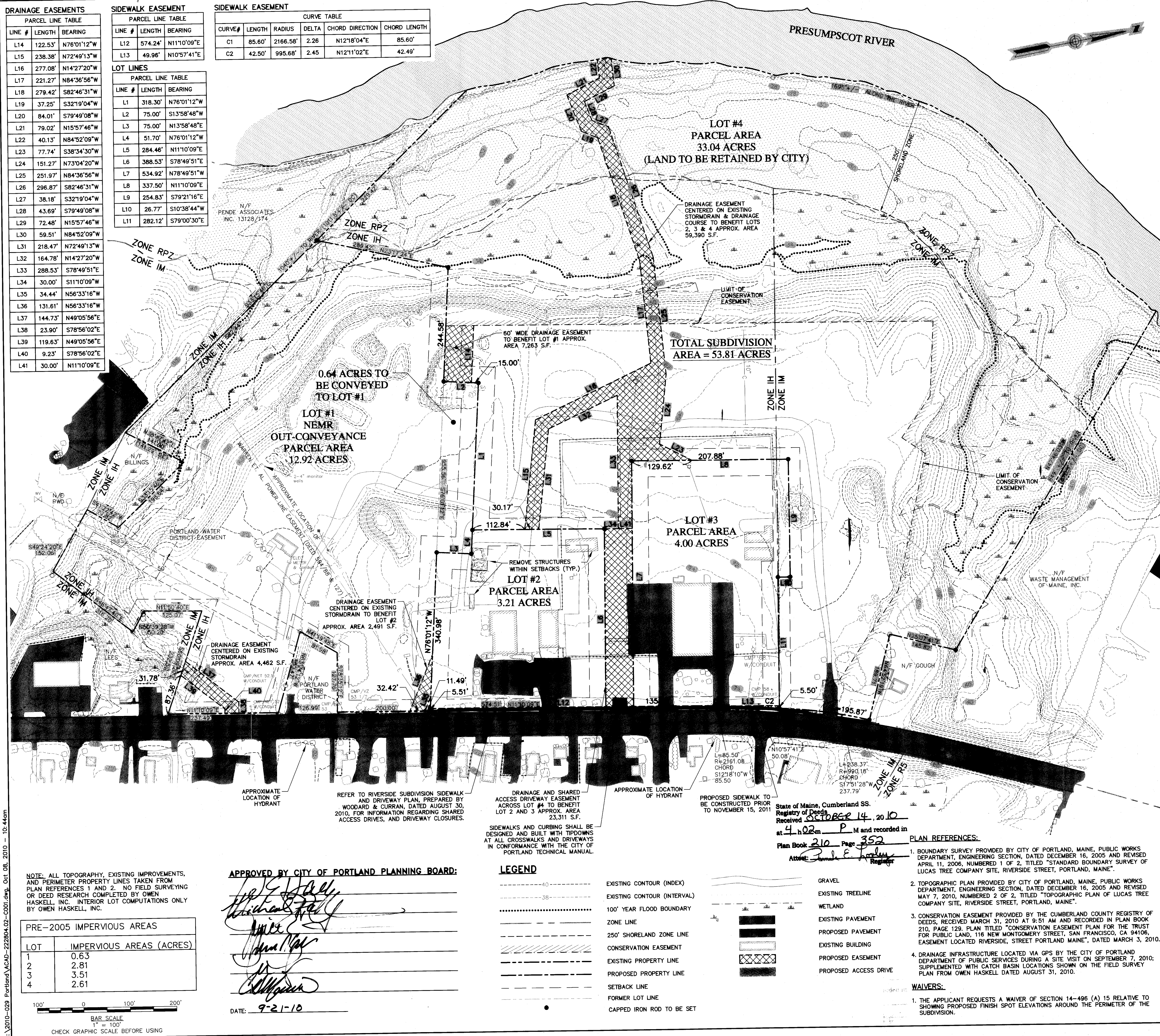
TOPIC	Conclusion
<i>Chris Thompson:</i> Thank you for coming and for your questions.	

DRAINAGE EASEMENTS		
LINE #	LENGTH	BEARING
L14	122.53'	N76°01'12"W
L15	238.38'	N72°49'13"W
L16	277.08'	N14°27'20"W
L17	221.27'	N84°36'56"W
L18	279.42'	S82°46'31"W
L19	37.25'	S32°19'04"W
L20	84.01'	S79°49'08"W
L21	79.02'	N15°57'46"W
L22	40.13'	N84°32'09"W
L23	77.74'	S38°34'30"W
L24	151.27'	N73°04'20"W
L25	251.97'	N84°36'56"W
L26	296.87'	S82°46'31"W
L27	38.18'	S32°19'04"W
L28	43.69'	S79°49'08"W
L29	72.48'	N15°57'46"W
L30	59.51'	N84°32'09"W
L31	218.47'	N72°49'13"W
L32	164.78'	N14°27'20"W
L33	288.53'	S78°49'51"E
L34	30.00'	S11°10'09"W
L35	34.44'	N56°33'16"W
L36	131.61'	N56°33'16"W
L37	144.73'	N49°05'56"E
L38	23.90'	S78°56'02"E
L39	119.63'	N49°05'56"E
L40	9.23'	S78°56'02"E
L41	30.00'	N11°10'09"E

SIDEWALK EASEMENT		
LINE #	LENGTH	BEARING
L12	574.24'	N11°10'09"E
L13	49.96'	N10°57'41"E

LOT LINES		
LINE #	LENGTH	BEARING
L1	318.30'	N76°01'12"W
L2	75.00'	S13°58'48"W
L3	75.00'	N13°58'48"E
L4	51.70'	N76°01'12"W
L5	284.46'	N11°10'09"E
L6	388.53'	S78°49'51"E
L7	534.92'	N78°49'51"W
L8	337.50'	N11°10'09"E
L9	254.83'	S79°21'16"E
L10	26.77'	S10°38'44"W
L11	282.12'	S79°00'30"E

CURVE TABLE					
CURVE#	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	85.60'	2166.58'	2.26	N12°18'04"E	85.60'
C2	42.50'	995.68'	2.45	N12°11'02"E	42.49'



OWNER OF RECORD:
CITY OF PORTLAND
389 CONGRESS STREET,
PORTLAND, MAINE 04101
C.C.R.D. BOOK 27825 PAGE 68

RIVERSIDE SUBDIVISION PLANNING BOARD CONDITIONS OF APPROVAL
DATED SEPTEMBER 21, 2010

1. THE APPLICANT SHALL SUBMIT A LETTER FROM PORTLAND TRAILS CONFIRMING PERMISSION TO ESTABLISH DRAINAGE EASEMENT(S) WITHIN THE CONSERVATION EASEMENT OF LOT 4 FOR CORPORATION COUNSEL REVIEW AND APPROVAL.

2. THE APPLICANT SHALL SUBMIT FINAL AND EXECUTED COPIES OF VARIOUS PROPERTY AGREEMENTS AND EASEMENTS ASSOCIATED WITH THE SUBDIVISION FOR CORPORATION COUNSEL REVIEW AND APPROVAL PRIOR TO THE RELEASE OF THE SUBDIVISION PLAT.

3. THE SUBDIVISION RECORDING PLAT SHALL INCLUDE A NOTATION THAT A TRAFFIC MOVEMENT PERMIT WILL BE NECESSARY IF AND WHEN THE TRIP LEVELS FOR THE SUBDIVISION REACHES PERMIT THRESHOLDS.

4. UNLESS OTHERWISE APPROVED BY THE PLANNING BOARD UNDER SITE PLAN REVIEW, UNDERGROUND UTILITIES SHALL BE REQUIRED.

ZONE IM DIMENSIONAL REQUIREMENTS

- A. MINIMUM LOT SIZE:
1. CORRECTIONAL PRERELEASE FACILITIES: TEN THOUSAND (10,000) SQUARE FEET
2. OTHER USES NONE.
- B. MAXIMUM IMPERVIOUS SURFACE RATIO: I-M ZONE: SEVENTY-FIVE (75) PERCENT.
- C. MAXIMUM BUILDING HEIGHT: I-M ZONE: SEVENTY-FIVE (75) FEET.
- D. MINIMUM SIDE YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM EACH SIDE PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT, UP TO TWENTY-FIVE (25) FEET, EXCEPT THAT THE MINIMUM SIDE YARD SHALL BE THIRTY-FIVE (35) FEET WHEN THE SIDE PROPERTY LINE ABUTS A RESIDENTIAL ZONE.
- E. MINIMUM REAR YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM THE REAR PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT, UP TO TWENTY-FIVE (25) FEET, EXCEPT THAT THE MINIMUM REAR YARD SHALL BE THIRTY-FIVE (35) FEET WHEN THE REAR PROPERTY LINE ABUTS A RESIDENTIAL ZONE.
- F. MINIMUM FRONT YARD: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM THE FRONT PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT.
- G. MINIMUM STREET FRONTAGE: SIXTY (60) FEET.
- H. PAVEMENT SETBACK FROM LOT BOUNDARIES: TEN (10) FEET.

ZONE IH DIMENSIONAL REQUIREMENTS

- A. MINIMUM LOT SIZE:
1. CORRECTIONAL PRERELEASE FACILITIES: TEN THOUSAND (10,000) SQUARE FEET
2. OTHER USES NONE.
- B. MAXIMUM IMPERVIOUS SURFACE RATIO: I-H ZONE: EIGHTY-FIVE (85) PERCENT.
- C. MAXIMUM BUILDING HEIGHT: SEVENTY-FIVE (75) FEET.
- D. MINIMUM SIDE YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: THIRTY-FIVE (35) FEET.
- E. MINIMUM REAR YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: THIRTY-FIVE (35) FEET.
- F. MINIMUM FRONT YARD: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: TWENTY-FIVE (25) FEET.
- G. MINIMUM STREET FRONTAGE: SIXTY (60) FEET.
- H. PAVEMENT SETBACK FROM LOT BOUNDARIES: TEN (10) FEET.

ZONE RPZ DIMENSIONAL REQUIREMENTS

- NO BUILDING OR STRUCTURE SHALL BE ERECTED, ALTERED, ENLARGED, REBUILT, OR USED IN R-P Z RESOURCES PROTECTION ZONE WHICH DOES NOT COMPLY WITH THE FOLLOWING REQUIREMENTS:
- A. MINIMUM REAR YARDS: PRINCIPAL BUILDING OR STRUCTURE, OTHER THAN A BOATHOUSE OR STOREHOUSE FOR FISHERMAN'S GEAR: SEVENTY-FIVE (75) FEET.
- B. MINIMUM SIDE YARDS:
1. PRINCIPAL BUILDING OR STRUCTURE: FIFTEEN (15) FEET.
2. ACCESSORY BUILDING OR STRUCTURE: FIVE (5) FEET.
- C. MINIMUM SIDE YARD ON SIDE STREETS:
1. PRINCIPAL BUILDING OR STRUCTURE: TWENTY (20) FEET.
2. ACCESSORY BUILDING OR STRUCTURE: TWENTY (20) FEET.
- D. MINIMUM FRONT YARDS:
1. PRINCIPAL BUILDING OR STRUCTURE: TWENTY-FIVE (25) FEET.
2. ACCESSORY BUILDING OR STRUCTURE: TWENTY-FIVE (25) FEET.
- E. MAXIMUM HEIGHT:
1. PRINCIPAL BUILDING OR STRUCTURE: TWO (2) STORIES OR TWENTY-FIVE (25) FEET.
2. ACCESSORY BUILDING OR STRUCTURE: ONE (1) STORY OR FIFTEEN (15) FEET.
- F. MAXIMUM BUILDING AREA: PRINCIPAL BUILDING OR GROUP OF BUILDINGS: TEN (10) PERCENT OF LOT AREA.
- G. MINIMUM LOT AREA: TWENTY THOUSAND (20,000) SQUARE FEET.
- H. MINIMUM WIDTH OF LOT: ONE HUNDRED (100) FEET.
- I. MINIMUM LOT FRONTAGE ON STREET OR SHORELINE: ONE HUNDRED (100) FEET.
- J. MINIMUM SHORELINE SETBACK: ALL PRINCIPAL STRUCTURES OTHER THAN PERMITTED PIERS, DOCKS, WHARVES, BREAKWATERS, CAUSEWAYS, BRIDGES, BOATHOUSES AND STOREHOUSES FOR FISHERMAN'S GEAR: SEVENTY-FIVE (75) FEET.

CONFORMANCE OF LOTS:

- UPON APPROVAL OF THE PROPOSED SUBDIVISION, THE FOLLOWING SITE MODIFICATIONS SHALL BE PERFORMED TO BRING THE PROPOSED SUBDIVISION LOTS INTO CONFORMANCE WITH ZONING REGULATIONS. ITEMS OF WORK SHALL BE PERFORMED AS SOON AS POSSIBLE, BUT NO LATER THAN JUNE 2011.
- a) ALL PAVEMENT WITHIN 10 FEET OF THE LOT BOUNDARIES WILL BE REMOVED.
- b) ALL BUILDING OR STORAGE STRUCTURES WITHIN THE SETBACKS WILL BE REMOVED.
- c) REMOVAL OF IMPERVIOUS SURFACES AS NECESSARY TO MEET THE MAXIMUM IMPERVIOUS SURFACE RATIO.
- d) LANDSCAPING SHALL BE CONSERVED OR PLANTED TO ADDRESS SEC. 14-267(g) "REQUIRED LANDSCAPING FOR PARKING AREAS" FOR DEVELOPED LOTS.

STREET TREES:

1. A MINIMUM OF TWO TREES PER LOT SHALL BE CONSERVED OR PLANTED MEETING THE CITY OF PORTLAND LANDSCAPING AND LANDSCAPE PRESERVATION STANDARDS OF THE CITY OF PORTLAND TECHNICAL MANUAL.

41 HUTCHINS DRIVE
PORTLAND, MAINE 04102
800-426-4262
www.woodardcurran.com



LDD PROJECT NAME:

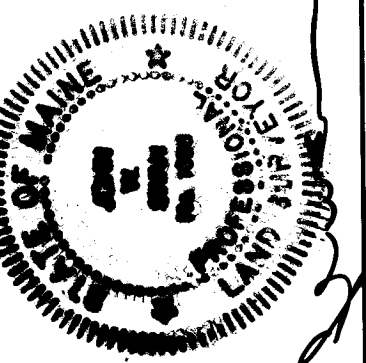
DRAWING NAME:

ACAD-222804.02-C001.DWG

FIELD BOOK USED:

REFERENCES:

DESIGNED BY:	DLC
DRAWN BY:	JBC
CHECKED BY:	DLC
SCALE:	1"=100'
DATE:	10/07/2010



RIVERSIDE SUBDIVISION

OWNER OF RECORD:
CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT



SHEET #

1

PLAN NUMBER

SUBDIVISION
RECORDING PLAT

ENGINEERING SECTION
389 CONGRESS STREET
PORTLAND, MAINE 04101

ABUTTERS

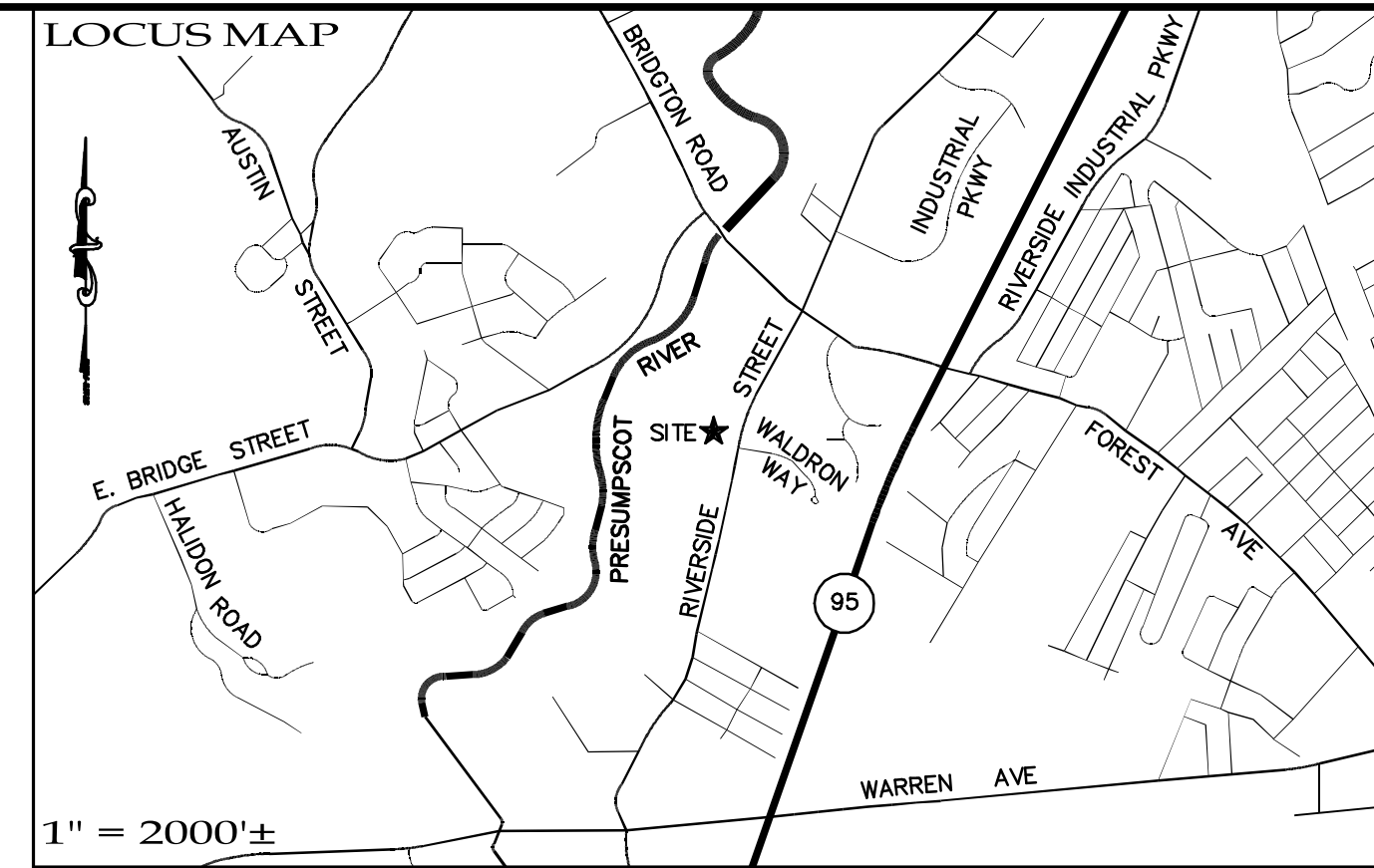
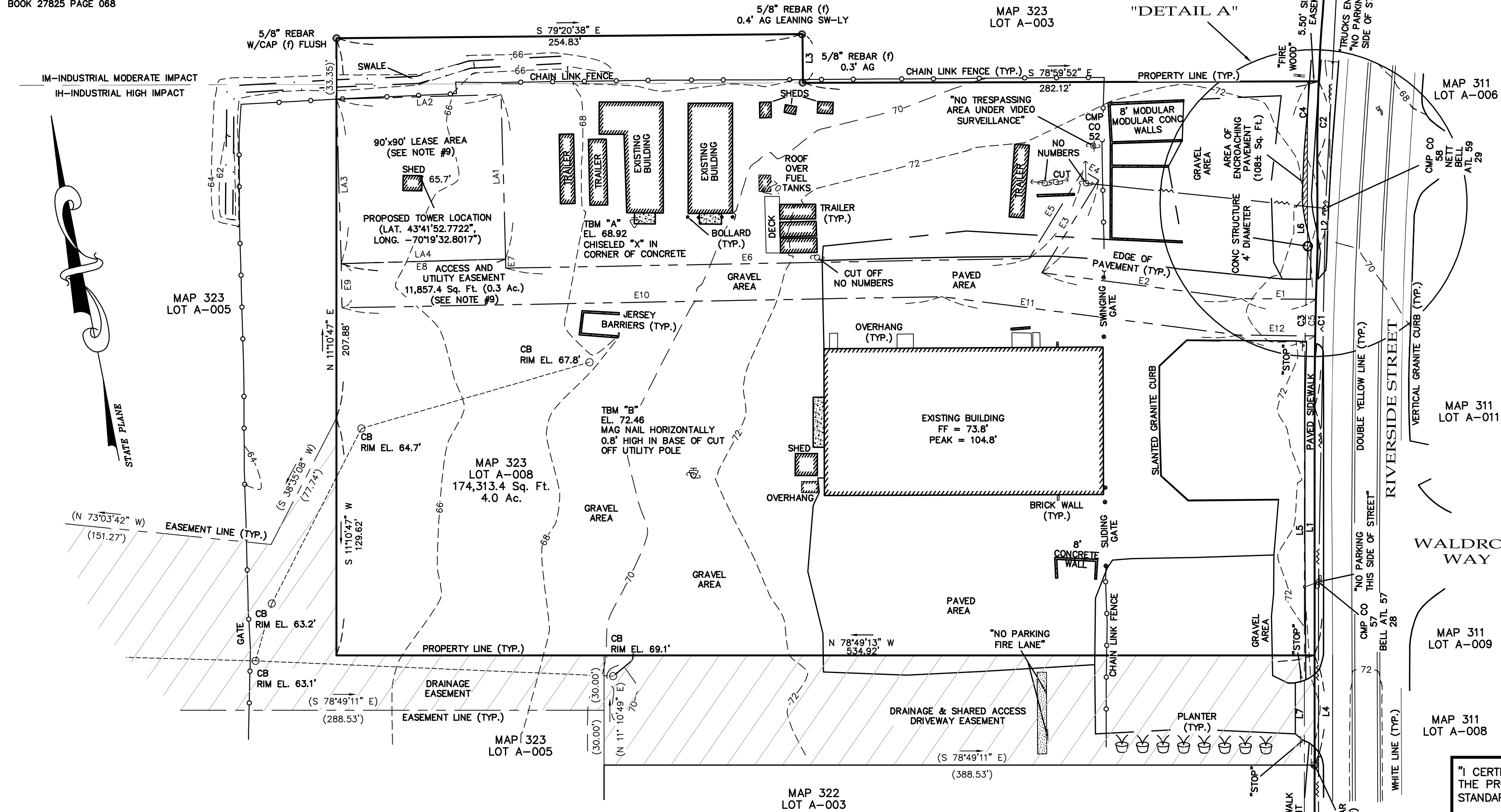
MAP 323 LOT A-008/
MAP 322 LOT A-008 (SUBJ.)
N/F ADDISON CAPITAL, LLC
2 SHADY LANE
FALMOUTH, ME 04105
BOOK 28176 PAGE 018

MAP 323 LOT A-005
N/F CITY OF PORTLAND
389 CONGRESS ST
PORTLAND, ME 04101
B 27825 PAGE 068

MAP 311 LOT A-008
SKINNER, DANIEL H. (K W VET)
& YVONNE I. JTS
619 RIVERSIDE ST
PORTLAND, ME 04103
BOOK 8603 PAGE 10

MAP 311 LOT A-011
LIBBY MARK S
639 RIVERSIDE ST
PORTLAND, ME 04102
BOOK 10863 PAGE 135

MAP 311 LOT A-006
PORTER DRYWALL INC
289 PRESUMPSHOT ST
PORTLAND, ME 04103



PLAN OF REFERENCE

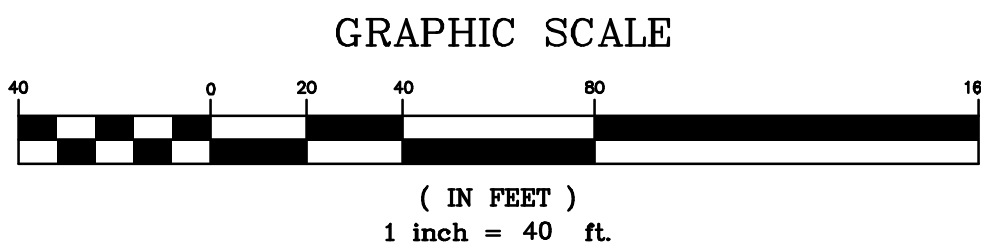
1) "RIVERSIDE SUBDIVISION, SUBDIVISION RECORDING PLAT", PREPARED FOR: CITY OF PORTLAND, MAINE; PREPARED BY WOODARD AND CURRAN, DATED: OCTOBER 07, 2012; SCALE: 1" = 100'; RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS (CCRD) BEING BOOK 210 PAGE 352.

NOTES

- 1) THE PURPOSE OF THIS PLAN IS TO DEPICT EXISTING CONDITIONS ON MAP 323 LOT A-008.
- 2) THIS PLAN IS BASED ON FIELD EVIDENCE LAST OBSERVED ON DECEMBER 11, 2013.
- 3) THIS PARCEL OF LAND DOES NOT LIE IN A 100-YEAR FLOOD PLAIN AS INTERPOLATED FROM THE FLOOD INSURANCE RATE MAP (FIRM) 2300510006C PORTLAND, CT/CUMBERLAND CO. DATED: 12/08/1998.
- 4) THE HORIZONTAL DATUM FOR THIS SITE IS REFERENCED TO MAINE NAD83 (FPSZONE 1802) PER LEICA GPS.
- 5) THE ELEVATION FOR THIS SITE IS REFERENCED TO NAVD88 PER LEICA GPS.
- 6) THE TOPOGRAPHY SHOWN ON THIS PLAN IS A DEPICTION OF ACTUAL FIELD WORK.
- 7) THIS PARCEL, ALONG WITH MAP 323 LOT A-003, IS BENEFITTED BY A DRAINAGE AND SHARED ACCESS EASEMENT BURDENING MAP 323 LOT A-005.
- 8) THIS PARCEL IS BURDENED BY A 5.50' WIDE SIDEWALK EASEMENT ALONG THE ENTIRE FRONTAGE.
- 9) THIS PARCEL HAS A NEW ACCESS AND UTILITY EASEMENT BENEFITTING AT&T FOR THE PURPOSE OF ACCESSING AND MAINTAINING THE STRUCTURES AND EQUIPMENT IN THE LEASE AREA. NEW EASEMENT AND LEASE AREA DESCRIBED IN BEARING TABLE.
- 10) PORTIONS OF THIS PARCEL, AS SHOWN, FALL WITHIN BOTH THE INDUSTRIAL-HIGH IMPACT AND THE INDUSTRIAL-MODERATE IMPACT ZONES.
- 11) UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED ON FIELD EVIDENCE. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST. CONTACT DIG SAFE AT 811 PRIOR TO CONSTRUCTION.
- 12) IN THE EVENT THAT THE ACCESS ROAD IS REMOVED AS A PART OF A FUTURE SUBDIVISION AMENDMENT, AT&T WILL BE ABLE TO USE THE NEW ACCESS ROAD PROVIDED THAT THE NEW ACCESS ROAD DIRECTLY CONNECTS THE TELECOMMUNICATIONS COMPOUND TO THE PUBLIC RIGHT OF WAY AND AFFORDS 24/7 ACCESS.

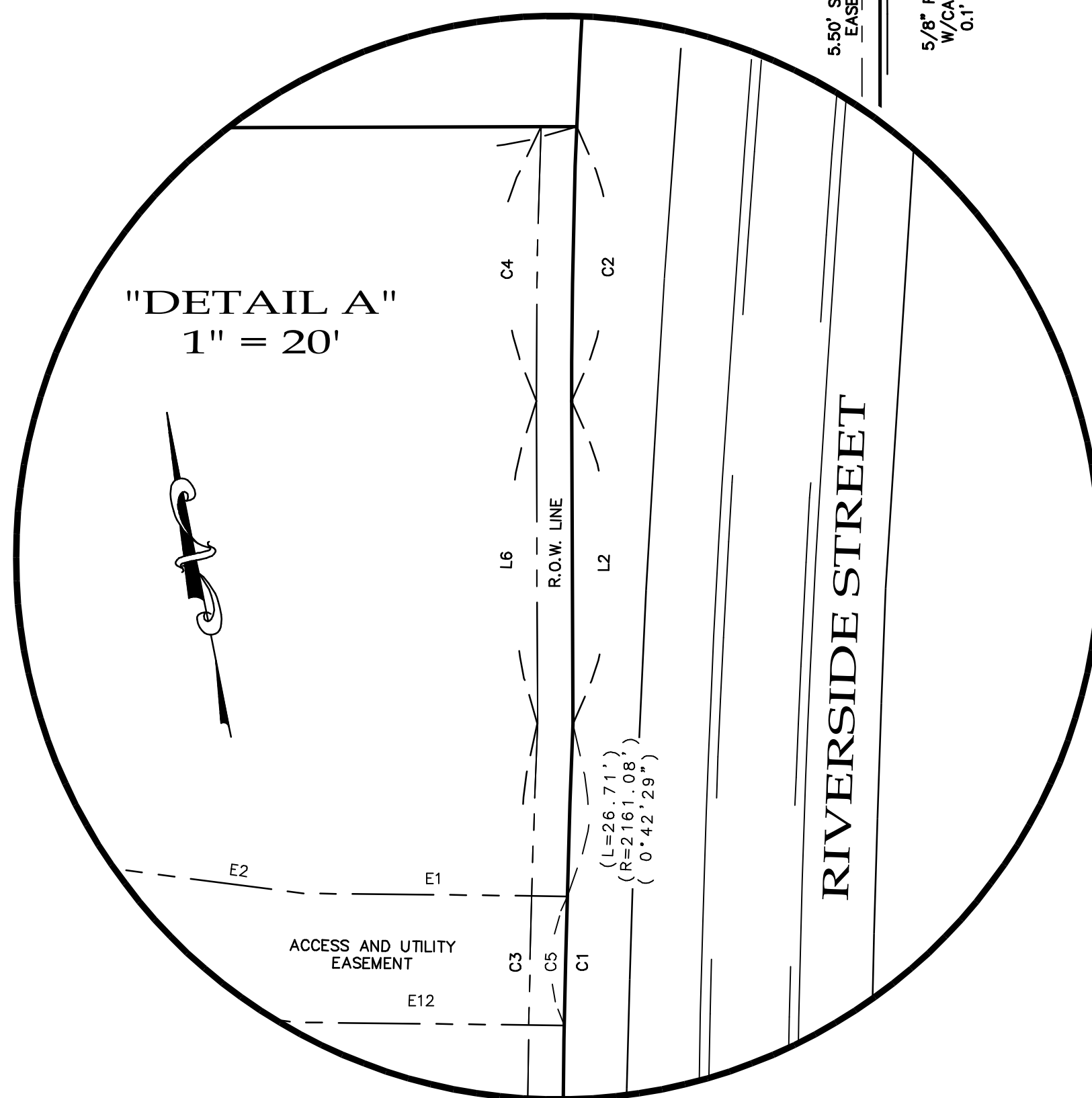
LEGEND

BOUND	☆ LIGHT POST
BOLLARD	○ MAILBOX
CATCH BASIN	⊗ MANHOLE
CONDUIT	⊙ POST
DELINEATOR	⊙ ROCK
DRAIN MANHOLE	⊙ SEWER MANHOLE
ELECTRIC BOX	⊙ SHRUB
ELECTRIC HAND HOLE	⊙ SIGN
ELECTRIC METER	⊙ STUMP
FLAG	⊙ SUPPORT PILLAR
FIRE HYDRANT	⊙ TELEPHONE BOX
FIRE UTILITY	⊙ TREE - CONIFEROUS
GAS GATE	⊙ TREE - DECIDUOUS
GAS METER	⊙ UTILITY POLE
GUYWIRE	⊙ VENT
HVAC UNIT	⊙ WATER GATE
IRON PIPE/REBAR	⊙ WATER SHUTOFF
IRRIGATION	⊙ WETLAND
LIGHT	
CONTOUR MAJOR	
CONTOUR MINOR	
CURBING	
DRAINAGE LINE	
EASEMENTS	
EDGE OF PAVEMENT	
RETAINING WALL	
SEWER LINE	
SHRUB LINE	
TREE LINE	
BUILDING	
CONCRETE	
CRUSHED STONE	



APPROVED BY CITY OF PORTLAND
PLANNING BOARD

"DETAIL A"
1" = 20'



"I CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR THE PROFESSIONAL LAND SURVEYORS STANDARDS FOR A CATEGORY I, CONDITION 1 - STANDARD BOUNDARY SURVEY."

PETER D. LANDRY PLS #2180

DATE

LINE AND CURVE TABLES

LINE	BEARING	DISTANCE
L1	N 11°10'47" E	135.88'
L2	N 10°58'19" E	50.08'
L3	S 10°39'22" W	26.77'
L4	N 11°10'47" E	60.00'

CURVE	ARC LENGTH	RADIUS	CHORD LENGTH
C1	85.50'	2161.08'	85.49'
C2	42.50'	990.18'	42.50'

LINE	BEARING	DISTANCE
L5	N 11°10'47" E	135.88'
L6	N 10°58'19" E	50.08'
L7	N 11°10'47" E	60.00'

CURVE	ARC LENGTH	RADIUS	CHORD LENGTH
C3	85.60'	2166.58'	85.60'
C4	42.50'	995.68'	42.49'

LINE	BEARING	DISTANCE
LA1	N 09°32'38" E	90.00'
LA2	N 80°27'22" W	90.00'
LA3	S 09°32'38" W	90.00'
LA4	S 80°27'22" E	90.00'

LINE	BEARING	DISTANCE	
E1	S 78°10'49" E	40.81'	
E2	S 71°26'44" E	110.05'	
E3	S 42°41'17" W	59.39'	
E4	S 47°18'43" E	10.00'	
E5	N 42°41'17" E	56.37'	
E6	S 79°53'07" E	286.25'	
E7	S 10°58'53" W	5.03'	
E8	S 80°27'22" E	90.00'	
E9	N 10°58'53" E	24.14'	
E10	N 79°53'07" W	328.15'	
E11	N 71°26'44" W	163.75'	
E12	N 78°10'49" W	41.76'	
CURVE	ARC LENGTH	RADIUS	CHORD LENGTH
C5	20.00'	2161.08'	20.00'

NB+C
TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.

1777 SENTRY PARKWAY WEST
DUBLIN HALL, SUITE 210
BLUE BELL, PA 19422
(215) 465-0122



SR# ME5372S

LUCAS TREE

636 RIVERSIDE STREET
PORTLAND, ME, 04103
CITY OF PORTLAND
CUMBERLAND COUNTY

REVISIONS

REV	DATE	DESCRIPTION	BY
1	03/20/14	TITLE/APPR'L BLOCK, NOTE	TAP
		12, EASEMENT DETAIL	TAP

PROFESSIONAL STAMP

LAND OWNER OF RECORD

ADDISON CAPITAL, LLC
2 SHADY LANE
FALMOUTH, ME 04105
CUMBERLAND COUNTY REGISTRY OF DEEDS BOOK 28176 / PAGE 18

ADDISON CAPITAL, LLC

DATE

AMENDMENT TO RIVERSIDE SUBDIVISION LOT #3
(EXISTING CONDITIONS/PROPOSED LEASE AREA
& ACCESS/UTILITY EASEMENT PLAN)
MAP 323 LOT A008

LUCAS TREE

636 RIVERSIDE STREET, PORTLAND, MAINE
JANUARY 03, 2014

PREPARED FOR: NETWORK BUILDING & CONSULTING
1777 SENTRY PKWY WEST-DUBLIN HALL #210
BLUE BELL, PA 19422

SCALE: 1"=40'

SHEET 1 OF 1

PREPARED BY:



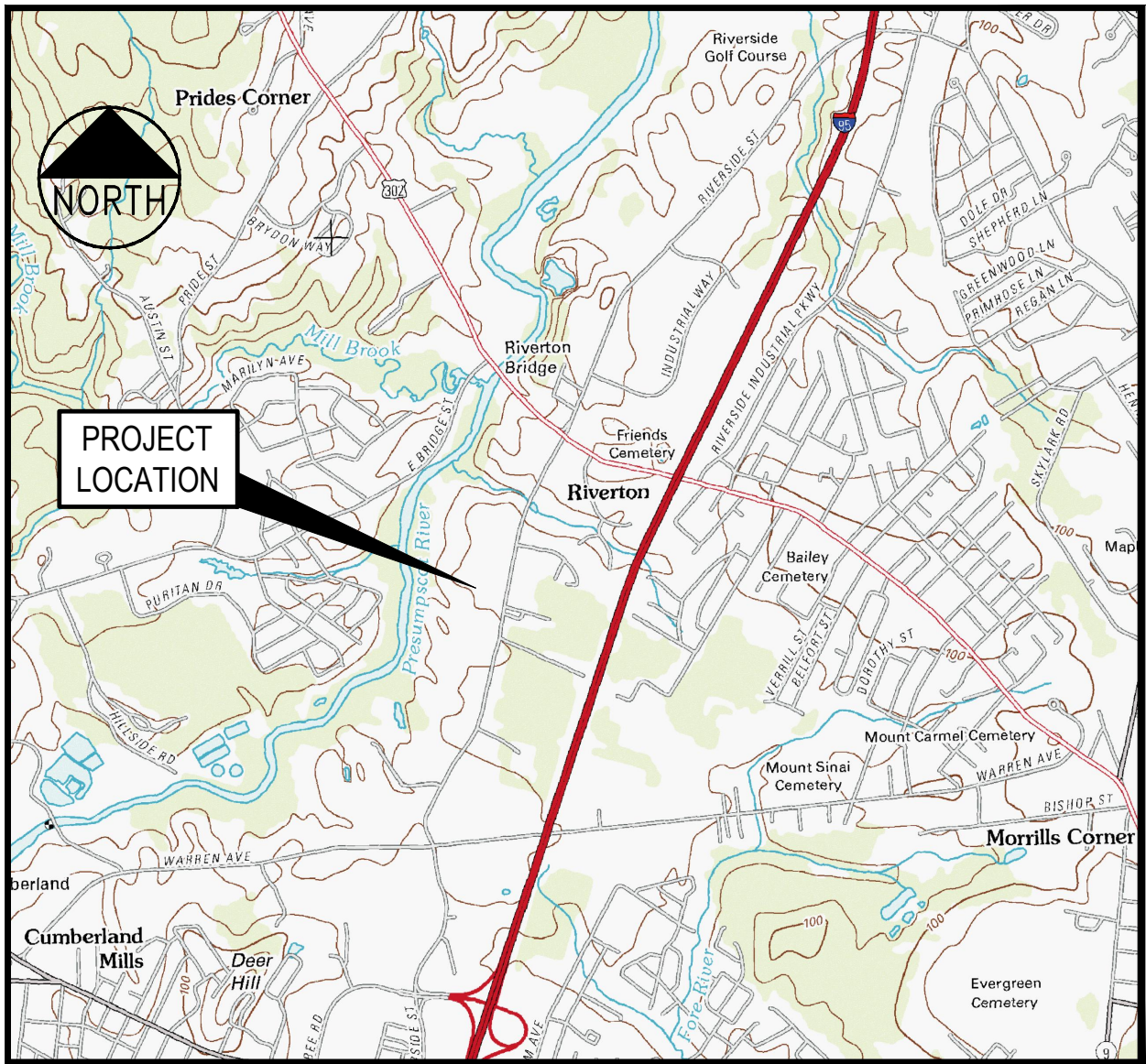
Promised Land Survey, LLC

230 Rockingham Road
Derry, New Hampshire 03038
Tel: (603) 432-2112 • Fax: (603) 432-8800

www.PromisedLandSurvey.com

Land Surveying • Mapping • Planning • Permitting • Layout

SITE DEVELOPMENT PLANS
FOR
SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE
FINAL LEVEL III SITE PLAN SUBMISSION
AND AMENDED SUBDIVISION PLAN
FEBRUARY 2016



PROJECT PARCEL SITE CITY OF PORTLAND TAX ASSESSOR'S MAP & LOT NUMBERS		
MAP	LOT	
322	A-1	
323	A-3 & A-5	

OWNER	
CITY OF PORTLAND, MAINE	
c/o PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION	
389 CONGRESS STREET	
PORTLAND, MAINE 04101	
APPLICANT (ON BEHALF OF SUBURBAN PROPANE)	
THOMPSON'S POINT DEVELOPMENT CO. INC.	
501 DANFORTH STREET	
PORTLAND, MAINE 04102	
207.3471647	
ATTN: CHRIS THOMPSON	
FUTURE OWNER	
SUBURBAN PROPANE	
3 THOMPSON POINT	
PORTLAND, MAINE 04102	
518.459.3727	
ATTN: JOSEPH CAREY	

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* NOT INCLUDED WITH THIS SUBMISSION

UTILITIES

SEWER
CITY OF PORTLAND
PUBLIC SERVICES ENGINEERING DEPARTMENT
55 PORTLAND STREET
PORTLAND, MAINE 04102
207.874.8840
ATTN: DAVID MARGOLIS-PINEO. P.E.

WATER
PORTLAND WATER DISTRICT
225 DOUGLAS STREET
P.O. BOX 3533
PORTLAND, MAINE 04104
207.761.8310
ATTN: JAY ARNOLD

POWER
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.791.1023
ATTN: JAMIE COUGH

TELEPHONE
FAIRPOINT COMMUNICATIONS
FIVE DAVIS FARM ROAD
PORTLAND, MAINE 04103
207.797.1842
ATTN: JOHN CAPRIO

CABLE
TIME WARNER CABLE
118 JOHNSON ROAD
PORTLAND, MAINE 04102
877.546.0962
ATTN: MARK PELLETIER

NATURAL GAS
UNITIL
1075 FOREST AVENUE
PORTLAND, MAINE 04103
207.797.8002 EXT 6620
ATTN: JOE RENDA

CALL BEFORE YOU DIG
1.888.DIGSAFE
1.888.344.7233
DIG SAFE MAINE

PERMITS / APPROVALS

LOCAL	GOVERNING BODY	STATUS
LEVEL III SITE PLAN APPROVAL	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8722	FINAL SUBMISSION
AMENDED SUBDIVISION PLAN	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8722	
BUILDING PERMIT	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	
STREET OPENING PERMIT	CITY OF PORTLAND PUBLIC SERVICES DIVISION CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	
WASTEWATER DISCHARGE	CITY OF PORTLAND PUBLIC SERVICES DIVISION CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	

PREPARED BY

CIVIL ENGINEER
STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
207.775.1121
ATTN: BO KENNEDY, P.E.

DESIGN / BUILD CONTRACTOR
SHERIDAN CORPORATION
739 WARREN AVE
PORTLAND, MAINE 04103
207.774.6138
ATTN: TOM ANUSZEWSKI

SURVEYOR
SEBAGO TECHNICS INC.
75 JOHN ROBERTS RD #1A
SOUTH PORTLAND, MAINE 04106
207.200.2100
ATTN: CHARLIE MARCHESE

GEOTECHNICAL ENGINEER
SUMMIT GEOTECHNICAL ENGINEERING SERVICES
145 LISBON STREET
LEWISTON, MAINE
207.576.3313
ATTN: BILL PETERLEIN, P.E.

PRELIMINARY NOT FOR CONSTRUCTION

2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW	SHEET TITLE COVER SHEET	DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 COVER SHEET
REV	DATE	DESCRIPTION	CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DATE: JAN 2016 SCALE: AS NOTED JOB NO. 195350142
REVISIONS			LIC. # 11994	C-1.0

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

GENERAL NOTES

1. TOPOGRAPHIC AND BOUNDARY DATA AND EXISTING CONDITIONS ARE BASED ON A GROUND SURVEY CONDUCTED BY SEBAGO TECHNICS.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
4. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND/OR CITY OF PORTLAND TECHNICAL STANDARDS, WHICH EVER IS MORE STRINGENT.
5. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, PAVING, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS
6. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
7. PROJECT IS LOCATED IN ZONE "X" FLOOD ZONE, PER FEMA FLOOD INSURANCE RATE MAP, COMMUNITY #230051, PANEL #0006C DATED DEC. 8, 1998.
8. THE CONTRACTOR SHALL READ AND FOLLOW ALL RECOMMENDATIONS MADE IN THE SITE GEOTECHNICAL REPORT PREPARED BY SUMMIT ENGINEERING SERVICES, INC.
9. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
10. ALL PROPOSED SIGNS WILL CONFORM TO THE CITY OF PORTLAND ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
12. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MAINE EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND MDOT SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED).
12. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL HAVE 2 COATS OF PAINT, ALKYD BASIN SYNTHETIC RESIN, FEDERAL SPECIFICATION TTP-115 TYPE 1, IN A COLOR OF WHITE. ALL STRIPING ON CONCRETE IS TO BE YELLOW.
13. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS TO BE A COLOR OF WHITE. ALL PAVEMENT MARKINGS TO BE PLASTIC INLAY MATERIAL OR EQUIVALENT.
14. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
15. THE ENTIRE SITE AND PLAN SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE AND PLAN AND IN ACCORDANCE WITH ALL ACCOMPANYING WRITTEN SUBMITTALS AND IN ACCORDANCE WITH ANY CONDITIONS ATTACHED BY THE PLANNING BOARD. APPROVAL BY THE PLANNING AUTHORITY SHALL BE REQUIRED FOR ANY MINOR ALTERATIONS TO OR DEVIATIONS FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY; DRAINAGE; LANDSCAPING; RETENTION OF WOODED OR LAWN AREAS; ACCESS; UTILITIES; SIZE, LOCATION AND SURFACING OF PARKING AREAS; AND LOCATION AND SIZE OF BUILDINGS. MAJOR ALTERATIONS OR DEVIATIONS MUST BE APPROVED BY THE PLANNING BOARD AS REVISIONS OR AMENDMENTS. THE INITIAL DETERMINATION OF WHETHER A CHANGE IS MINOR OR MAJOR WILL BE MADE BY THE PORTLAND PLANNING AUTHORITY..
16. ALL BUILDINGS AND SITE CONSTRUCTION SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AS PUBLISHED IN THE FEDERAL REGISTER, VOL. 56, NO. 144, DATED JULY 26, 1991, REVISED JULY 23, 2004.
17. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THE PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
18. A SIGN PERMIT SHALL BE OBTAINED PRIOR TO INSTALLATION.
19. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY FST, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THIS PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

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.

LAYOUT NOTES

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR BUILDING.
2. ALL SIGNS INDICATED ON THE LAYOUT PLANS ARE TO MEET ALL REQUIREMENTS AND STANDARDS OF THE MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. COORDINATES FOR CATCH BASIN AND MANHOLES ARE TO THE CENTER OF THE FRAME.
4. PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE-HALF OF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.
5. PROPERTY LINE AND R.O.W. MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS, AT THE CONTRACTOR'S EXPENSE, BY A MAINE PROFESSIONAL LAND SURVEYOR, AT NO EXTRA EXPENSE TO THE OWNER.
6. ALL ADA ACCESSIBLE PARKING SPACES ARE TO RECEIVE SIGNS AND PAVEMENT MARKINGS AS REQUIRED BY THE CURRENT ADA REGULATIONS AND ILLUSTRATED ON THE DETAIL SHEETS. UNLESS OTHERWISE NOTED, ALL ON-SITE CURB SHALL BE SLIP FORM CONCRETE CURB, AND CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. ALL OFF SITE CURBING WITHIN THE RIVERSIDE STREET RIGHT OF WAY SHALL BE GRANITE AND CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

GRADING AND DRAINAGE NOTES

1. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603 - PIPE CULVERTS AND STORM DRAINS, LATEST REVISION, WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:

REINFORCED CONCRETE PIPE

POLYVINYL CHLORIDE (PVC) PIPE

SMOOTH BORE POLYETHYLENE PIPE- ADS OR HANCOR
2. TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCK PILED AND SCREENED. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION.
3. 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. ALL DEWATERING SHALL BE CONDUCTED IN A MANNER THAT PREVENTS THE RELEASE OR TRANSPORT OF SEDIMENTS FROM THE SITE.
4. PAVING WITHIN ALL ADA COMPLIANT PARKING SPACES SHALL COMPLY WITH ADA/ANSI REQUIREMENTS INCLUDING PROVISIONS THAT LIMIT PAVEMENT GRADES TO A MAXIMUM OF 2% IN ANY DIRECTION WITHIN ALL SPACES. A MAXIMUM GRADE OF 5% ALONG THE ADA ROUTE MUST ALSO BE PROVIDED. THE CONTRACTOR SHALL PROVIDE EVIDENCE THAT THESE CONDITIONS HAVE BEEN SATISFIED PRIOR TO PROJECT ACCEPTANCE.
5. THE CONTRACTOR SHALL PROVIDE A WORK SHEET CONTAINING BINDER COURSE ASPHALT SPOT GRADES AT ALL FOUR CORNERS OR EACH ADA SPACE TO THE ENGINEER PRIOR TO PLACEMENT OF SURFACE PAVEMENT.

