

COMMITMENT & INTEGRITY  
DRIVE RESULTS

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Portland, Maine 04102  
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August 2, 2012

Barbara Barhydt, Development Review Services Manager  
City of Portland Planning Office  
389 Congress Street  
Portland, ME 04101

Re: Winding Way Slope Stability Drainage Project, Level 1 Site Alteration Application

Dear Barbara:

Thank you for coordinating the review of the Winding Way Slope Stability Drainage project Level 1 Site Alteration Permit. Enclosed, please find one paper copy of the Level 1 Site Alteration Application and attachments, one full size set of the plans, and a CD with PDF's of this information. Please note that these documents can also be uploaded to the City of Portland E-Plan Website; please provide us a link to enter this information if you prefer that we upload documents electronically.

Review by the City Fire Department is a typical component of a Level 1 Site Alteration Application; however, due to the nature of the proposed work (drainage improvements), we do not believe that it is applicable to this project. If additional submissions are required for this review under separate cover, please let us know.

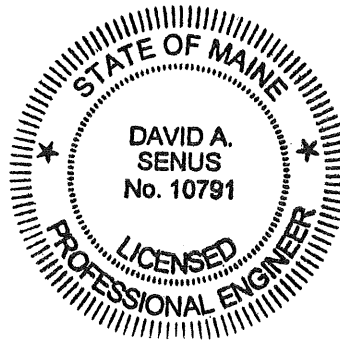
If you have any questions upon your review, please do not hesitate to call me at (207) 774-2112.

Sincerely,

WOODARD & CURRAN INC.

David A. Senus, PE  
Project Manager

AEA/das  
225672.14



Enclosure – Level 1 Site Alteration Application Form  
Plan Sheets C01, C02, C03 dated June 19, 2012  
Figure 1  
CD of Electronic Documents

cc: Eric Labelle, PE, City of Portland (1 Copy)



# LEVEL 1 SITE ALTERATION

Winding Way Slope  
Stability Drainage  
Project

## TABLE OF CONTENTS

SECTION	PAGE NO.
1. APPLICATION FORM.....	1-1
2. PROJECT DESCRIPTION.....	2-1
3. EVIDENCE OF RIGHT, TITLE AND INTEREST .....	3-1
4. EVIDENCE OF STATE AND/OR FEDERAL APPROVALS.....	4-1
5. EVIDENCE OF FINANCIAL AND TECHNICAL CAPACITY .....	5-1
5.1 Financial Capacity .....	5-1
5.2 Technical Capacity .....	5-1
6. ASSESSMENT OF ZONING .....	6-1
6.1 R-3 Residential Zone Requirements.....	6-1
6.2 Shoreland Zone Requirements .....	6-1
7. SIGNIFICANT NATURAL FEATURES.....	7-1
8. STORMWATER MANAGEMENT.....	8-1
8.1 Basic Standard .....	8-1
8.2 General Standard .....	8-1
8.3 Flooding Standard .....	8-1
8.4 Urban Impaired Stream Standard .....	8-1

## LIST OF FIGURES

FIGURE	
Figure 3-1:	Easements & Deeds
Figure 4-1:	NRPA PBR Application
Figure 5-1:	Woodard & Curran Profile

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## 1. APPLICATION FORM



## **Level I – Site Alteration 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 I: Site Alteration site plan.

### **Level I: Site Alteration Development includes:**

- Alteration of a watercourse or wetland as defined in Section 14-47 of the City Code.
- Alteration of a site. The disturbance of land areas of less than one (1) acre that are stripped, graded, grubbed, filled or excavated. The Planning Authority shall exempt from review the loam and seeding of lawns and the cumulative placement of less than fifteen (15) cubic yards of fill on any lot provided such loaming or placement does not alter a drainage course, swale, wetland or redirect water onto adjoining property and does not violate any other provision of the Portland City Code or state or federal law. "Disturbed area" does not include routine maintenance, but does include re-development and new impervious areas.
- The construction of any temporary or permanent parking area, paving of existing unpaved surface parking areas between 1,000 and 7,500 square feet, or creation of other impervious surface areas between 1,000 and 7,500 square feet.
- The rehabilitation or reconstruction, but not new construction, of piers, docks, wharves, bridges, retaining walls, and other structures located within the shoreland zone.
- A site alteration in which vehicle access is proposed from more than one (1) street;

The Land Use Code (including Article V), the Technical Manual, and the Design Manual are available on the City's web site at <http://www.portlandmaine.gov/planning/default.asp> or copies may be purchased at the Planning Division Office.

#### **Planning Division**

Fourth Floor, City Hall  
389 Congress Street  
(207) 874-8721 or (207) 874-8719

#### **Office Hours**

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

**PROJECT NAME:** Winding Way Slope Stability Drainage Project

**PROPOSED DEVELOPMENT ADDRESS:**

73, 79 & 81 Winding Way, Portland, ME

**PROJECT DESCRIPTION:**

Remedial action for slope instabilities adjacent to Nasons Brook. Work includes installing underdrains and catch basins to control surface and groundwater sources, and constructing riprap outlet protection at the Brook outfalls.

**CHART/BLOCK/LOT:** 225/C/25, 26 & 27

<b>CONTACT INFORMATION:</b>	<b>Applicant's Contact for electronic plans</b> Name: Woodard & Curran, c/o David Senus, PE e-mail: dsenus@woodardcurran.com work #: 207-774-2112
<b>Applicant – must be owner, Lessee or Buyer</b> Name: Dept. of Public Services, c/o Eric Labelle, Asst. Director Business Name, if applicable: City of Portland Address: 55 Portland Street City/State : Portland/Maine Zip Code: 04101	<b>Applicant Contact Information</b> Work # 207-874-8801 Home# Cell # Fax# e-mail: elabelle@portlandmaine.gov
<b>Owner – (if different from Applicant) See Attachment 1</b> Name: Address: City/State : Zip Code:	<b>Owner Contact Information</b> Work # Home# Cell # Fax# e-mail:
<b>Agent/ Representative</b> Name: Woodard & Curran, c/o David Senus, PE Address: 41 Hutchins Drive City/State : Portland/Maine Zip Code: 04102	<b>Agent/Representative Contact information</b> Work # 207-774-2112 Cell # e-mail: dsenus@woodardcurran.com
<b>Billing Information</b> Name: Address: City/State : Zip Code:	<b>Billing Information</b> Work # Cell # Fax# e-mail:

<b>Engineer</b> Name: Woodard & Curran, c/o David Senus, PE Address: 41 Hutchins Drive City/State : Portland/Maine                  Zip Code: 04102	<b>Engineer Contact Information</b> Work # 207-774-2112 Cell #    Fax# e-mail: dsenus@woodardcurran.com
<b>Surveyor</b> See Attachment 1 Name: Address: City/State :    Zip Code:	<b>Surveyor Contact Information</b> See Attachment 1 Work # Cell #    Fax# e-mail:

**APPLICATION FEES:**

**Check all reviews that apply. Payment may be made by Check or Cash addressed to the City of Portland.**

<b>Level I Site Alteration Site Plan</b> <u>N/A</u> Application Fee (\$200.00) The City invoices separately for the following: <ul style="list-style-type: none"> <li>• Notices (\$.75 each)</li> <li>• Legal Ad (% of total Ad)</li> <li>• Planning Review (\$40.00 hour)</li> <li>• Legal Review (\$75.00 hour)</li> </ul> Third party review is assessed separately.	<b>Fees Paid</b> (office use) —
<b>Performance Guarantee:</b> A performance guarantee is required to cover all public and private site improvements.	Required
<b>Inspection Fee:</b> An inspection fee of 2% of the performance guarantee is due prior to the release of permits	2% of the performance guarantee

**Application Check List**

**Refer to the application checklist for a detailed list of submittal requirements.**

**All site plans and written application materials must be uploaded to a website for review. At the time of application, instructions for uploading the plans will be provided to the applicant. One paper set of the plans, written materials and application fee must be submitted to the Planning Division Office to start the review process.**

Portland’s development review process and requirements are outlined in the Land Use Code (Chapter 14), which includes the Subdivision Ordinance (Section 14-491) and the Site Plan Ordinance (Section 14-521).

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 Site Plan review only, a Performance Guarantee, Inspection Fee, Building Permit Application and associated fees will be required prior to construction.**

<b>Signature of Applicant:</b>	<b>Date:</b>
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Please refer to Article V, Site Plan of the City of Portland Land Use Code for detailed information concerning the City's site plan review process, thresholds and standards. Should you have any questions regarding the submittal requirements or any other aspect of the site plan review process, please contact the Planning Division.