UTILITY NOTES

1. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND THEY SHALL REPORT THEIR FINDINGS TO THE OWNER AND DESIGN ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DROP AND TIE-IN FEES REQUIRED AS WELL AS THE COSTS OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
3. ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO THE PORTLAND WATER DISTRICT STANDARDS. ALL WATER FIRE LINE AND DOMESTIC PIPING 4" OR GREATER DIAMETER DISTRIBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE, DOUBLE CEMENT LINED AND BITUMINOUS COATED CONFORMING TO AWWA/ANSI C104/A21.4. DISINFECTION OF WATER LINES SHALL CONFORM TO AWWA STANDARD C651, LATEST REVISION.
4. THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL BE PLACED ON THE WATER DISTRIBUTION LINES AT ALL BENDS, TEES, FIRE HYDRANTS, VALVES, CHANGES IN DIRECTION, ETC.. THE THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL MEET THE REQUIREMENTS OF THE PORTLAND WATER DISTRICT STANDARDS.
5. THE LOCATION OF THE PROPOSED OVERHEAD AND UNDERGROUND ELECTRICAL SERVICE IS APPROXIMATE AND THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION WITH THE ELECTRICAL PLANS, CENTRAL MAINE POWER AND OTHER SERVICING UTILITY COMPANIES.
6. THE PORTLAND PUBLIC WORKS SANITARY DIVISION AND PORTLAND WATER DISTRICT SHALL BE NOTIFIED FOR SEWER INSPECTIONS. ALL SEWER UTILITY MATERIALS AND INSTALLATION METHODS SHALL BE ACCEPTABLE TO THE DISTRICT.
7. THE DOMESTIC WATER METER(S) SHALL BE INSTALLED WITHIN THE BUILDING WITH A REMOTE READER INSTALLED ON THE BUILDING AT THE ENTRANCE POINTS. THE DOMESTIC WATER SERVICE LINES SHALL HAVE GATE VALVES INSTALLED OUTSIDE THE BUILDINGS.
8. LIGHT POLES AND FIXTURES SHALL BE REVIEWED WITH THE OWNER FOR COLOR AND PHOTOMETRICS.
9. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS FOR SDR-35 FOR GRAVITY PIPE AND SDR-18 FOR PRESSURE PIPE.
10. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
11. SEWER AND WATER LINES AND ALL APPURTENANCES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY STANDARDS AND SPECIFICATIONS.
12. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4" MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
13. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES A WATER MAIN, THE WATER LINE SHALL BE CLASS 52 DUCTILE IRON, EXTENDED A MINIMUM OF 10 FEET TO EACH SIDE OF THE WATER LINE. THE

SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES FROM A WATER LINE.

14. ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
15. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
16. ELECTRICAL SERVICE TO PAD MOUNTED TRANSFORMER(S) SHALL BE RUN UNDERGROUND FROM ROAD RIGHT-OF-WAY TO TRANSFORMER LOCATION. ALL ASSOCIATED COST SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
17. THE CONTRACTOR SHALL FURNISH TWO (2) 4" TELEPHONE CONDUITS PER BUILDING AS SHOWN ON PLAN. VERIFY THE LOCATION OF TIE-IN AT TELEPHONE COMPANY'S SERVICE LINE AND PROVIDE NYLON PULL CORDS INSIDE CONDUIT.
18. THE CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF ALL UTILITY CONNECTION FEES.
19. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS, INSTALLATION AND MEASURES NECESSARY FOR THE INSTALLATION OF ALL UNDERGROUND STORAGE TANKS INCLUDING BUT NOT LIMITED TO ANTI-FLOTATION MEASURES, BACK FILL MATERIAL AND SURFACE RESTORATION.
20. ALL UNDERGROUND STORAGE TANKS, PRODUCT PIPING AND VENT LINES SHALL COMPLY WITH CURRENT NFPA, STATE, AND E.P.A REGULATIONS.
21. THE PROPOSED FUEL STORAGE BUILDING WILL REQUIRE A FIRE SUPPRESSION SYSTEM IN ACCORDANCE WITH MAINE FIRE MARSHALL REQUIREMENTS AND NFPA CODE.

EROSION CONTROL NOTES

1. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE MOST PRACTICAL LEAST DISTURBANCE OF THE SITE.
2. PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE(S) OR EROSION CONTROL MIX BERM(S) AND THE CONSTRUCTION ENTRANCE(S).
3. ALL GROUND AREAS GRADED FOR CONSTRUCTION BUT NOT WITHIN PAVEMENT OR BUILDING AREA WILL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL REPORT PREPARED FOR THIS PROJECT.
4. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES AND REMOVE ACCUMULATED SEDIMENT FROM ALL SUMPS AND MANHOLE INVERTS. SILT SHALL NOT BE FLUSHED OR DISPOSED INTO THE NEARBY STORMWATER MANAGEMENT BASIN OR WATER COURSES.
5. SILT FENCES AND/OR SEDIMENT BARRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL REPORT.
6. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCE AS IT BECOMES SATURATED WITH SEDIMENT TO ENSURE THAT IT WORKS AS PLANNED DURING CONSTRUCTION.
7. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS AFTER THE COMPLETION OF CONSTRUCTION IS AS FOLLOWS:

THESE DEVICES SHALL BE INSPECTED IN APRIL AND OCTOBER OF EACH YEAR. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASIN WHEN THE DEPTH OF THE SEDIMENT IS GREATER THAN ONE FOOT. THE SEDIMENT WILL BE REMOVED FROM THE SITE BY THE OWNER OR THE CATCH BASIN CLEANING CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.
9. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED WITH AT LEAST 6" SCREENED TOPSOIL AND SEEDED, UNLESS OTHERWISE DIRECTED BY THE OWNER.
10. ALL CATCH BASINS WITH AN 18" OUTLET PIPE OR LESS SHALL BE FITTED WITH A CASCO TRAP OR "SNOUT" SEDIMENTATION HOOD PER THE DETAILS.
11. WINTER CONSTRUCTION REQUIRES ADDITIONAL INTERIM STABILIZATION AND PREPARATIONS. REFER TO SHEET C-8.7 FOR A LIST OF WINTER CONSTRUCTION PROCEDURES.

GEOTECHNICAL NOTES:

SUMMIT GEOTECHNICAL ENGINEERING SERVICES INC. HAS COMPLETED A SUBSURFACE GEOTECHNICAL CONDITIONS INVESTIGATION AND REPORT. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THIS REPORT AND PER ANY OTHER CONTRACT REQUIREMENTS SET FORTH BY THE OWNER / DEVELOPER. THE OWNER SHALL NOT BE RESPONSIBLE FOR UNFORESEEN SUBSURFACE CONDITIONS NOR SHALL ANY EXTRA COSTS BE PAID FOR THESE CONDITIONS.

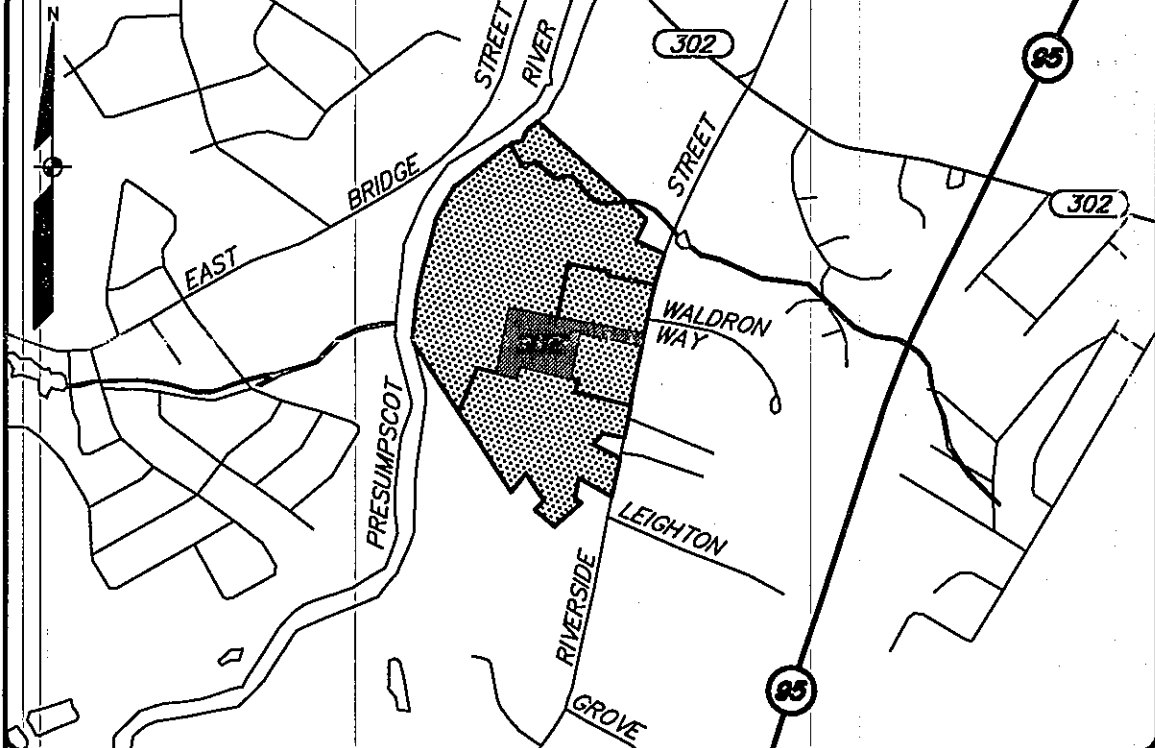
LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	PROPERTY LINE	
	SETBACK	
	RETAINING WALL	
	CURBING (SEE DRAWING FOR TYPES)	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
	GRADING CONTOUR LINE	
	SPOT ELEVATION	
	GUARD POST/BOLLARD	
	POLE WITH LIGHT FIXTURE(S)	
	UTILITY POLE	
	FREESTANDING SIGN	
	BARRIER FREE PARKING SYMBOL	
	PEDESTRIAN CROSSWALK	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
	OVERHEAD ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/COMMUNICATION	
	WATER LINE	
	SEWER LINE	
	GAS LINE	
	STORM DRAIN LINE	
	CULVERT	
	HYDRANT	
	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	STONE WALL	
	TREELINE	
	TREES/LANDSCAPING	
	RIPRAP	
	SILT FENCE	
	CHAIN LINK FENCE	
	WOOD FENCE	
	GUIDE RAIL	
	STONE SEDIMENT BARRIER	
	TRANSFORMER PAD	
	CENTER LINE	
	TEST PIT	
	IRON ROD (SET)	
	IRON ROD (FOUND)	
	P.K. SPIKE	

PRELIMINARY - NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM		
				SHEET TITLE GENERAL NOTES AND LEGEND				
				CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.				
				DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 GEN NOTES		DATE: JAN 2016 SCALE: AS NOTED JOB NO. 195350142		
				SHEET		C-1.1		
			REV	DATE	DESCRIPTION			
			REVISIONS					
			P.E. BO KENNEDY					
			LIC. # 11994					

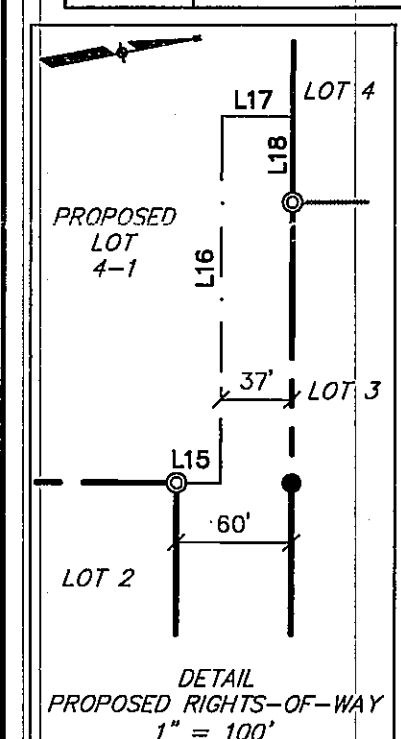
15254FC-SITE - to EST dwo TAB:15254FC-SITE



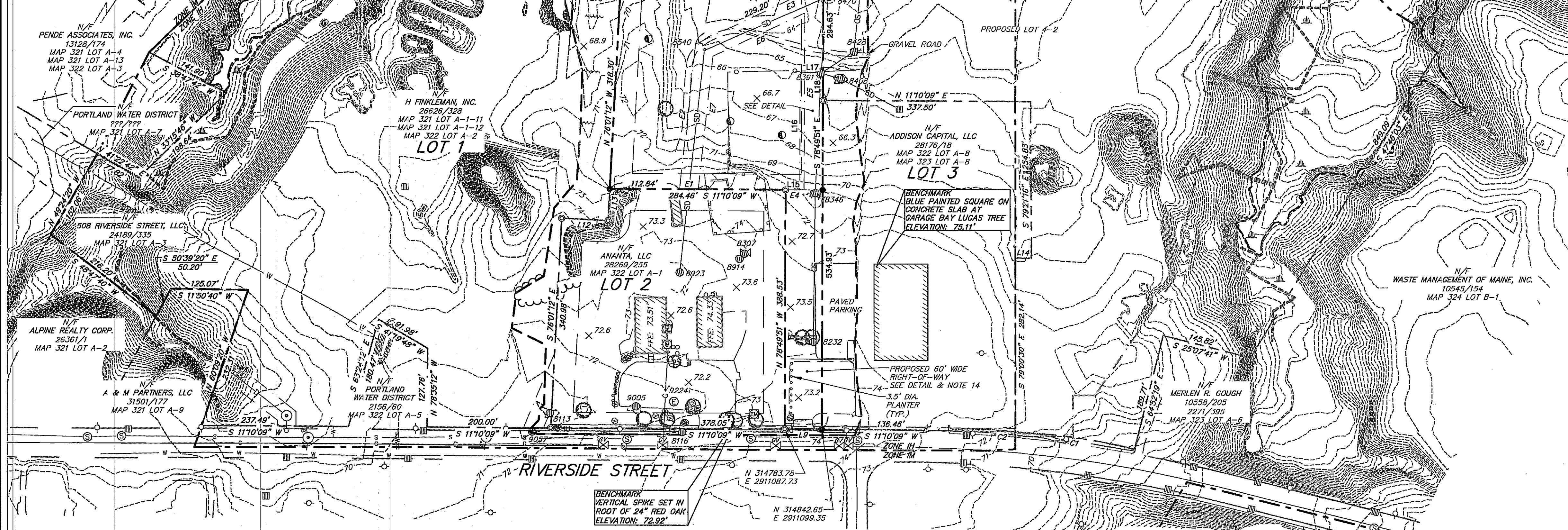
LOCATION MAP

PROPERTY CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C1	196.44'	995.68'	S 19°03'50" W	196.12'
C2	41.92'	995.68'	S 12°12'21" W	41.92'

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L12	S 13°58'48" W	75.00'
L13	S 76°01'12" E	51.70'
L14	N 10°38'44" E	26.77'

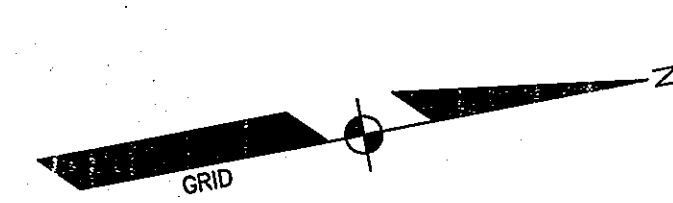


DETAIL PROPOSED RIGHTS-OF-WAY 1" = 100'



STATE OF MAINE

CUMBERLAND COUNTY SS. REGISTRY OF DEEDS
RECEIVED
AT _____ h _____ m _____
P.M. AND RECORDED IN _____ PAGE _____
ATTEST
REGISTRAR



SURVEYOR'S STATEMENT

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

CHARLES D. MARCHESI, PLS 2009 JUNE 8, 2016

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L9	S 11°10'09" W	60.00'
L10	S 13°58'48" W	75.00'
L11	N 76°01'12" W	119.58'

N/F
CYNTHIA A. PELLERIN
STEVEN G. PELLERIN
MAP 13 LOT 13

N/F
PORTLAND TRAILS
MAP 13 LOT 11

EASEMENT LINE TABLE		
LINE	DIRECTION	DISTANCE
E1	S 11°10'24" W	30.17'
E2	N 72°49'13" W	238.38'
E3	N 14°27'20" W	277.08'
E4	N 11°10'09" E	30.00'
E5	N 76°49'51" W	288.53'
E6	S 14°27'20" E	164.78'
E7	S 72°49'13" E	218.47'
E8	N 76°01'12" W	122.53'

LEGEND
EXISTING
PROPERTY LINE/R.O.W.
ABUTTER LINE/R.O.W.
TIE LINE
SETBACK
EASEMENT
MONUMENT
IRON PIPE/ROD
DEED CALL
BENCHMARK
C1/L1
BENCHMARK
DESCRIPTION WITH ELEVATION

BUILDING
EDGE PAVEMENT
EDGE CONCRETE
EDGE GRAVEL
EDGE OF WATER
TREELINE
CONTOURS
SPOT GRADE
CHAIN LINK FENCE
GAS
WATER
WATER GATE VALVE
WATER SHUT OFF
HYDRANT
SANITARY SEWER
SANITARY MANHOLE
STORM DRAIN
DECIDUOUS TREE
CATCH BASIN
OVERHEAD UTILITY
LIGHT POLE
UTILITY POLE
GUY WIRE

FLOODPLAIN
ZONE LINE
ZONE LINE ON PL
B-1 BORING
EDGE WETLAND
WETLANDS
CURB LINE
SHEET METAL FENCE
GUARD RAIL
CONCRETE BLOCK ENCLOSURE
SIGN
GAS
GAS GATE VALVE
GAS METER
TRANSFORMER PAD
ELECTRICAL MANHOLE
RIPRAP
5/8" REBAR W/CP TO BE SET
STRUCTURE NUMBER
GRADE STAKE SET

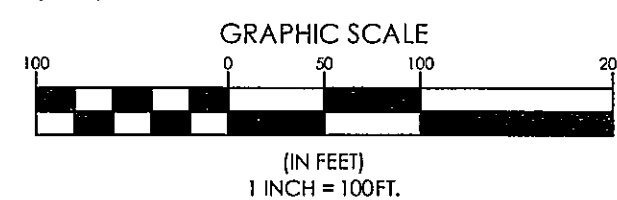
FOR CITY OF PORTLAND USE

GENERAL NOTES:

- THE RECORD OWNER OF THE PARCEL IS THE CITY OF PORTLAND BY DEED DATED MAY 18, 2010 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 27825, PAGE 68.
- THE PROPERTY IS SHOWN AS MAP 322 LOT A-1 AND MAP 323 LOTS A-3 & A-5 ON THE CITY OF PORTLAND TAX MAPS AND IS LOCATED IN THE IH ZONING DISTRICT DISTRICT.
- SPACE AND BULK CRITERIA FOR THE IH ZONING DISTRICT ARE AS FOLLOWS:
MINIMUM LOT SIZE: NONE (CORRECTIONAL 10,000 SF)
MINIMUM STREET FRONTAGE: 60 FEET
MINIMUM FRONT YARD: 25 FEET
MINIMUM SIDE YARD: 35 FEET
MINIMUM REAR YARD: 35 FEET
MAXIMUM BUILDING HEIGHT: 75 FEET
MAXIMUM IMPERVIOUS SURFACE RATIO: 85%
+ SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
- TOTAL AREA OF THE PROPOSED LOT IS APPROXIMATELY 4.12 ACRES.
- BOUNDARY INFORMATION AS DEPICTED HEREON IS BASED ON PLAN REFERENCE 6A, 6B AND 6C HEREON. SEBAGO TECHINCS, INC. HAS DONE A RETRACEMENT SURVEY OF LOT 2 AND A PARTIAL RETRACEMENT OF LOT 1 AND LOT 3 AS DEPICTED THEREON. THE PROPOSED LOT TO BE CONVEYED TO SUBURBAN PROPANE BEING A PORTION OF LOT 4 AS DEPICTED ON THE HEREIN REFERENCED PLANS. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON PLAN REFERENCE 6A AND FIELD WORK PERFORMED BY SEBAGO TECHINCS, INC. ON THE PROPOSED SUBURBAN PROPANE LOT AND 60-FOOT WIDE RIGHT-OF-WAY IN OCTOBER 2015.
- PLAN REFERENCES:
A. "RIVERSIDE SUBDIVISION - SUBDIVISION RECORDING PLAT - OWNER OF RECORD: CITY OF PORTLAND, MAINE, PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION, 389 CONGRESS STREET, PORTLAND, MAINE 04101" DATED OCTOBER 7, 2010 BY WOODARD & CURRAN, STAMPED BY JOHN W. SWAN, PLS 1038. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 352.
B. "CONSERVATION EASEMENT PLAN FOR THE TRUST FOR PUBLIC LAND, 116 NEW MONTGOMERY STREET, SAN FRANCISCO, CA 94105 EASEMENT LOCATED RIVERSIDE STREET, PORTLAND, MAINE" DATED MARCH 3, 2010 BY BOUNDARY POINTS PROFESSIONAL LAND SURVEYING, LLC. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 129.
C. "AMENDMENT TO RIVERSIDE SUBDIVISION LOT #3, (EXISTING CONDITIONS/PROPOSED LEASE AREA & ACCESS/UTILITY EASEMENT PLAN), MAP 323 LOT A008, LUCAS TREE, 636 RIVERSIDE STREET, PORTLAND, MAINE" DATED JANUARY 3, 2014 BY PROMISED LAND SURVEY, LLC. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 214, PAGE 218.
- PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE NAVD29, BASED ON DUAL FREQUENCY GPS OBSERVATIONS. ELEVATIONS WERE CONVERTED TO NAVD29 UTILIZING THE U.S. ARMY CORPS OF ENGINEERS 6.0.1 SOFTWARE. THE CHANGE FROM NAVD83 TO NAVD29 IS +0.688 FEET IN THIS VICINITY.
- UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
- PORTIONS OF THE 2ND AMENDED SUBDIVISION AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR THE CITY OF PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051 0006 C HAVING AN EFFECTIVE DATE OF DECEMBER 8, 1998. PORTIONS OF THE SUBDIVISION PROPERTY IN PROXIMITY TO THE PRESUMPSCOT RIVER, ITS TRIBUTARIES AND ADJACENT AREAS FALL WITHIN A ZONE AE, AREAS OF 100-YEAR FLOOD, HAVING A BASE FLOOD ELEVATION OF 35 IN THE SUBJECT AREA. THE PROPOSED PORTION OF LOT 4 AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA. THE PROPOSED LOT FALLS IN AN UNSHADED ZONE X, AREAS DETERMINED TO BE OUTSIDE OF THE 500-YEAR FLOODPLAIN.
- THE WETLAND DELINEATION AS DEPICTED HEREON IS AS DEPICTED ON PLAN REFERENCE 6A, SEBAGO TECHINCS, INC. HAS NOT PERFORMED AN INDEPENDENT WETLAND SURVEY.
- THIS LINE REPRESENTS THE LIMITS OF THE TOPOGRAPHIC SURVEY PERFORMED BY SEBAGO TECHINCS, INC. FOR THIS PROJECT. THE REMAINING TOPOGRAPHIC INFORMATION WAS TAKEN DIRECTLY FROM PLAN REFERENCE 6A.
- THERE ARE NO BUILDINGS LOCATED ON THE PROPOSED PARCEL.
- THE PROPOSED LOT IS SUBJECT TO DRAINAGE EASEMENTS AS DEPICTED HEREON.
- THE 60' WIDE AND 37' WIDE RIGHTS-OF-WAY WILL BE OWNED IN FEE BY LOT 4-1. LOTS 2, 3 WILL HAVE RIGHTS OF INGRESS AND EGRESS OVER THIS 60' WIDE STRIP OF LAND TO THEIR RESPECTIVE LOTS. LOT 4 WILL HAVE RIGHTS OF INGRESS AND EGRESS OVER BOTH THE 60' AND 37' WIDE RIGHTS-OF-WAY. THESE RIGHT-OF-WAY MAY ALSO BE USED FOR PURPOSES OF THE INSTALLATION AND MAINTENANCE OF ALL UTILITIES.
- STORMDRAIN OVERFLOW EASEMENT AREA: LOT 4-1 SHALL RETAIN RIGHTS AND PERMISSIONS TO ACCESS STORM DRAINAGE EASEMENT AREA FOR THE PURPOSES OF INSPECTION AND MAINTENANCE OF STORMWATER MANAGEMENT EMERGENCY SPILLWAY WHICH WILL BE CONSTRUCTED ON LOT 4. STORMDRAINAGE OVERFLOW EASEMENT AREA SHALL REMAIN FREE OF IMPEDIMENTS FOR THE FREE FLOW DISCHARGE OF STORM WATER FROM THE STORM WATER MANAGEMENT GRASSED UNDER DRAINED SOIL FILTER LOCATED ON LOT 4-1.

APPROVAL-
CITY OF PORTLAND
PLANNING BOARD

DATE _____
CHAIRPERSON _____



DESIGNED
CDM

CHECKED
CLB

CDM 06-14-16 ADDED TIES FOR EXISTING DRAINAGE EASEMENT

CDM 06-08-16 ADDED NOTE 15 PER CITY REVIEW COMMENTS

CDM 06-08-16 REVISIONS PER REVIEW BY CITY OF PORTLAND DATED 04-12-2016

CDM 10-29-15 ISSUED TO CLIENT FOR REVIEW

REVIEW BY: DATE: STATUS:

WWW.SEBAGOTECHNICS.COM

250 Goddard Rd.
Suite B
South Portland, ME 04106
Tel: 207-753-5656

2ND AMENDED RIVERSIDE SUBDIVISION

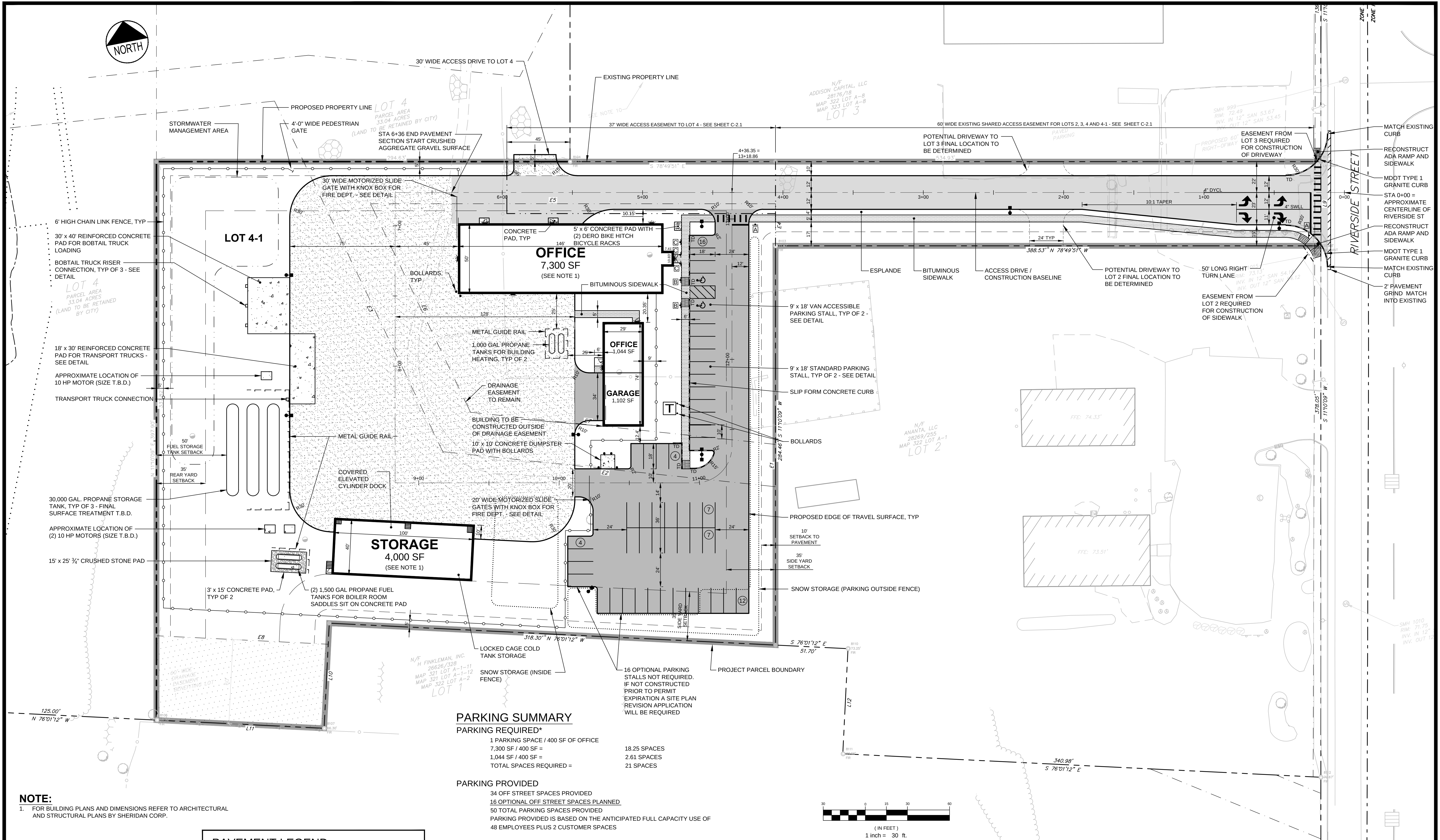
FOR RECORD OWNER:
THE CITY OF PORTLAND, MAINE
C/O PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION
369 CONGRESS STREET, PORTLAND, MAINE 04101

PREPARED FOR:
FOREFRONT PARTNERS I, LP
501 DANFORTH STREET
PORTLAND, MAINE 04102

PROJECT NO. 15254

SCALE 1" = 100'

SHEET 1 OF 1



PARKING SUMMARY

PARKING REQUIRED*		
1 PARKING SPACE / 400 SF OF OFFICE		
7,300 SF / 400 SF =	18.25 SPACES	
1,044 SF / 400 SF =	2.61 SPACES	
TOTAL SPACES REQUIRED =	21 SPACES	
PARKING PROVIDED		
34 OFF STREET SPACES PROVIDED		
16 OPTIONAL OFF STREET SPACES PLANNED		
50 TOTAL PARKING SPACES PROVIDED		
PARKING PROVIDED IS BASED ON THE ANTICIPATED FULL CAPACITY USE OF 48 EMPLOYEES PLUS 2 CUSTOMER SPACES		

* REFERENCE: CITY OF PORTLAND LAND USE ORDINANCE, OFF STREET PARKING REQUIREMENTS SECTION 14-492 DIVISION 20

SPACE AND BULK SUMMARY

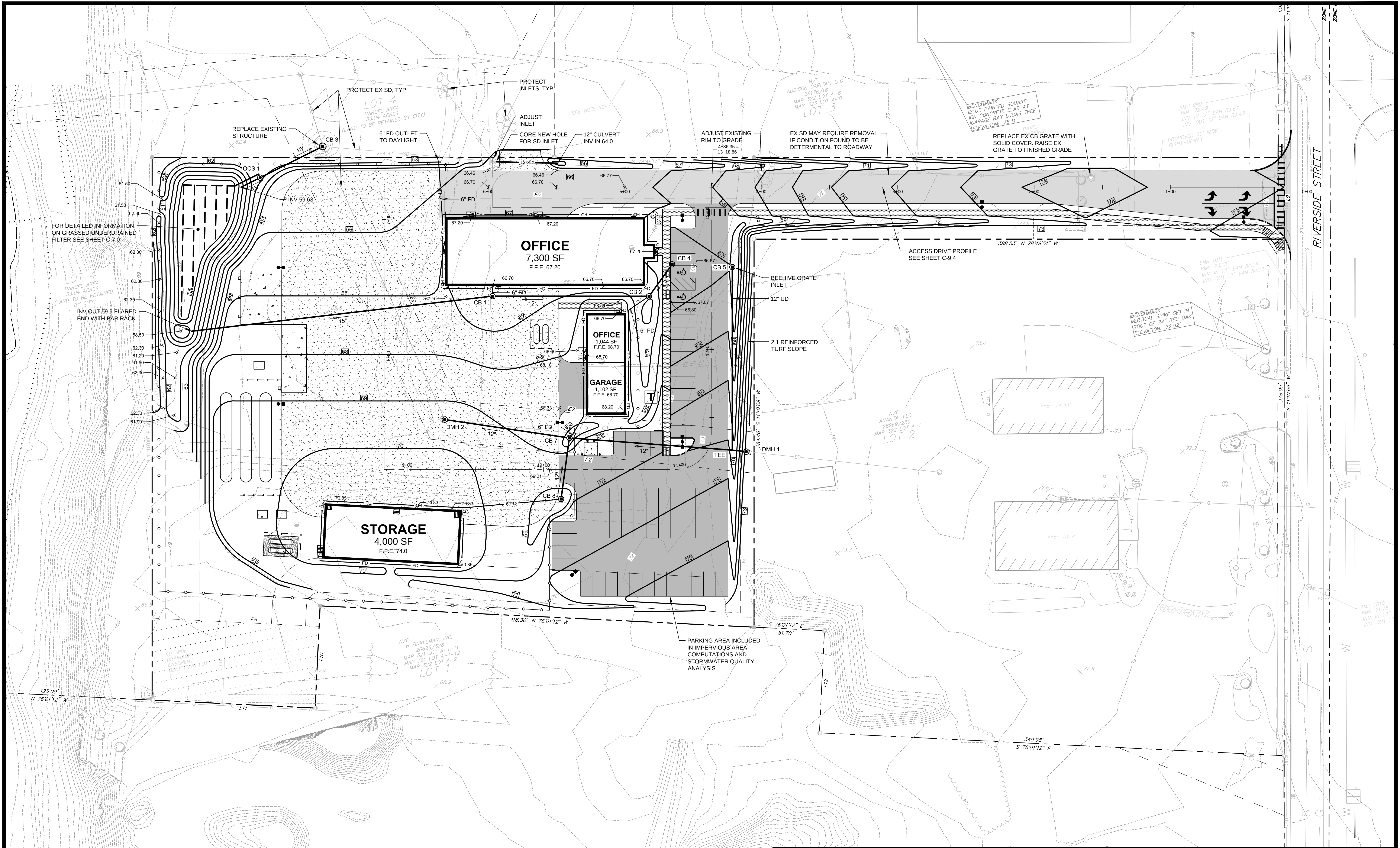
	REQUIRED	PROVIDED
MINIMUM LOT SIZE	NONE	4.12 AC
MINIMUM STREET FRONTAGE	60'	60'
MINIMUM FRONT YARD	25'	N/A
SIDE YARD	35'	35' (COLD STORAGE DOCK)
REAR YARD	35'	>120' (COLD STORAGE DOCK)
MAXIMUM BUILDING HEIGHT	75'	<20'
MAXIMUM IMPERVIOUS RATIO	85%	58%
MINIMUM PAVEMENT SETBACK	10'	14.5'

PRELIMINARY - NOT FOR CONSTRUCTION

SIGN LEGEND		
R1-1 24"x24"	R7-8 12"x18" R7-8P 12"x6"	12"x18"
A	B	C

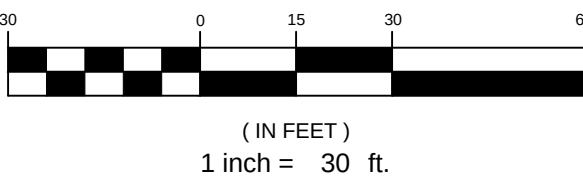
PAVEMENT LEGEND	
	HEAVY DUTY PAVEMENT
	STANDARD DUTY PAVEMENT
	BITUMINOUS PAVEMENT SIDEWALK
	CRUSHED AGGREGATE GRAVEL
	CONCRETE
	3/4" CRUSHED STONE

	PROJECT	SUBURBAN PROPANE RELOCATION
	SHEET TITLE	SITE LAYOUT PLAN
	CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.
	REVISIONS	
STANTEC CONSULTING SERVICES INC.		778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
DRAWN: DED		DATE: JAN 2016
DESIGNED: BEK		SCALE: 1" = 30'
CHECKED: BEK		JOB NO. 195350142
FILE NAME: SP-M157 SITE		
SHEET		C-3.0



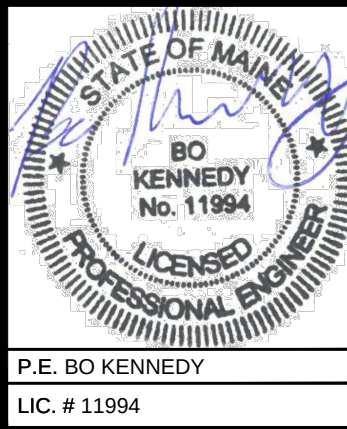
NOTES:

- 1. REFER TO SHEET C-9.1 AND C-9.2 STORM DRAIN PROFILES FOR PIPE SIZES, SLOPES AND APPURTENANCE INFORMATION
- 2. REFER TO SHEET C-7.0 STORMWATER MANAGEMENT: GRASSED UNDERDRAIN FILTER DETAILS FOR DETAILED INFORMATION



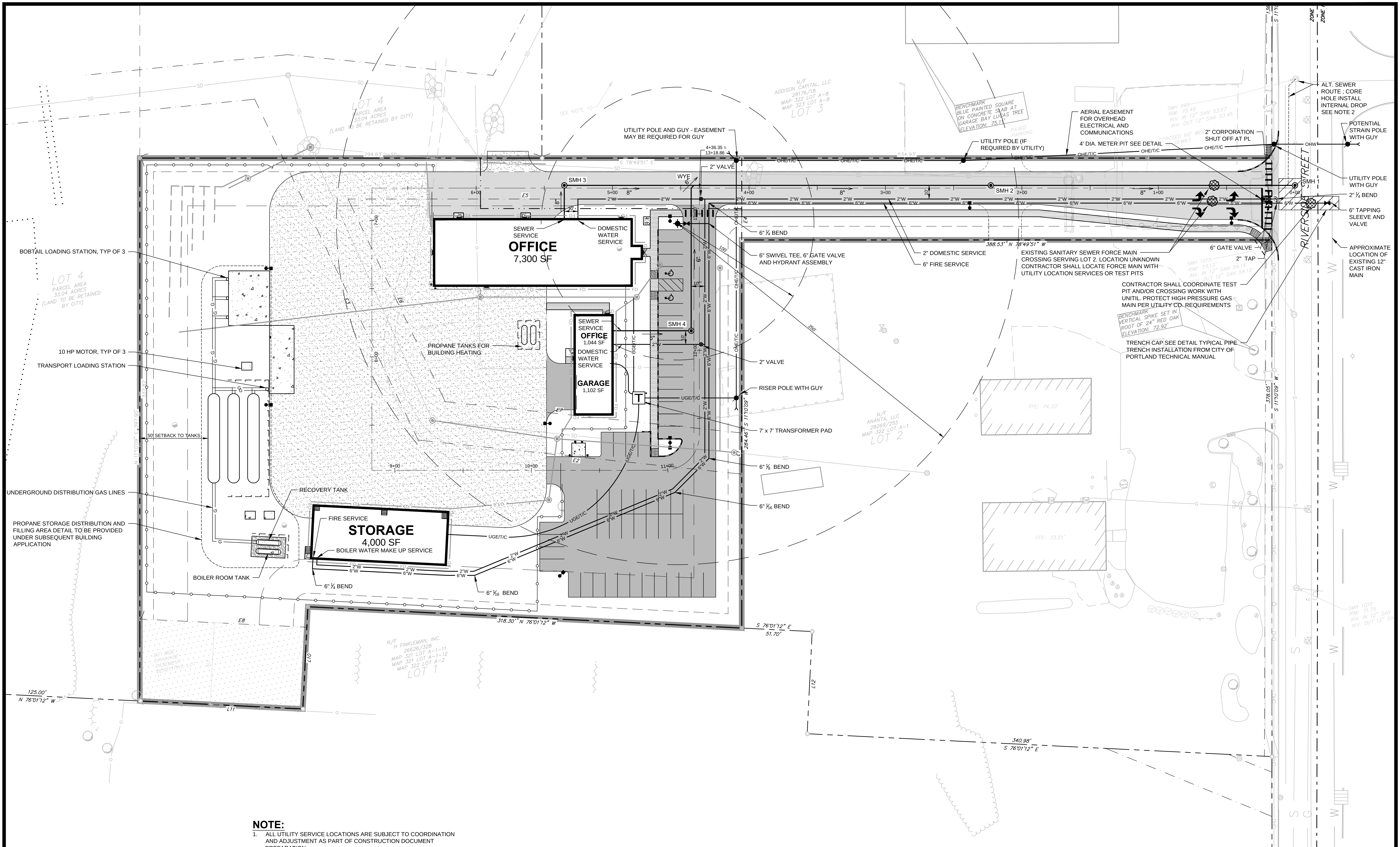
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
3	06.10.16	REVISED PER CITY COMMENTS
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	GRADING AND DRAINAGE PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

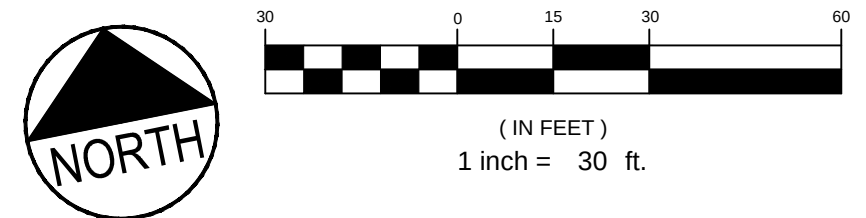
STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: 1" = 30'
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 GRADING	
SHEET	C-4.0



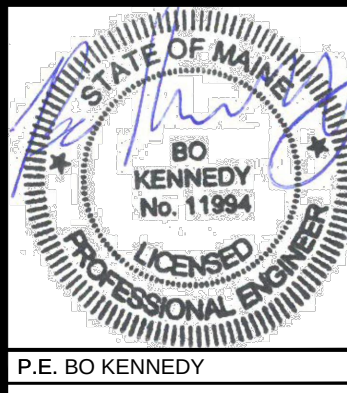
NOTE:

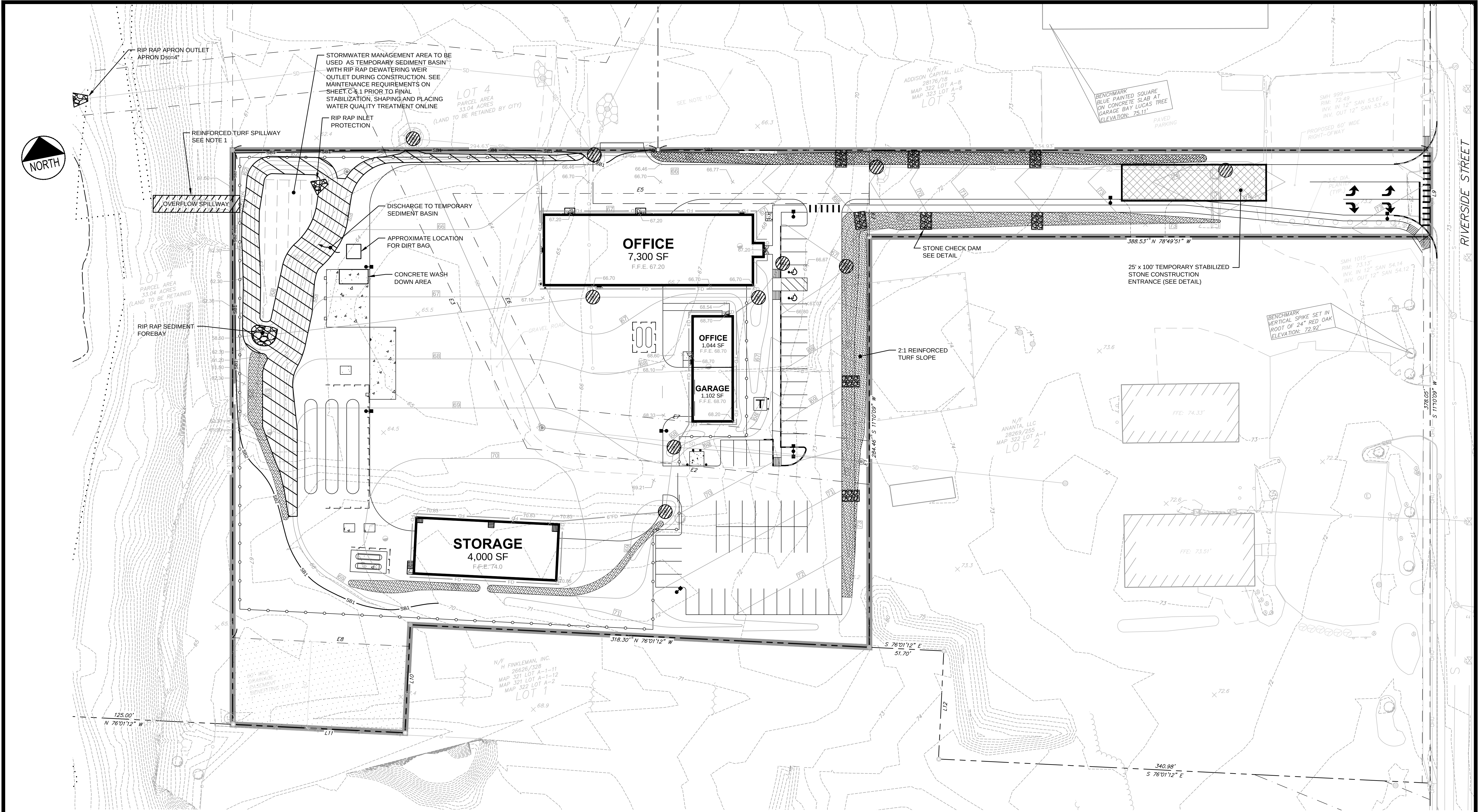
1. ALL UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION AND ADJUSTMENT AS PART OF CONSTRUCTION DOCUMENT PREPARATION.

2. LOT 4 OWNER RESERVES THE RIGHT TO VALUE ENGINEER THE SANITARY SEWER SERVICE. ALTERNATE DESIGN WOULD REQUIRE ONSITE GRINDER PUMP STATION, FORCE MAIN AND INTERNAL DROP IN EXISTING MANHOLE. A MINIMUM OF 5' OFFSET FROM EXISTING GRAVITY MAIN IN RIVERSIDE IS PROPOSED



PRELIMINARY - NOT FOR CONSTRUCTION

 PROJECT SUBURBAN PROPANE RELOCATION SHEET TITLE UTILITY PLAN CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.			STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 	
3 06.10.16 REVISED PER CITY COMMENTS 2 02.29.16 FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY 1 01.22.16 SUBMITTED TO OWNER FOR REVIEW REV DATE DESCRIPTION			DRAWN: DED DATE: JAN 2016 DESIGNED: BEK SCALE: 1" = 30' CHECKED: BEK JOB NO. 195350142 FILE NAME: SP-M157 UTILITY SHEET C-5.0	



SCHEDULE OF SILT BARRIER REQUIREMENTS

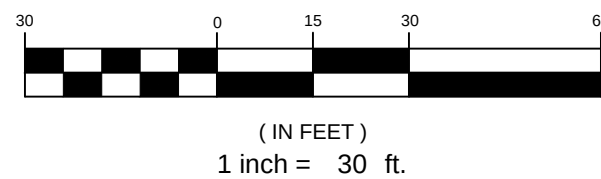
SILT BARRIER*	TYPE PURPOSE	TIME OF INSTALLATION
CONDITION 1 SILT BARRIER SB1	TO TRAP SEDIMENT ALONG THE GRADING EDGE WHERE THE NEW CONTOURS NEARLY PARALLEL THE EXISTING CONTOURS	AT INITIAL SITE PREPARATION; PRIOR TO OTHER WORK
CONDITION 2 SILT BARRIER SB2	TO TRAP SEDIMENT FROM THE WORK AREA; INSTALL IN SHORT SECTIONS PARALLEL TO EXISTING CONTOUR; TYPICALLY OCCURS WHERE PROPOSED AND EXISTING CONTOURS FORM A 'V' SHAPE.	AT INITIAL SITE PREPARATION; PRIOR TO OTHER WORK

* PRODUCT SUBMITTAL APPROVAL REQUIRED PRIOR TO INSTALLATION. SILT BARRIER MAY CONSIST OF AN APPROVED PRODUCT INTENDED TO RETAIN SEDIMENT IN THE CONTAINMENT AREA INCLUDING BUT NOT LIMITED TO SILT FENCE, FILTREXX SOXX, WOOD MULCH COMPOST BERM, STRAW WATTLES, ETC. ALL MEASURES SHALL BE SIZED, INSTALLED AND MAINTAINED PER THE MANUFACTURERS RECOMMENDATIONS.