## PROJECT DATA

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

<b>Total Site Area</b>	71,750	sq. ft.
<b>Proposed Total Disturbed Area of the Site</b>	19,900	sq. ft.
<b>IMPERVIOUS SURFACE AREA</b>		
• Proposed Total Paved Area	N/A	sq. ft.
• Existing Total Impervious Area	2,162	sq. ft.
• Proposed Total Impervious Area	2,162	sq. ft.
• Proposed Impervious Net Change	0	sq. ft.
<b>PARKING SPACES</b>		
• Existing Number of Parking Spaces	N/A	
• Proposed Number of Parking Spaces	N/A	
<b>TOTAL</b> Number of Parking Spaces	N/A	

### General Submittal Requirements – Level I Site Alteration

Applicant Checklist	Planner Checklist	Number of Paper Copies	Submittal Requirement
<input type="checkbox"/>	<input type="checkbox"/>	1	Completed application form.
N/A <input type="checkbox"/>	<input type="checkbox"/>	1	Application fees.
<input type="checkbox"/>	<input type="checkbox"/>	1	Written description of project.
<input type="checkbox"/>	<input type="checkbox"/>	1	Evidence of right, title and interest.
<input type="checkbox"/>	<input type="checkbox"/>	1	Copies of required state and/or federal permits.
<input type="checkbox"/>	<input type="checkbox"/>	1	Written assessment of proposed project's compliance with applicable zoning requirements.
<input type="checkbox"/>	<input type="checkbox"/>	1	Written description of existing and proposed easements or other burdens.
N/A <input type="checkbox"/>	<input type="checkbox"/>	1	Written requests for waivers from individual site plan and/or technical standards.
<input type="checkbox"/>	<input type="checkbox"/>	1	Evidence of financial and technical capacity.



## Site Plans and Boundary Survey Requirements – Level I Site Alteration

Applicant Checklist	Planner Checklist	Number of Copies	Submittal Requirement
<input type="checkbox"/>	<input type="checkbox"/>	1	Boundary Survey meeting the requirements of Section 13 of the City of Portland Technical Manual.
<input type="checkbox"/>	<input type="checkbox"/>	1	<b>Site Plan Including the following:</b>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Existing structures with distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone)</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Location and dimension of existing and proposed paved areas.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Location and details of proposed infrastructure improvements (e.g. - curb and sidewalk improvements, utility connections, roadway improvements).</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Identification of and proposed protection measures for any significant natural features on the site (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features listed in Section 14-526 (b)1. of the Land Use Code.</i>
N/A <input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Details of proposed pier rehabilitation (Shoreland areas only).</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Existing utilities.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Existing and proposed grading and contours.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Proposed stormwater management and erosion controls.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Total area and limits of proposed land disturbance.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Existing vegetation to be preserved and proposed site landscaping.</i>
<input type="checkbox"/>	<input type="checkbox"/>		▪ <i>Existing and proposed easements or public or private rights of way.</i>

## Site Plan Standards for Review of Level I: Site Alteration

Level I: Site alteration plans shall only be subject to the following site plan standards, as applicable, as contained in section 14-526:

- (a) Transportation standards:
  1. Impact on surrounding street systems,
  2. Access and circulation, and
  4. Parking
- (b) Environmental quality standards
  1. Preservation of significant natural features,
  2. Landscaping and landscape preservation, and
  3. Water quality, stormwater management and erosion control.
- (c) Public infrastructure and community safety standards.
  1. Consistency with city master plans.
- (d) Site design standards
  5. Historic resources,
  6. Exterior lighting,
  8. Signage and wayfinding, and
  9. Zoning related design standards.

Except as provided in article III, or to conditions imposed under section 14-526(e) only, or to those submission requirements set forth in section 14-527 as relate solely thereto.



### PORTLAND FIRE DEPARTMENT SITE REVIEW FIRE DEPARTMENT CHECKLIST



A separate drawing[s] shall be provided to the Portland Fire Department for all site plan reviews.