NOTES:

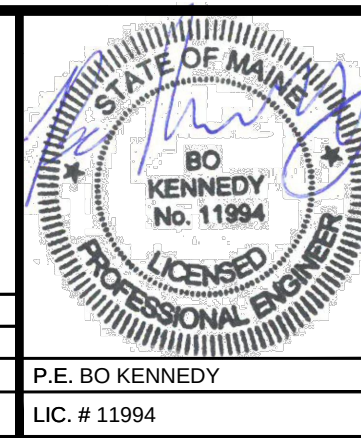
- CUT VEGETATION DOWN TO SURFACE GRADE, PLACE REINFORCEMENT MAT (C350 OR EQUAL) AND STAPLE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL TAKE PRECAUTION NOT TO GRUB OR DAMAGE EXISTING ROOT STRUCTURE. HYDRO SEED WITH EROSION CONTROL MIX AND SOIL TACK.
- TO THE EXTENT PRACTICABLE THE CONTRACTOR SHALL INSTALL TEMPORARY DIVERSION SWALES TO CONVEY RUNOFF FROM DISTURBED AREAS TO TEMPORARY SEDIMENT SUMPS AND/OR OTHER BMP'S TO REDUCE TURBIDITY IN DISCHARGE TO EXISTING SD. BMP'S MAY INCLUDE BUT ARE NOT LIMITED TO SAND FILTERS, EROSION CONTROL MIX, STRAW WAFFLES, FLOCCULATION CHEMICALS, DIRT GLUE AND SILT BARRIERS.
- STOCKPILES TO BE TEMPORARILY SEEDED AND MULCHED AS REQUIRED BY PROJECT SPECIFICATIONS.
- REFER TO SHEET C-6.1 FOR A FULL LIST OF EROSION CONTROL NOTES.

LEGEND	
	INLET PROTECTION (SILT SACKS AND SURFACE SEDIMENT BARRIER)
	CURLEX BLANKET IN V-NOTCH CHANNELS
	SLOPES >3:1 WITH REINFORCED TURF
	EROSION CONTROL MESH



PRELIMINARY - NOT
FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	EROSION CONTROL PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 EROSION	
SHEET	C-6.0

II.4 EROSION CONTROL MEASURES AND SITE STABILIZATION

THE PROPOSED EROSION AND SEDIMENTATION CONTROL PLAN MEETS OR EXCEEDS THE SOIL CONSERVATION SERVICE ENVIRONMENTAL QUALITY HANDBOOK.

THE PRIMARY EMPHASES OF THE EROSION/SEDIMENTATION CONTROL PLAN TO BE IMPLEMENTED FOR THE INFRASTRUCTURE CONSTRUCTION ARE AS FOLLOWS:

- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID REVEGETATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
- THE USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (STONE CHECK DAMS/HAY BALES/SILT FENCE, ETC.)

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. FOR FURTHER REFERENCE, SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES.

A. TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

1. A TEMPORARY CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT ANY ACCESS ROUTES OUT OF THE CONSTRUCTION ZONE.
2. SILTATION FENCE OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED DOWNGRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS FULLY STABILIZED. THE SILT FENCE AND/OR THE WOOD WASTE COMPOST BERMS SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THIS PACKAGE AND INSPECTED AT LEAST ONCE A WEEK AND BEFORE AND AFTER A STORM EVENT. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE OR BERM LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.
3. STRAW OR HAY MULCH INCLUDING HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED AND SHOULD BE APPLIED AT A RATE A 115 LBS / 1000 S.F. MULCH PLACED BETWEEN APRIL 15TH AND OCTOBER 15TH ON SLOPES OF LESS THEN 15 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED ON SLOPES OF EQUAL TO OR STEEPER THAN 15 PERCENT SHALL BE COVERED BY A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN OCTOBER 15TH AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT SHALL BE COVERED WITH A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 3:1, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR EQUAL. MULCH APPLICATION RATES ARE PROVIDED IN ATTACHMENT A OF THIS SECTION. MULCH SHALL NOT BE PLACED OVER SNOW.
4. TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:
 - a. TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY WETLANDS, WHICH WILL NOT BE DISTURBED AND ANY SLOPES WHICH EXCEED 15%.
 - b. STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
 - c. STOCKPILES SHALL BE SURROUNDED BY SILT FENCE OR OTHER SEDIMENT BARRIER AT THE TIME OF FORMATION.
5. FOR WORK, WHICH IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15 OF ANY CALENDAR YEAR, ALL DENUDED AREAS WILL BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH AS NOTED IN PARAGRAPH II.4.A.3, SHALL BE LIMITED TO 7 DAYS FOR ALL AREAS.
6. RIVERSIDE STREET SHALL BE SWEEPED TO CONTROL MUD AND DUST AS NECESSARY.
7. DURING GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
8. SILT FENCING WITH A MINIMUM STAKE SPACING OF 6 FEET SHOULD BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHALL BE ANCHORED.
9. WOOD WASTE COMPOST/BARK BERMS MAY BE USED IN LIEU OF SILTATION FENCING. BERMS SHALL BE REMOVED AND SPREAD IN A LAYER NOT TO EXCEED 3" THICK ONCE UPGRADIENT AREAS ARE COMPLETED AND A 90% CATCH OF VEGETATION IS ATTAINED.
10. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS - SECTION 637 - DUST CONTROL.
11. TEMPORARY CATCH BASIN INLET BARRIERS SHALL BE INSTALLED THROUGHOUT THE COURSE OF CONSTRUCTION. ACCEPTABLE BARRIERS INCLUDE SILKSACKS, STONE SEDIMENT BARRIERS OR OTHER EQUIVALENT DEVICES.
12. CONSTRUCT TEMPORARY SEDIMENT BASIN IN THE STORMWATER MANAGEMENT BASIN AREA. REFER TO RESTRICTIONS FOR CONSTRUCTION OF FINAL BASIN ON DETAIL SHEET C-7.0.

B. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL STORM DRAIN PIPE OUTLETS SHALL HAVE RIPRAP APRONS AT THEIR OUTLET TO PROTECT THE OUTLET AND RECEIVING CHANNEL OF THE CULVERTS FROM SCOUR AND DETERIORATION. INSTALLATION DETAILS ARE INCLUDED WITHIN THE PLAN SET WITH THIS PACKAGE. THE APRONS SHALL BE INSTALLED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO DIRECTING RUNOFF TO THE TRIBUTARY PIPE OR CULVERT.
2. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED, AND SEEDED. FABRIC NETTING, ANCHORED WITH STAPLES, SHALL BE PLACED OVER THE MULCH IN AREAS AS NOTED IN PARAGRAPH II.4.A.3. ALL AREAS WITHIN 50 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 7-DAY WINDOW. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

C. IMPLEMENTATION SCHEDULE

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED FOR THE SITE DEVELOPMENT TO INSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE OPTIMIZED:

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE(S) SITE ENTRY/EXIST LOCATIONS.
2. CLEAR AREA NECESSARY FOR THE PARKING AREA/BUILDING CONSTRUCTION.
3. INSTALL PERIMETER SILTATION FENCE AND/OR WOOD WASTE BERMS PRIOR TO GRUBBING RESPECTIVE AREAS.
4. GRUB WORK AREA FOR PARKING LOTS AND BUILDINGS.
5. DURING GRUBBING OPERATIONS, INSTALL STONE CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
6. COMMENCE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR THE PARKING LOTS AND WALKWAYS.
7. COMMENCE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR THE BUILDING FOUNDATION.
8. COMMENCE INSTALLATION OF DRAINAGE APPURTENANCES, INCLUDING CATCH BASINS, MANHOLES, ETC.
9. COMMENCE INSTALLATION OF UNDERGROUND UTILITIES.

10. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.

11. COMPLETE REMAINING EARTHWORK OPERATIONS.

12. COMMENCE BUILDING FOUNDATIONS.

13. INSTALL SUBBASE AND BASE COURSE GRAVELS WITHIN PARKING LOTS AND WALKWAYS.

14. COMPLETE INSTALLATION OF DRAINAGE APPURTENANCES AND UTILITY APPURTENANCES.

15. COMPLETE UNDERGROUND TANK INSTALLATION AND REINFORCED CONCRETE PADS FOR TRUCK FILLING.

16. INSTALL BASE COURSE PAVING FOR THE PARKING LOTS.

17. CONTINUE BUILDING CONSTRUCTION.

18. INSTALL SURFACE COURSE PAVING FOR THE PARKING, AND WALKWAY AREAS.

19. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS.

20. REMOVE ACCUMULATED SEDIMENT FROM AHEAD OF ANY SEDIMENT BARRIERS AS NECESSARY.

21. ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

22. TOUCH UP LOAM AND SEED.

23. COMPLETE PAVEMENT MARKINGS AND SIGNAGE

PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE FOR THE COMPLETION OF THE WORK, WHICH WILL SATISFY THE FOLLOWING CRITERIA:

1. THE ABOVE CONSTRUCTION SEQUENCE SHOULD GENERALLY BE COMPLETED IN THE SPECIFIED ORDER; HOWEVER, SEVERAL SEPARATE ITEMS MAY BE CONSTRUCTED SIMULTANEOUSLY. WORK MUST ALSO BE SCHEDULED OR PHASED TO LIMIT THE EXTENT OF THE EXPOSED AREAS AS SPECIFIED BELOW. THE INTENT OF THIS SEQUENCE IS TO PROVIDE FOR EROSION CONTROL AND TO HAVE STRUCTURAL MEASURES SUCH AS SILT FENCE AND CONSTRUCTION ENTRANCES IN PLACE BEFORE LARGE AREAS OF LAND ARE DENUDED.
2. THE WORK SHALL BE CONDUCTED IN SECTIONS WHICH WILL:

- a. LIMIT THE AMOUNT OF EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 30 DAYS.
- b. REVEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT.
- c. INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEM AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

A. EROSION, SEDIMENTATION AND STABILIZATION CONTROL PLAN

THE EROSION, SEDIMENTATION AND STABILIZATION CONTROL DETAILS ARE INCLUDED IN THE PLAN SET.

B. WINTER STABILIZATION PLAN

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A PARKING LOT.

WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN PARKING AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR SHALL INSTALL ANY ADDED MEASURES, WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES
STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS./1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOODWASTE EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE SHALL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 50 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCE PROTECTION
ANY AREAS WITHIN 50 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS
DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOODWASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING
AN AREA SHALL BE CONSIDERED DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, 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. 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 WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1,000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH.

BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

5. MULCHING ON SLOPES AND DITCHES
SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS./1,000 S.F. ON ALL SLOPES GREATER THAN 8% OR GREATER.

MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAT 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAT 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8% OR GREATER. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING
BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL 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 BEEN LOAMED, FINAL GRADED 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 SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND

FABRIC NETTING ANCHORED WITH STAPLES. 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/1000 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.

7. DEWATERING
WATER FROM CONSTRUCTION TRENCH DEWATERING SHALL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 50 FEET OF A PROTECTED NATURAL RESOURCE.

8. INSPECTION AND MONITORING
MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85% TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

F. STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

- a. **INSTALL A SOD LINING IN THE DITCH** -- THE APPLICANT SHALL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
- b. **INSTALL A STONE LINING IN THE DITCH** --THE APPLICANT SHALL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT SHALL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT SHALL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE DEPARTMENT SHALL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (15H:1V) TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

- a. **STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS** -- BY OCTOBER 1 THE APPLICANT SHALL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT SHALL COVER THE SLOPE WITH A LAYER OF WOODWASTE COMPOST AS DESCRIBED IN ITEM III OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS STANDARD.
- b. **STABILIZE THE SLOPE WITH SOD** -- THE APPLICANT SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT 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 APPLICANT SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).
- c. **STABILIZE THE SLOPE WITH WOODWASTE COMPOST** -- THE APPLICANT SHALL PLACE A SIX-INCH LAYER OF WOODWASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOODWASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT SHALL NOT USE WOODWASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- d. **STABILIZE THE SLOPE WITH STONE RIPRAP** -- THE APPLICANT SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE APPLICANT SHALL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE APPLICANT FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

- a. **STABILIZE THE SOIL WITH TEMPORARY VEGETATION** -- BY OCTOBER 1 THE APPLICANT SHALL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT SHALL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
- b. **STABILIZE THE SOIL WITH SOD** -- THE APPLICANT SHALL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT 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.
- c. **STABILIZE THE SOIL WITH MULCH** -- BY NOVEMBER 15 THE APPLICANT SHALL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

G. MAINTENANCE OF FACILITIES

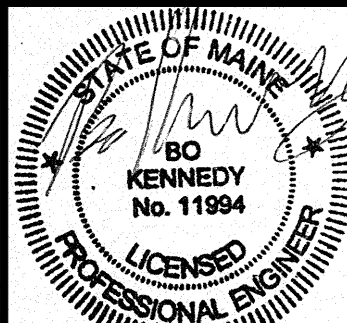
THE STORMWATER FACILITIES WILL BE MAINTAINED BY THE APPLICANT, OR THEIR ASSIGNED HEIRS. THE CONTRACT DOCUMENTS WILL REQUIRE THE CONTRACTOR TO DESIGNATE A PERSON, WHO HAS KNOWLEDGE OF EROSION AND STORMWATER CONTROL INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, TO BE RESPONSIBLE FOR MAINTENANCE OF THE SEDIMENTATION CONTROL FEATURES DURING CONSTRUCTION AS REQUIRED BY THE EROSION CONTROL REPORT. DOCUMENTATION OF ANY INSPECTIONS, MAINTENANCE, AND ANY CORRECTIVE ACTIONS TAKEN SHALL BE SUMMARIZED IN A LOG (REPORT). THE LOG SHALL COMPLY WITH CHAPTER 500 APPENDIX B.1.C, AND APPENDIX B.2.D, OF THE STATE OF MAINE DEP, STORMWATER MANAGEMENT RULES.

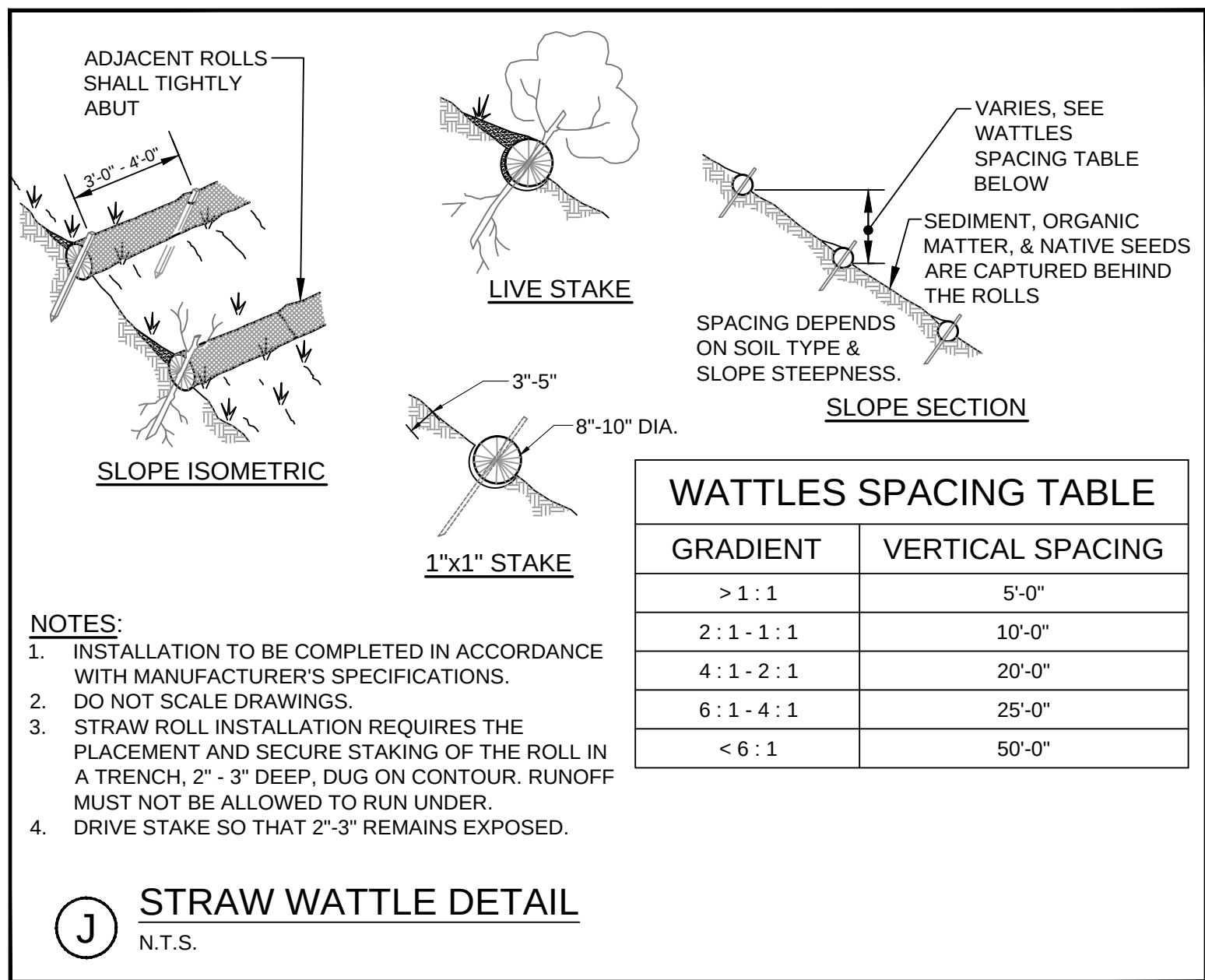
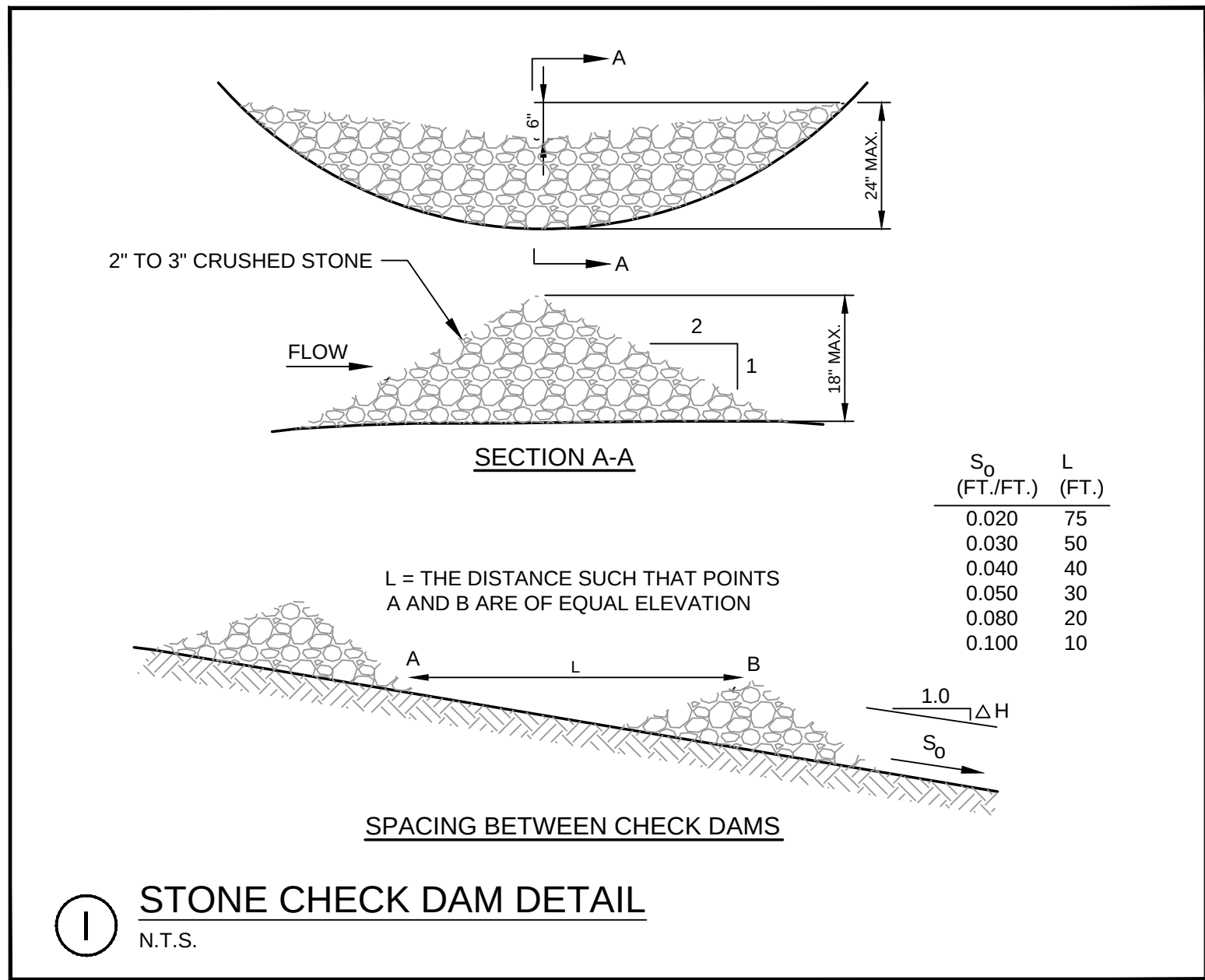
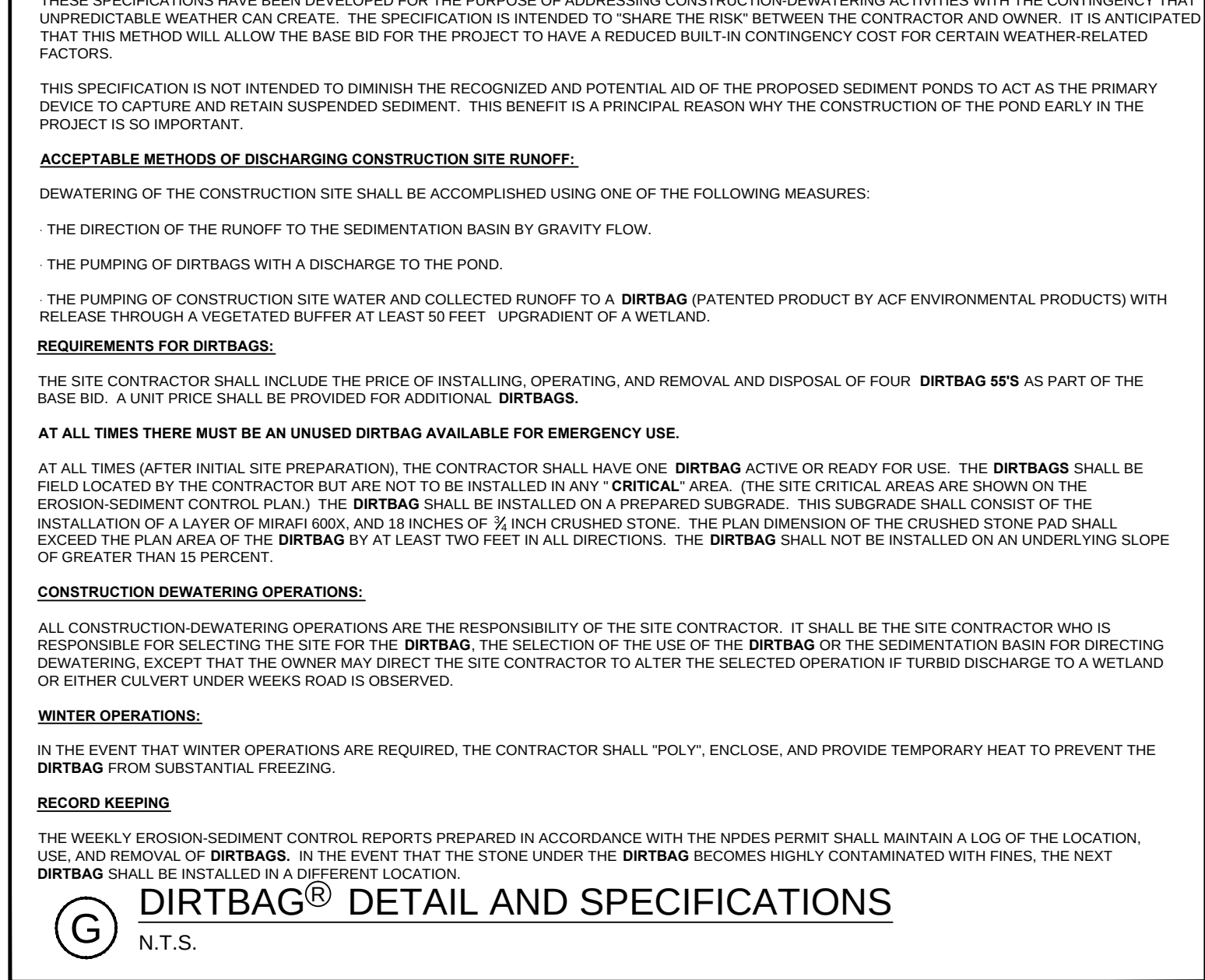
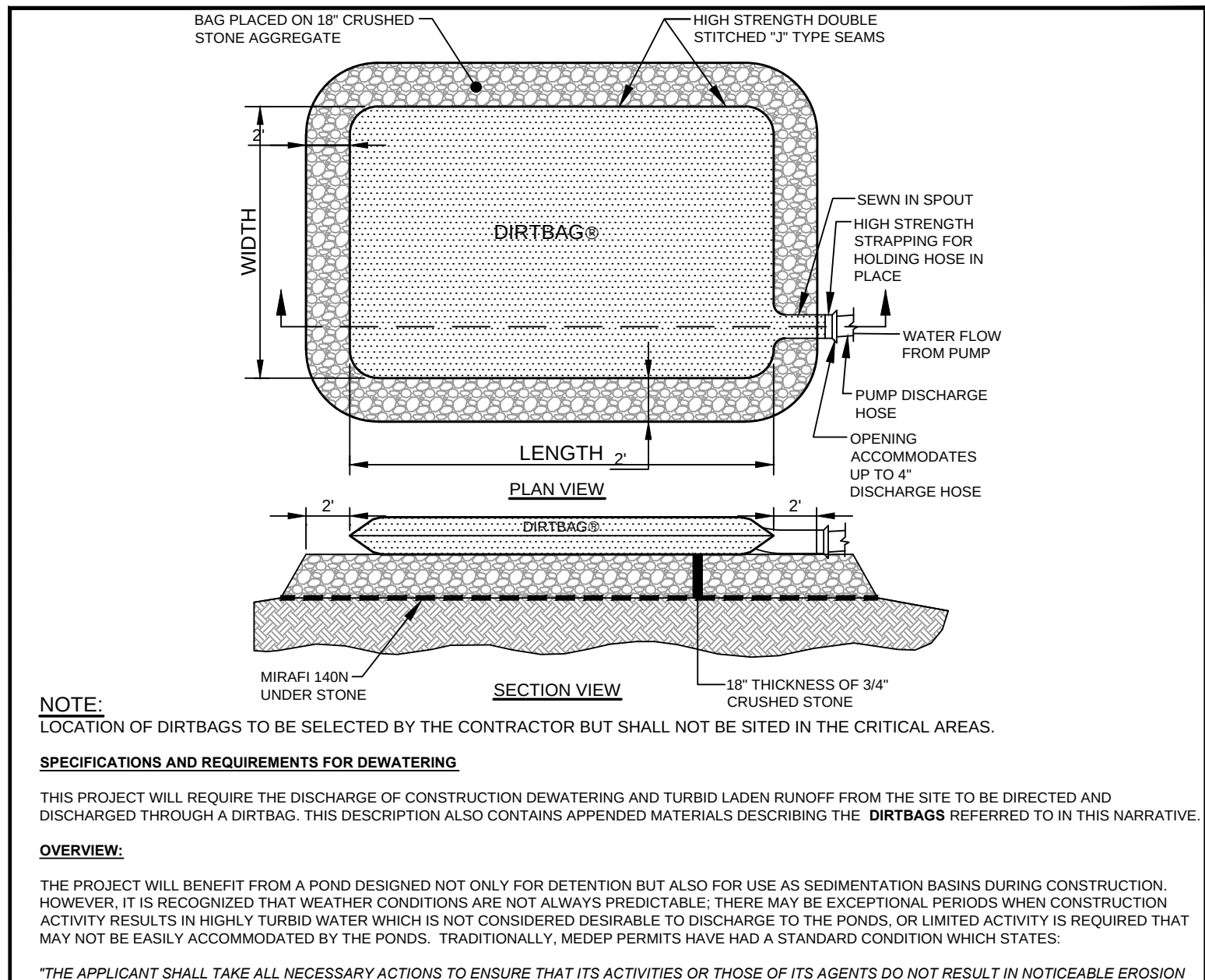
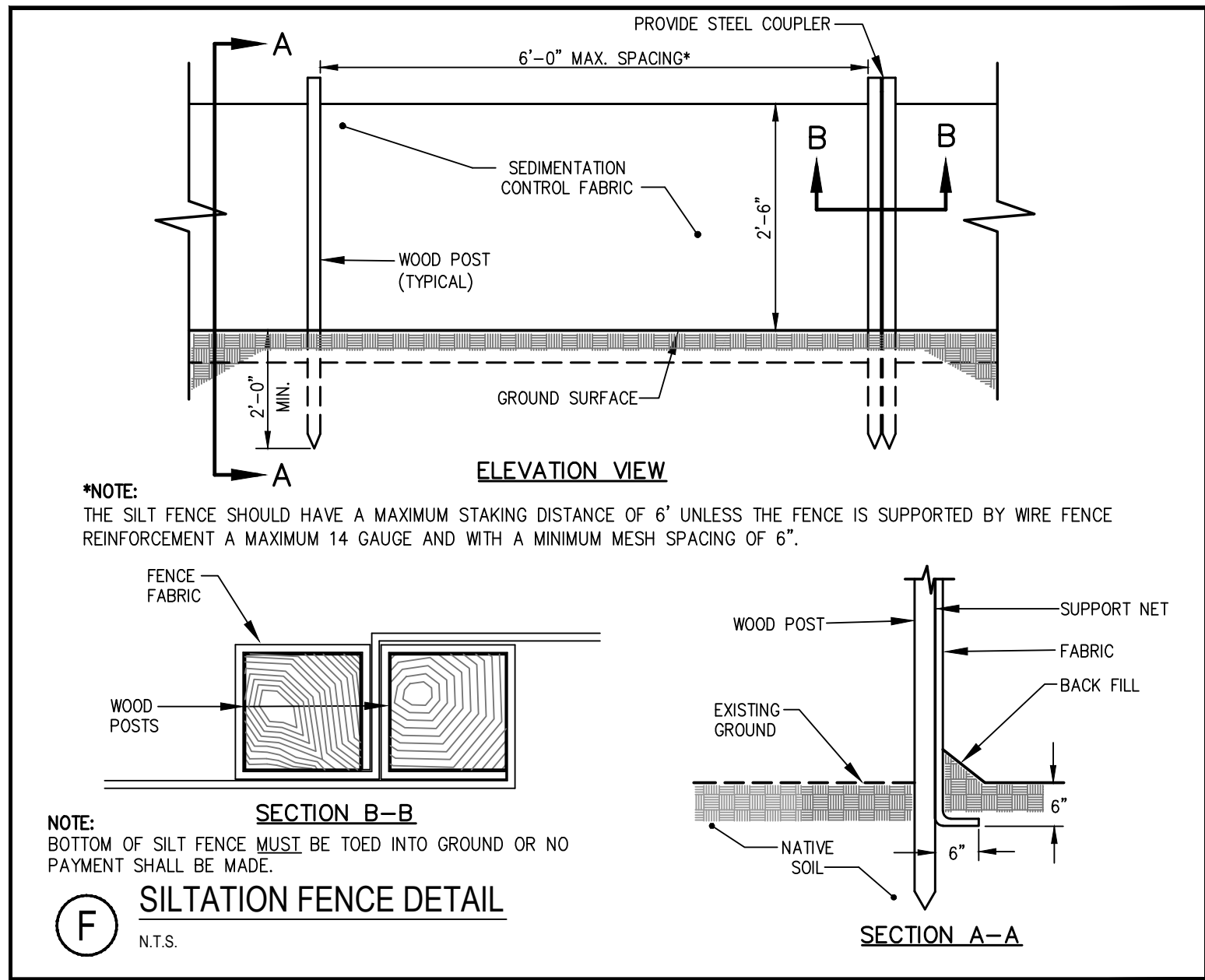
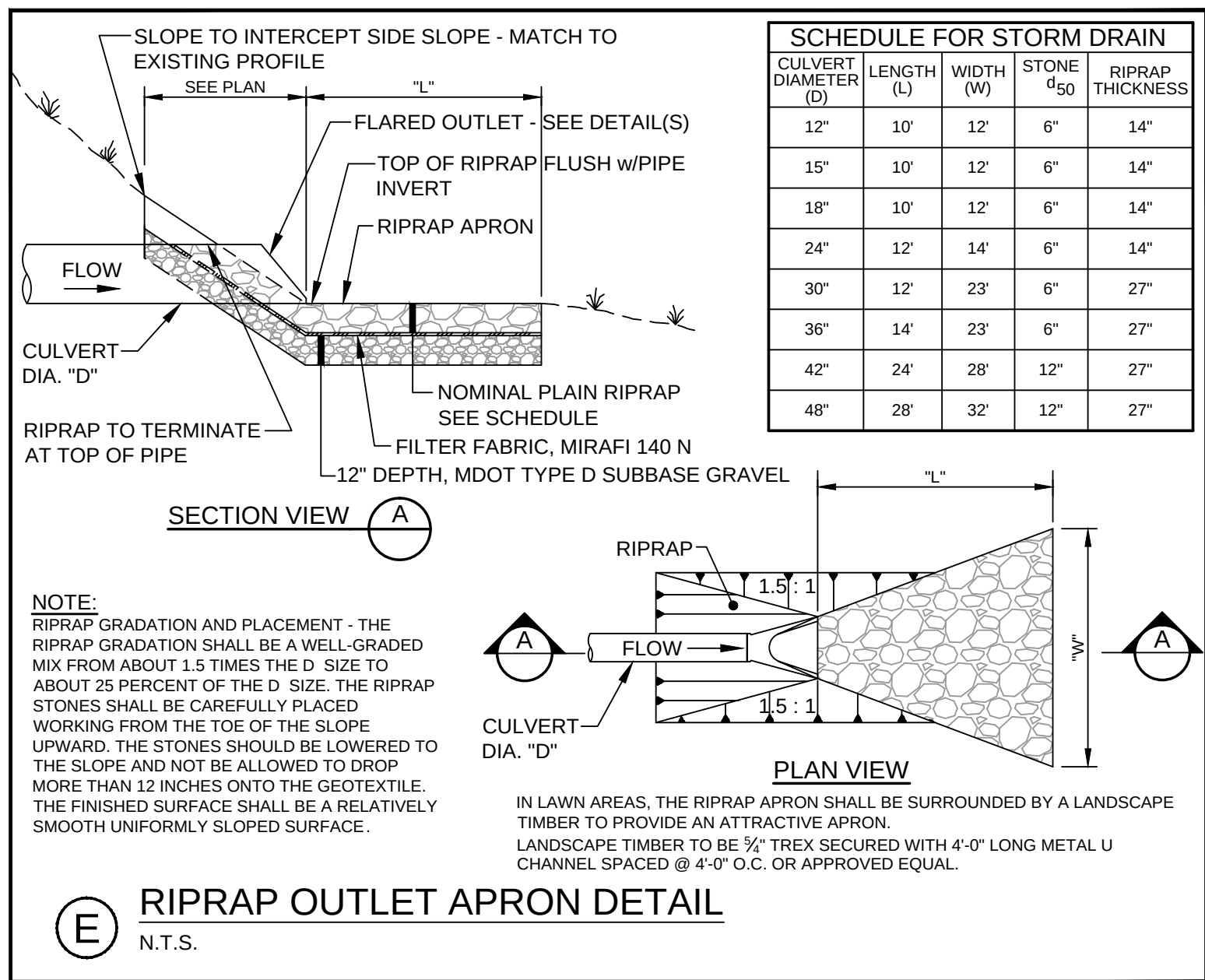
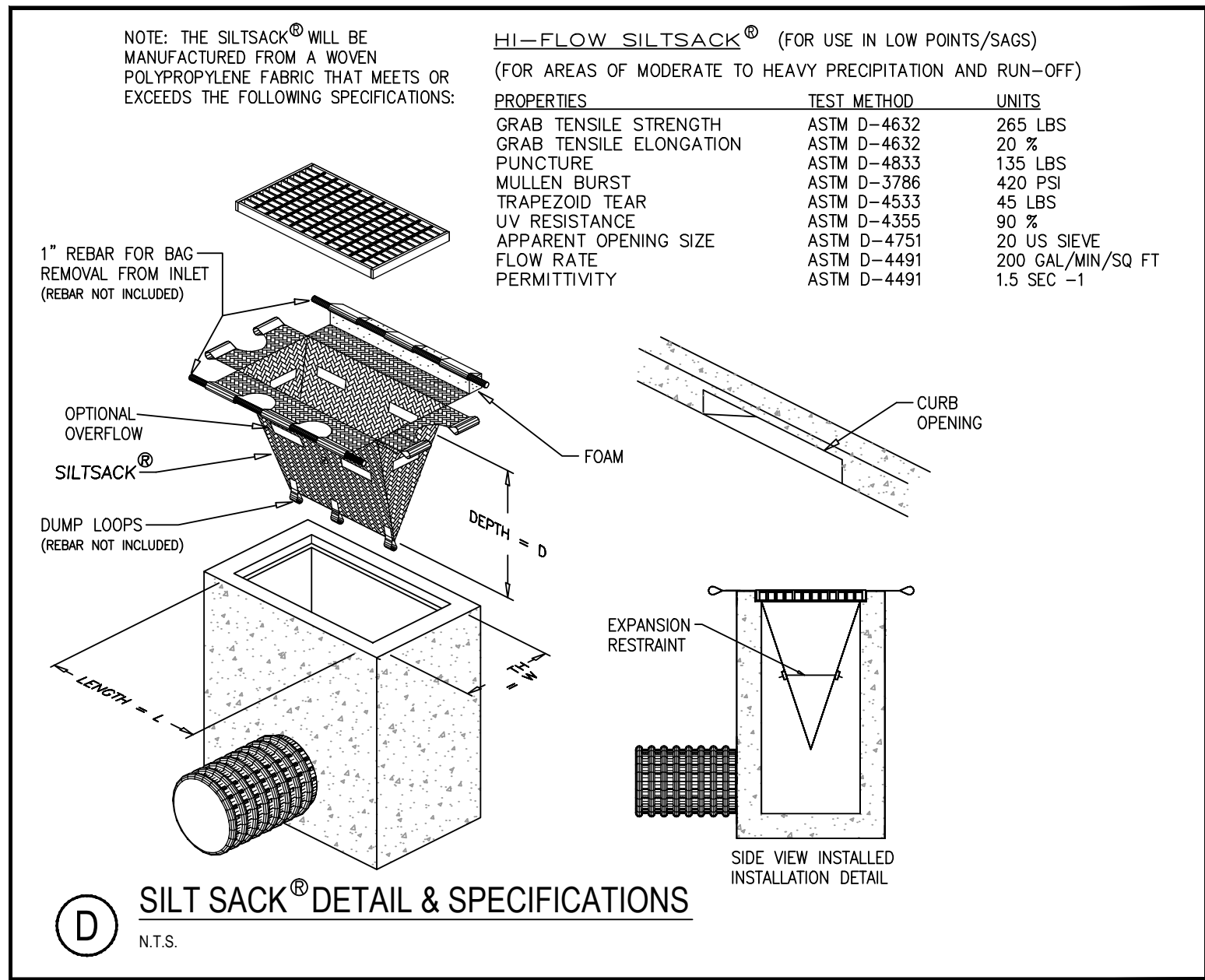
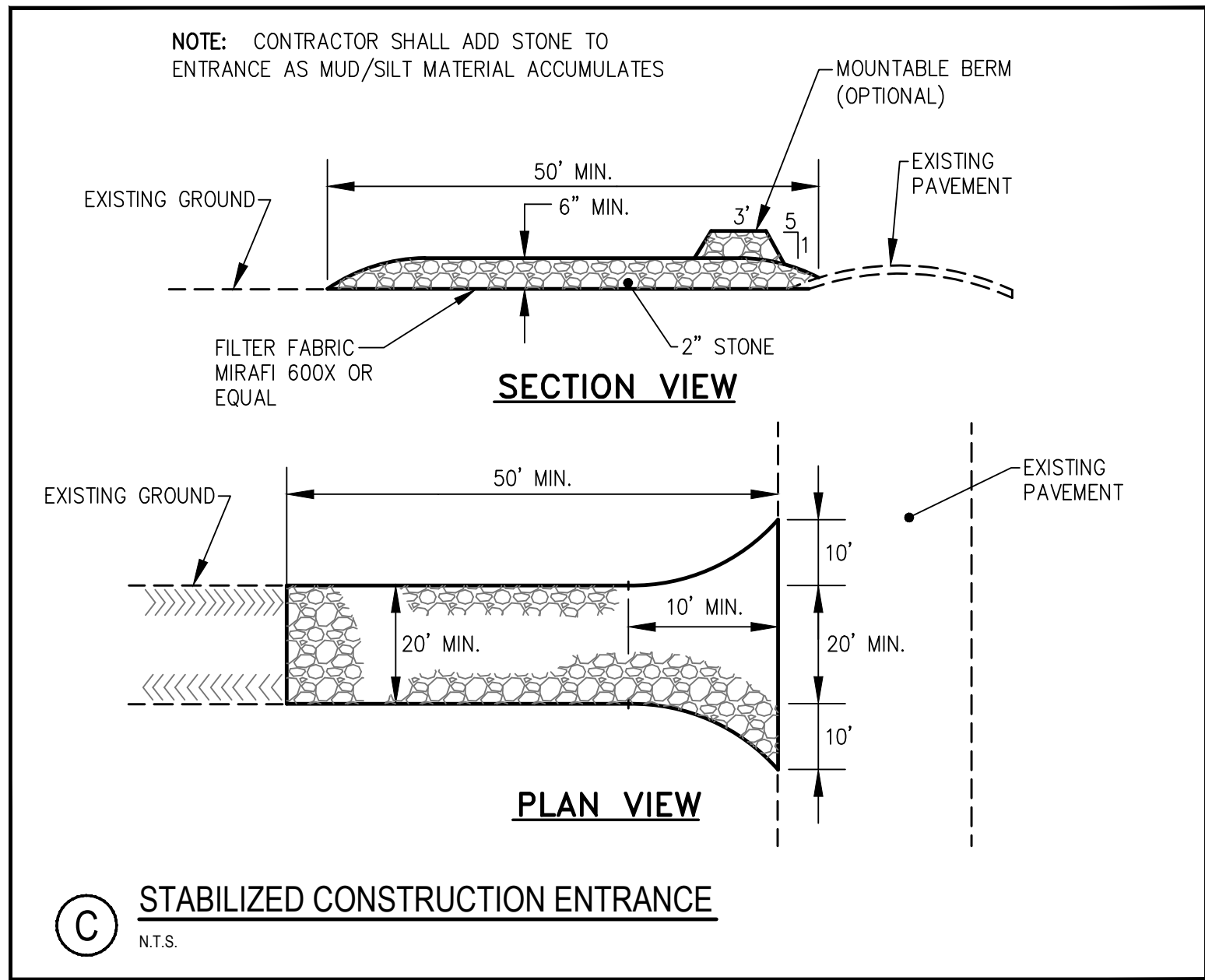
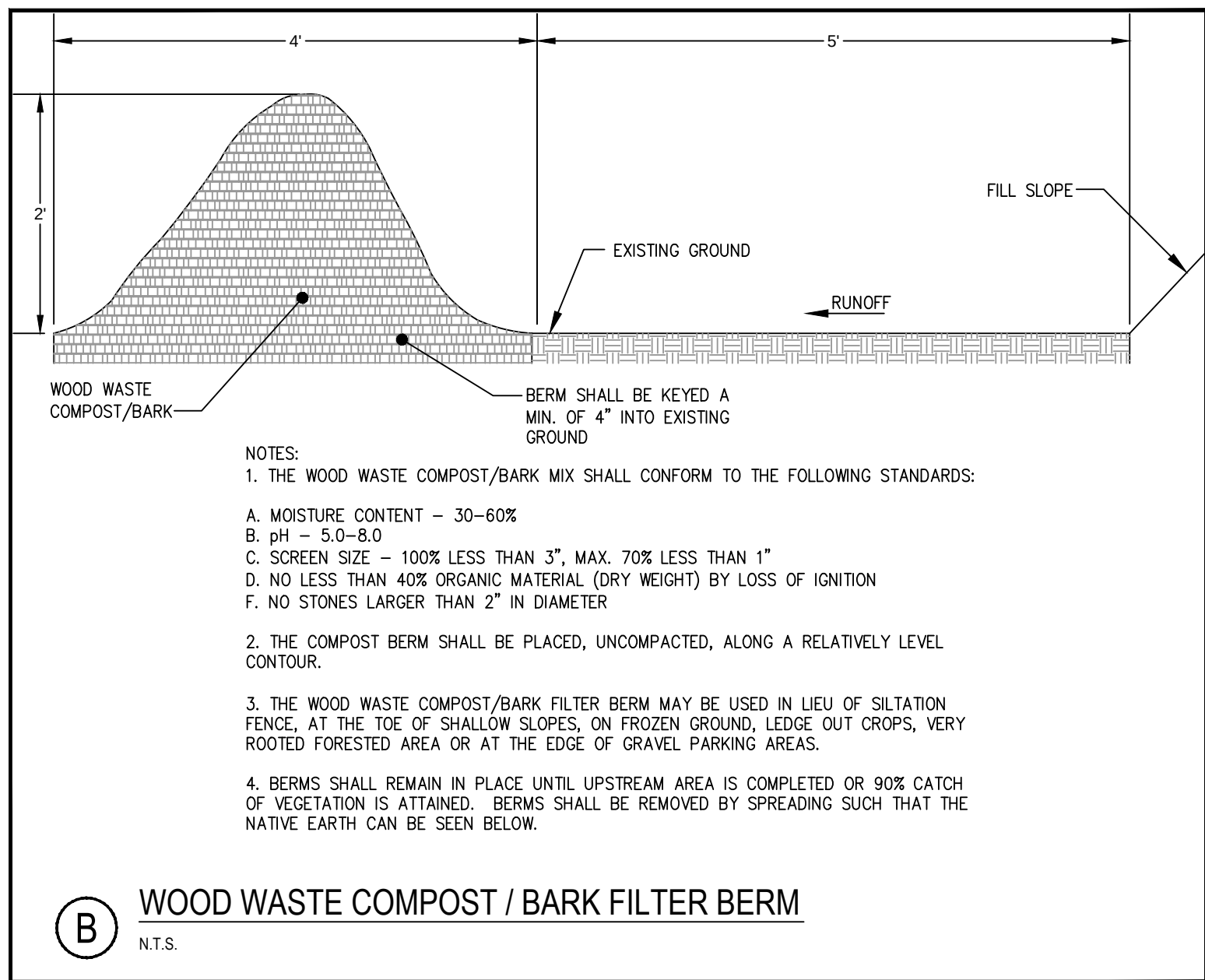
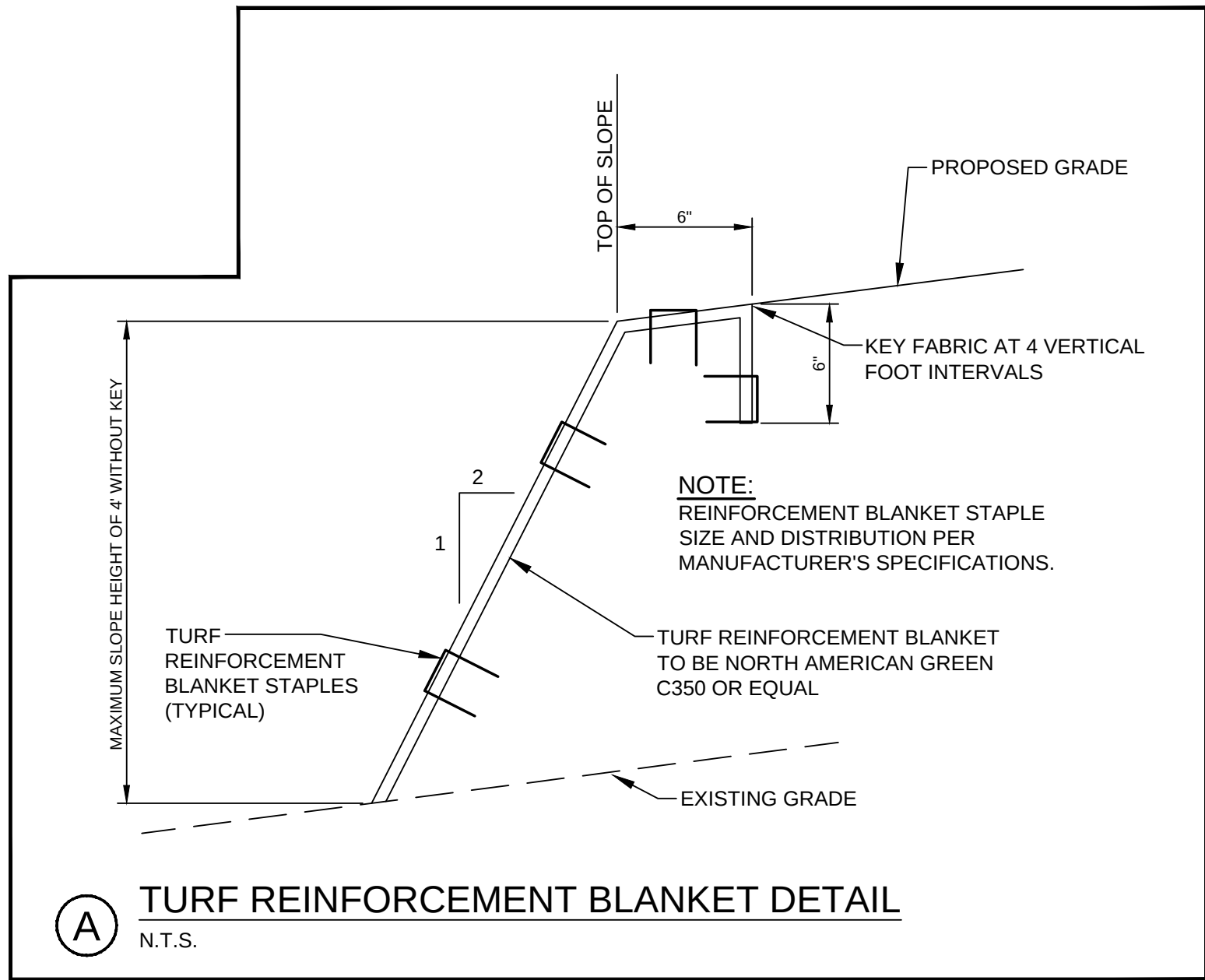
LONG-TERM OPERATION/MAINTENANCE RECOMMENDED FOR THE STORMWATER FACILITY IS PRESENTED BELOW.