1. Name, address, telephone number of applicant.
2. Name address, telephone number of architect
3. Proposed uses of any structures [NFPA and IBC classification]
4. Square footage of all structures [total and per story]
5. Elevation of all structures
6. Proposed fire protection of all structures
  - **As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)**
7. Hydrant locations

## Attachment 1

### Owner Information:

1. Name: Steve Wiley & Cheri Musgrave  
Address: 73 Winding Way  
City/State/Zip Code: Portland, ME 04102
2. Name: Jennifer Kelley & Scott Tomblason  
Address: 79 Winding Way  
City/State/Zip Code: Portland, ME 04102
3. Name: Leigh Carney  
Address: 81 Winding Way  
City/State/Zip Code: Portland, ME 04102

### Surveyor Information:

1. Topographic Survey:  
  
Name: Owen-Haskell  
Address: 16 Casco Street  
City/State/Zip Code: Portland, ME 04101  
Phone #: (207)774-0424
2. Easement/Boundary Survey:  
  
Name: City of Portland, Department of Public Services  
Address: 55 Portland Street  
City/State/Zip Code: Portland, ME 04101  
Phone #: (207)874-8801

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## 2. PROJECT DESCRIPTION

This drainage project is being performed to address a slope stability issue located on three residential properties, adjacent to Nasons Brook, on Winding Way in Portland, Maine. The properties affected by the slope stability issue are located at 73, 79, and 81 Winding Way. The slope stability issue, evident in the form of a surface tension crack, is visible in the back yards of these properties. The surface tension crack extends across the back of the three properties, parallel with the slope along the tidal portion of Nasons Brook.

In the winter and spring of 2012, the City of Portland hired Woodard & Curran and Haley & Aldrich to evaluate the slope stability condition on these three properties, and to develop a report that summarized the factors contributing to the slope instability. A report was submitted to the City and residents in March 2012, and was finalized in April 2012. This report concluded that the following factors have contributed to the slope instability condition:

- The presence of low-permeability marine clay, typically within a foot of the ground surface;
- The presence of fine sand lenses in the marine clay; and
- Inadequate drainage in the vicinity of the tension crack.

A follow-up Phase 2 report was submitted in May 2012, which provided alternatives and recommendations to remediate the slope instability issue. The Phase 2 report concluded that addressing deficiencies associated with either the soil or the drainage issues would accomplish the project goal of stabilizing the slope. The alternative recommended within the report specifically addressed drainage at the site. The resultant project includes constructing drainage infrastructure in the front and back yards of the three properties, including work in the Winding Way Right-of-Way, to collect and convey surface and subsurface drainage.

In addition to the proposed drainage collection and conveyance infrastructure, the project will include a new outfall with a stabilized plunge pool adjacent to Nasons Brook. The new outfall will collect and manage stormwater that currently flows over-land through a shallow swale. There are signs of erosion within the existing swale, including where the drainage crosses a trail (managed by Portland Trails) south of an existing bridge associated with the trail. The outfall is an essential component of the overall drainage plan, providing drainage for the saturated soils that are contributing to the slope failure condition. In addition, the outfall will prevent the current erosive over-land flow conditions that are present at this location, helping to stabilize the existing trail. We have sited the new outfall adjacent to the rip-rap embankment associated with a 42-inch water main crossing at Nasons Brook.

The project also proposes to hand-place additional rip-rap at the site of an existing stormdrain outfall behind 67/73 Winding Way to minimize the potential for future erosive conditions. The proposed rip-rap apron is located at the site of the existing outfall. The rip-rap apron will extend from the steeper slope where the outfall pipe daylights to the flat slope below the pipe and above the resource. This will ensure that energy from stormwater discharging onto the slope is dissipated and that flow is spread out at the base of the slope prior to reaching the resource.

Ultimately, this project is necessary to stabilize an unstable slope condition. The City and their consultant team have evaluated several alternatives to addressing the slope instability, and have concluded that the proposed drainage plan is the lowest-impact method of addressing the issue.

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### 3. EVIDENCE OF RIGHT, TITLE AND INTEREST

The City of Portland has drafted drainage easements from 67 and 73 Winding Way for an existing storm drain, and for the work to stabilize the existing outfall, and from 81 and 93 Winding Way for the installation of new underdrain piping. Copies of these easements have been provided as Figure 3-1 for your reference.

The City of Portland will not be responsible for constructing or owning the underdrain and roof drain collection systems on the properties located at 73, 79, and 81 Winding Way. All work completed on those parcels will be completed by the property owners and will become the property of those owners. Deeds for these three parcels have been provided as Figure 3-1 for your reference.

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**Figure 3-1: Easements & Deeds**

## Exhibit A

A certain storm water drainage easement through land situated on the westerly side of Winding Way, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

**Beginning** at a point on the westerly street line of Winding Way, at the boundary line between land now or formerly of Thomas J. and Leigh A. Carney and land now or formerly of Debra A. Rothenberg and Richard B. Peterson. Said boundary line being originally described in a deed from William J. and Valerie S. Wipfler to said Carney, dated July 24, 2006 and recorded in Book 24210 Page 319;

Thence along said boundary line between said Carney and said Rothenberg and Peterson **N84°18'06"W one-hundred and ninety-one hundredths feet, more or less (100.91'±)**, to land now or formerly of the City of Portland (Book 17420 Page 326);

Thence along said City of Portland land **N13°07'09"E fifteen and fifty-four hundredths feet (15.54')** to a point;

Thence through said land now or formerly of said Carney **N87°21'23"E eighteen and seventy-three hundredths feet (18.73')** to a point;

Thence continuing through said land now or formerly of said Carney **S82°12'02"E eighty-four and four hundredths feet, more or less (84.04'±)**, to said westerly street line of Winding Way;

Thence along said westerly street line of said Winding Way, **on a non-tangent curve to the left, having a radius of 50.00 feet, a length of 15.54 feet, more or less, and a chord bearing and distance of S19°12'47"W 15.47 feet, more or less**, to said boundary line between said Carney and said Rothenberg and Peterson and the **Point of Beginning**.

Meaning and intending to convey a portion of a thirty-foot wide drainage easement through the Grantor's property whose interest was acquired in Book 24210 Page 319 and in Book 16900 Page 175.

All bearings are Grid North, based on a survey by Owen Haskell, Inc. All deed book and page numbers reference the Cumberland County Registry of Deeds.

## Exhibit A

A certain storm water drainage easement through land situated on the westerly side of Winding Way, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

**Beginning** at a point on the westerly street line of Winding Way, at the boundary line between land now or formerly of Thomas J. and Leigh A. Carney and land now or formerly of Debra A. Rothenberg and Richard B. Peterson. Said boundary line being originally described in a deed from William J. and Valerie S. Wipfler to said Carney, dated July 24, 2006 and recorded in Book 24210 Page 319;

Thence along said boundary line between said Carney and said Rothenberg and Peterson **N84°18'06"W one-hundred and ninety-one hundredths feet, more or less (100.91'±)**, to land now or formerly of the City of Portland (Book 17420 Page 326);

Thence along said City of Portland land **S13°07'09"W fifteen and sixty-three hundredths feet (15.63')** to a point;

Thence through said land now or formerly of said Rothenberg and Peterson **N87°21'23"E twenty-four and forty-five hundredths feet (24.45')** to a point;

Thence continuing through said land now or formerly of said Rothenberg and Peterson **S82°12'02"E seventy-nine and eighty-two hundredths feet, more or less (79.82'±)**, to said westerly street line of Winding Way;