THE RESPONSIBLE PARTY MAY CONTRACT WITH SUCH PROFESSIONALS, AS MAY BE NECESSARY IN ORDER TO COMPLY WITH THIS PROVISION AND MAY RELY ON THE ADVICE OF SUCH PROFESSIONALS IN CARRYING OUT ITS DUTY HEREUNDER, PROVIDED, THAT THE FOLLOWING OPERATION AND MAINTENANCE PROCEDURES ARE HEREBY ESTABLISHED AS A MINIMUM FOR COMPLIANCE WITH THIS SECTION.

- PARKING LOTS - CLEAR ACCUMULATIONS OF WINTER SAND AT LEAST FOUR TIMES A YEAR, PREFERABLY IN THE SPRING. EXCESS SHOULDER MATERIAL SHALL BE REMOVED MANUALLY OR BY FRONT-END LOADER. INSPECT PARKING LOT SIDE SLOPES ON AN ANNUAL BASIS FOR SLOUGHING OR UNDESIRABLE GROWTH.
- CATCH BASINS - REMOVE SEDIMENT FROM CATCH BASINS WHEN SEDIMENT HAS ACCUMULATED TO WITHIN 6 INCHES OF THE OUTLET INVERT BUT NO LESS THAN ANNUALLY.

PRELIMINARY - NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 	
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY		SHEET TITLE EROSION CONTROL NOTES		DRAWN: DED
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW			DESIGNED: BEK	SCALE: AS NOTED
REV	DATE	DESCRIPTION		CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	CHECKED: BEK	JOB NO. 195350142
		REVISIONS			FILE NAME: SP-M157 DETAILS	
					SHEET	C-6.1



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
SHEET TITLE EROSION CONTROL DETAILS		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 DETAILS SHEET C-6.2	
CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DATE: SEPT 2014 SCALE: AS NOTED JOB NO. 195350142	

2 02.29.16 FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY

1 01.22.16 SUBMITTED TO CLIENT FOR REVIEW

REV DATE DESCRIPTION

REVISIONS

STATE OF MAINE
BO KENNEDY
No. 11994
LICENSED PROFESSIONAL ENGINEER
P.E. 00000000000000000000
LIC. # 11994

1. SPECIFIC DESIGN CRITERIA

A. UNDERDRAIN PIPE:- PROPER LAYOUT OF THE PIPE UNDERDRAIN SYSTEM IS NECESSARY TO EFFECTIVELY DRAIN THE ENTIRE FILTER AREA. THERE MUST BE AT LEAST ONE LINE OF UNDERDRAIN PIPE FOR EVERY EIGHT FEET OF FILTER AREAS WIDTH. THE SLOPE OF THE INSTALLED UNDERDRAIN PIPE MUST BE POSITIVE. THE UNDERDRAIN PIPING SHOULD BE 4" TO 6" SLOTTED, RIGID SCHEDULE 40 PVC OR SDR35. STRUCTURE JOINTS SHALL BE SEALED SO THAT THEY ARE WATERTIGHT.

B. PIPE BEDDING AND TRANSITION ZONE: THE 4 TO 6 INCH DIAMETER PERFORATED UNDERDRAIN PIPE(S) MUST BE BEDDED IN INCHES OF UNDERDRAIN MATERIAL WITH AT LEAST 6 INCHES OF MATERIAL BENEATH THE PIPE AND 4 INCHES ABOVE. PIPE BEDDING MATERIAL INFORMATION IS PROVIDED BELOW:

THE UNDERDRAIN MATERIAL CONSISTS OF WELL GRADED, CLEAN, COARSE GRAVEL MEETING THE MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL. THE MATERIAL MUST CONTAIN LESS THAN 5% FINES PASSING THE #200 SIEVE. NO TRANSITION ZONE IS NECESSARY SINCE THE DRAINAGE PIPE IS BEDDED IN LESS PERVIOUS GRAVEL AND THIS DESIGN IS ACCEPTABLE FOR AREAS WHERE THE HEAD OR DEPTH TO SEASONAL HIGH GROUNDWATER IS CLOSE TO THE BOTTOM OF THE DRAINAGE LAYER. UNDERDRAIN PIPES MUST BE PLACED NO FURTHER THAN 8 FEET APART.

C. SOIL FILTER BED: THE SOIL FILTER MUST BE AT LEAST 18 INCHES DEEP ON TOP OF THE GRAVEL UNDERDRAIN PIPE BEDDING AND MUST EXTEND ACROSS THE BOTTOM OF THE ENTIRE FILTER AREA. THIS SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER.

D. SOIL FILTER MEDIA: SOIL MEDIA MUST CONSIST OF A LOAMY COARSE SAND SOIL ORGANIC SOURCES MUST BE APPROVED BY THE DEPARTMENT; HOWEVER AN AGRICULTURAL SOURCE IS NOT ACCEPTABLE FOR THE ORGANIC COMPONENT OF THE MEDIA.

THE RESULTING MIXTURE MUST HAVE NO MORE THAN 8% PASSING THE 200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%. THE SYSTEM MUST BE DESIGNED TO DRAIN THE SURFACE STORAGE VOLUME IN NO LESS THAN 24 HOURS AND NO MORE THAN 48 HOURS.

AS AN EXAMPLE, THE MIXTURE MAY CONTAIN BY VOLUME THE FOLLOWING:
50% OF SAND (MEDOT #703.01 CONTAINS INSUFFICIENT FINE FOR THE MEDIA)
20% OF LOAMY TOPSOIL
30% OF COMPOSTED WOODY FIBERS AND FINE SHREDDED BARK, SUPER HUMUS OR EQUIVALENT (ADJUSTED FOR MINERAL SOIL CONTENT)

E. CLAY CONTENT: USE OF SOILS WITH MORE THAN 2 % CLAY CONTENT COULD CAUSE FAILURE OF THE SYSTEM AND CARE SHOULD BE TAKEN, ESPECIALLY IN AREAS WHERE THE PREDOMINANT SOIL CONTAINS MARINE CLAY, THAT THE SAND AND TOPSOIL USED IN THE MIXTURE HAVE VERY LITTLE OR NO CLAY CONTENT.

F. FILTER PERMEABILITY: THE FILTER MUST BE PERMEABLE ENOUGH TO INSURE DRAINAGE WITHIN 48 HOURS MAXIMUM, YET HAVE SUFFICIENT FINES TO INSURE FILTRATION OF FINE PARTICLES AND REMOVAL OF DISSOLVED POLLUTANTS. THE DESIGN MAY EITHER RELY ON THE SOIL PERMEABILITY, IF KNOWN, TO PROVIDE THE SLOW RELEASE OF THE WATER TREATMENT VOLUME OVER A MINIMUM OF 24 HOURS, OR MAY INSURE THIS RATE BY INSTALLING A CONSTRICTIVE ORIFICE OR VALVE ON THE UNDERDRAIN OUTLET. IN DETERMINING THE PERMEABILITY OF THE MEDIA, THE PERCENT FINES OF THE MIXTURE AND THE LEVEL OF COMPACTION SHOULD BE CONSIDERED. GENERALLY, THE SOIL MEDIA SHOULD BE ONLY LIGHTLY COMPACTED BETWEEN 80 AND 82% STANDARD PROCTOR (ASTM D698) AND SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR.

G. GRADATION TESTING: GRADATION TESTS, INCLUDING HYDROMETER TESTING FOR CLAY CONTENT, AND PERMEABILITY TESTING OF THE SOIL FILTER MATERIAL, SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW BEFORE PLACEMENT AND COMPACTION.

H. GEOTEXTILE FABRIC: A GEOTEXTILE FABRIC WITH SUITABLE CHARACTERISTICS MAY BE PLACED BETWEEN THE SIDES OF THE FILTER LAYER AND ADJACENT SOIL. THE FABRIC WILL PREVENT THE SURROUNDING SOIL FROM MIGRATING INTO AND CLOGGING THE FILTER AND CLOGGING THE OUTLET. OVERLAP SEAMS MUST BE A MINIMUM OF 12 INCHES. DO NOT WRAP FABRIC OVER THE TOP OF THE PIPE BEDDING AS IT WILL CAUSE CLOGGING AND WILL PREVENT FLOWS OUT OF THE FILTER. THE GEOTEXTILE FABRIC SHALL BE MIRAFI 170N OR EQUIVALENT.

I. VEGETATION: THE SOIL FILTER SURFACE MUST BE PLANTED WITH A CONSERVATION MIX OF GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL DRAINED SOILS. UPON SEEDING, THE SOIL FILTER SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET, BUT MUST NOT BE FERTILIZED. ANNUAL RYE HAS BEEN ADDED TO RAPIDLY ESTABLISH VEGETATION. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN APPROVED EQUIVALENT CONSERVATION TYPE MIXTURE:

ANNUAL RYE	4.0	LBS/M. SQ. FT.
TALL FESCUE	1.6	LBS/M. SQ. FT.
TALL RED FESCUE	1.6	LBS/M. SQ. FT.
BIRDSFOOT TREFOIL	0.8	LBS/M. SQ. FT.
TOTAL	8.0	LBS/M. SQ. FT.

J. ROCK FOREBAY: A ROCK FOREBAY IS RECOMMENDED TO REDUCE FLOW VELOCITY INTO THE VOLUME III: BMPS TECHNICAL DESIGN MANUAL CHAPTER 7.1, FILTRATION BMP- GRASSED FILTER BASIN. IT SHALL REMAIN CLEAR OF SEDIMENT UNTIL THE UPGRADIENT TRIBUTARY AREA IS FULLY VEGETATED.

2. CONSTRUCTION CRITERIA

A. BASIN EXCAVATION: THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM MUST BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. IF THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

B. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90 AND 92% STANDARD PROCTOR, THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.

C. OUTLET DISCHARGE: OUTFLOW OF THE FILTER BASIN UNDERDRAIN WILL BE CONTROLLED BY A CONSTRICTIVE ORIFICE.

D. CONSTRUCTION SEQUENCE: EROSION AND SEDIMENTATION FROM UNSTABLE SUBCATCHMENTS IS THE MOST COMMON REASON FOR FILTER FAILURE. NOT HEEDING THE CONSTRUCTION SEQUENCING CRITERIA IS LIKELY TO RESULT IN THE NEED TO REPLACE THE SOIL FILTER. THE SOIL FILTER MEDIA AND VEGETATION MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED UNLESS THE DEPARTMENT HAS DETERMINED, ON A CASE-BY-CASE BASIS, THAT SUFFICIENT MEASURES ARE BEING TAKEN TO PREVENT EROSION OF MATERIAL FROM THE UNSTABLE CATCHMENT AREA AND DEPOSITION ON THE FILTER.

E. REMEDIAL LOAM COVER: TO RAPIDLY ESTABLISH VEGETATION IN THE FILTER AREA, THE CONTRACTOR WILL INSTALL A 2-3 INCH LAYER OF SANDY LOAM TOPSOIL (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ABOVE THE GRASS FILTER PRIOR TO SEEDING, MULCHING AND ANCHORING EROSION CONTROL MESH.

F. CONSTRUCTION OVERSIGHT: INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE CITY OF PORTLAND. AT A MINIMUM, INSPECTIONS WILL OCCUR:
- AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- PRIOR TO SUBSTANTIAL COMPLETION, LABOR DAY AND COLUMBUS DAY THE HEALTH OF THE VEGETATION SHALL BE INSPECTED AND THE CONTRACTOR SHALL DEVELOP A PLAN TO ESTABLISH TURF IN THE FILTER;
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

G. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE NO MORE THAN 8% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

3. MAINTENANCE CRITERIA

DURING THE FIRST YEAR, THE BASIN WILL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS.

DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED.

MOWING OF A GRASSED BASIN CAN OCCUR SEMIANNUALLY TO A HEIGHT NO LESS THAN 6 INCHES.

ANY BARE AREA OR EROSION RILLS SHALL BE REPAIRED WITH NEW FILTER MEDIA OR SANDY LOAM THEN SEEDED AND MULCHED.

MAINTAINING GOOD GRASS COVER WILL MINIMIZE CLOGGING WITH FINE SEDIMENTS AND IF PONDING EXCEEDS 48 HOURS, THE TOP OF THE FILTER BED MUST BE ROTOTILLED TO REESTABLISH THE SOIL'S FILTRATION CAPACITY IF EXTENDED PONDING IS OBSERVED.

A. MAINTENANCE AGREEMENT: AN AGENT OF SUBURBAN PROPANE IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ANY UNDERDRAINED FILTER. OTHER STORMWATER O&M REQUIREMENTS ARE INCLUDED WITH PERMIT APPLICATION.

B. SOIL FILTER INSPECTION: THE SOIL FILTER SHOULD BE INSPECTED AFTER EVERY MAJOR STORM IN THE FIRST YEAR TO BE SURE IT IS FUNCTIONING PROPERLY. THEREAFTER, THE FILTER SHOULD BE INSPECTED AT LEAST ONCE EVERY SIX MONTHS TO ENSURE THAT IT IS DRAINING WITHIN 48 HOURS FOLLOWING A ONE INCH STORM OR GREATER. AND THAT FOLLOWING A STORMS THAT FILL THE SYSTEM TO OVERFLOW, IT DRAINS IN NO LESS THAN 36 TO 60 HOURS. IF THE SYSTEM DRAINS TOO FAST, AN ORIFICE MAY NEED TO BE ADDED ON THE UNDERDRAIN OUTLET OR, IF ALREADY PRESENT, MAY NEED TO BE MODIFIED.

C. SOIL FILTER REPLACEMENT: THE TOP SEVERAL INCHES OF THE FILTER SHALL BE REPLACED WITH FRESH MATERIAL WHEN WATER PONDS ON THE SURFACE OF THE BED FOR MORE THAN 72 HOURS. THE REMOVED SEDIMENTS SHOULD BE DISPOSED OF IN AN ACCEPTABLE MANNER.

D. SEDIMENT REMOVAL: SEDIMENT AND PLANT DEBRIS SHOULD BE REMOVED FROM THE PRETREATMENT STRUCTURE AT LEAST ANNUALLY.

E. MOWING: IF MOWING IS DESIRED, ONLY HANDHELD STRING TRIMMERS OR PUSH-MOWERS ARE ALLOWED ON THE FILTER (NO TRACTOR) AND THE GRASS BED SHOULD BE MOWED NO MORE THAN 2 TIMES PER GROWING SEASON TO MAINTAIN GRASS HEIGHTS OF NO LESS THAN 6 INCHES.

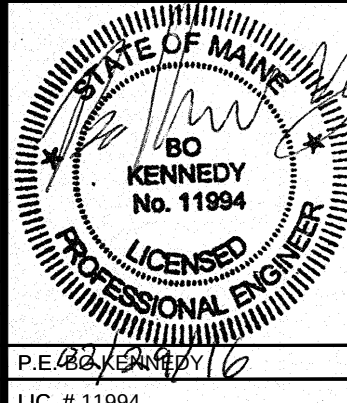
F. FERTILIZATION: FERTILIZATION OF THE UNDERDRAINED FILTER AREA SHOULD BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.

G. HARVESTING AND WEEDING: HARVESTING AND PRUNING OF EXCESSIVE GROWTH WILL NEED TO BE DONE OCCASIONALLY. WEEDING TO CONTROL UNWANTED OR INVASIVE PLANTS MAY ALSO BE NECESSARY. ADD NEW MULCH ONLY AS NECESSARY FOR BIORETENTION CELL.

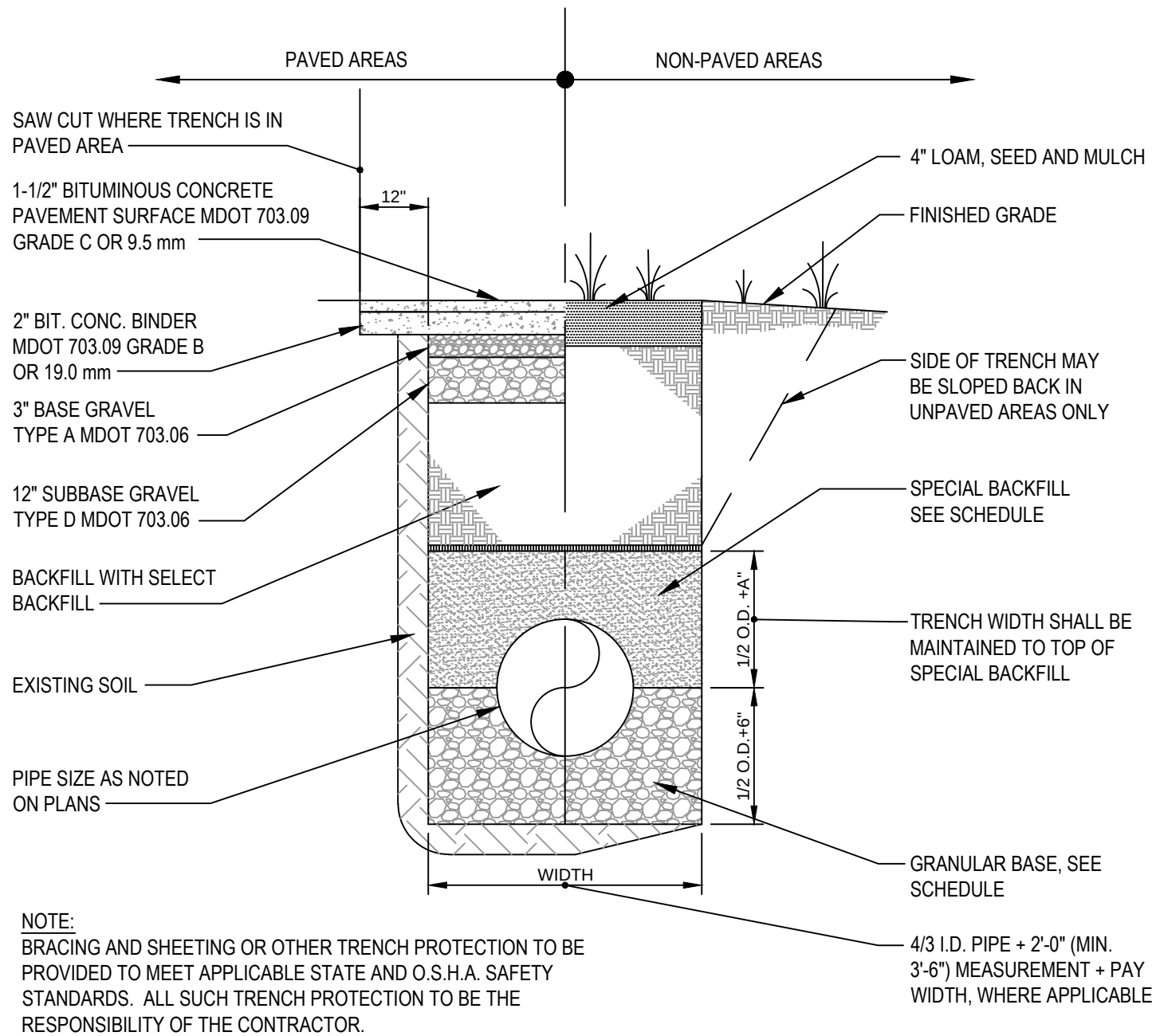
A DETAILED O & M SCHEDULE ACCOMPANIES THIS APPLICATION. THE O & M IS TO BE COMPLETED BY SUBURBAN PROPANE OR ITS ASSIGNED PERSONNEL AND IS SUBJECT TO PERIODIC REVISIONS.

GRASSED UNDERDRAINED SOIL FILTER CONSTRUCTION NOTES STRUCTURE
N.T.S.

PRELIMINARY - NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 
				SHEET TITLE STORMWATER MANAGEMENT: GRASSED UNDERDRAINED FILTER NOTES	DRAWN: CDD DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 POND SECTIONS SHEET C-7.1
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY			
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW			
REV	DATE	DESCRIPTION	PE BO KENNEDY LIC. # 11994	CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	
REVISIONS					

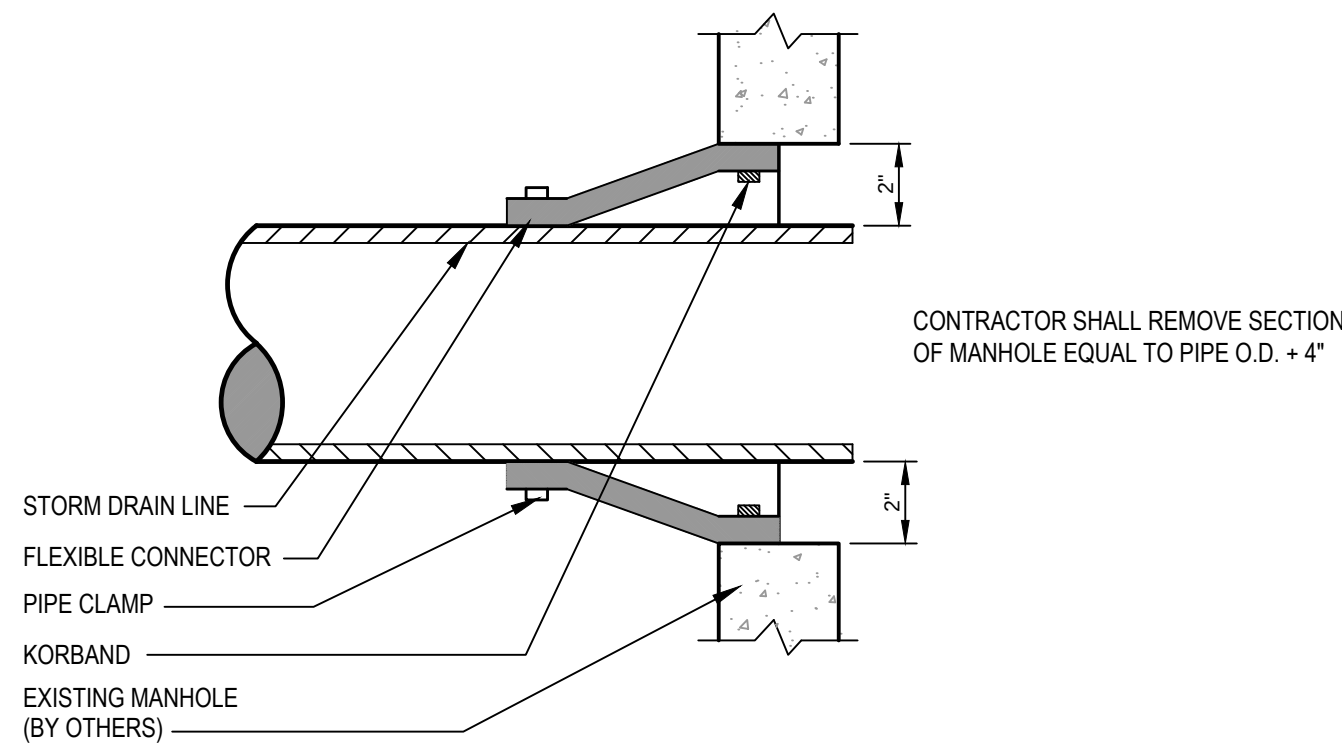
TRENCH SECTION BACKFILL SCHEDULE				
TYPE OF PIPE	GRANULAR BASE MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL COVER "A" (IN)	SELECT BACKFILL
CONCRETE	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	12"	GRANULAR AASHTO M145-49 A-3 OR BETTER
PVC OR HDPE	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
DUCTILE IRON	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
UNDER-DRAINS	3/4" CRUSHED STONE	3/4" CRUSHED STONE	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER



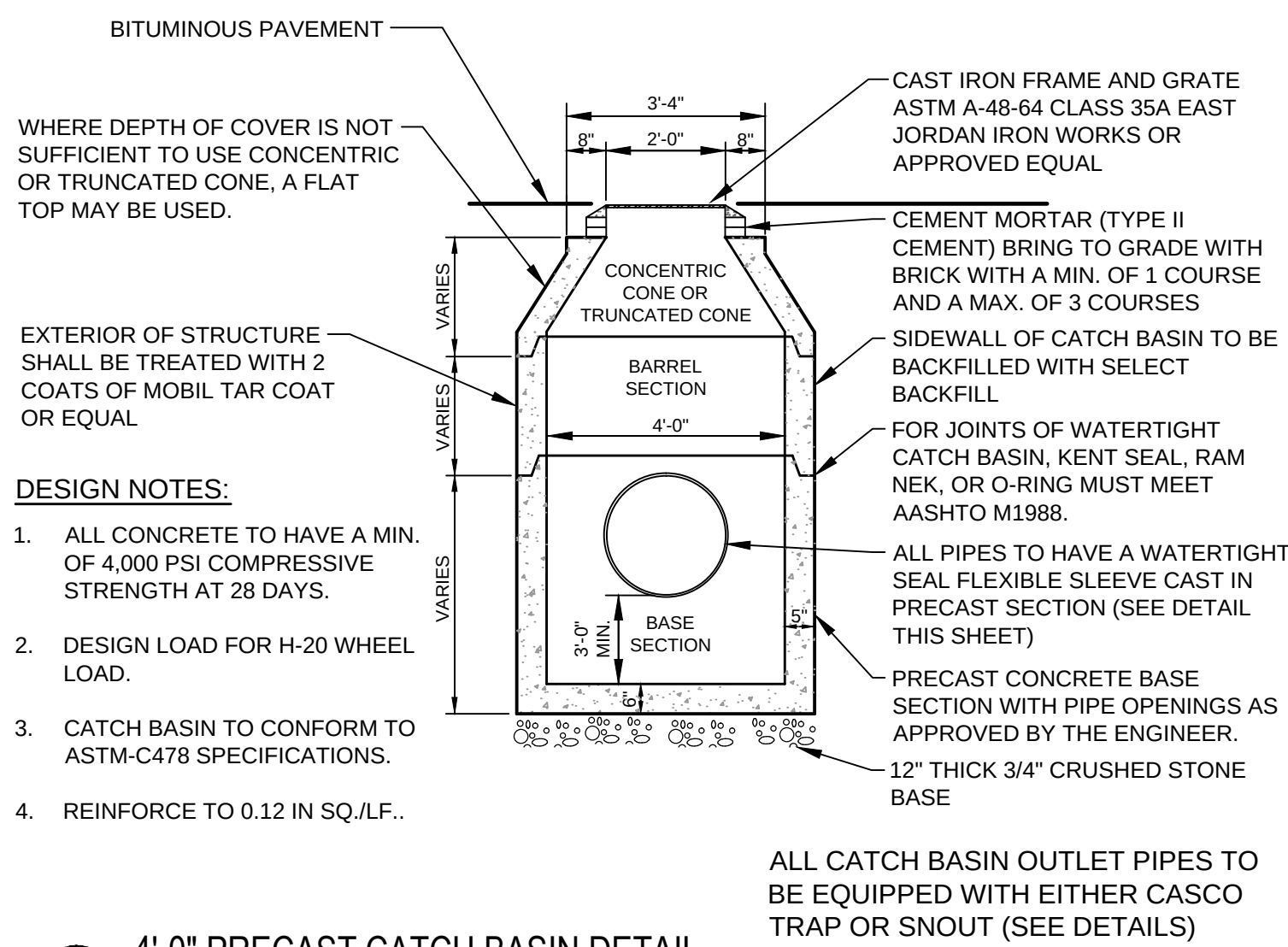
A TYPICAL UTILITY PIPE TRENCH SECTION
N.T.S.

NOTES:

1. A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF ALL PIPE TO MANHOLE JUNCTIONS.
2. THE CONNECTOR SHALL BE KOR-N-SEAL AS MANUFACTURED BY NPC SYSTEMS, INC., OF MILFORD, NH OR EQUAL.
3. THE CONNECTOR SHALL BE THE SOLE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS KNOWN TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS.
4. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET AT 60/70 in/lbs.
5. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.
6. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.
7. ALL CONNECTORS WHICH ARE CAPPED AWAITING PIPE INSTALLATION AT A LATER DATE MUST BE RESTRAINED.



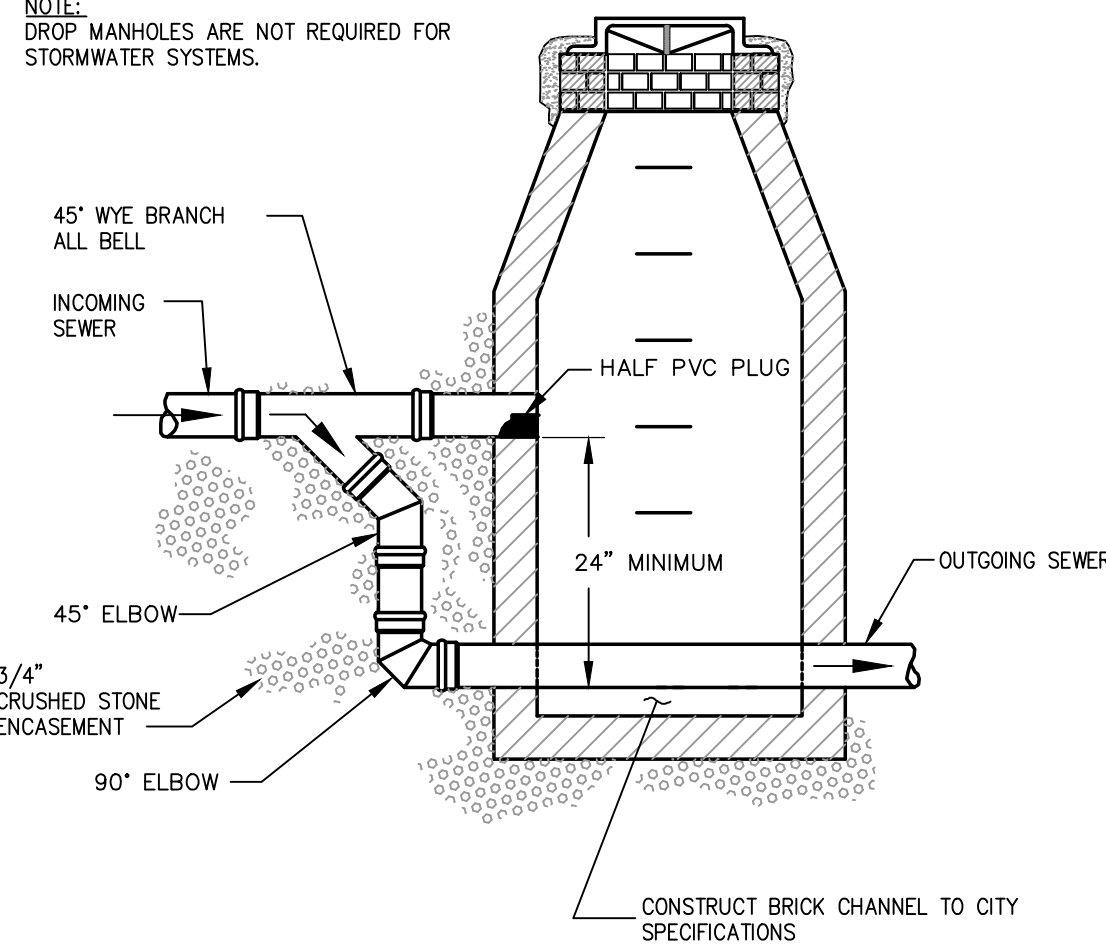
C CORE AND SEAL CONNECTION TO EXISTING STORM DRAIN OR SANITARY MANHOLE
N.T.S.



B 4'-0" PRECAST CATCH BASIN DETAIL
N.T.S.

NOTE:

DROP MANHOLES ARE NOT REQUIRED FOR STORMWATER SYSTEMS.



D EXTERNAL DROP MANHOLE DETAIL
N.T.S.

DATE: AUGUST 2009
REVISED:

CITY OF PORTLAND, MAINE
TECHNICAL STANDARDS MANUAL
SECTION 11

SANITARY SEWER AND STORM
DRAIN DESIGN STANDARDS
FIGURE:
II-12

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	7.0
42	7.0
48	7.0

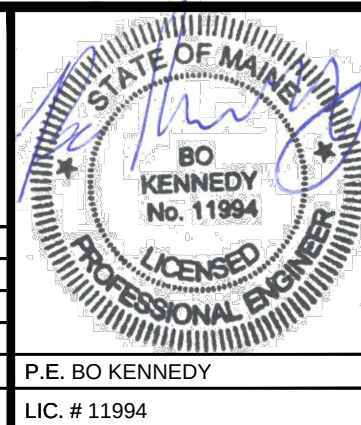
TYPICAL PIPE TRENCH INSTALLATION
NOT TO SCALE

TYPICAL PIPE INSTALLATION - NOTES
NOT TO SCALE

E TYPICAL PIPE TRENCH INSTALLATION
N.T.S.

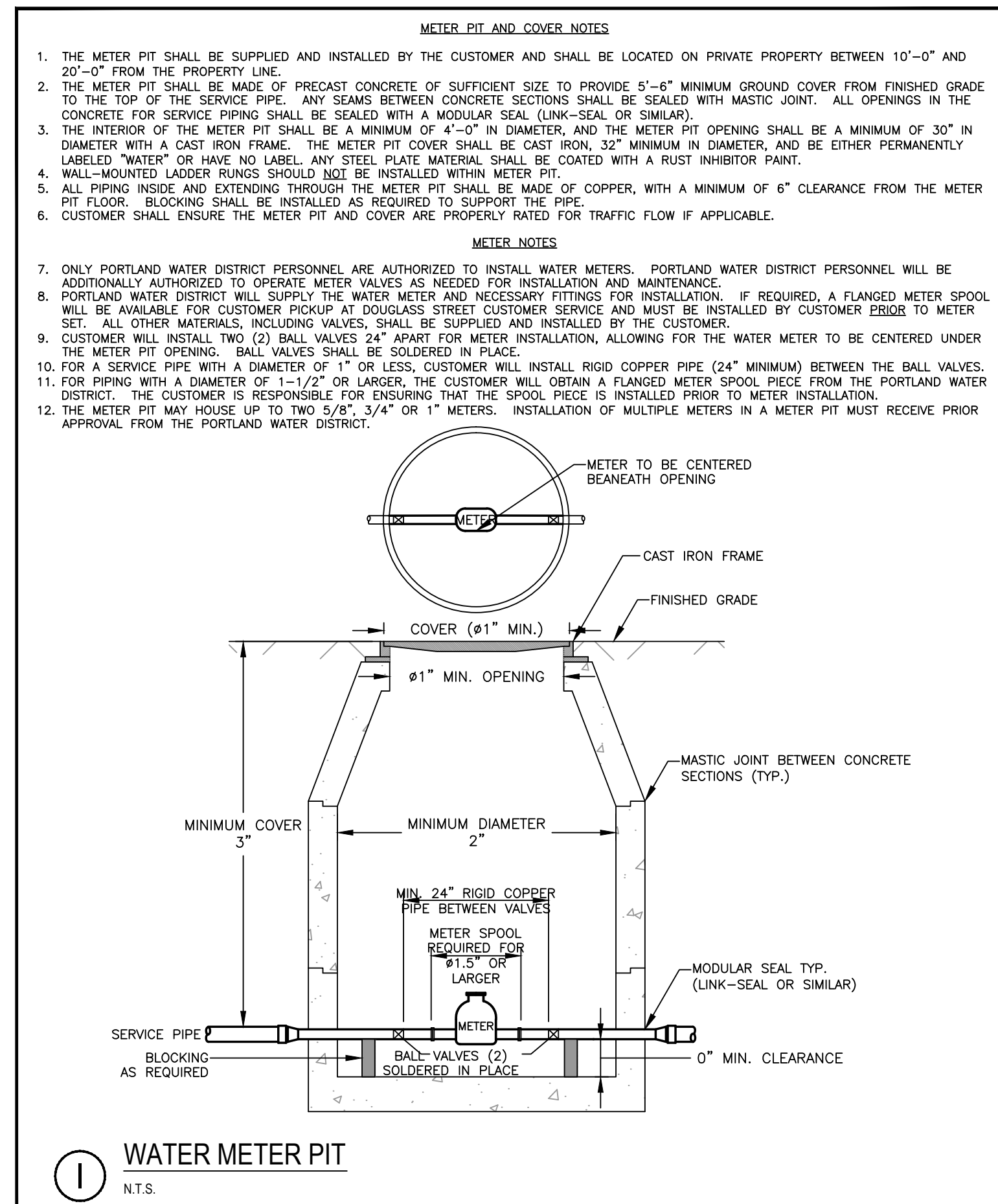
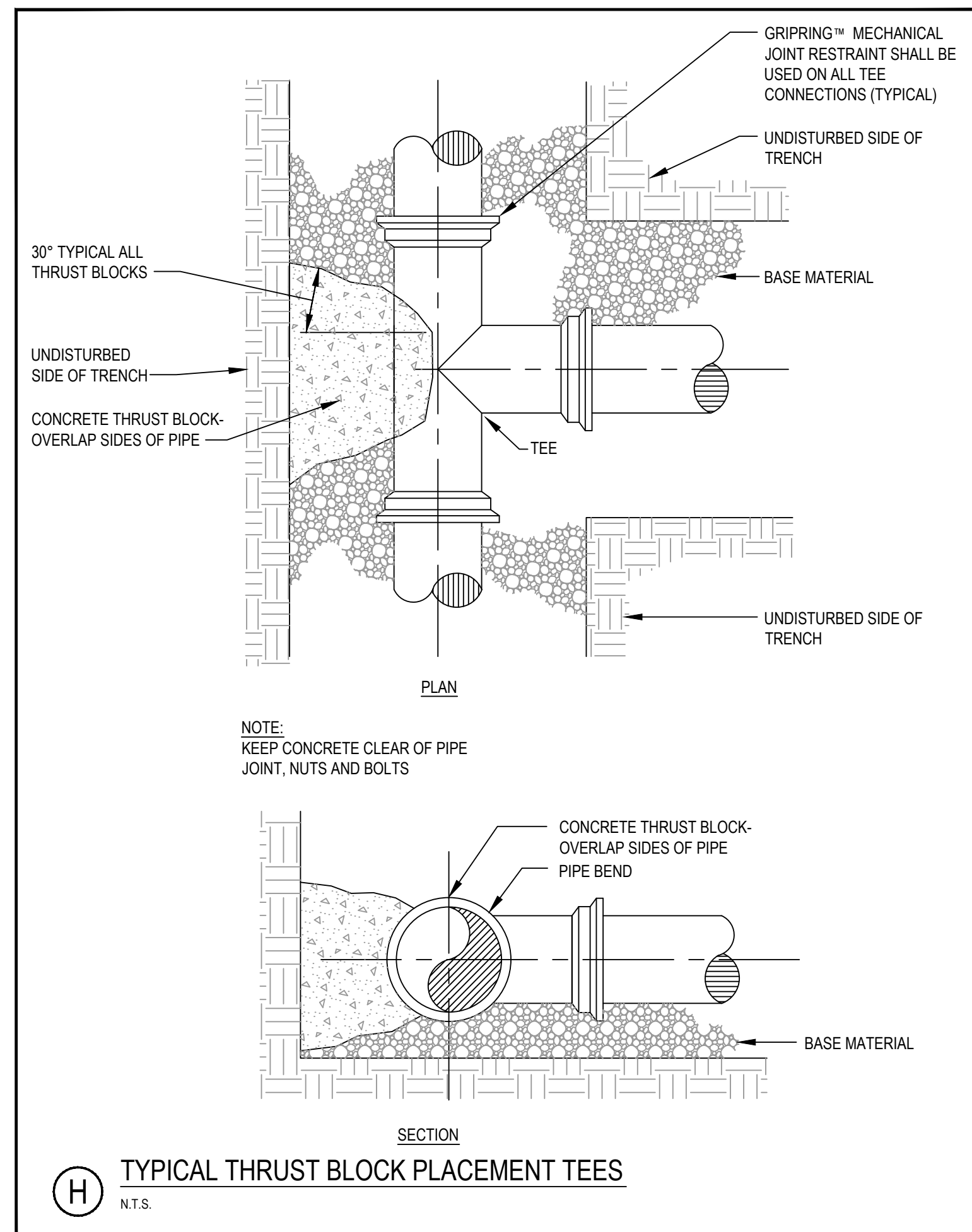
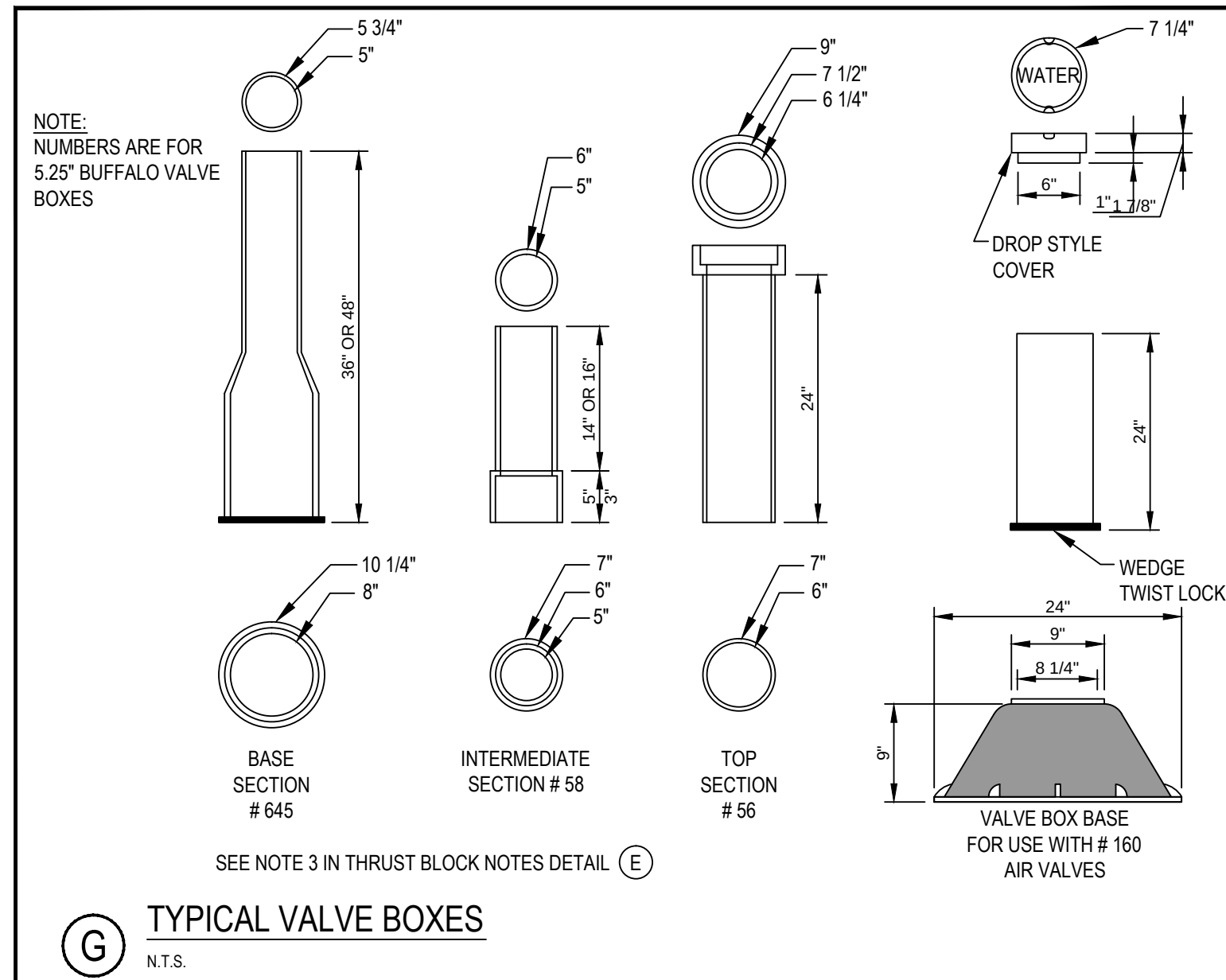
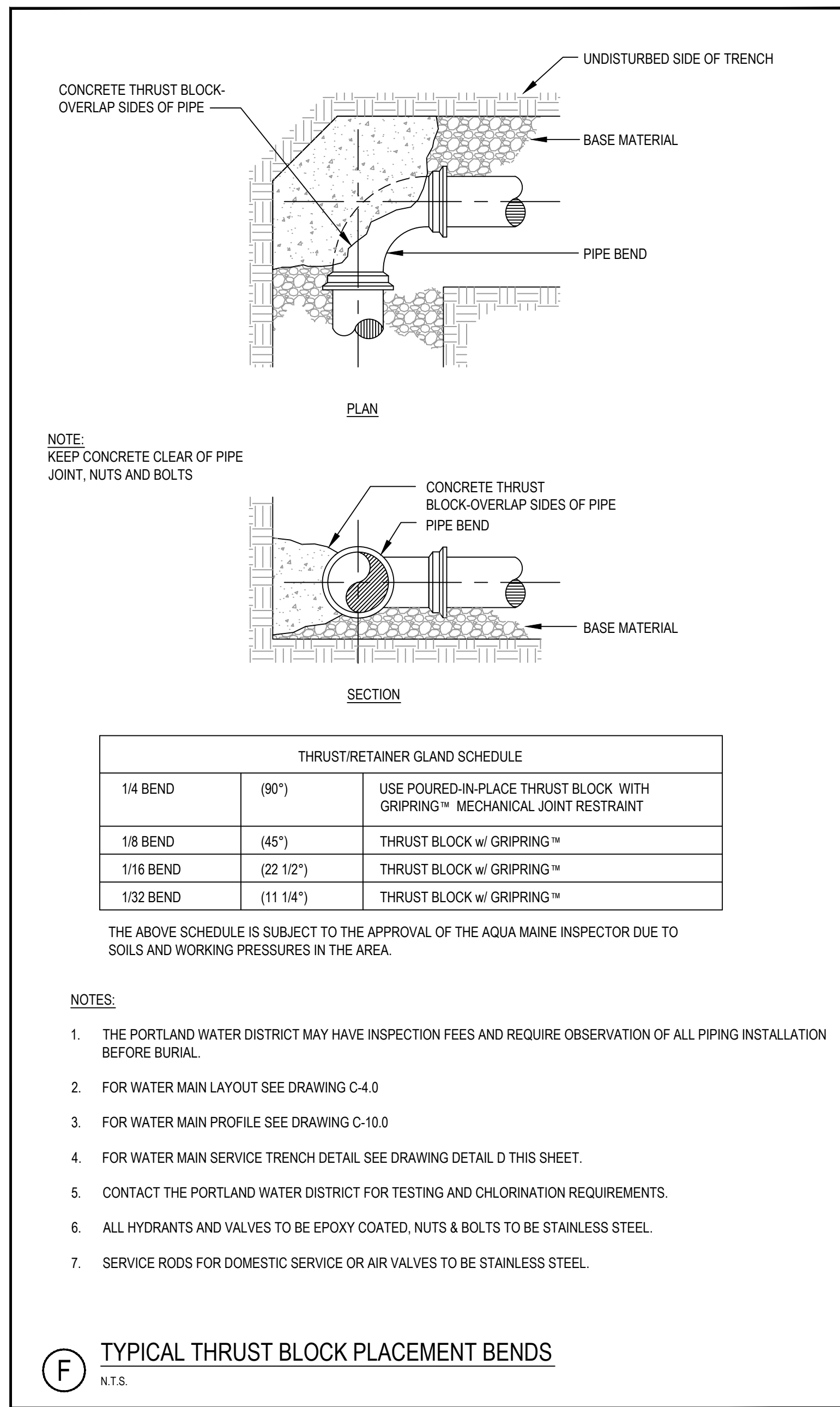
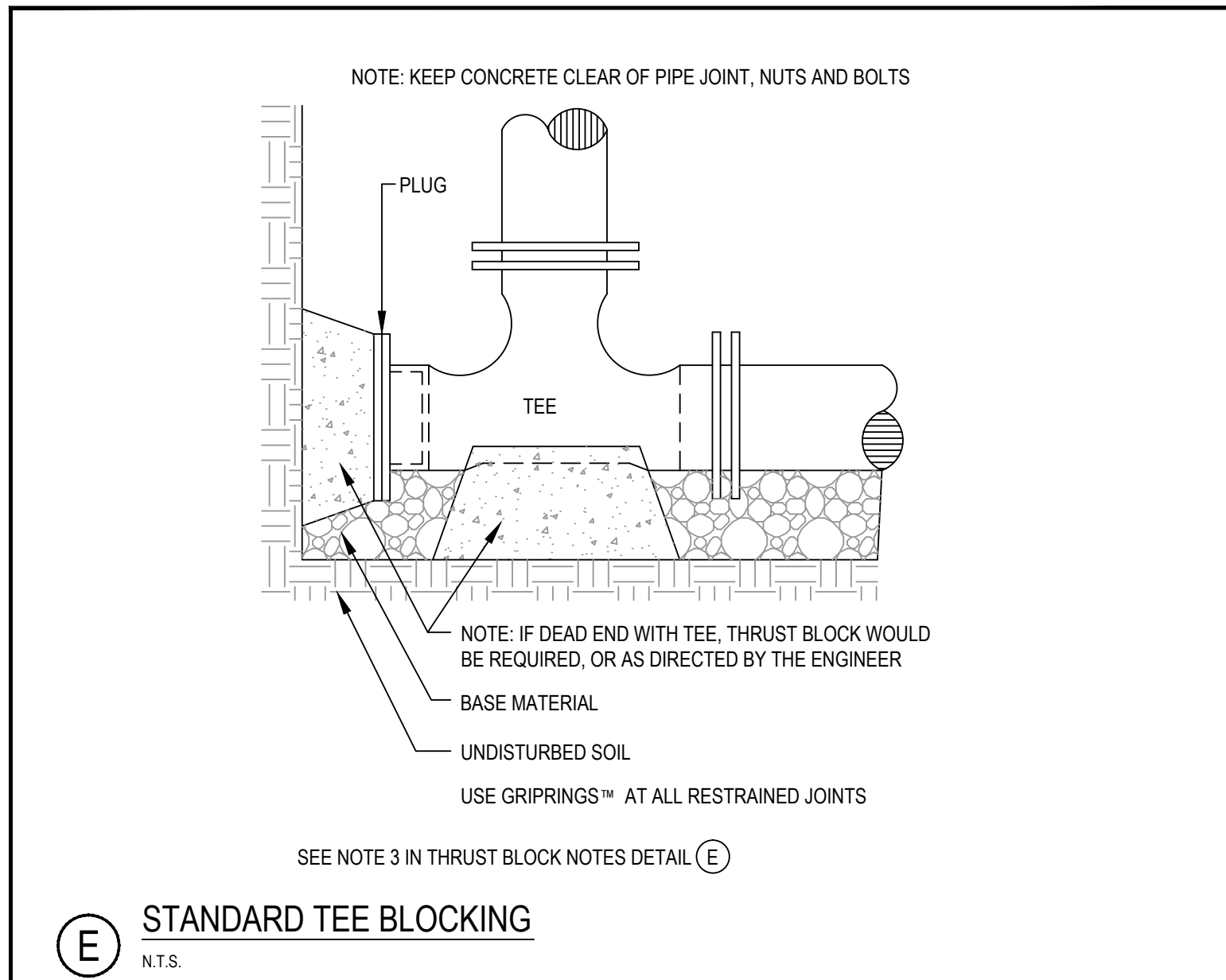
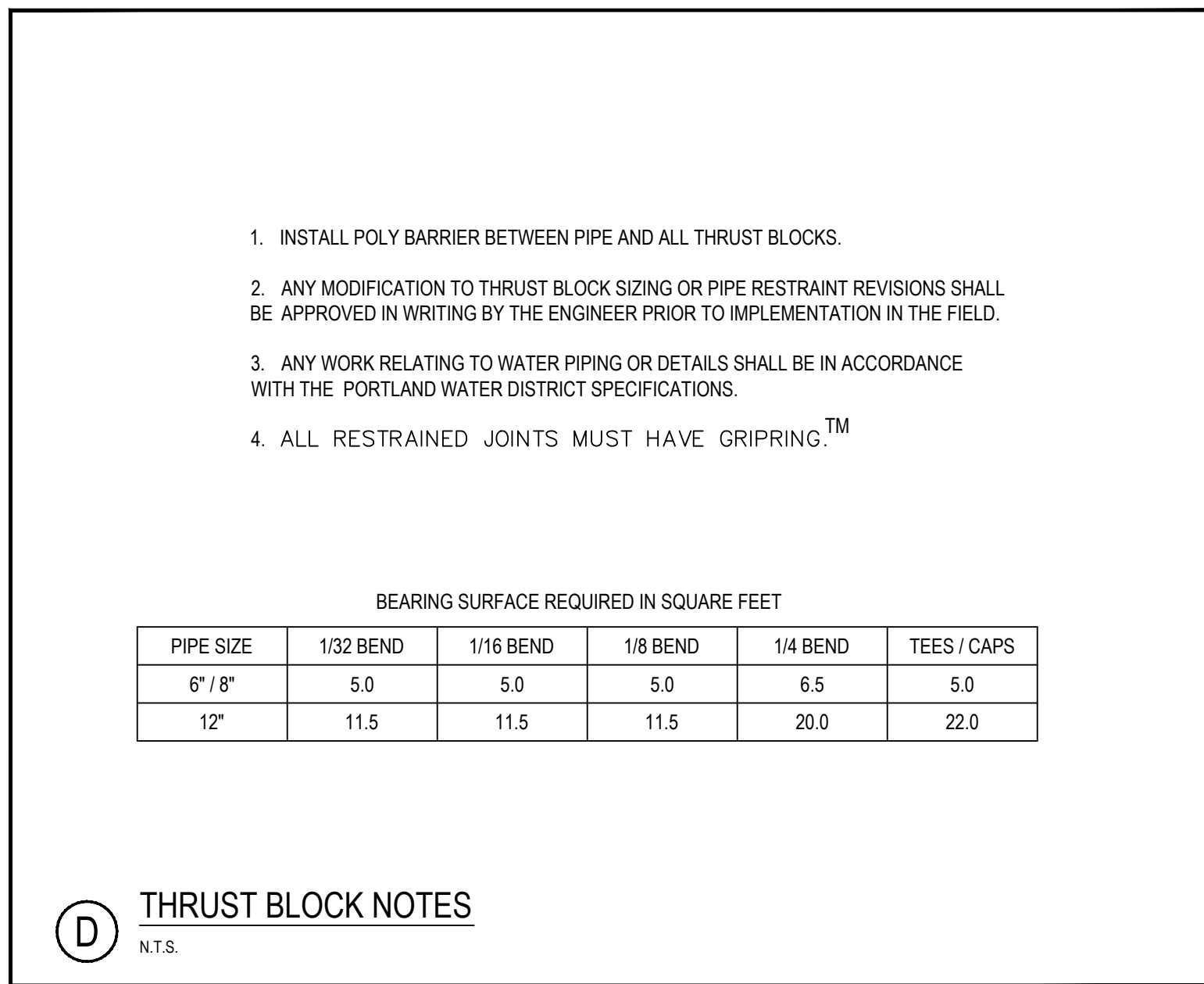
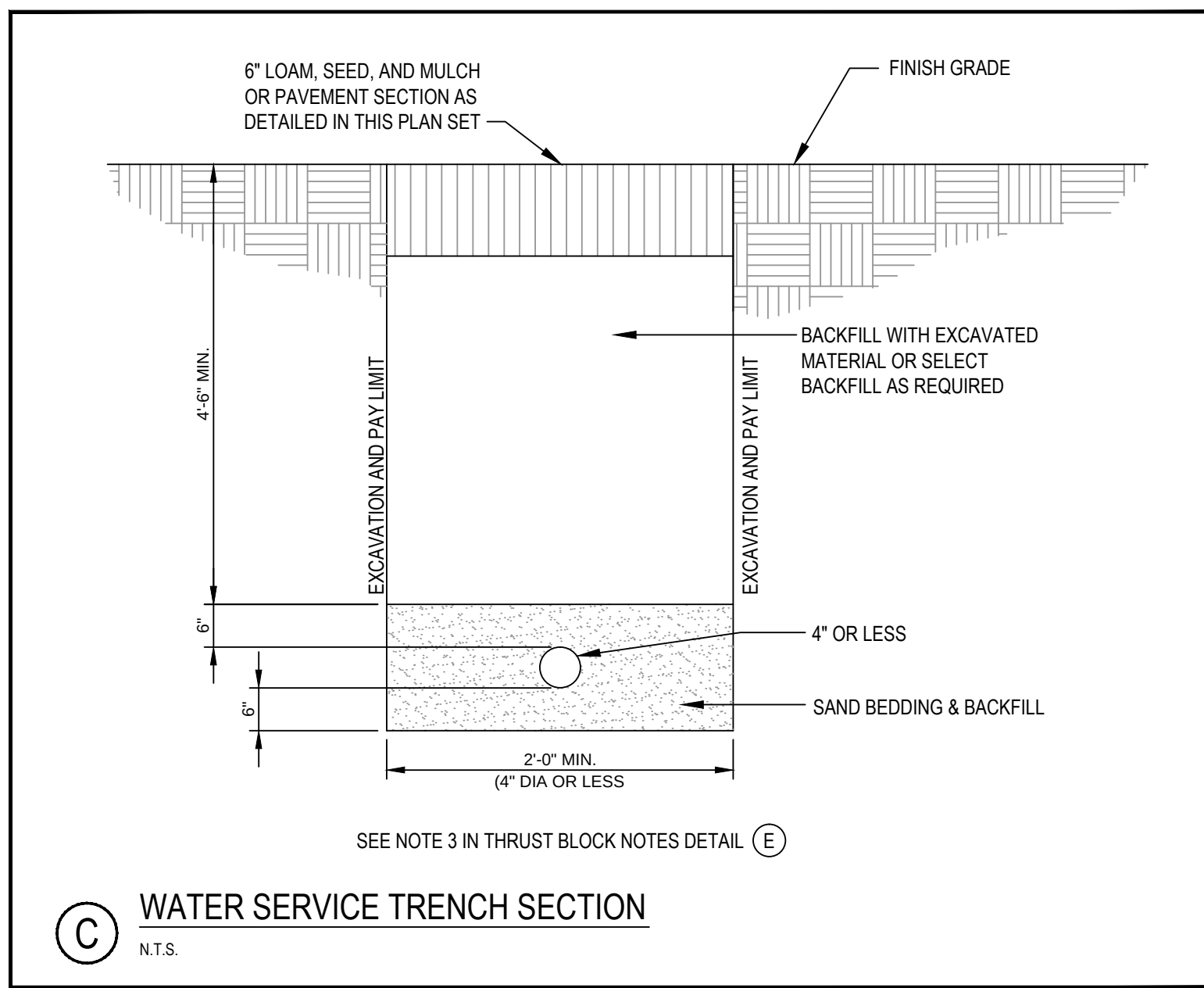
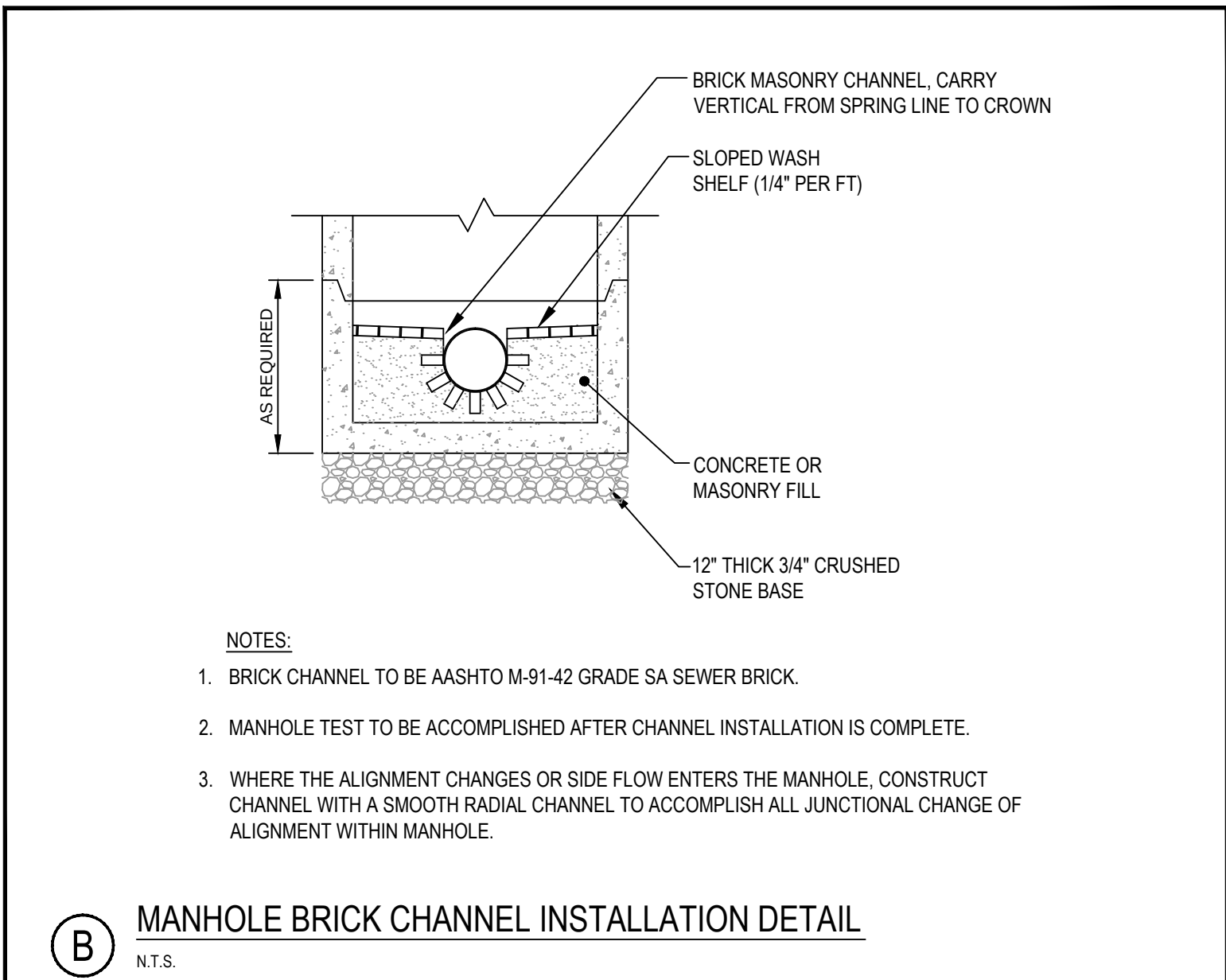
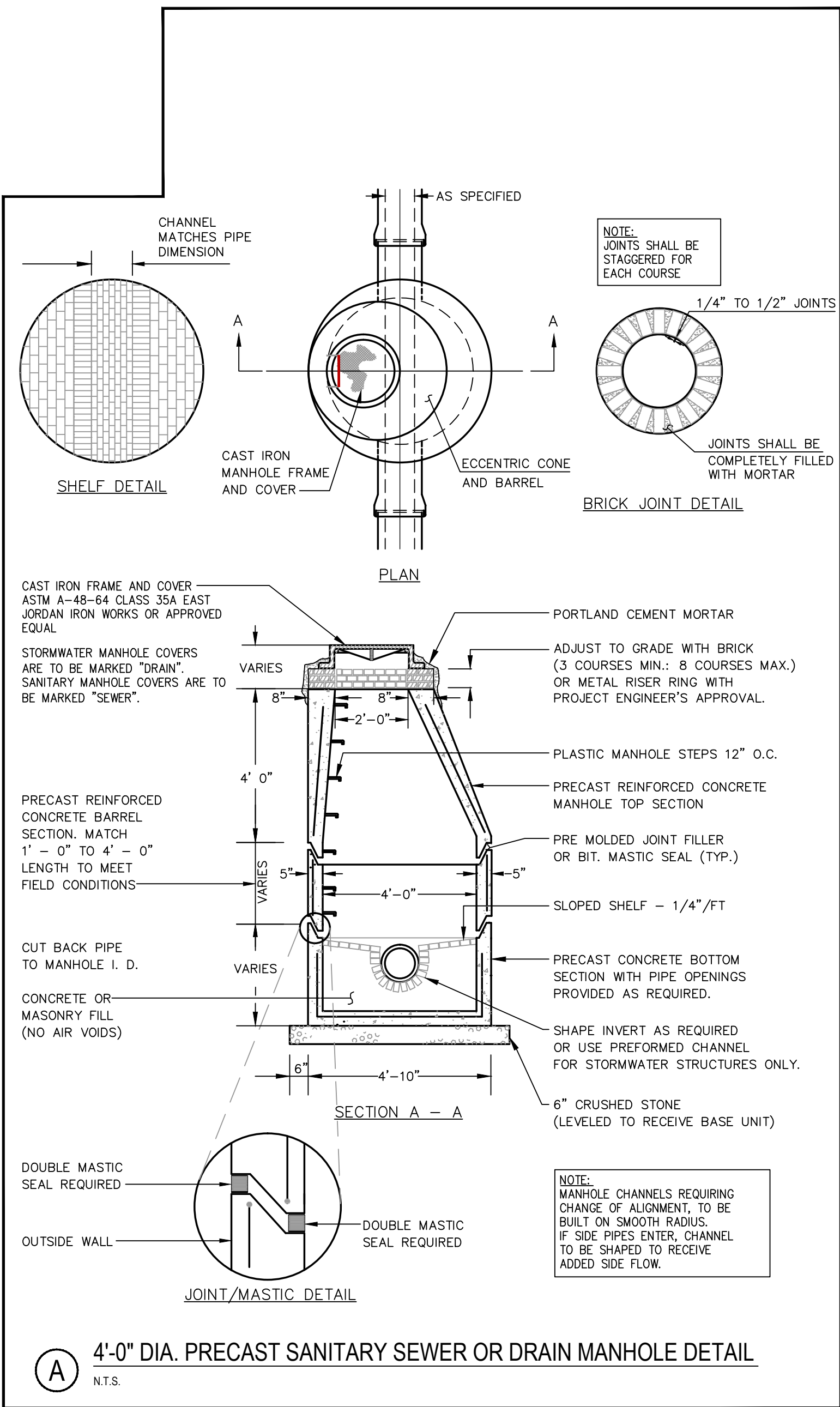
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
4	06.10.16	REVISED PER CITY COMMENTS
3	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
2	01.22.16	SUBMITTED TO CLIENT FOR REVIEW
1	02.11.15	SUBMITTED TO CONTRACTOR FOR PRICING



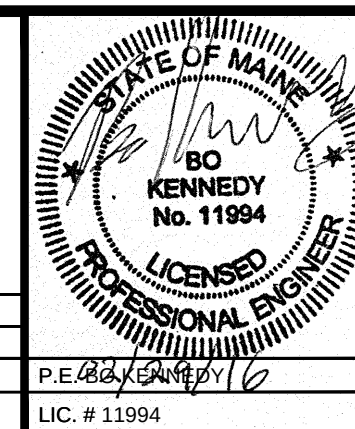
PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	UTILITY DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.0

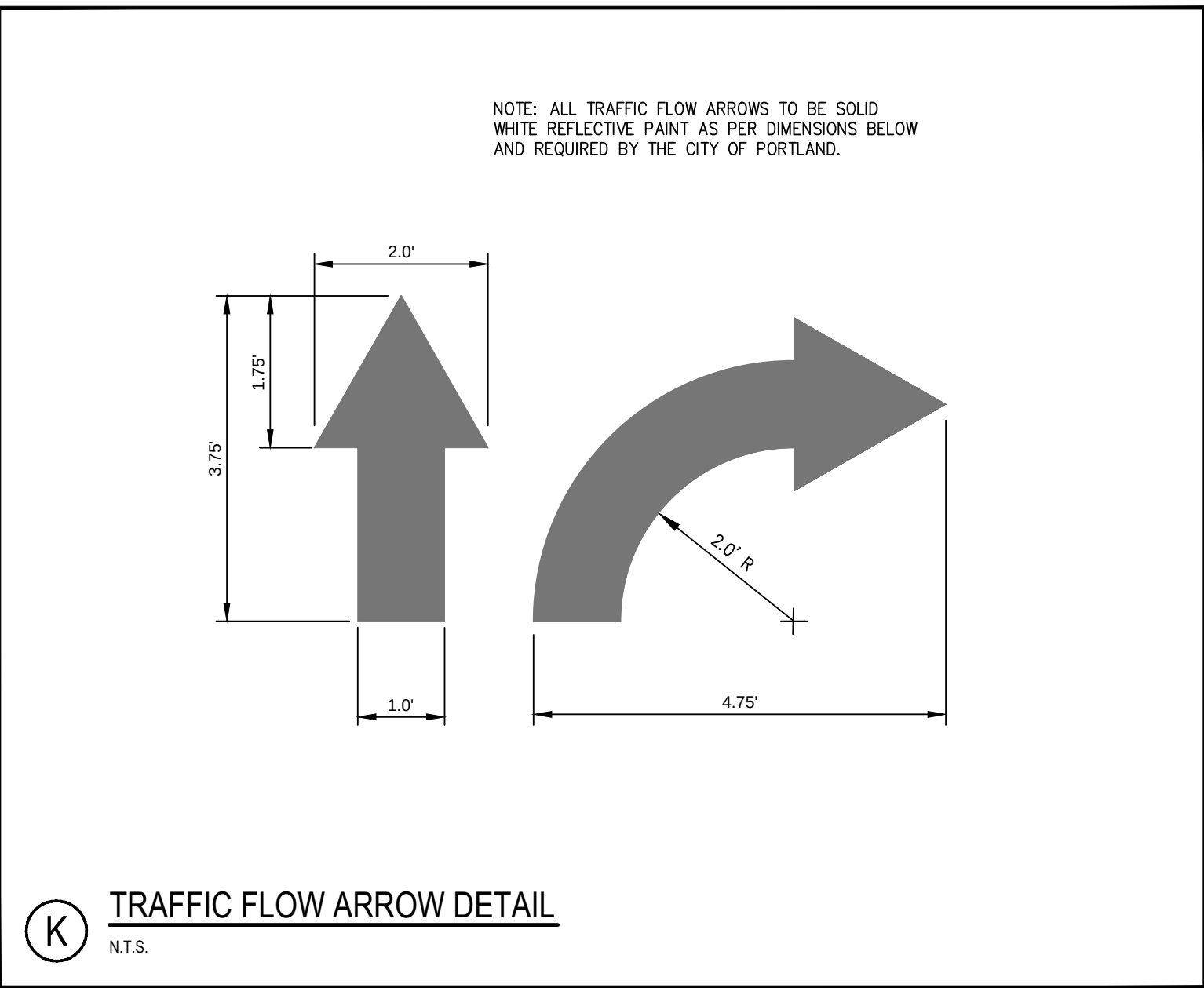
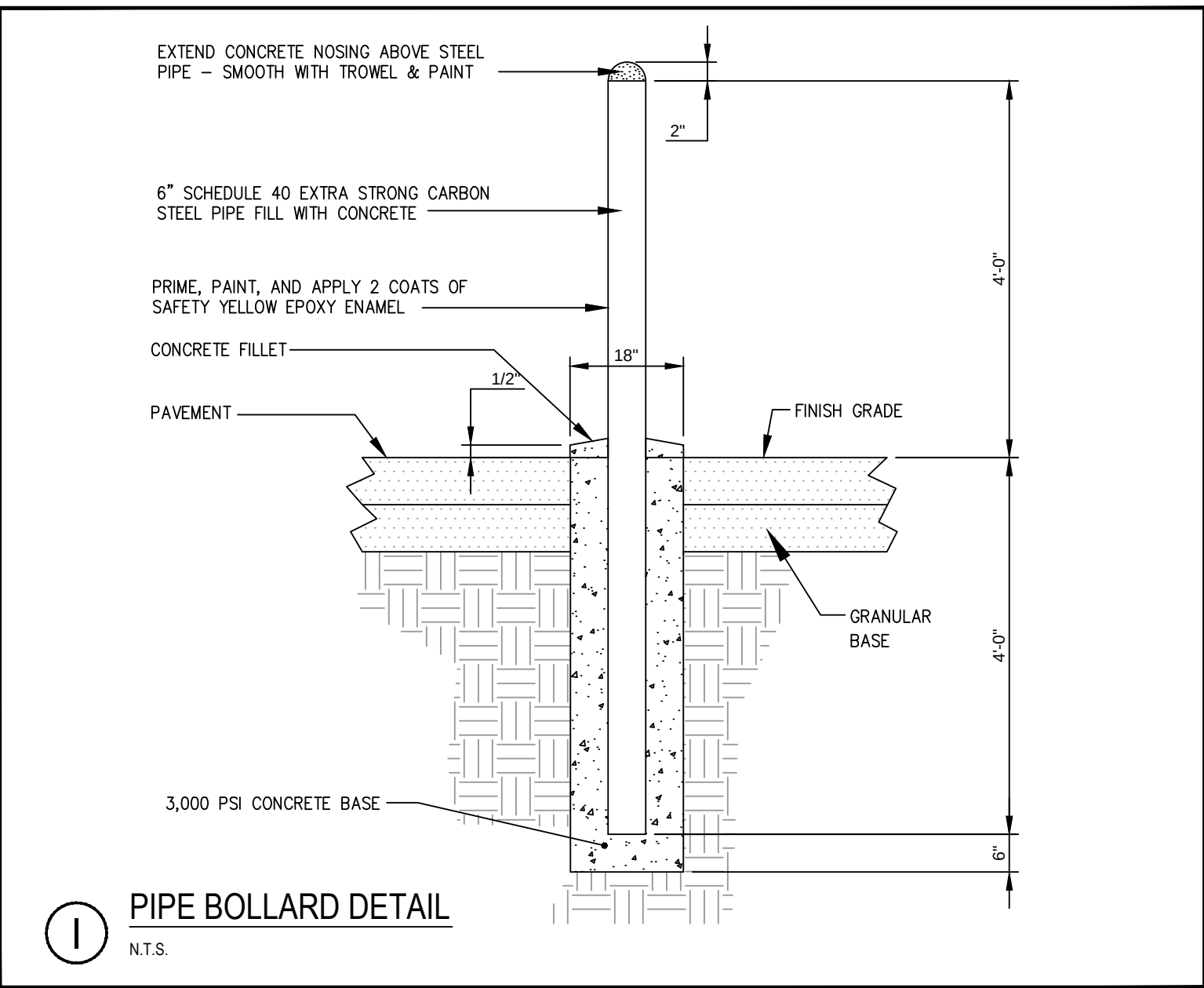
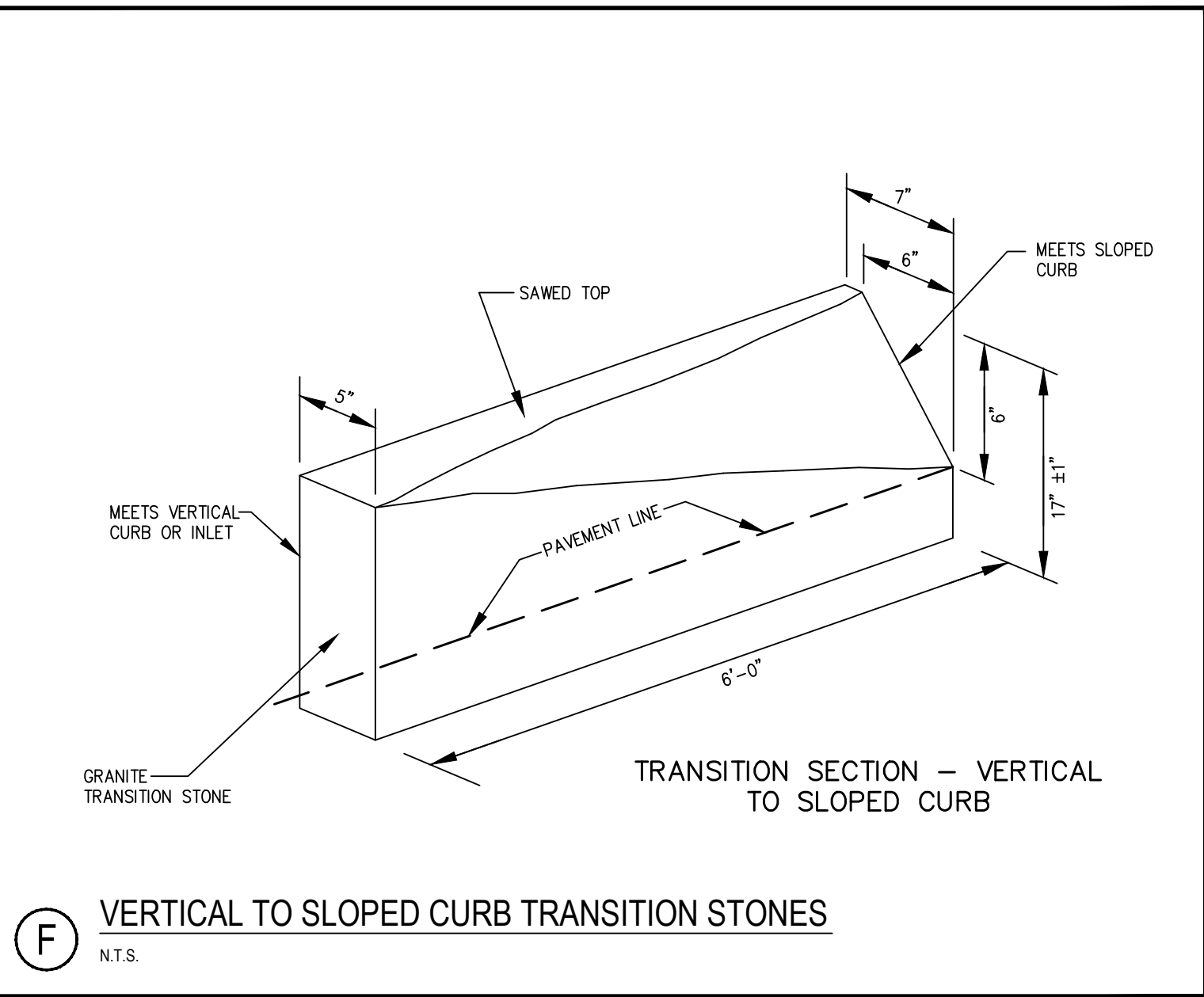
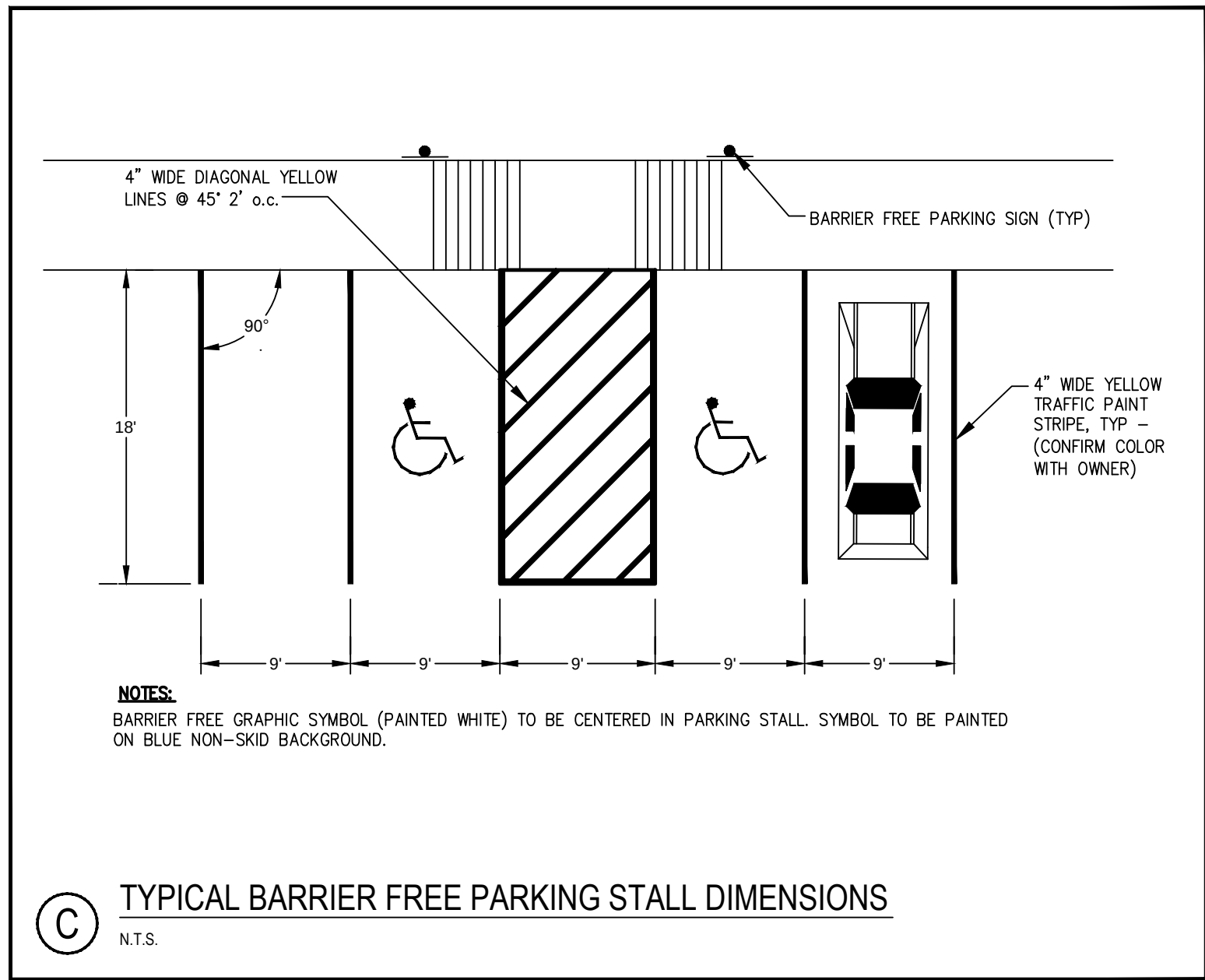
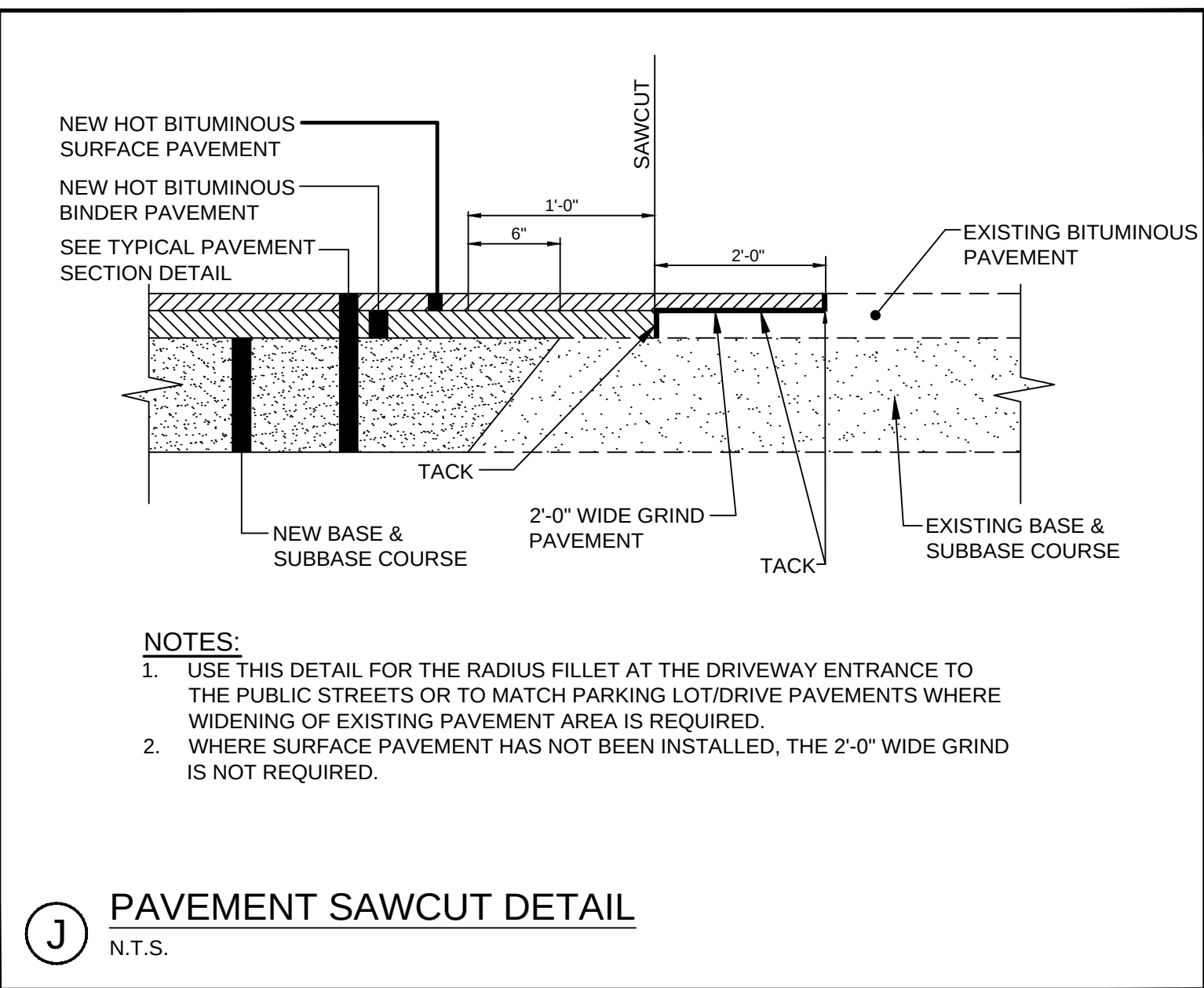
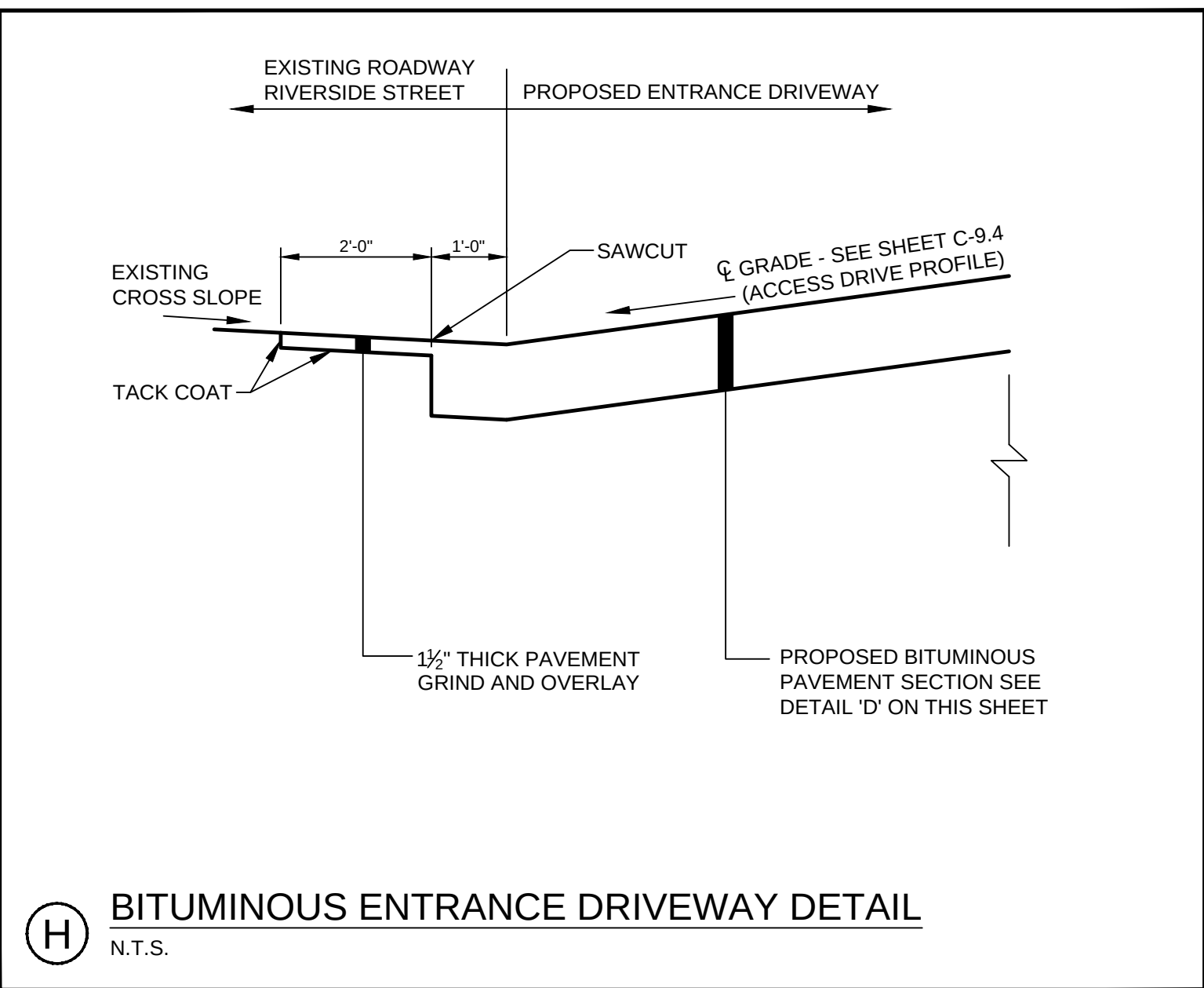
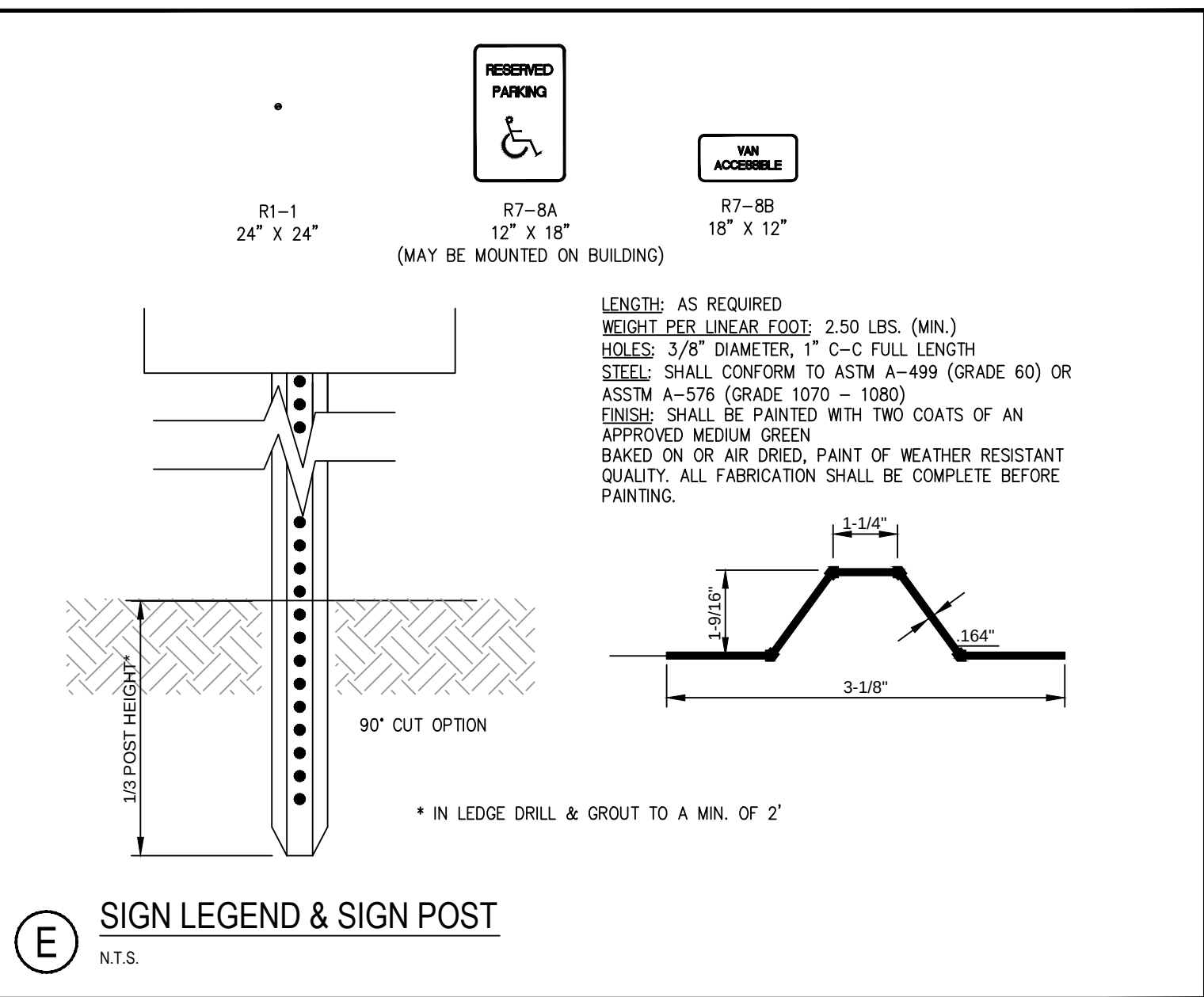
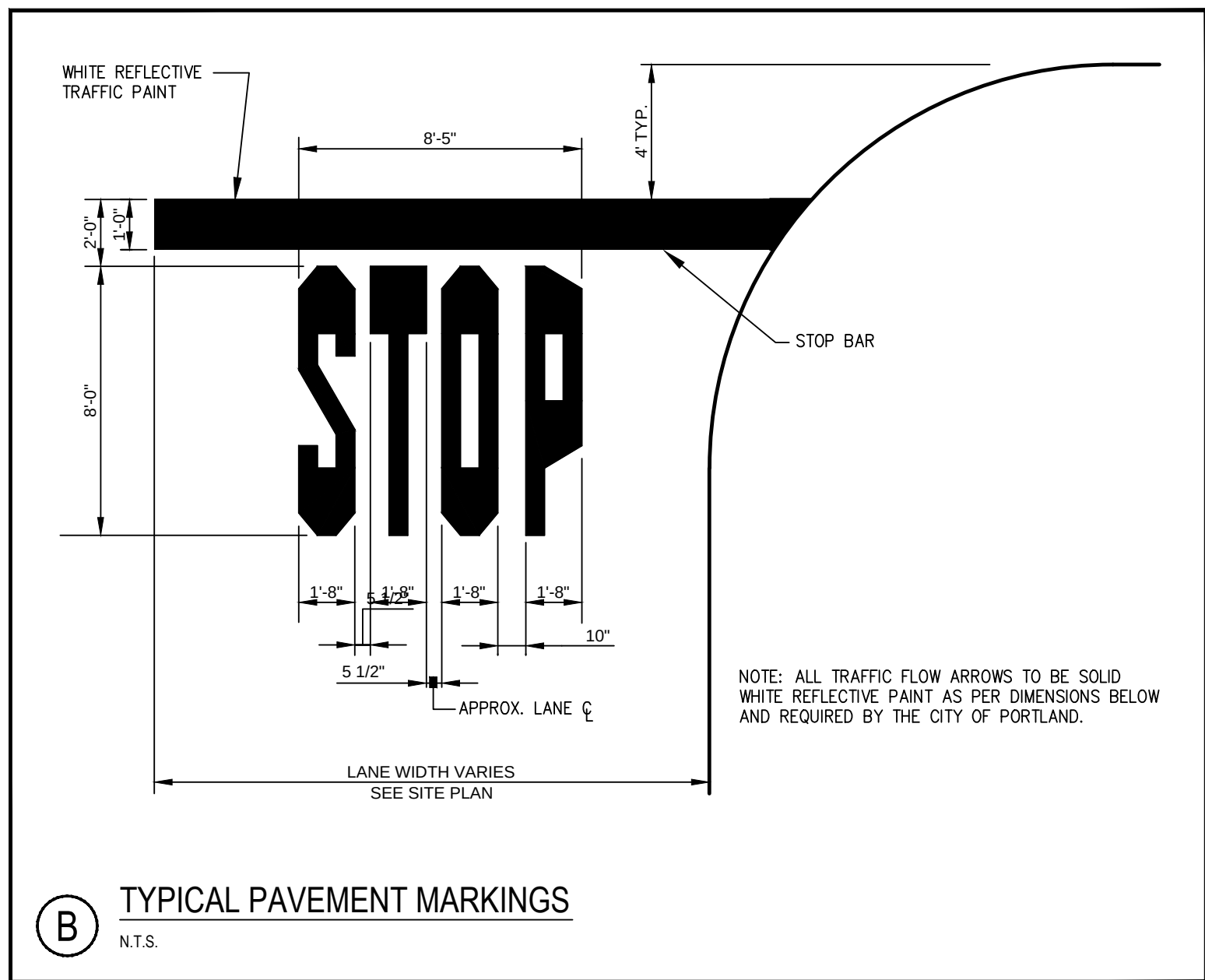
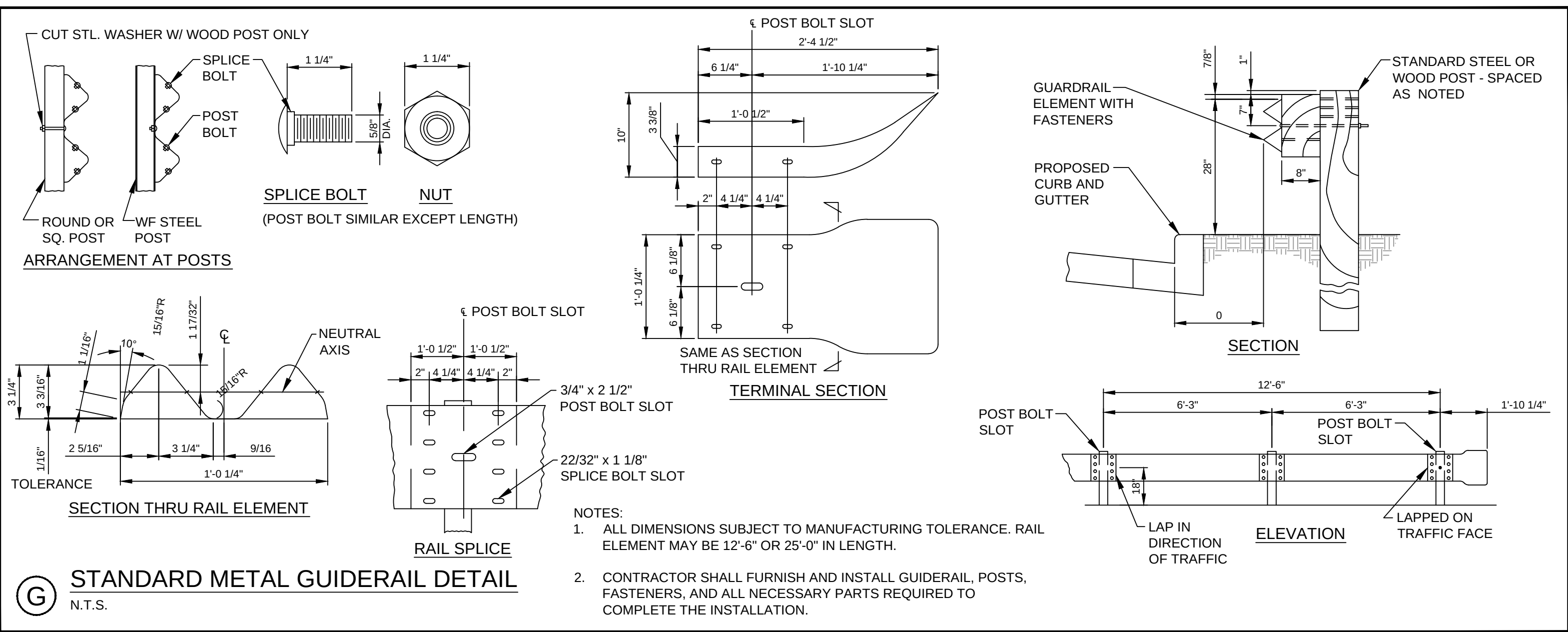
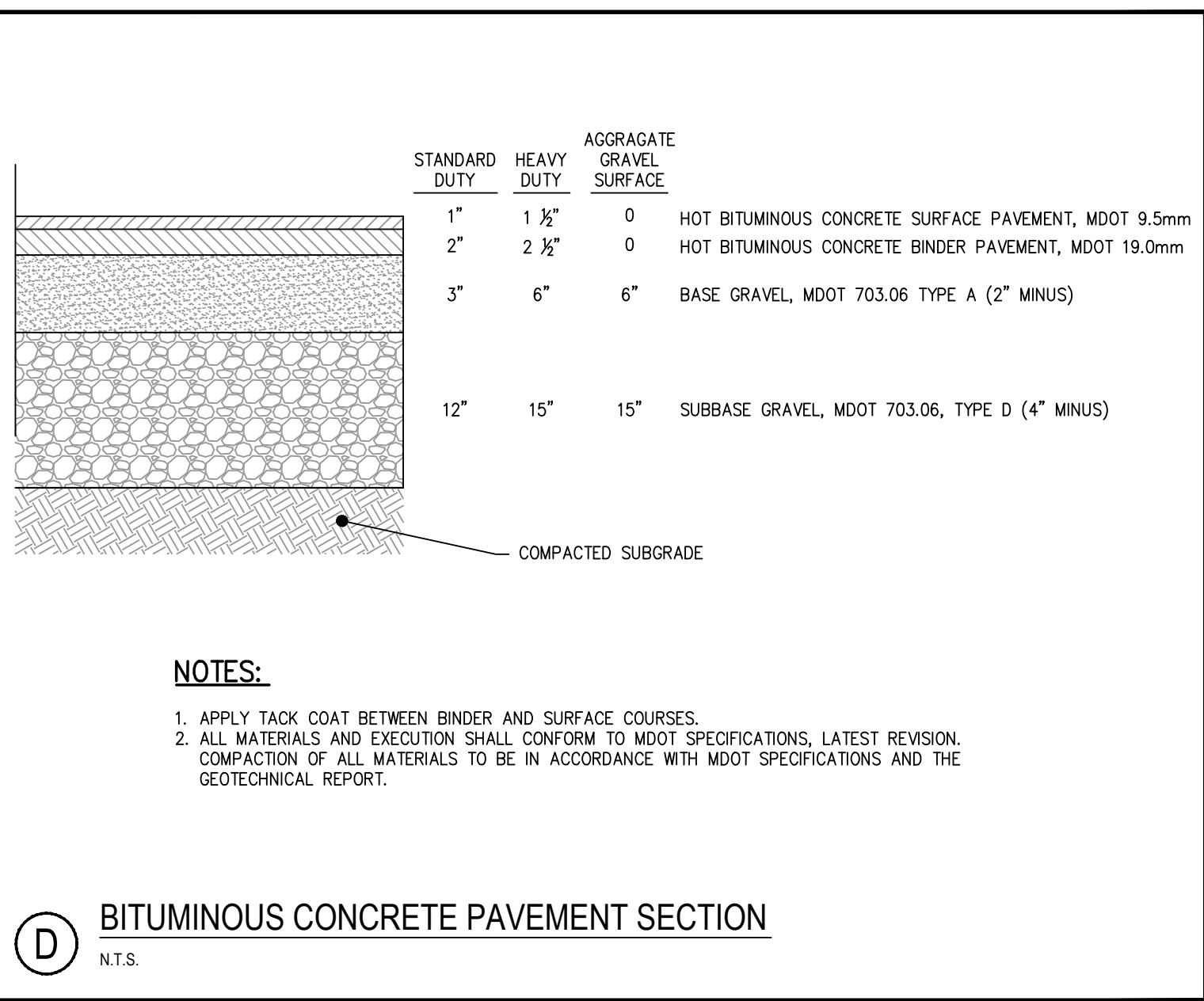
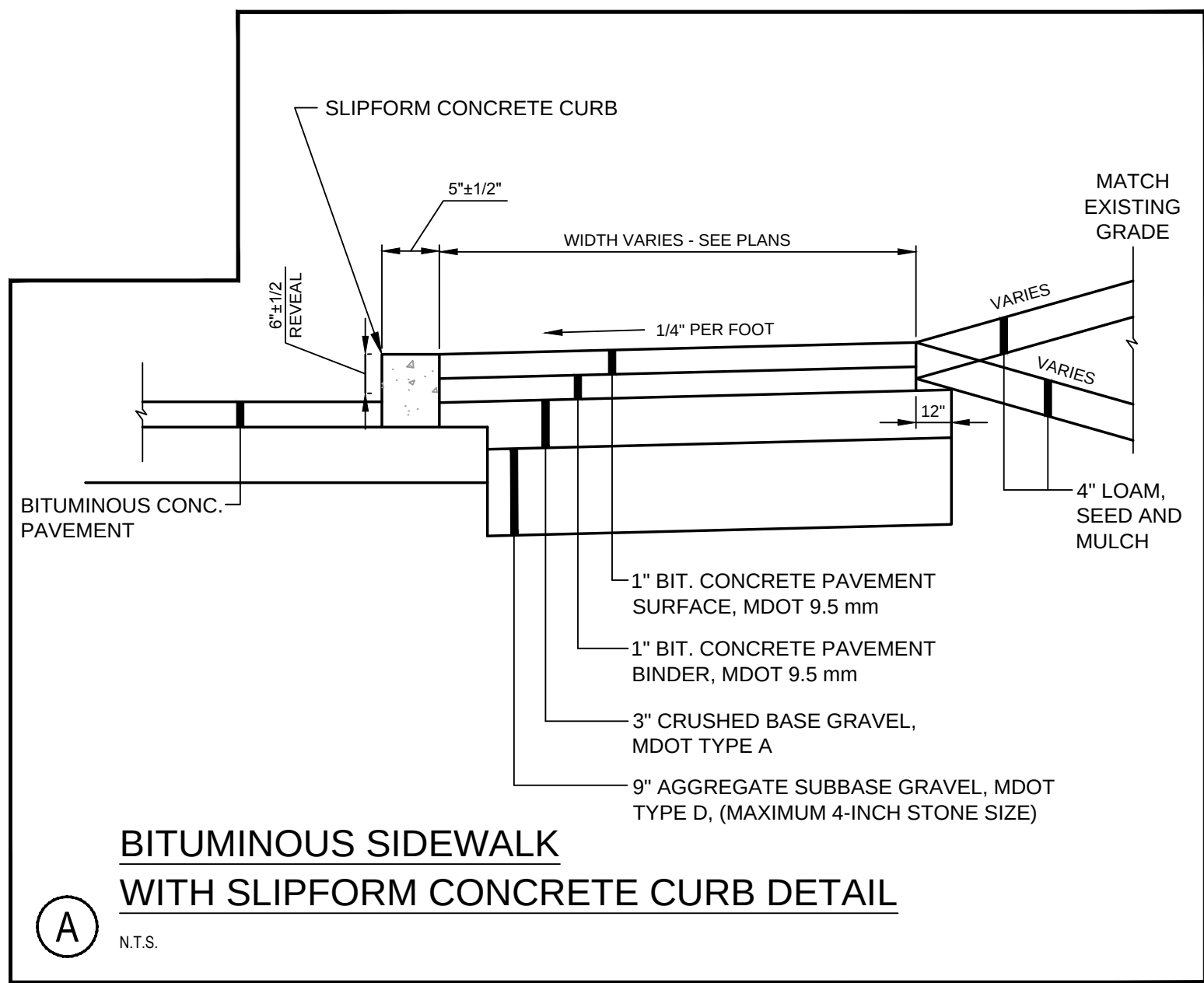


PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	REVISIONS
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1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW	

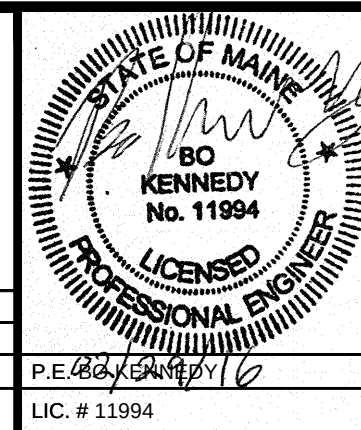


PROJECT	SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC.
SHEET TITLE	UTILITY DETAILS	778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.	DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 DETAILS SHEET C-8.1
		DATE: JAN 2016 SCALE: AS NOTED JOB NO. 195350142



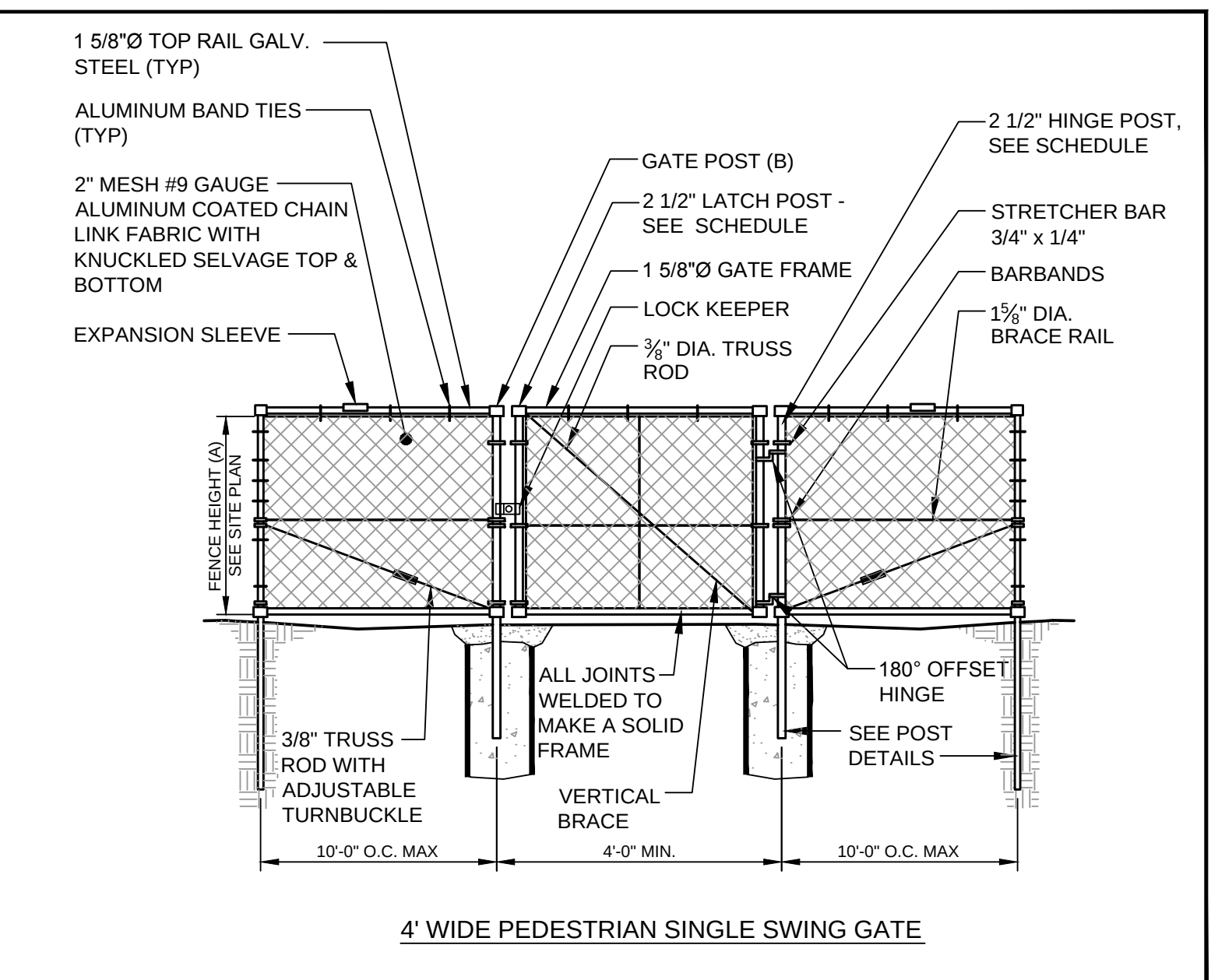
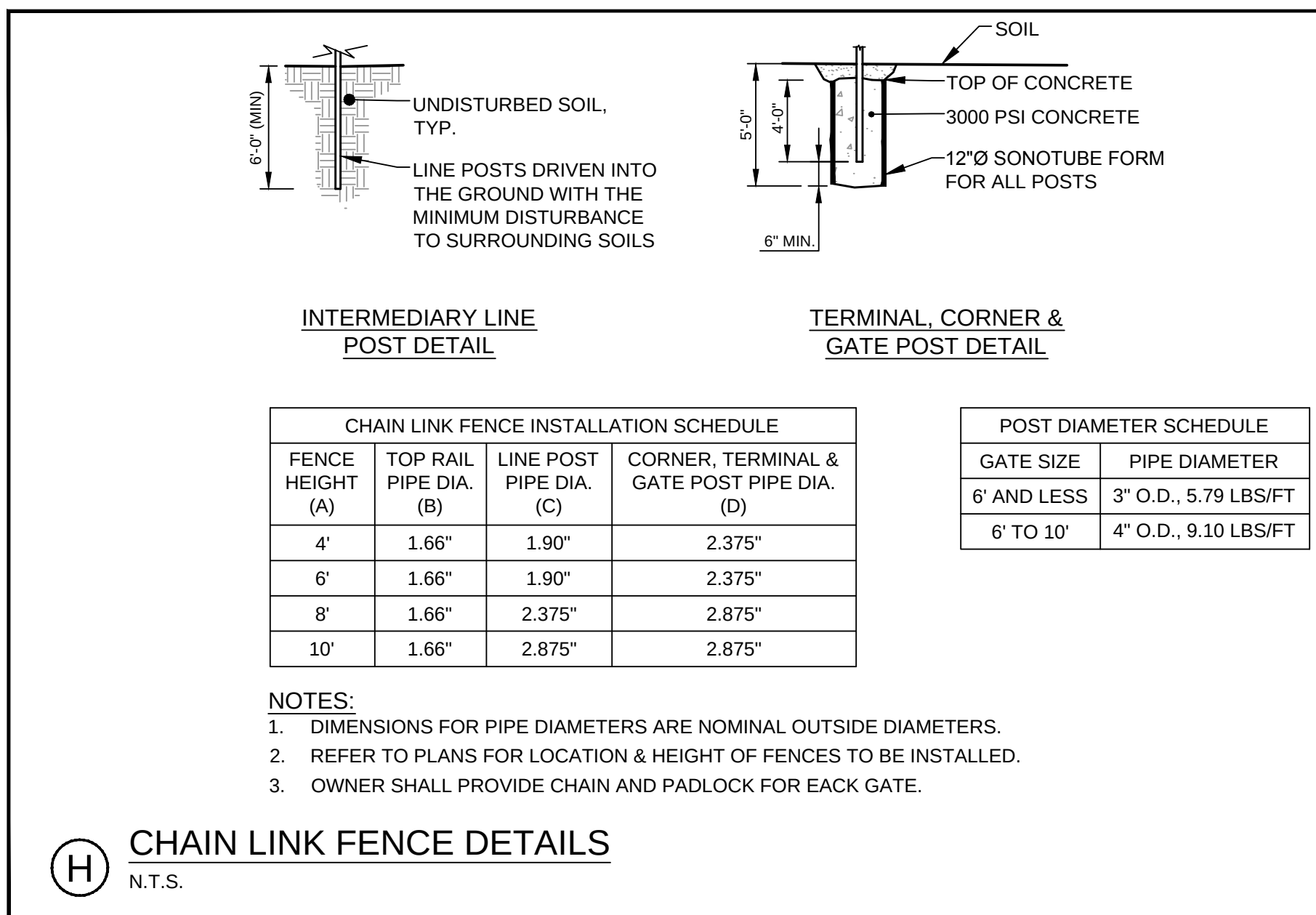
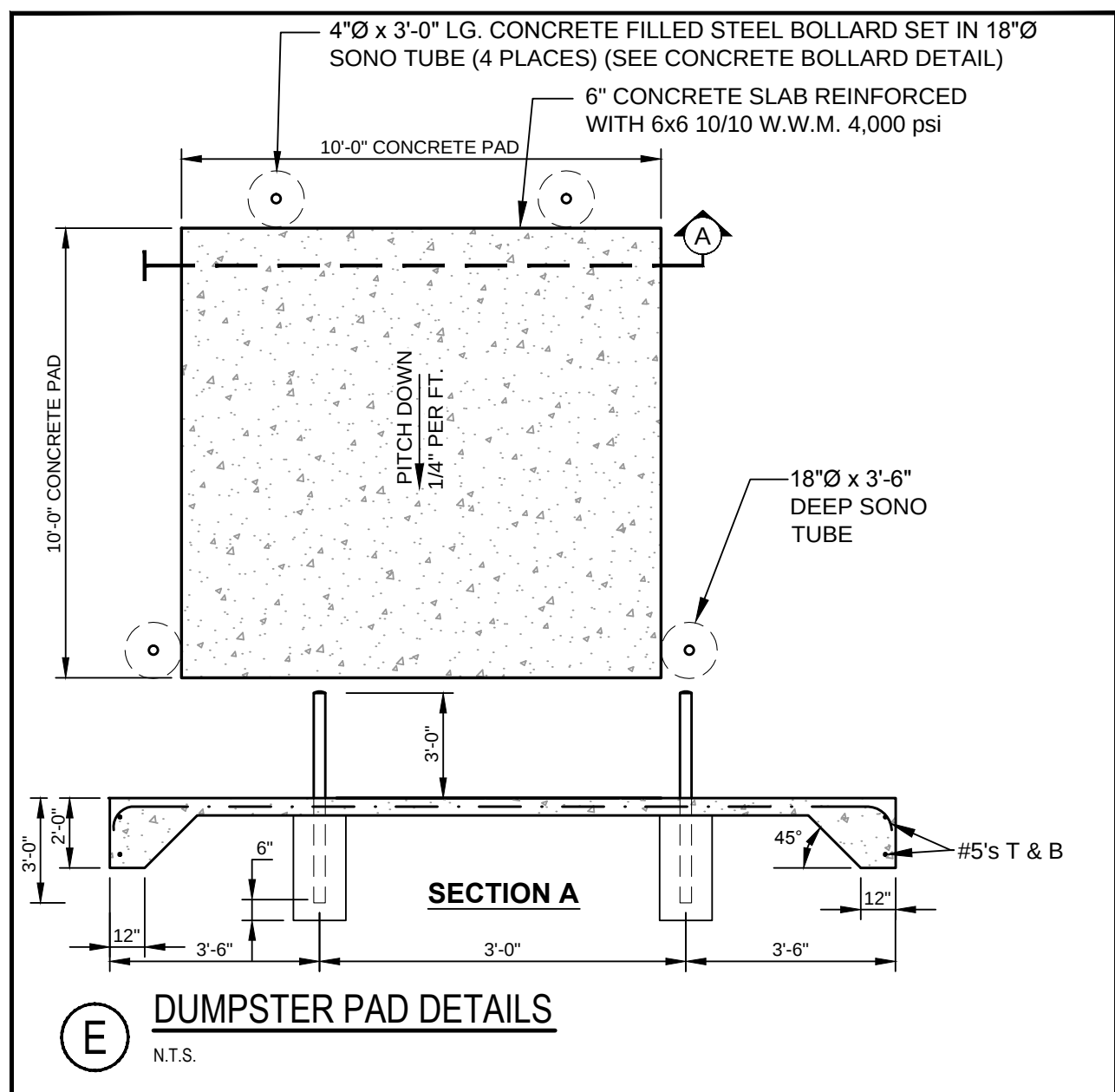
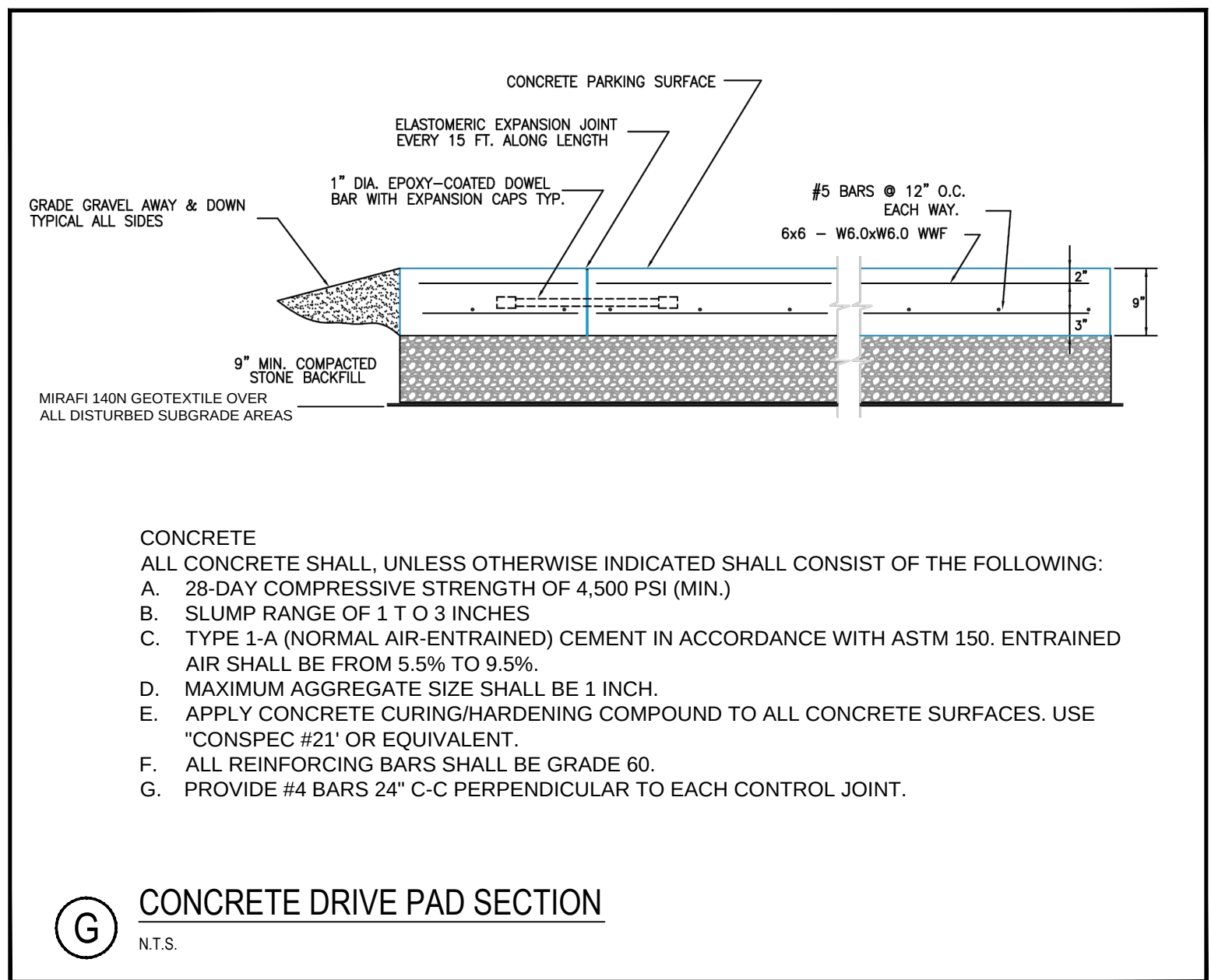
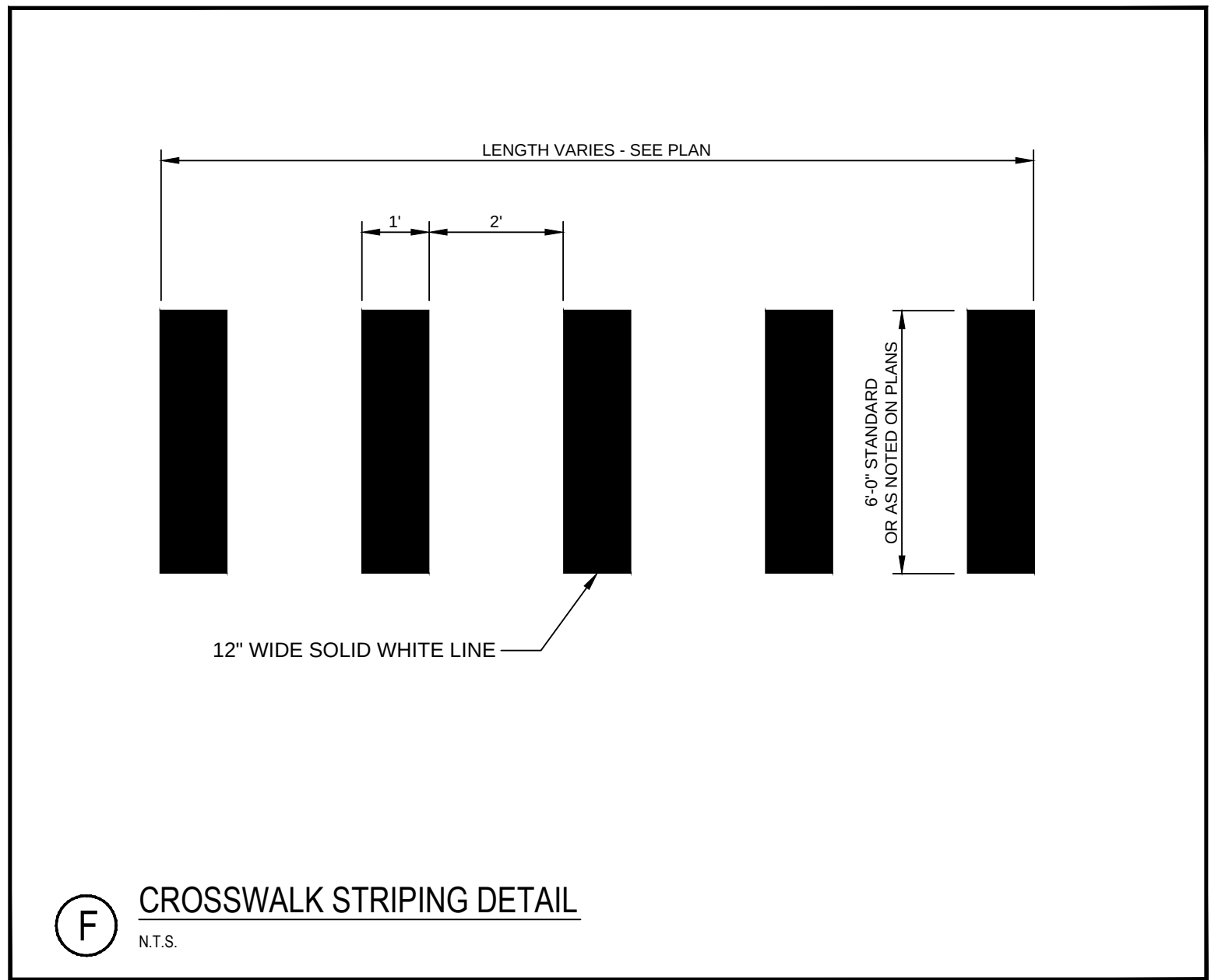
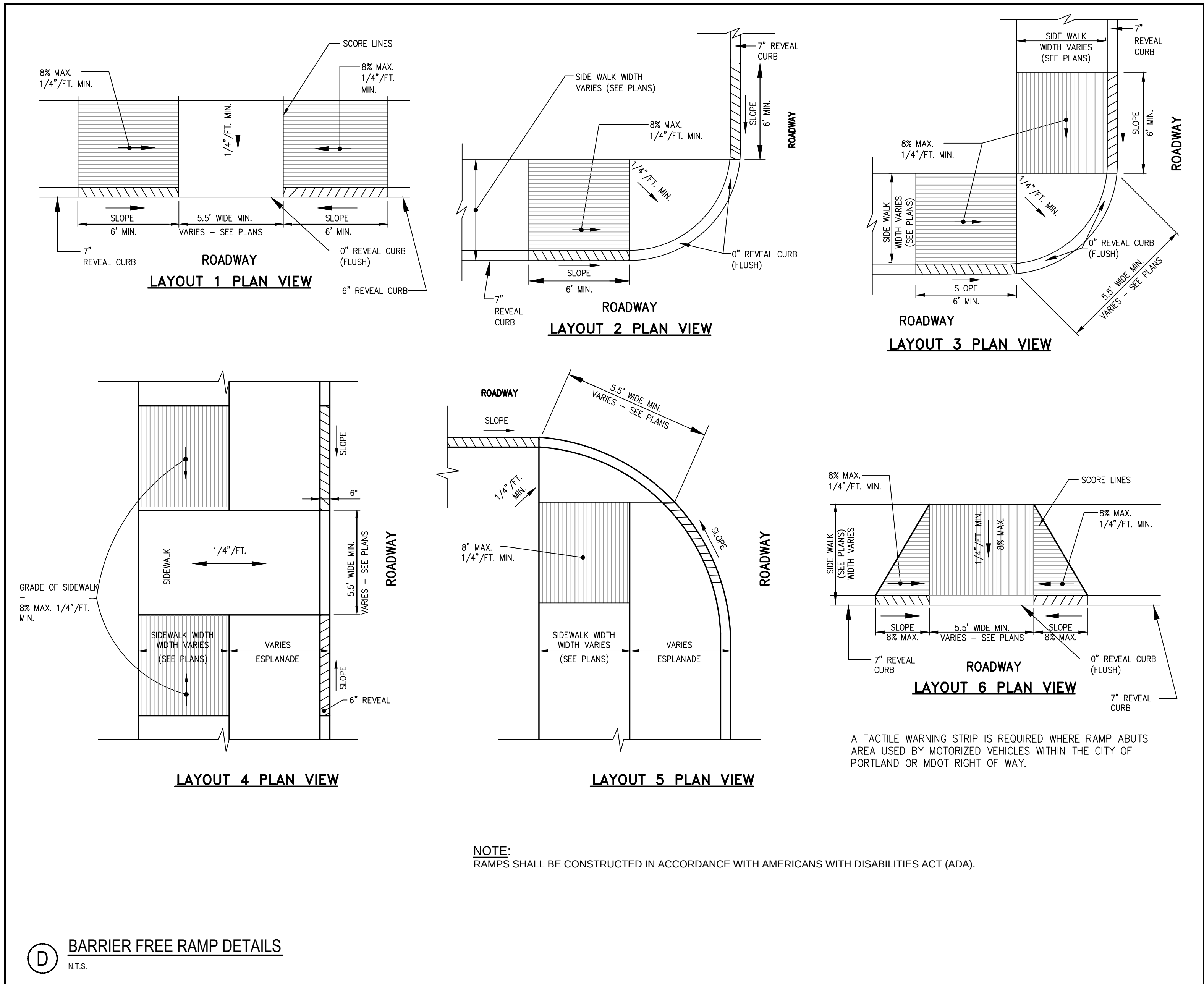
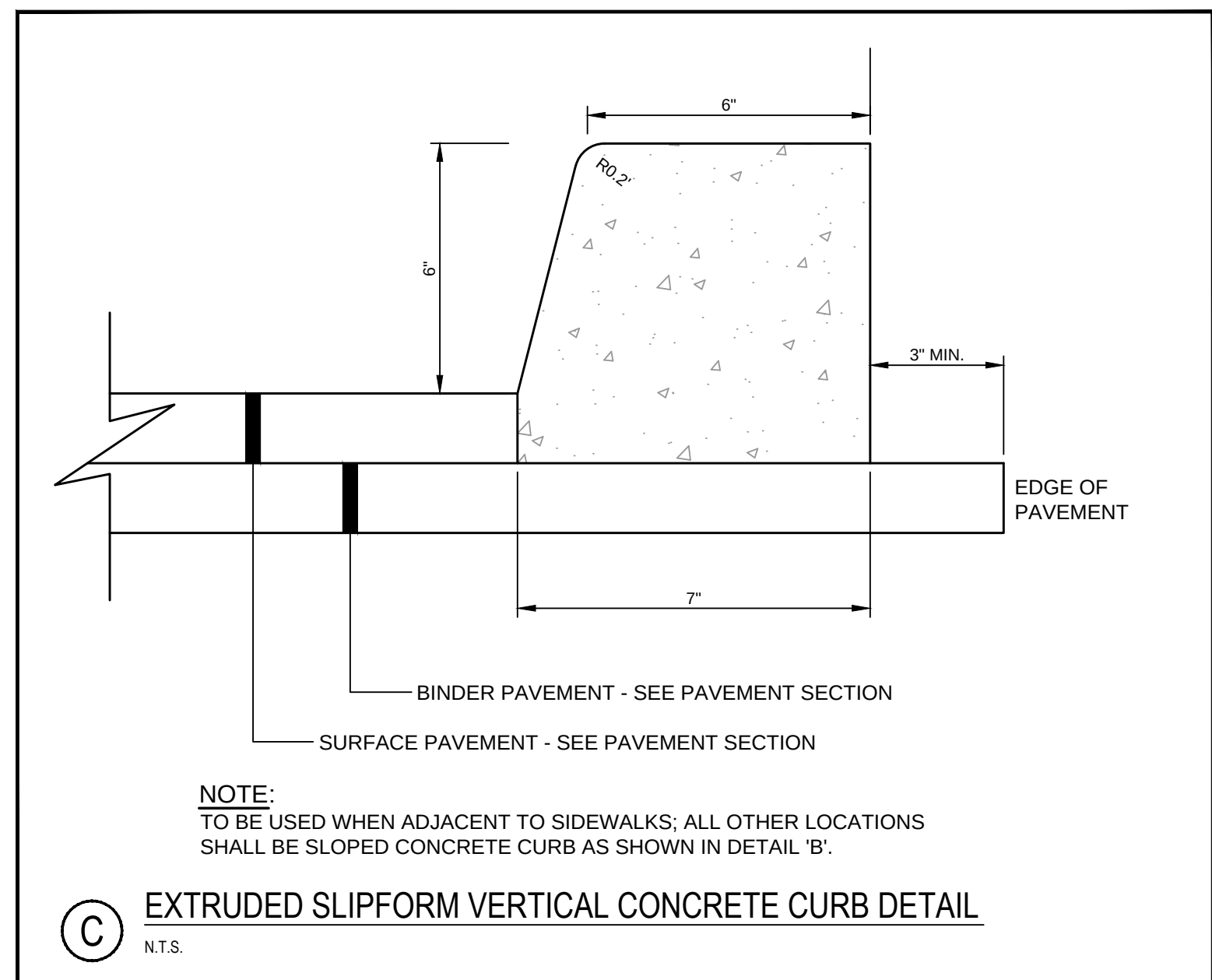
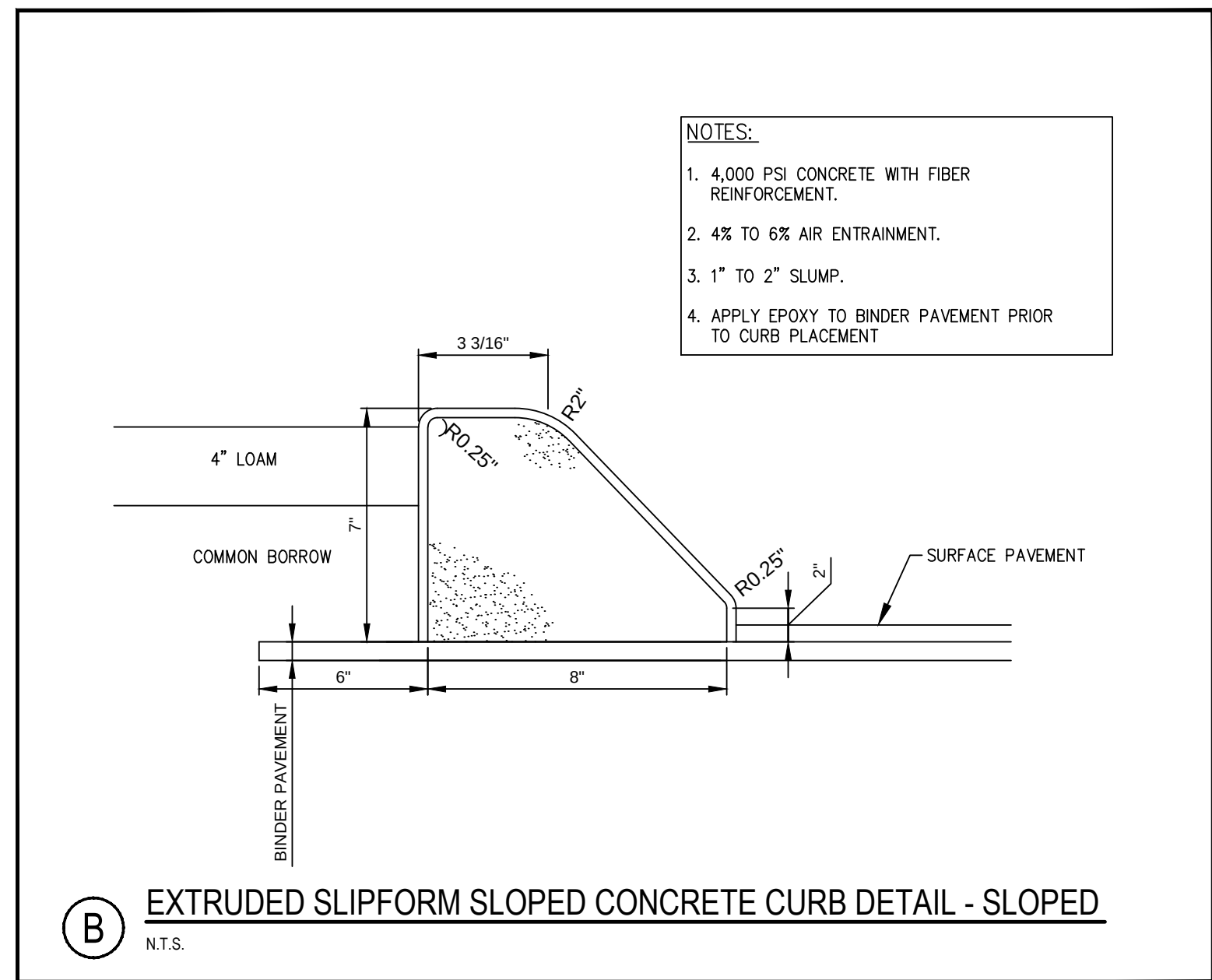
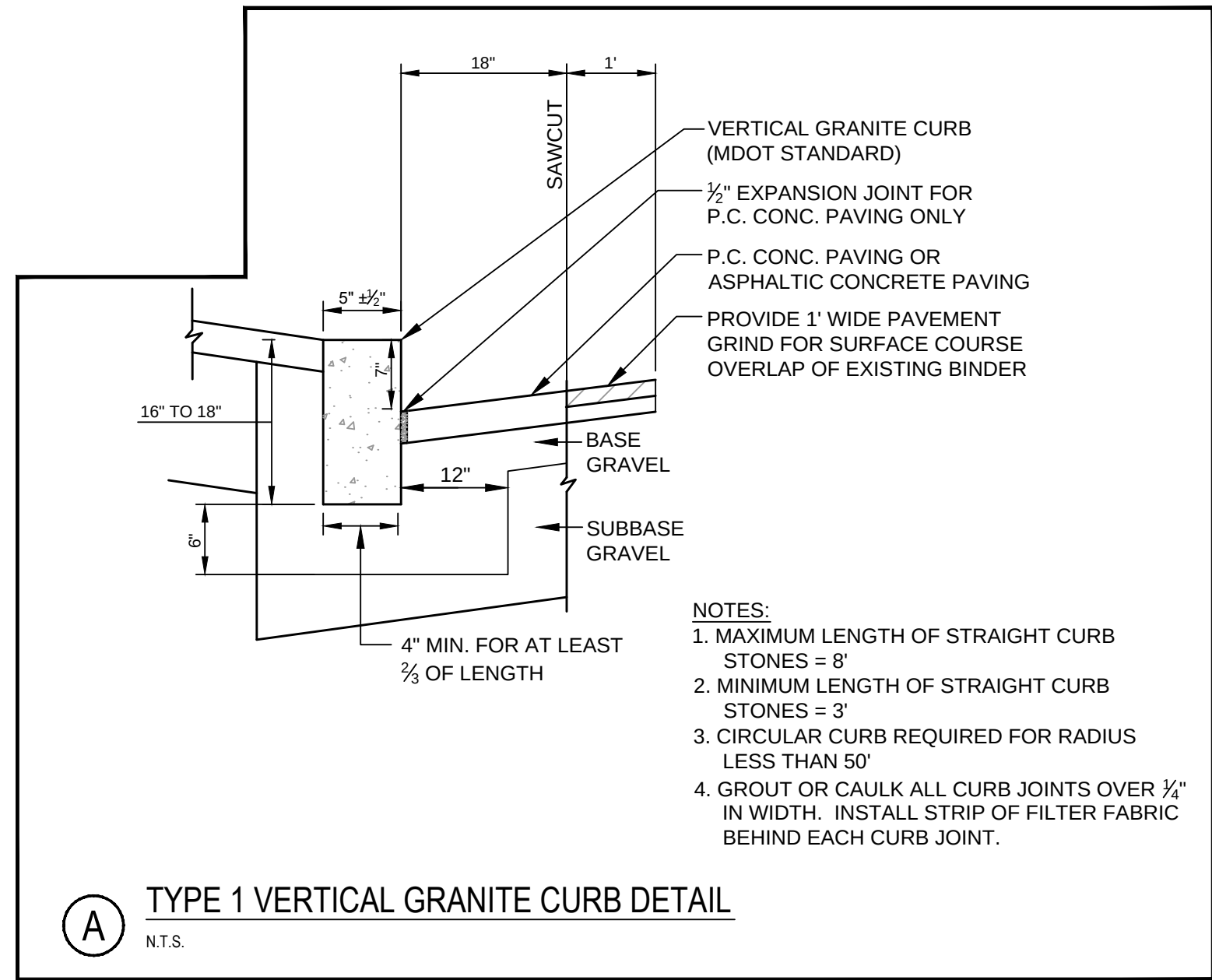
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW



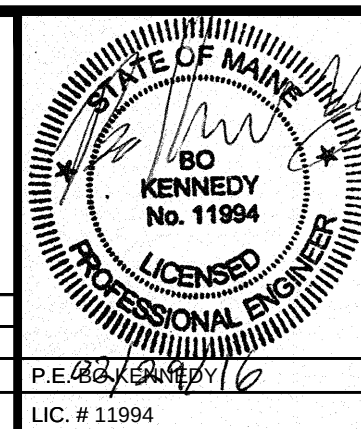
PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	SITE DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.2



PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW

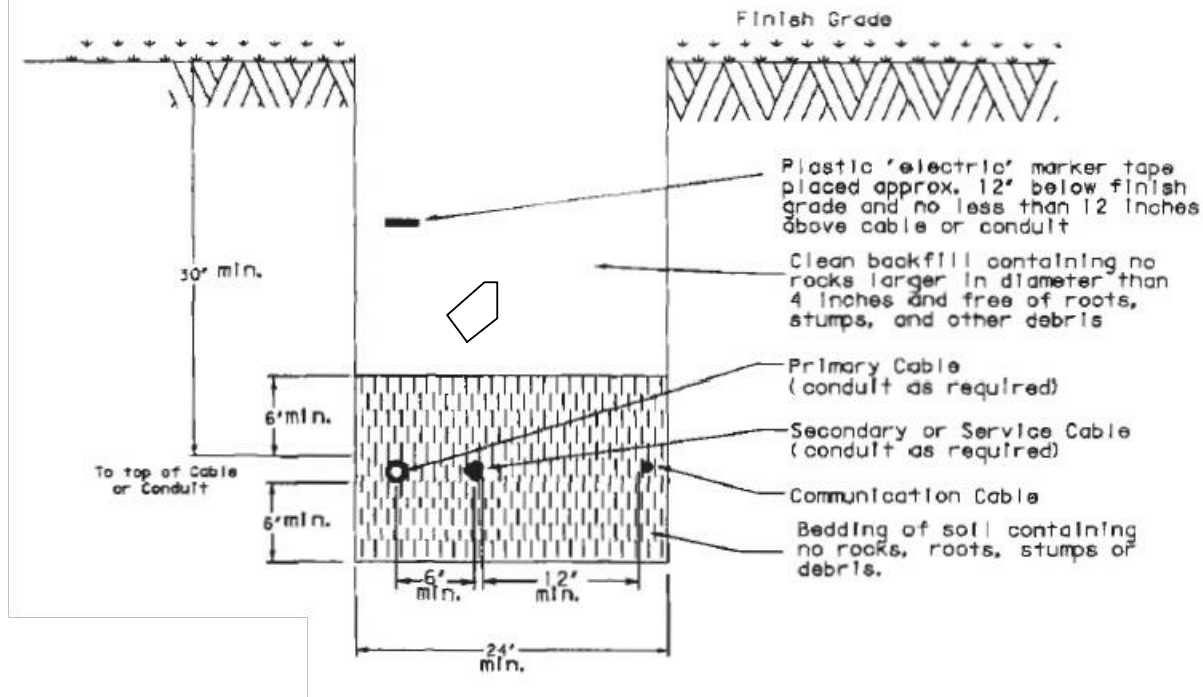


PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	SITE DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.3

UNDERGROUND CABLE INSTALLATION
JOINTLY USED TRENCH - HORIZONTAL SEPARATION
IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED
AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

Trench shall be a minimum of 24" wide



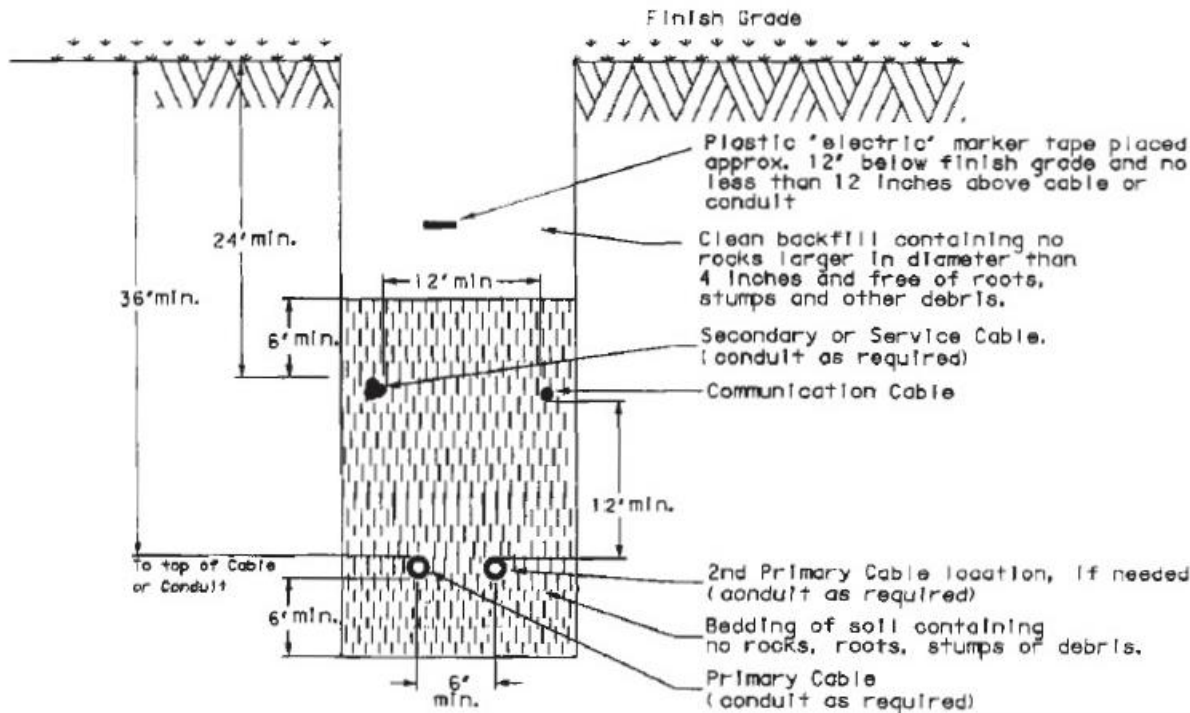
UNDERGROUND CABLE INSTALLATION JOINTLY
USED TRENCH HORIZONTAL SEPARATION

(A)
N.T.S.

UNDERGROUND CABLE INSTALLATION
JOINTLY USED TRENCH - VERTICAL SEPARATION
IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED
AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

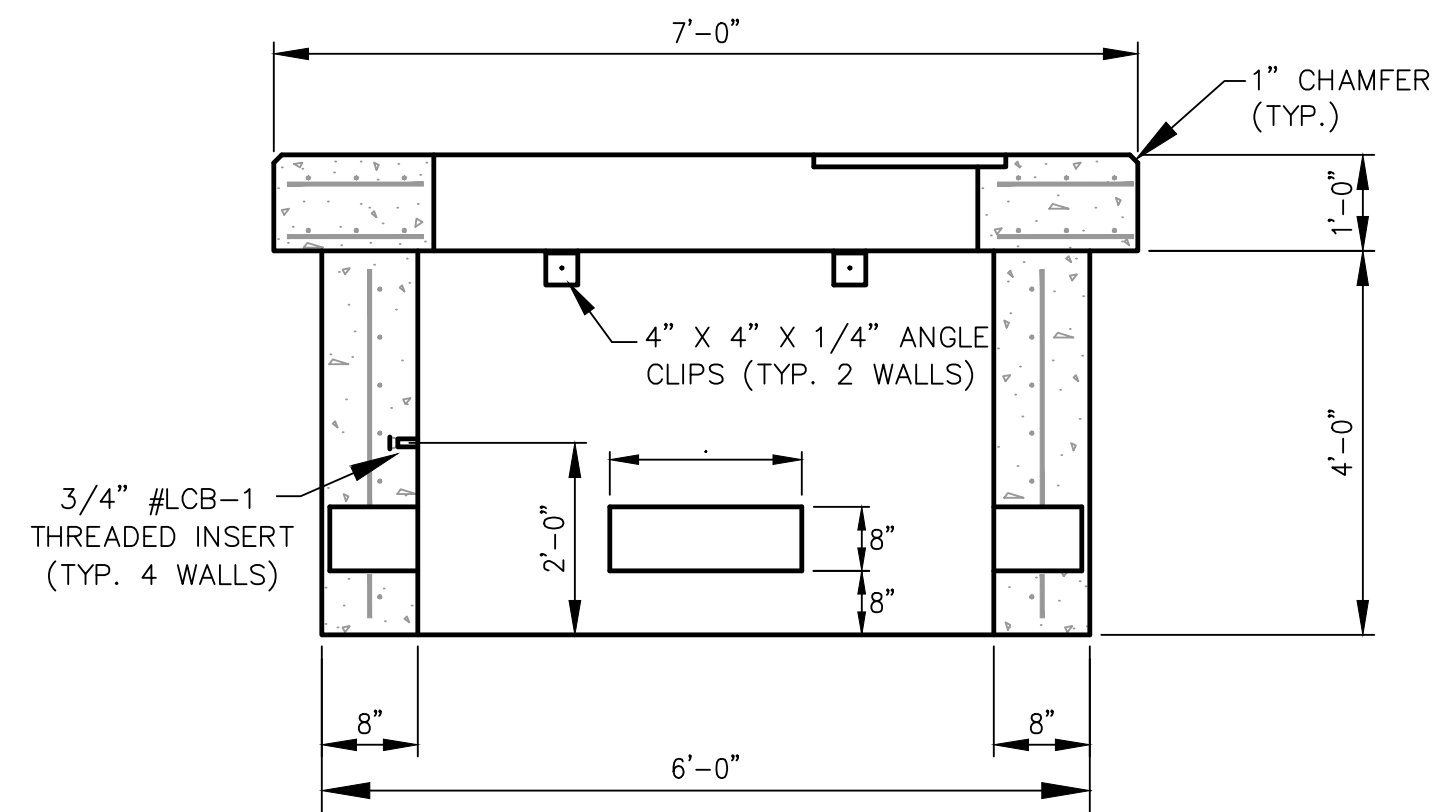
NOTES:

1. Installation should not allow the inter-twining of cables.
2. Bedding and backfill shall be free of roots, stumps and other debris.
3. Communication cable and power cable shall have no less than 12 inches of radial separation.



UNDERGROUND CABLE INSTALLATION JOINTLY
USED TRENCH VERTICAL SEPARATION

(C)
N.T.S.

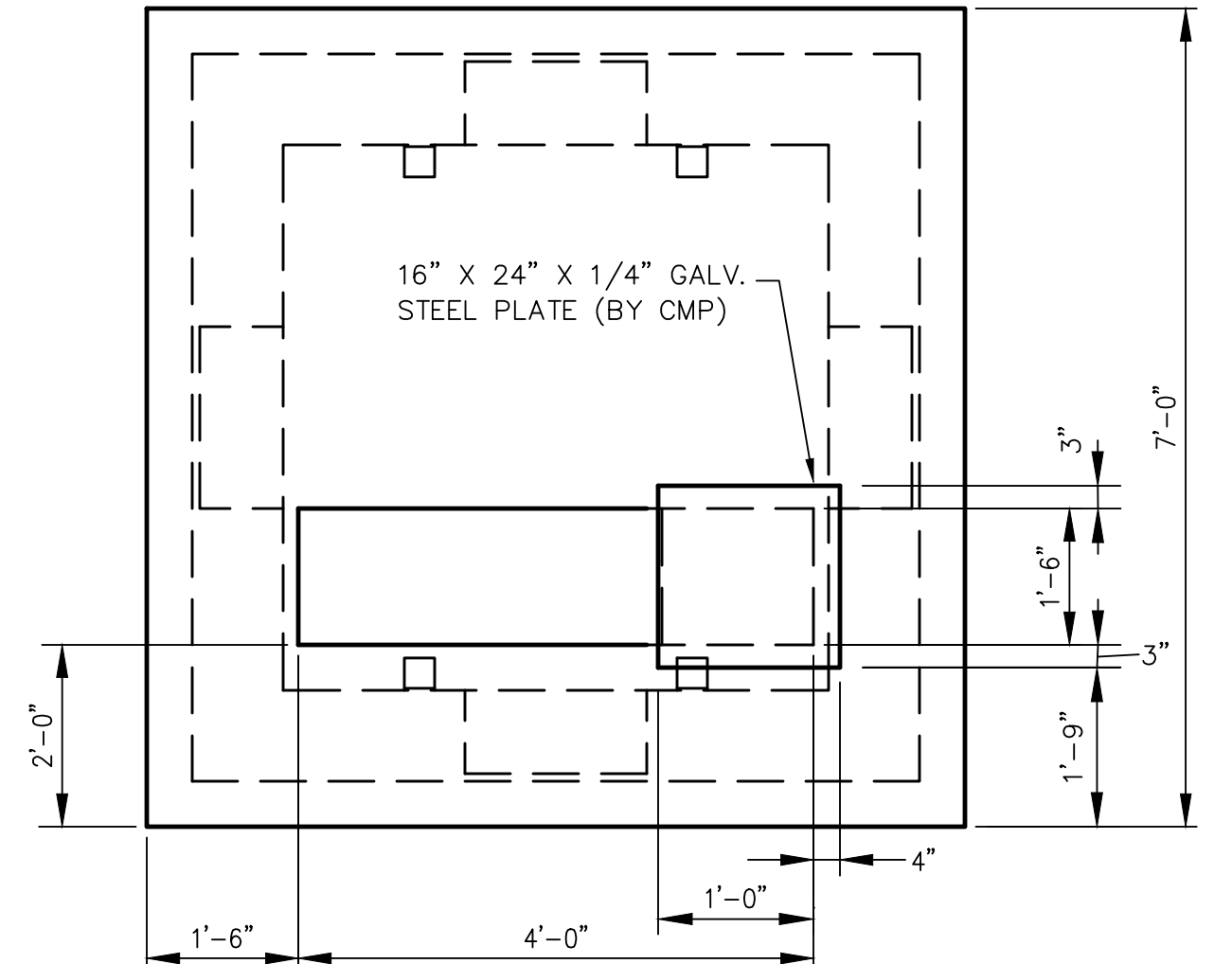


NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: PAD-#4'S @ 12" O.C. E.W.E.F. BASE-1 MAT OF #4'S @ 12" O.C.
3. AS PER CENTRAL MAINE POWER COMPANY SPECIFICATIONS, AS MANUFACTURED BY SUPERIOR CONCRETE OR EQUAL.

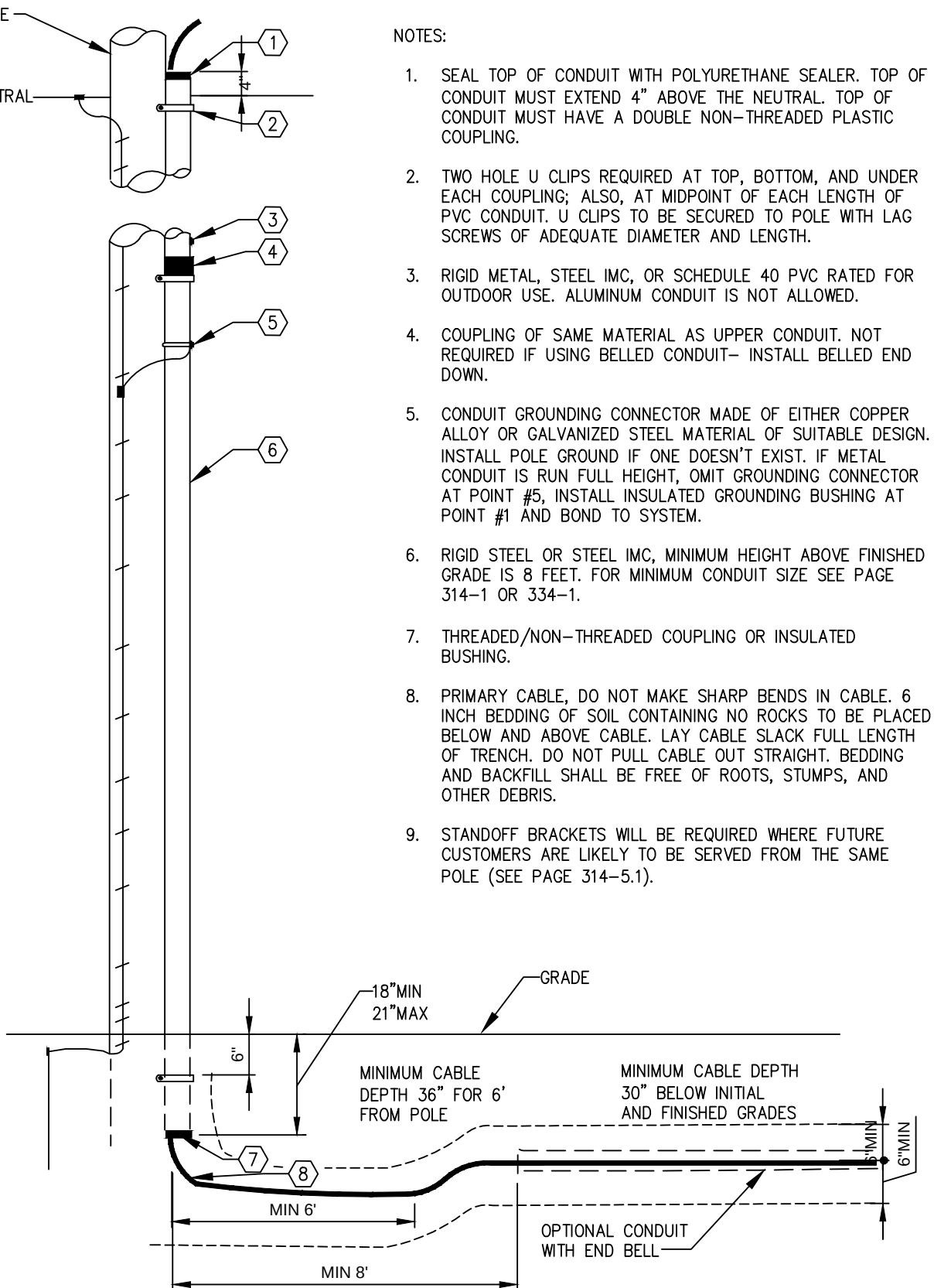
TRANSFORMER PAD DETAIL

(E)
N.T.S.



NOTES:

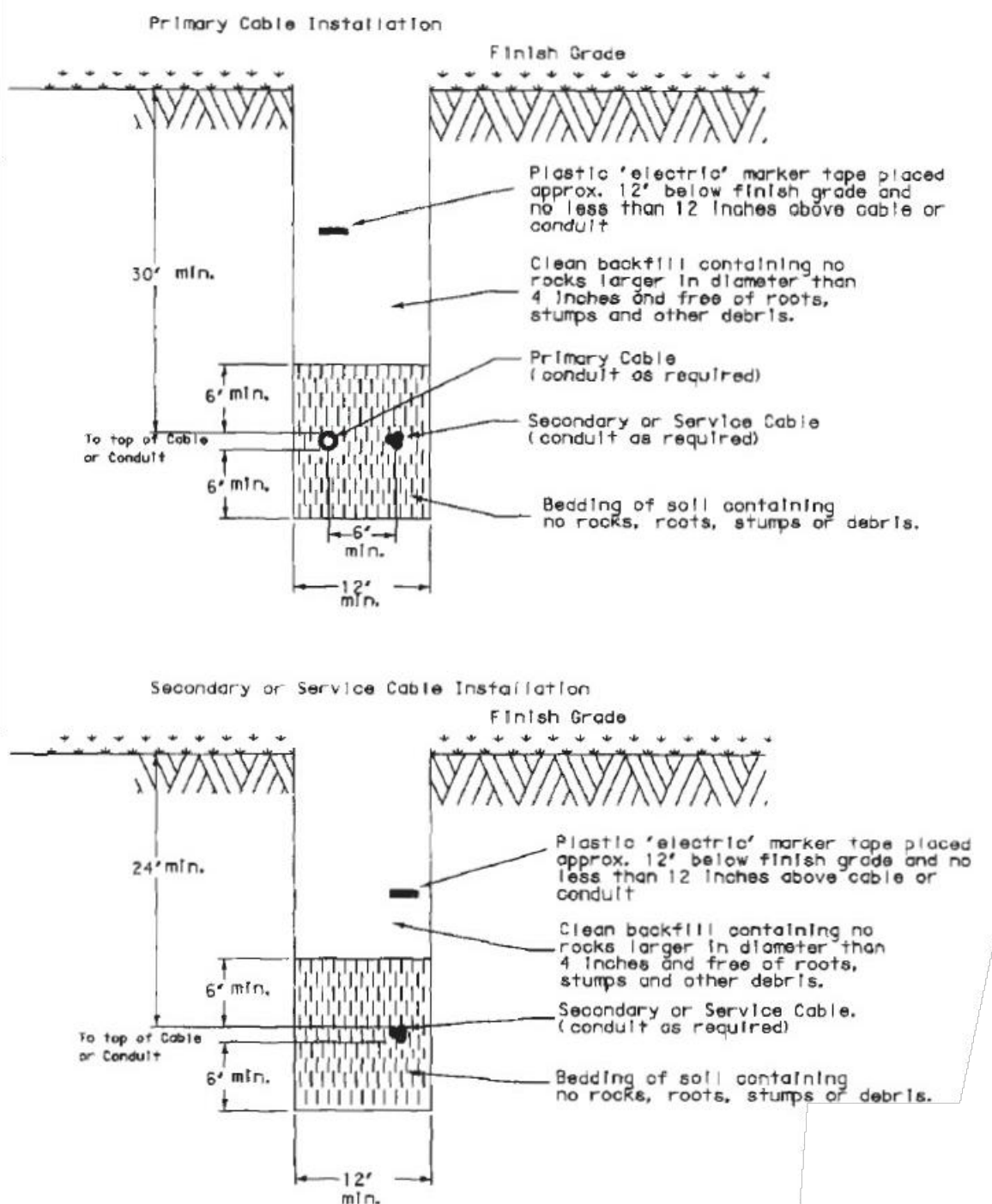
1. SEAL TOP OF CONDUIT WITH POLYURETHANE SEALER. TOP OF CONDUIT MUST EXTEND 4" ABOVE THE NEUTRAL. TOP OF CONDUIT MUST HAVE A DOUBLE NON-THREADED PLASTIC COUPLING.
2. TWO HOLE U CLIPS REQUIRED AT TOP, BOTTOM, AND UNDER EACH COUPLING. ALSO, AT MIDPOINT OF EACH LENGTH OF PVC CONDUIT. U CLIPS TO BE SECURED TO POLE WITH LAG SCREWS OF ADEQUATE DIAMETER AND LENGTH.
3. RIGID METAL, STEEL IMC, OR SCHEDULE 40 PVC RATED FOR OUTDOOR USE. ALUMINUM CONDUIT IS NOT ALLOWED.
4. COUPLING OF SAME MATERIAL AS UPPER CONDUIT. NOT REQUIRED IF USING BELLED CONDUIT- INSTALL BELLED END DOWN.
5. CONDUIT GROUNDING CONNECTOR MADE OF EITHER COPPER ALLOY OR GALVANIZED STEEL MATERIAL OF SUITABLE DESIGN. INSTALL POLE GROUND IF ONE DOESN'T EXIST. IF METAL CONDUIT IS RUN FULL HEIGHT, OMIT GROUNDING CONNECTOR AT POINT #5, INSTALL INSULATED GROUNDING BUSHING AT POINT #1 AND BOND TO SYSTEM.
6. RIGID STEEL OR STEEL IMC, MINIMUM HEIGHT ABOVE FINISHED GRADE IS 8 FEET. FOR MINIMUM CONDUIT SIZE SEE PAGE 314-1 OR 334-1.
7. THREADED/NON-THREADED COUPLING OR INSULATED BUSHING.
8. PRIMARY CABLE, DO NOT MAKE SHARP BENDS IN CABLE. 6 INCH BEDDING OF SOIL CONTAINING NO ROCKS TO BE PLACED BELOW AND ABOVE CABLE. LAY CABLE SLACK FULL LENGTH OF TRENCH. DO NOT PULL CABLE OUT STRAIGHT. BEDDING AND BACKFILL SHALL BE FREE OF ROOTS, STUMPS, AND OTHER DEBRIS.
9. STANDOFF BRACKETS WILL BE REQUIRED WHERE FUTURE CUSTOMERS ARE LIKELY TO BE SERVED FROM THE SAME POLE (SEE PAGE 314-5.1).



PRIMARY URD RISER CONDUIT DETAIL

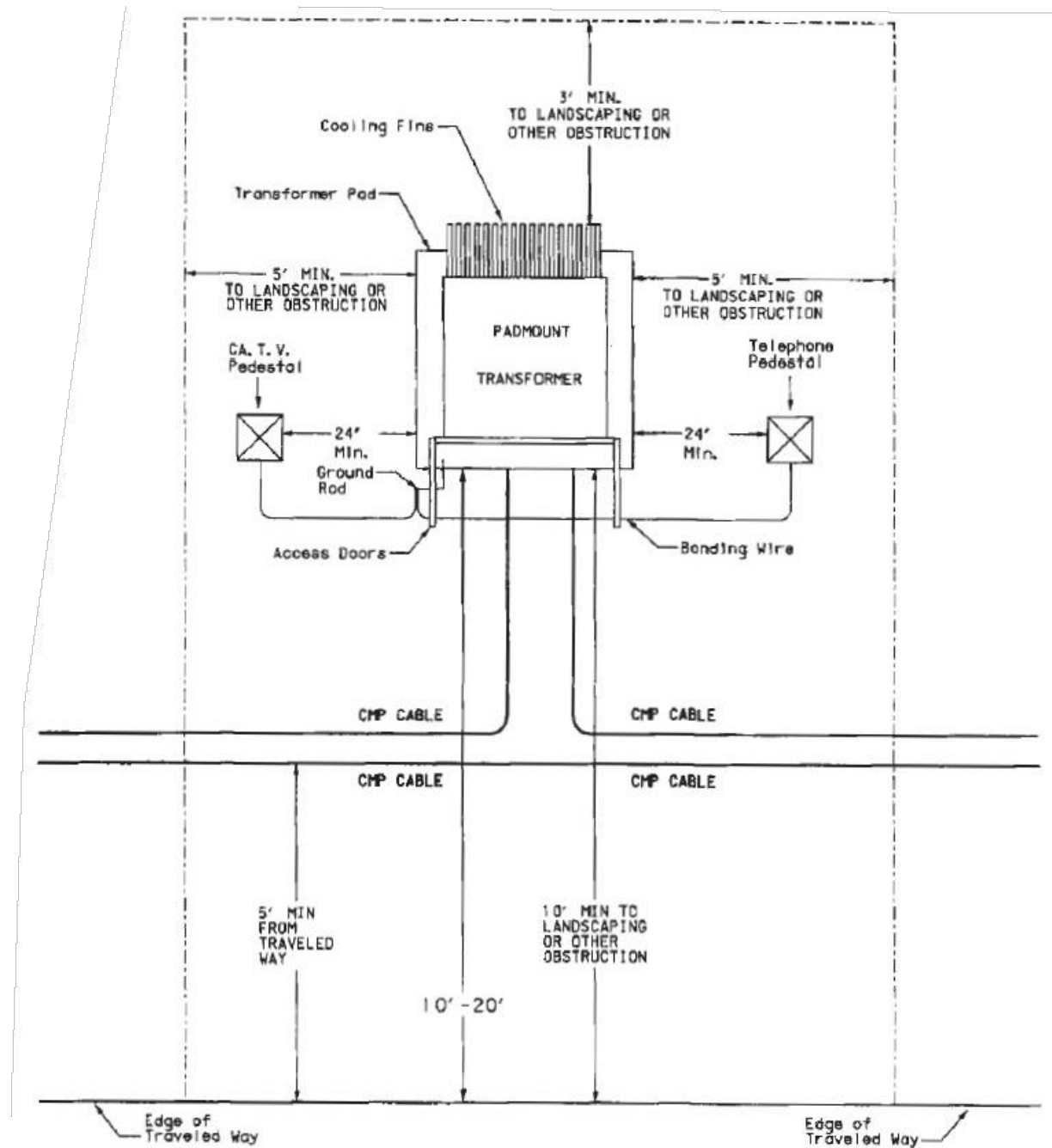
(G)
N.T.S.

UNDERGROUND CABLE INSTALLATION
TRENCH OCCUPIED BY CENTRAL MAINE POWER COMPANY ONLY



UNDERGROUND CABLE TRENCH FOR POWER ONLY

(B)
N.T.S.



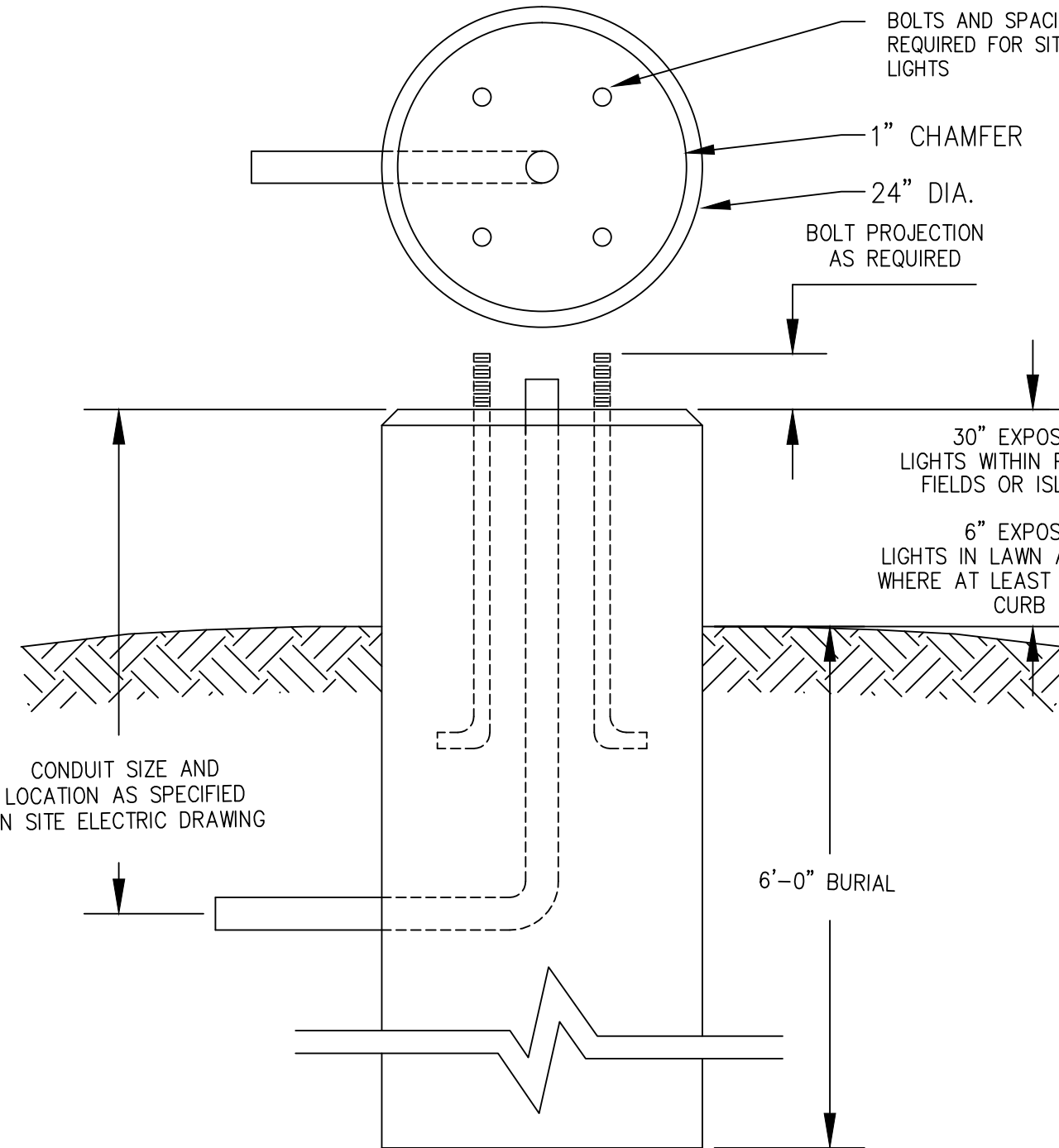
Preferred layout of a padmount transformer and direct buried underground distribution system. Prior CMP approval is required for any deviation from this layout.

At each transformer location a level 10 foot by 10 foot (minimum) area will be provided. The elevation of this area shall be sufficiently high to always be above the highest expected water level and at or above the top of any nearby ditch slope. The transformer foundation shall be installed so the top of the foundation is 6 inches above this elevation. The transformer foundation shall be installed no more than 20 feet from a road surface.

CMP PADMOUNT TRANSFORMER LAYOUT

(D)
N.T.S.

NOTE: ANCHOR BOLTS TO BE PROVIDED TO CONTRACTOR BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL LIGHT POLE FOUNDATIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR TRENCHING AND BACKFILLING ALL CONDUITS. THE OWNER WILL BE RESPONSIBLE FOR SETTING OF LIGHT POLES AND ALL WIRING AND LIGHTING ASSEMBLIES.



DESIGN NOTES:

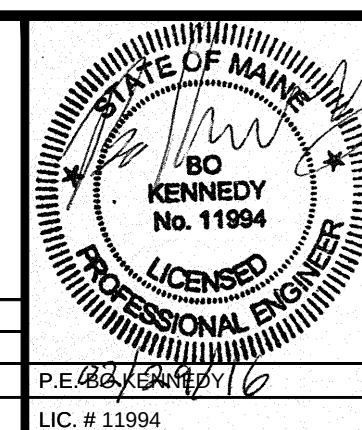
1. CONCRETE 4,000 PSI AT 28 DAYS
2. REINFORCING IS AS SPECIFIED. (TYP. 4 - #4 VERTICALLY AND #3 STIRRUPS 12" O.C. HORIZONTALLY)
3. ANCHOR BOLTS AND GROUNDING AS SPECIFIED AND REQUIRED BY SUPPLIER.
4. EXPOSED PORTION OF CONCRETE FOUNDATION TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR.
5. FOR POLE HEIGHTS EQUAL TO OR LESS THAN 25' TALL.

24" ROUND PRECAST CONCRETE LIGHT POLE FOUNDATION

(F)
N.T.S.

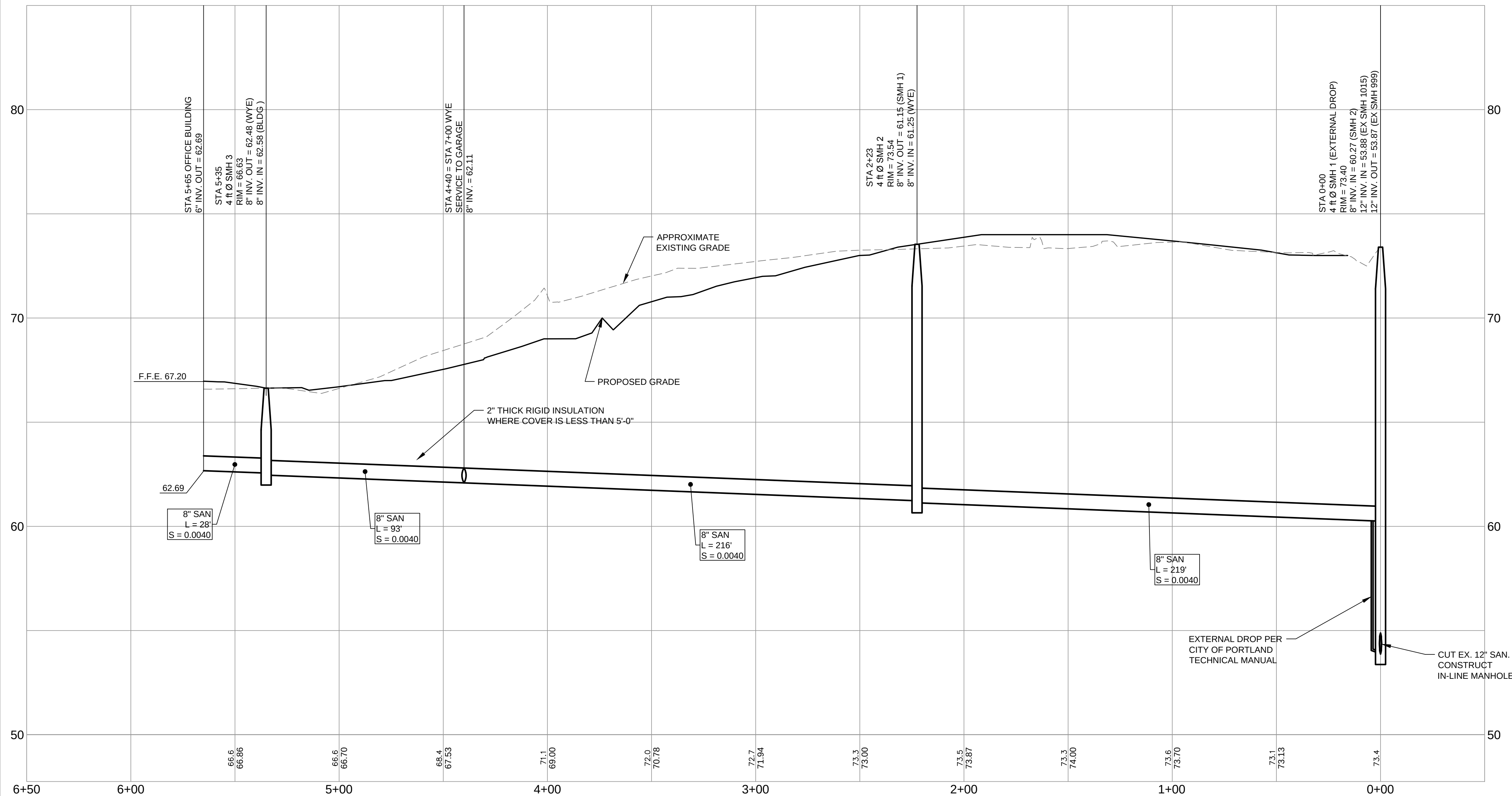
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
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1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW

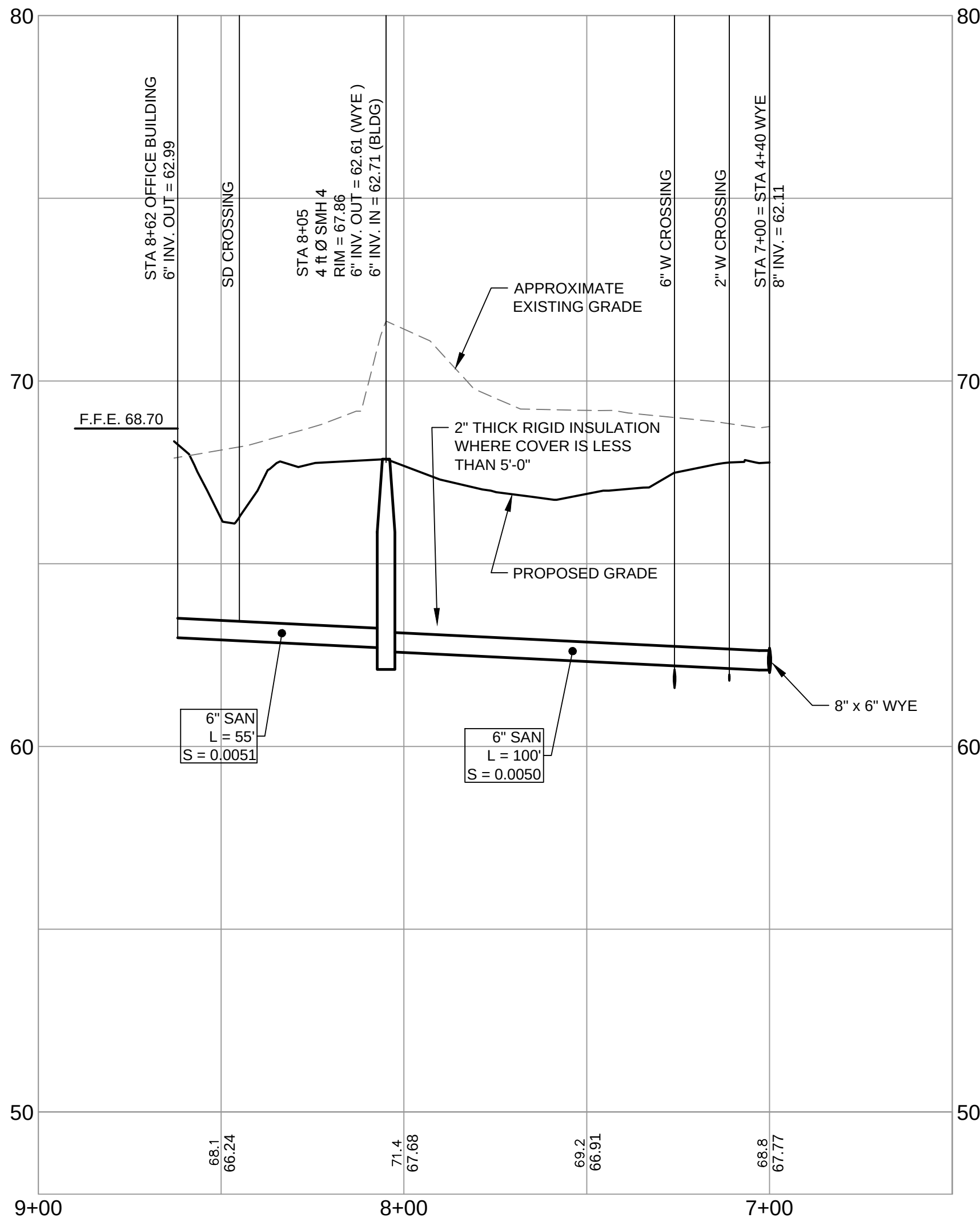


PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	ELECTRICAL AND LIGHTING DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

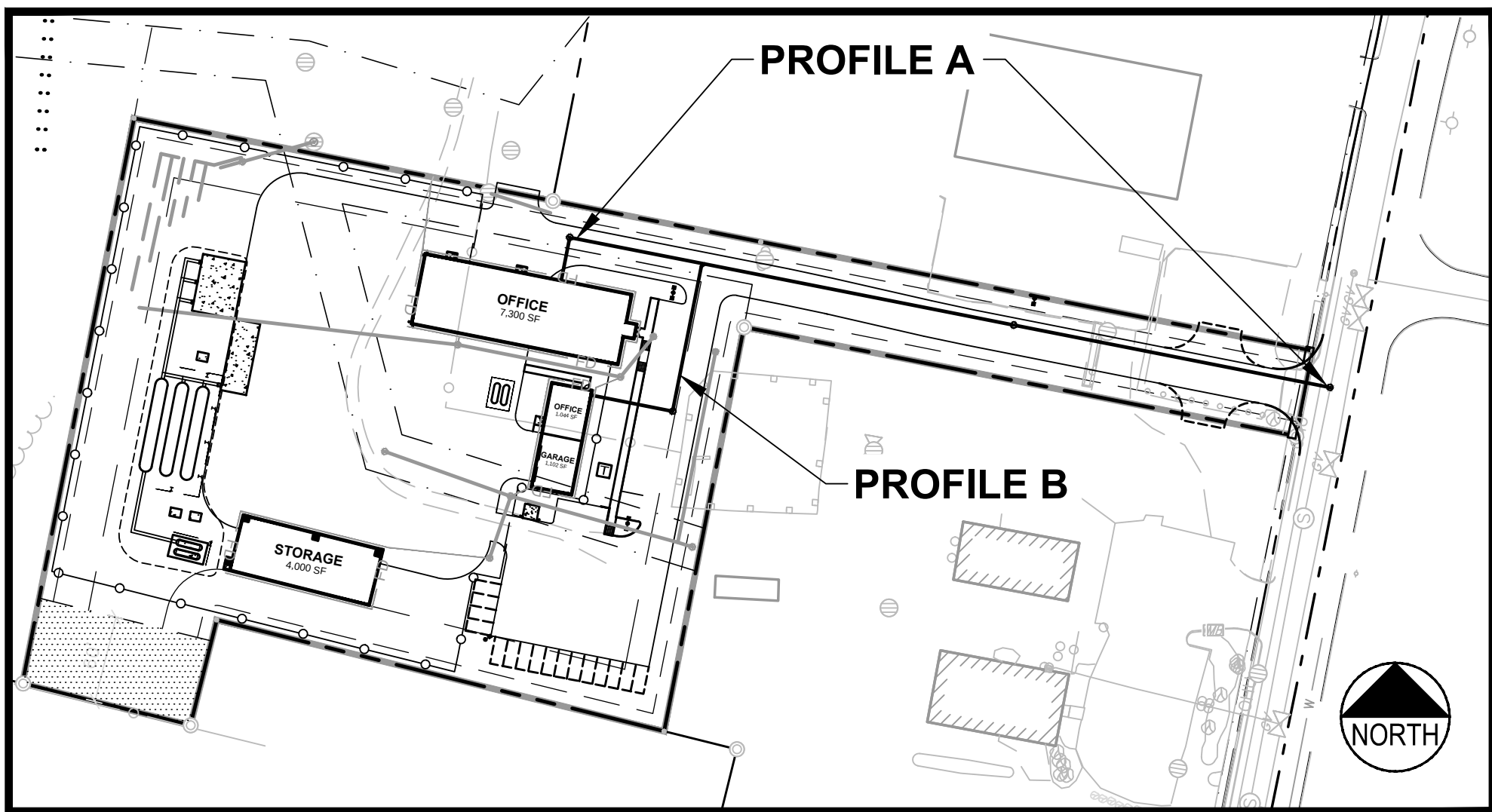
STANTEC CONSULTING SERVICES INC.	
778 MAIN ST. SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.4



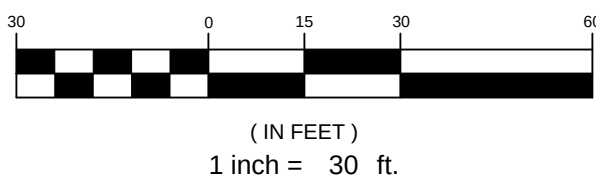
SANITARY SEWER PROFILE A
SCALE: 1" = 30' HORZ.
1" = 3' VERT.



SANITARY SEWER PROFILE B
SCALE: 1" = 30' HORZ.
1" = 3' VERT.

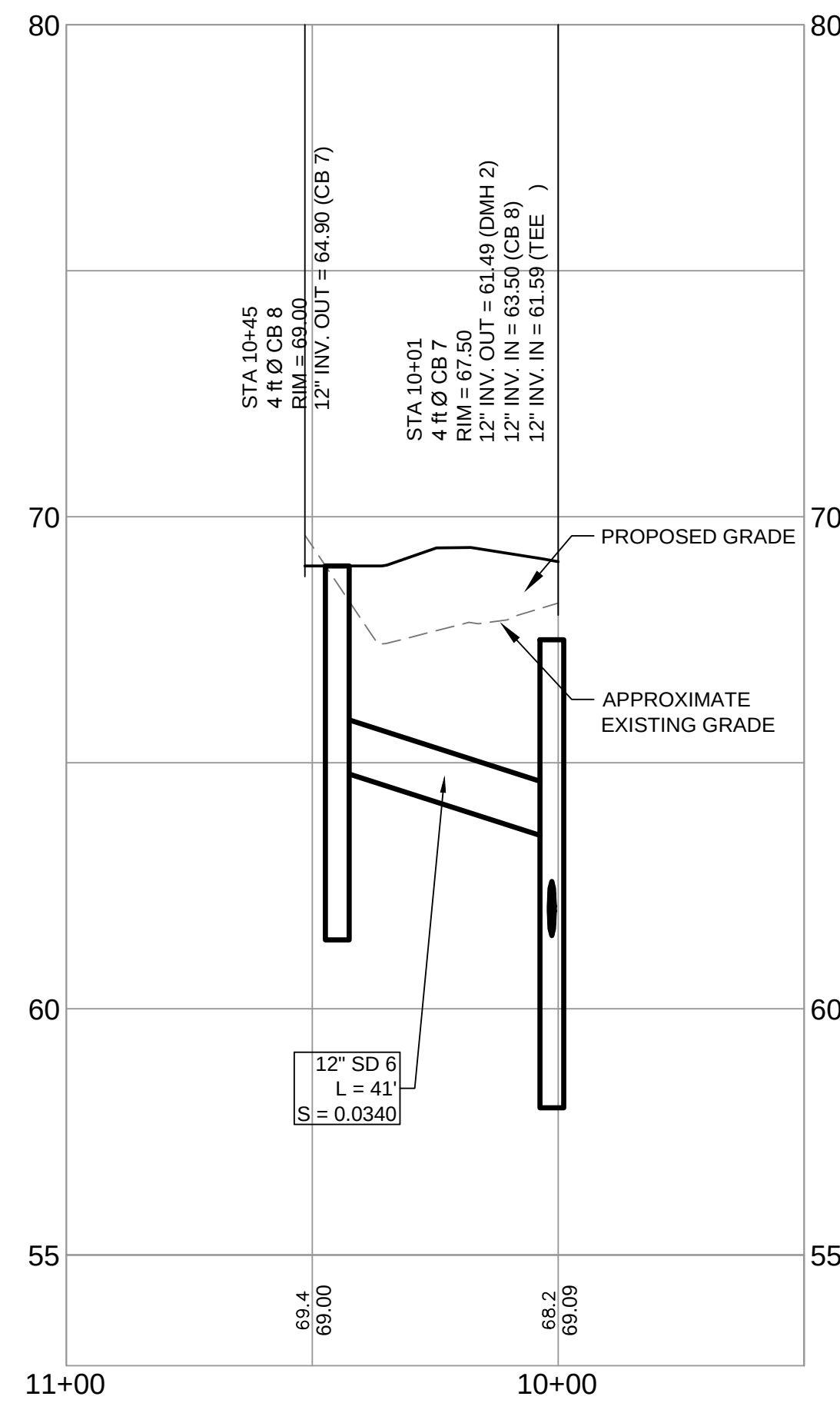


KEY MAP
SCALE: 1" = 100'

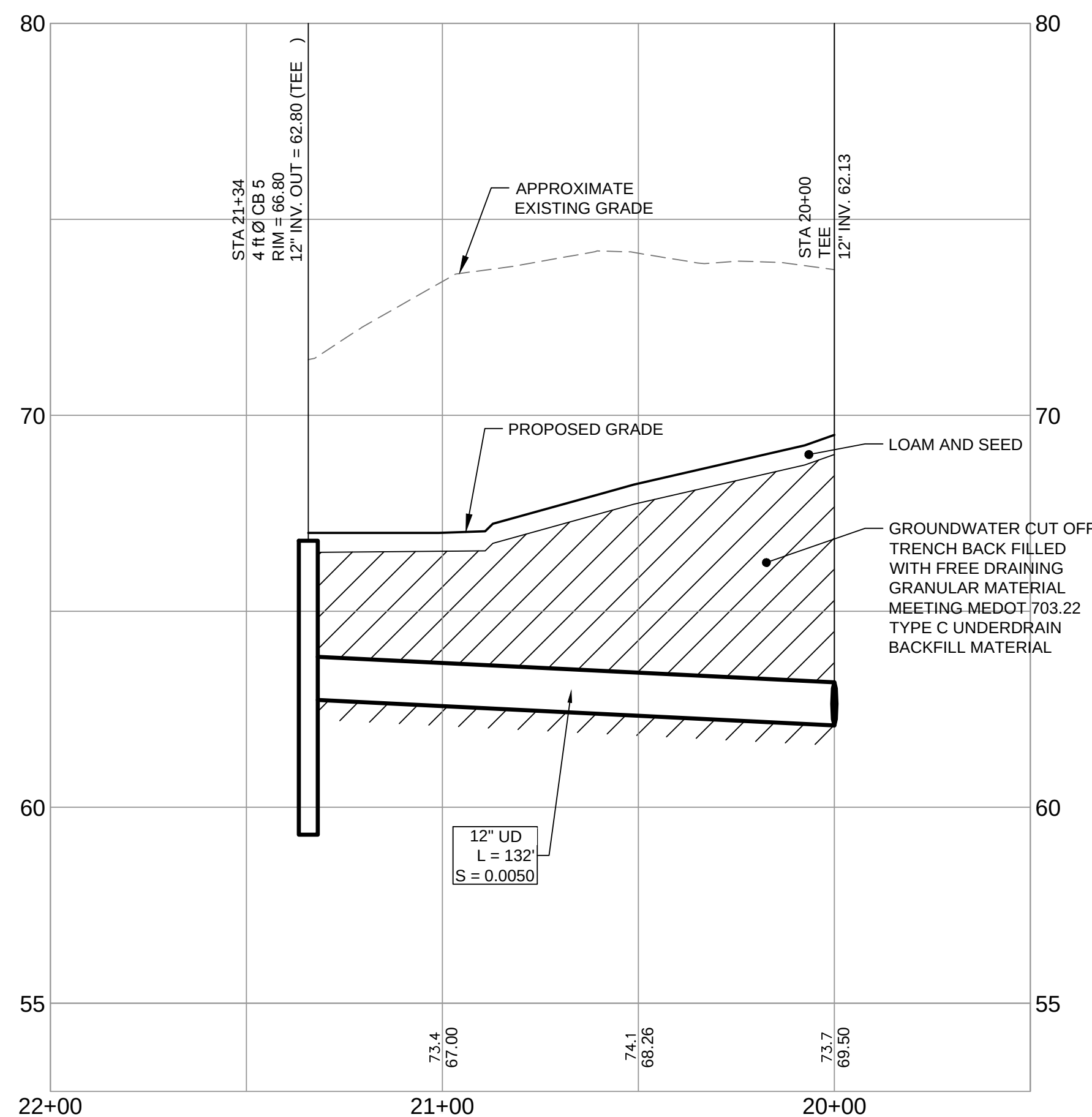


PRELIMINARY - NOT FOR CONSTRUCTION

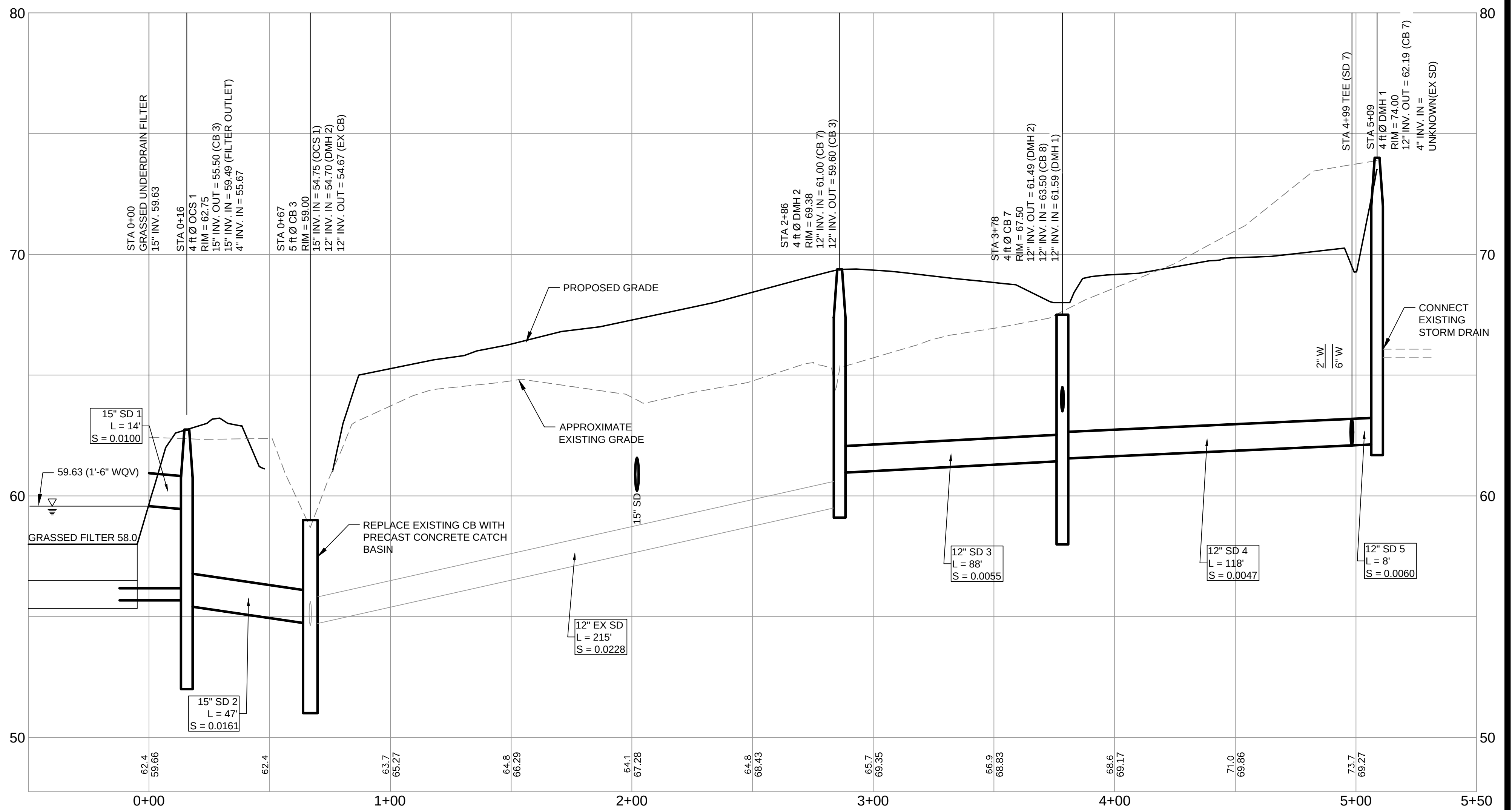
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2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	P.E. ROBERT KENNEDY LIC. # 11994	SHEET TITLE SANITARY SEWER PROFILES	DRAWN: DED		DATE: JAN. 2016
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW		CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DESIGNED: BEK	SCALE: 1" = 30'	
REV	DATE	DESCRIPTION			CHECKED: BEK	JOB NO. 195350142	
REVISIONS			FILE NAME: SP-M157 UTILITY				
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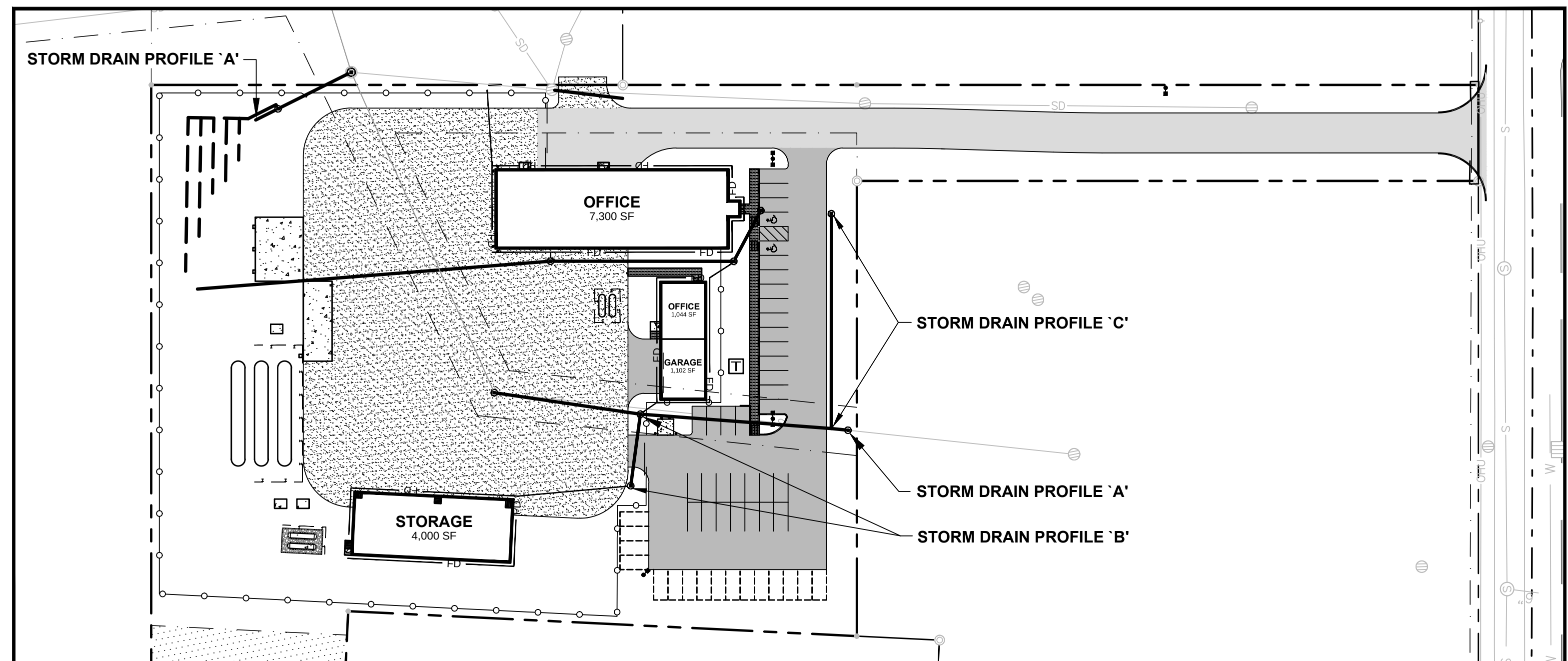
STORM DRAIN PROFILE 'B'
SCALE: H 1" = 30'
V = 3'



STORM DRAIN PROFILE 'C'
SCALE: H 1" = 30'
V = 3'

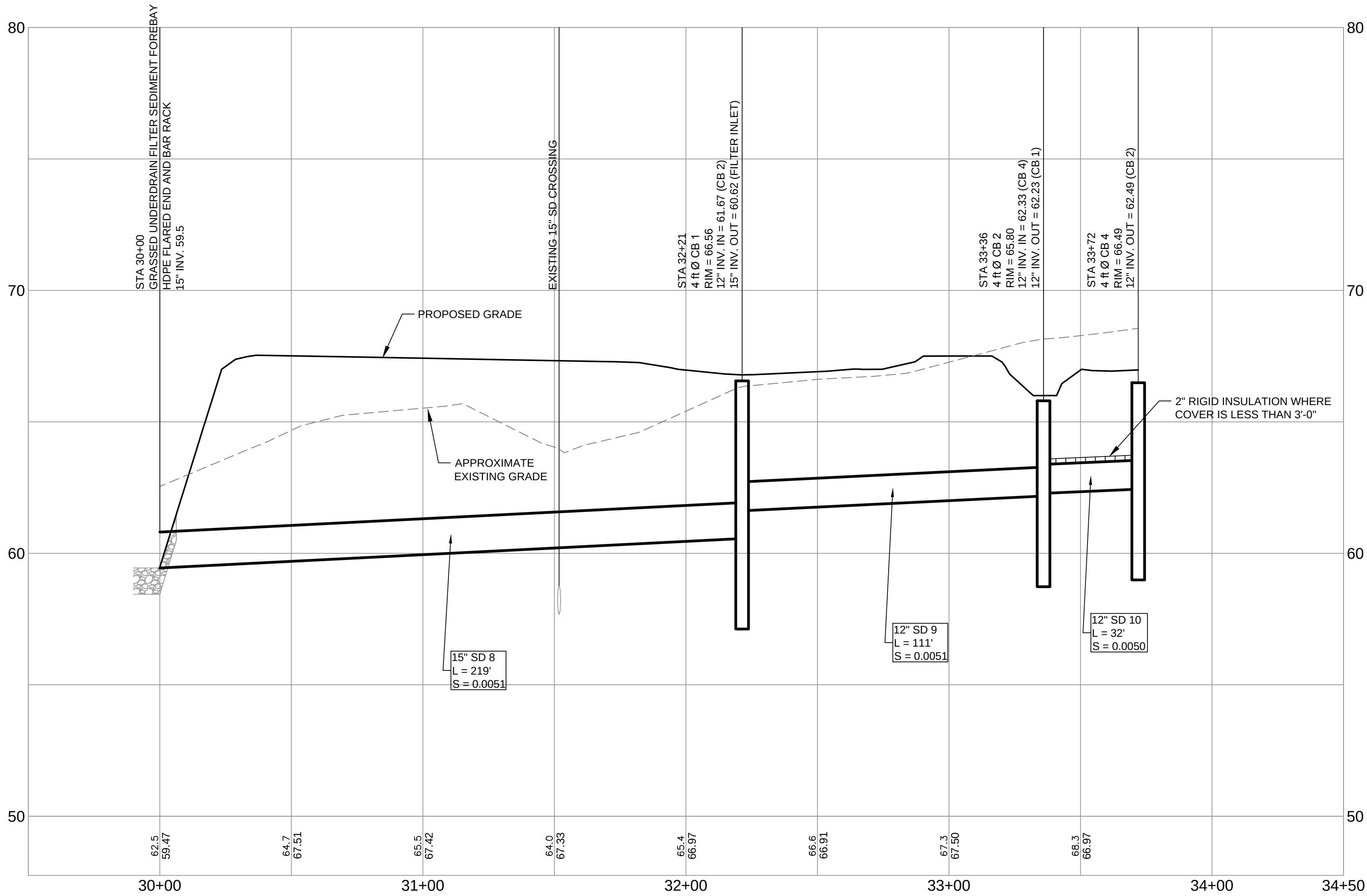


STORM DRAIN PROFILE 'A'
SCALE: H 1" = 30'
V = 3'



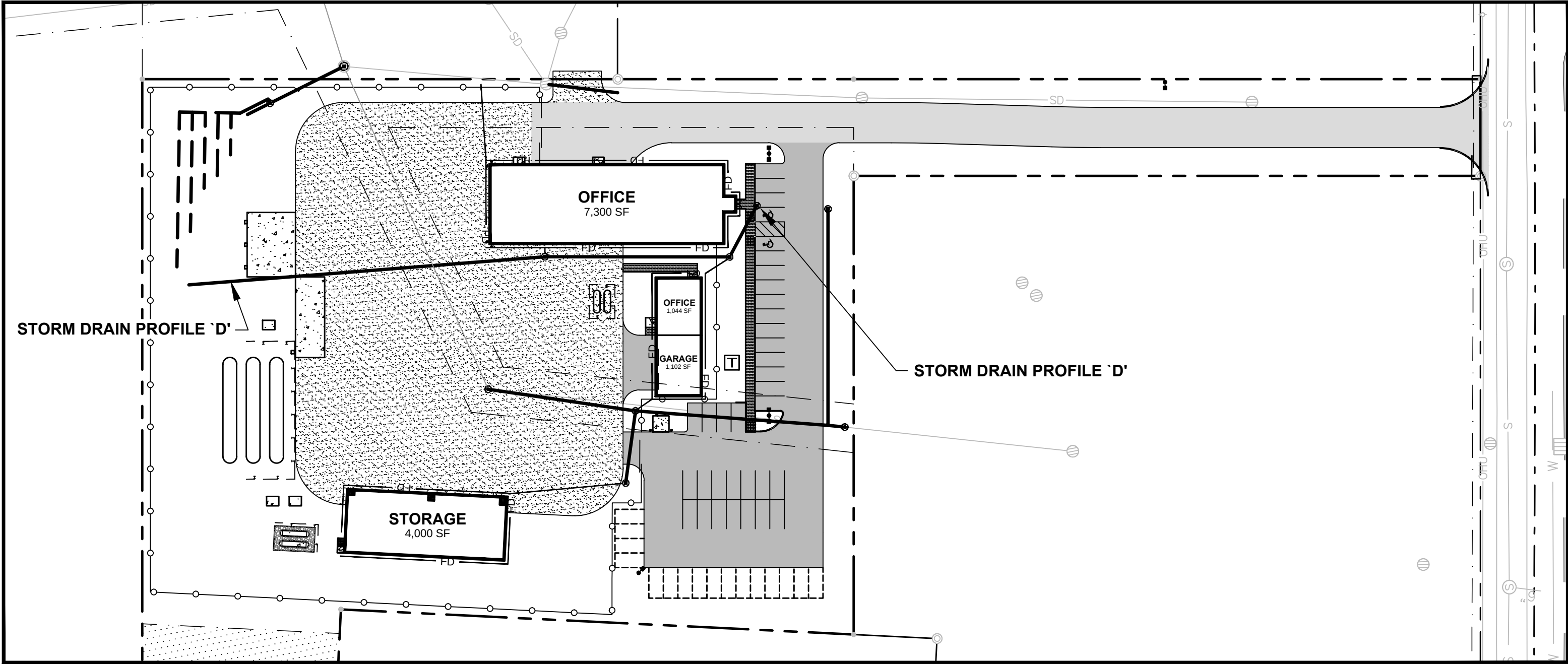
PRELIMINARY - NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
				SHEET TITLE STORM DRAIN PROFILES			
				CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DRAWN: DED		DATE: SEPT 2014
					DESIGNED: BEK		SCALE: 1" = 30'
				CHECKED: BEK		JOB NO. 195350142	
				FILE NAME: SP-M157 GRADING			
				SHEET		C-9.1	
1	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	P.E. # 11994				
REV	DATE	DESCRIPTION	LIC. # 11994				
		REVISIONS					

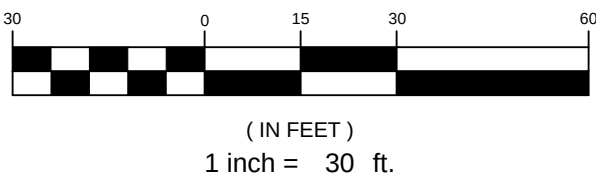


STORM DRAIN PROFILE 'D'

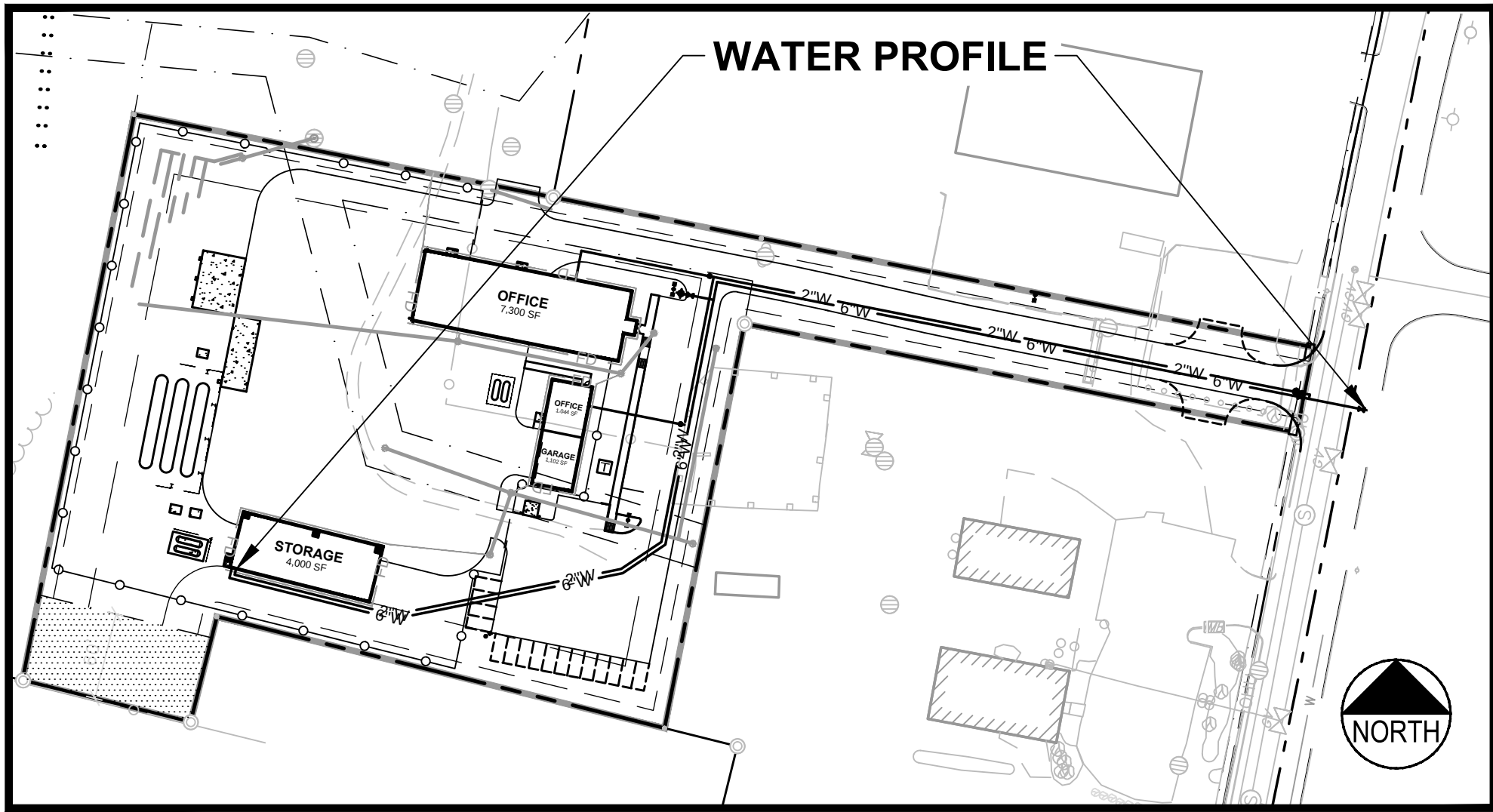
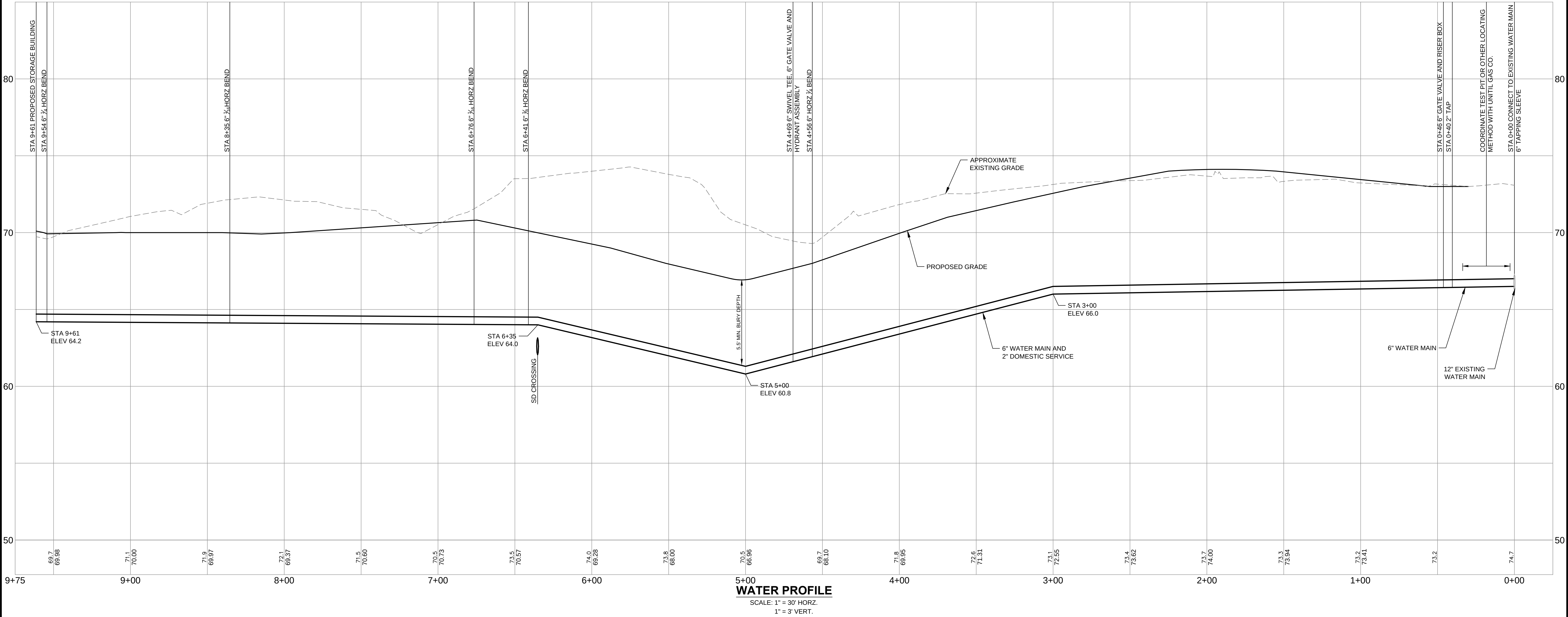
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V = 3'



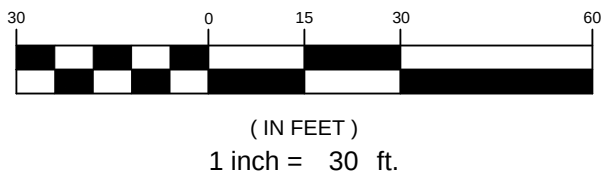
PRELIMINARY - NOT FOR CONSTRUCTION



				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 										
				SHEET TITLE STORM DRAIN PROFILES											
1	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY		P.E. BO KENNEDY	CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	<table><tr><td>DRAWN: DED</td><td>DATE: SEPT 2014</td></tr><tr><td>DESIGNED: BEK</td><td>SCALE: 1" = 30'</td></tr><tr><td>CHECKED: BEK</td><td>JOB NO. 195350142</td></tr><tr><td colspan="2">FILE NAME: SP-M157 GRADING</td></tr><tr><td>SHEET</td><td>C-9.2</td></tr></table>	DRAWN: DED	DATE: SEPT 2014	DESIGNED: BEK	SCALE: 1" = 30'	CHECKED: BEK	JOB NO. 195350142	FILE NAME: SP-M157 GRADING		SHEET
DRAWN: DED	DATE: SEPT 2014														
DESIGNED: BEK	SCALE: 1" = 30'														
CHECKED: BEK	JOB NO. 195350142														
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SHEET	C-9.2														
REV	DATE	DESCRIPTION	LIC. # 11994												
REVISIONS															



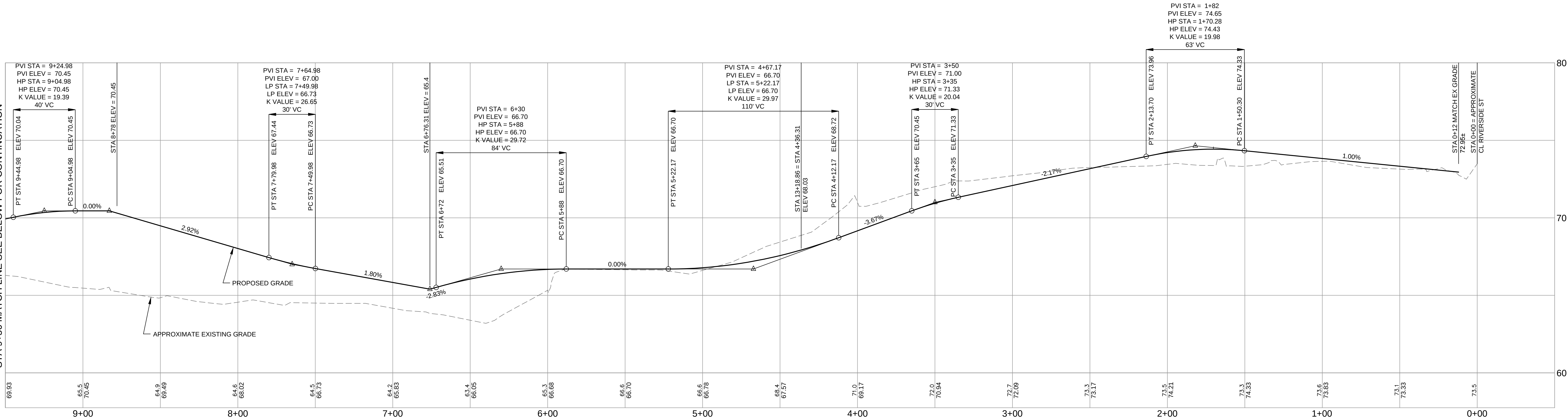
KEY MAP
SCALE: 1" = 30'



PRELIMINARY - NOT FOR CONSTRUCTION

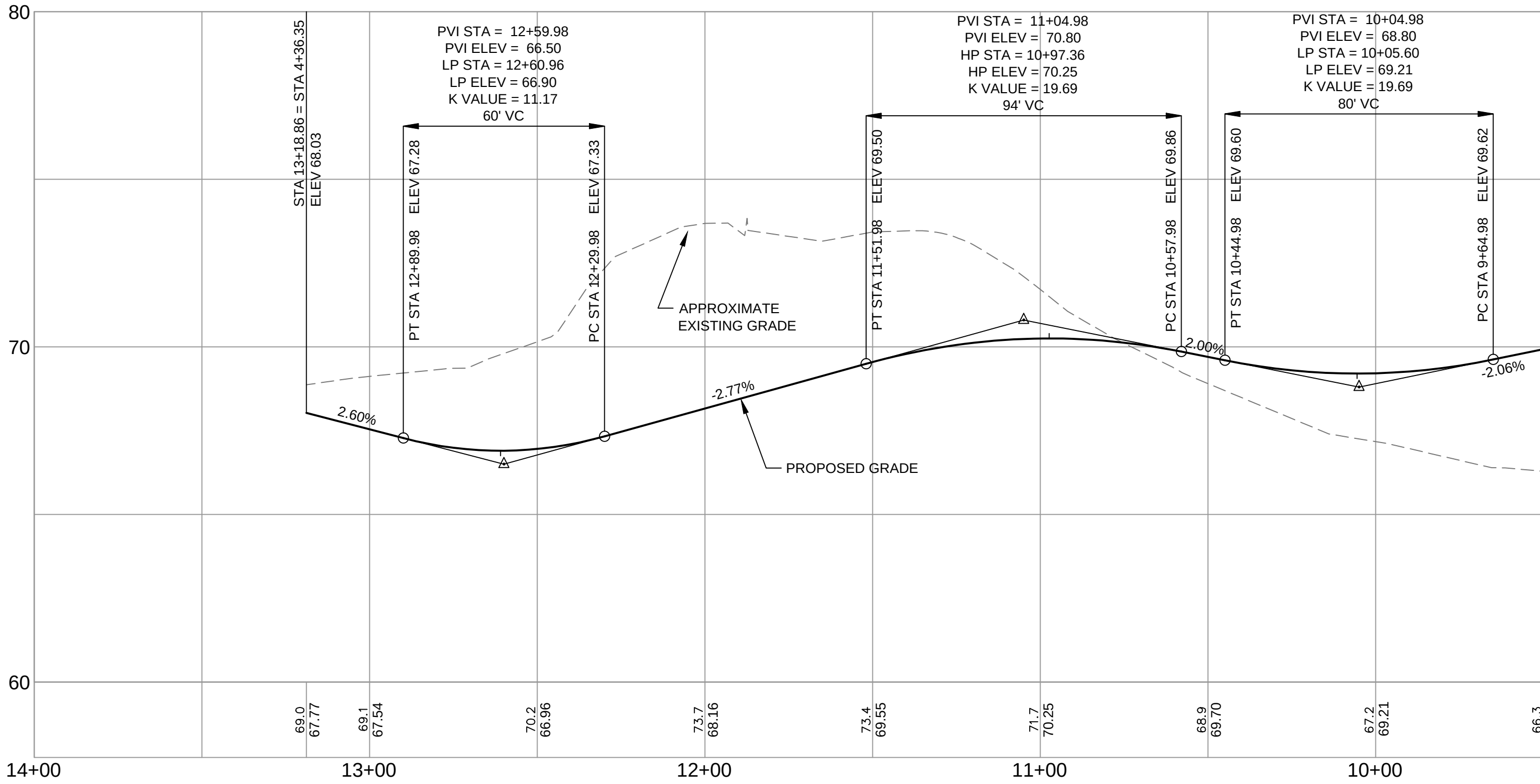
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2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY						
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW						
REV	DATE	DESCRIPTION	P.E. 					
REVISIONS			LIC. # 11994					

STA 9+50 MATCH LINE SEE BELOW FOR CONTINUATION



ACCESS DRIVE / CONSTRUCTION BASELINE PROFILE

SCALE: H 1" = 30'
V = 3'

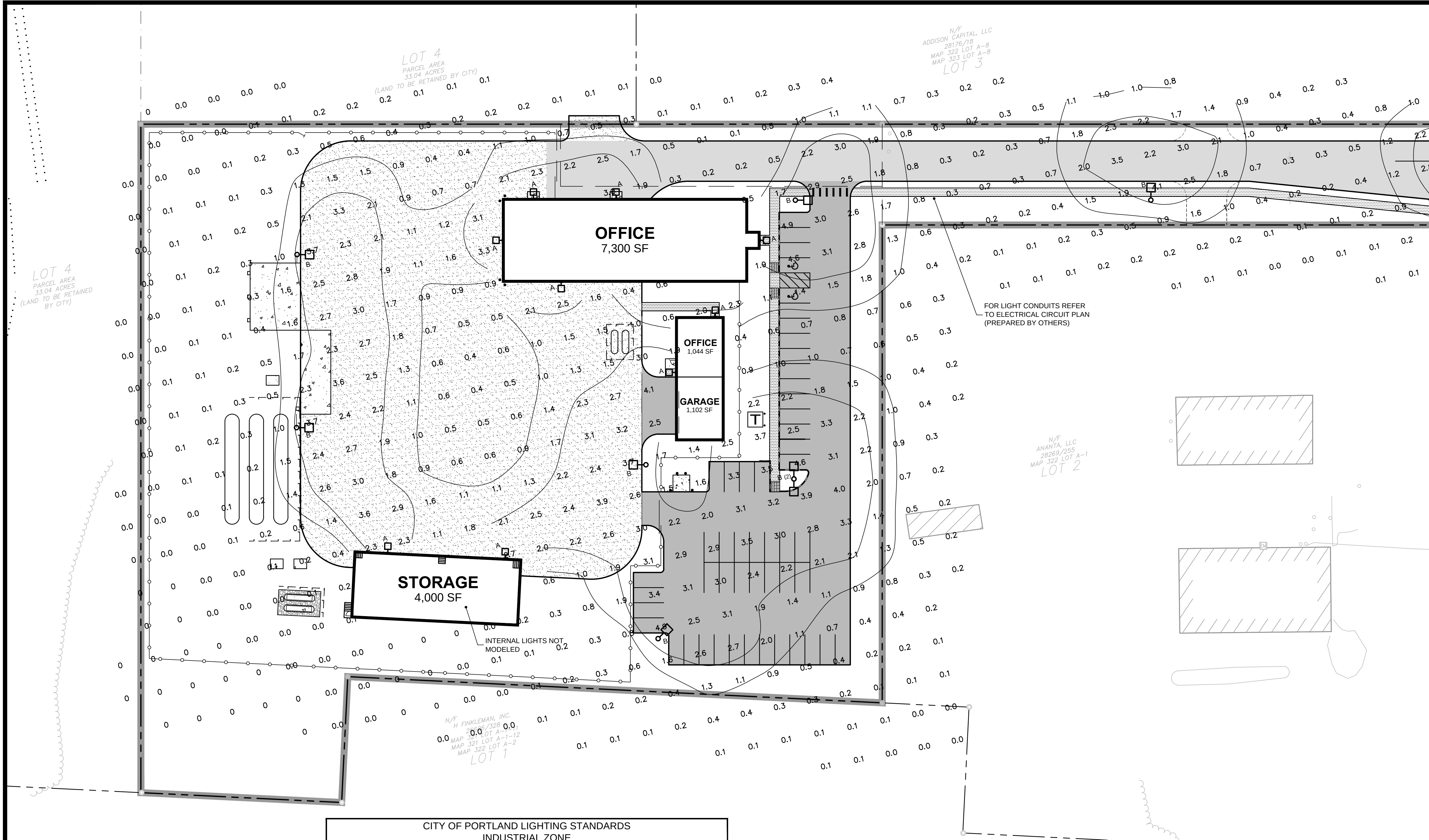


ACCESS DRIVE / CONSTRUCTION BASELINE PROFILE

SCALE: H 1" = 30'
V = 3'

PRELIMINARY - NOT FOR CONSTRUCTION

<table border="1"><thead><tr><th>REV</th><th>DATE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>2</td><td>02/29/16</td><td>FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY</td></tr><tr><td>1</td><td>02/11/15</td><td>SUBMITTED TO CONTRACTOR FOR PRICING</td></tr></tbody></table>	REV	DATE	DESCRIPTION	2	02/29/16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	1	02/11/15	SUBMITTED TO CONTRACTOR FOR PRICING	<table border="1"><thead><tr><th colspan="2">REVISIONS</th></tr></thead><tbody><tr><td> </td><td> </td></tr></tbody></table>	REVISIONS					PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
	REV	DATE	DESCRIPTION														
	2	02/29/16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY														
	1	02/11/15	SUBMITTED TO CONTRACTOR FOR PRICING														
REVISIONS																	
SHEET TITLE ACCESS DRIVE PROFILE																	
CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 PROFILE ACCESS DRIVE SHEET	DATE: JAN 2016 SCALE: 1" = 30' JOB NO. 195350142 C-9.4														

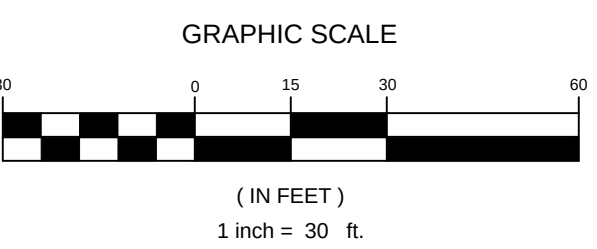


GENERAL PHOTOMETRIC SCHEDULE	
AVERAGE FOOTCANDLES	0.99
MAXIMUM FOOTCANDLES	4.9
MINIMUM FOOTCANDLES	0.0
MINIMUM TO MAXIMUM FC RATIO	0.00
MAXIMUM TO MINIMUM FC RATIO	2795.84
AVERAGE TO MINIMUM FC RATIO	564.25

CITY OF PORTLAND LIGHTING STANDARDS INDUSTRIAL ZONE		
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM FOOTCANDLES	0.2	0.2
MAXIMUM POLE HEIGHT	30' IN INDUSTRIAL ZONE	30'-0"
LIGHT LEVELS AT PROPERTY LINES	<0.1 EXCEPT AT INDUSTRIAL OR NON-SENSITIVE BOUNDARIES	N/A - INDUSTRIAL PROPERTIES

LUMINAIRE SCHEDULE				
LABEL	QTY.	DESCRIPTION	MFG. #	MOUNTING HEIGHT
A	9	LAREDO SERIES WALL MOUNTED LMC - 30LEDS, SPAULDING LIGHTING	LMC-30LU-4K-4	13'-15'
B	9	CIMARRON POLE MOUNTED LED LIGHT, SPAULDING LIGHTING	CL1-A-90L-1-SK-4-105	30'

- NOTES:**
- PHOTOMETRIC DATA GENERATED USING DESIGN MASTER SOFTWARE
 - GRID SPACING = 20' X 20'
 - LIGHT LOSS FACTOR - LED: 0.90
 - ELECTRICAL ENGINEER TO VERIFY VOLTAGE PRIOR TO ORDERING



CIMARRON LED

Size	30"	Type	
Job			

Approvals

SPECIFICATIONS

Construction:

- Fully vertically finned die-cast solid top housing for maximum heat dissipation from semiconductor or semiconductor heat sink.
- Hinged lower die-cast aluminum heat sink and semiconductor mounting and connection PCB and optical performance.
- Separate optical and electrical compartment for optimum component operation.
- One piece die-cast aluminum gasket ensures weather proof seal around each individual LED for IP65 rating.
- Backlight Control (BC) option available for 10% wall and ceiling, direct change fixture appearance or IFA, recommended for Type B and Type C distributions.
- Stamped board provides mechanical compression to hold the optical assembly.
- Complements the Habitat Southwest series of outdoor lighting.
- Weights - 40.0 pounds, EPA - 1.3 ft.
- Suitable for applications requiring 30' being prescribed by ANSI C136.31.

Options:

- Choice of 12 high brightness LED configurations with individual LED chips.
- Special designed for E5 Type K, H, W and V distributions.

Electrical:

- Auto cutoff designed for short over 1A and response time 2A using distribution under 1000V.
- C136 3000K (80 CRI), 4000K (70 CRI), 5000K (70 CRI), and turbo friendly Amber LED options.

Electrical:

- Universal input voltage 120-277 VAC, 50/60 Hz.
- Integrated step down transformer for 347V & 480V.
- Ambient operating temperature -40° C to 40° C.
- Automatic thermal self-protection.
- Drivers have greater than 90% power factor and less than 10% THD.
- Different configurations allowing to 10% or dual circuitry available.

Product Images:

- 90 LED 3/4 VIEW
- 30 LED
- 60 LED
- 90 LED

Dimensions:

- 90 LED 3/4 VIEW
- 30 LED
- 60 LED
- 90 LED

LAREDO SERIES

Size	30"	Type	
Job			

Approvals

SPECIFICATIONS

Construction:

- Fully vertically finned die-cast solid top housing for maximum heat dissipation from semiconductor or semiconductor heat sink.
- Hinged lower die-cast aluminum heat sink and semiconductor mounting and connection PCB and optical performance.
- Separate optical and electrical compartment for optimum component operation.
- One piece die-cast aluminum gasket ensures weather proof seal around each individual LED for IP65 rating.
- Backlight Control (BC) option available for 10% wall and ceiling, direct change fixture appearance or IFA, recommended for Type B and Type C distributions.
- Stamped board provides mechanical compression to hold the optical assembly.
- Complements the Habitat Southwest series of outdoor lighting.
- Weights - 40.0 pounds, EPA - 1.3 ft.
- Suitable for applications requiring 30' being prescribed by ANSI C136.31.

Options:

- Choice of 12 high brightness LED configurations with individual LED chips.
- Special designed for E5 Type K, H, W and V distributions.

Electrical:

- Auto cutoff designed for short over 1A and response time 2A using distribution under 1000V.
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Product Images:

- LMC-30LU
- LMC-30LU Motion Sensor
- LMC-30LU BBU

Dimensions:

- LMC-30LU
- LMC-30LU Motion Sensor
- LMC-30LU BBU

PROJECT
SUBURBAN PROPANE
RELOCATION

SHEET TITLE
PHOTOMETRICS PLAN

CIENT
THOMPSON'S POINT
DEVELOPMENT CO. INC.

REV

DATE

DESCRIPTION

REVISIONS

P.E. BO KENNEDY

LIC. # 11994

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM

Stantec

DRAWN: ARF
DESIGNED: ARF
CHECKED: BEK
FILE NAME: SP-M157 PHOTOMETRICS PLAN
SHEET

DATE: JAN 2016
SCALE: 1" = 30'
JOB NO.: 195350142
P-1.0