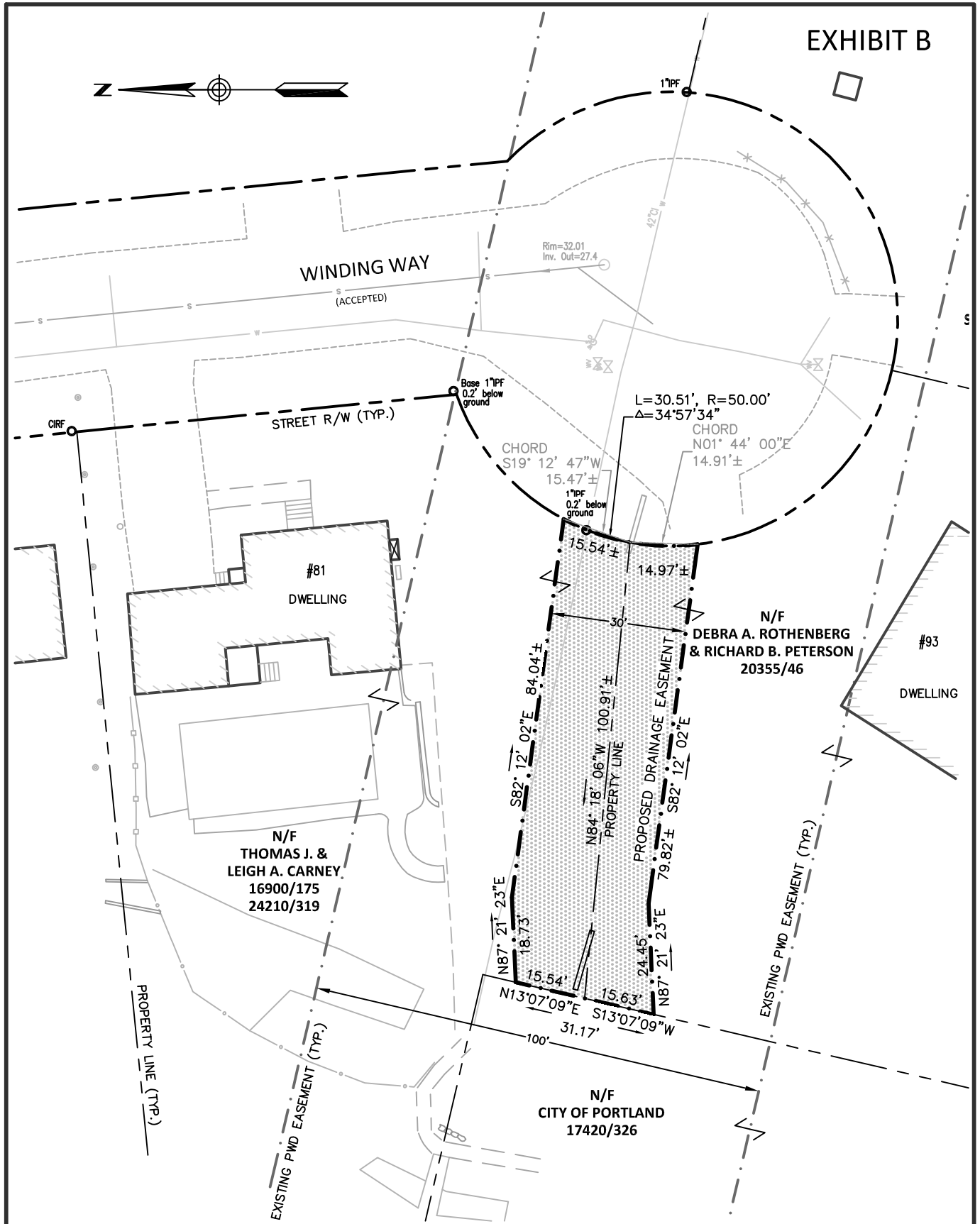
Thence along said westerly street line of said Winding Way, **on a non-tangent curve to the right, having a radius of 50.00 feet, a length of 14.97 feet, more or less, and a chord bearing and distance of N01°44'00"E 14.91 feet, more or less**, to said boundary line between said Carney and said Rothenberg and Peterson and the **Point of Beginning**.


Meaning and intending to convey a portion of a thirty-foot wide drainage easement through the Grantor's property whose interest was acquired in Book 20355 Page 46.

All bearings are Grid North, based on a survey by Owen Haskell, Inc. All deed book and page numbers reference the Cumberland County Registry of Deeds.



EXHIBIT B



 <p>CITY OF PORTLAND PUBLIC SERVICES ENGINEERING DIVISION</p>	<p>PROPOSED 30' DRAINAGE EASEMENT BETWEEN #81 &amp; #93 WINDING WAY</p>	<p>SCALE: 1" = 30'</p>
	<p>LDT PROJECT: WindingWayEasement2012 DRAWING: 2011-182topo_lks.dwg</p>	<p>DATE: 07/18/2012</p>

## Exhibit A

A certain drainage easement through land situated on the westerly side of Winding Way, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

**Commencing** at a point on the westerly street line of Winding Way, at the boundary line between land now or formerly of Mary E. Gedaro (Book 24902 Page 302) and land now or formerly of Cheryl Musgrave (Book 25802 Page 21);

Thence along said westerly street line of said Winding Way  $N05^{\circ}37'51''W$  zero and seventy-nine hundredths feet (0.79') to the **Point of Beginning**;

Thence continuing along said westerly street line of said Winding Way  $N05^{\circ}37'51''W$  **ten and five hundredths feet (10.05')** to a point;

Thence through said land of Gedaro  $S78^{\circ}26'37''W$  **fifty-eight and eighty-one hundredths feet, more or less (58.81'±)**, to a point;

Thence through said land of Gedaro and at right angles to the previous course  $N11^{\circ}33'23''W$  **ten and zero hundredths feet (10.00')**, to a point;

Thence through said land of Gedaro and at right angles to the previous course  $S78^{\circ}26'37''W$  **one-hundred-seven and eighty-one hundredths feet, more or less (107.81'±)**, to Nason's Brook;

Thence along said Nason's Brook to a point that lies on a **tie line with a bearing of  $S31^{\circ}53'35''E$  and a distance of four and zero hundredths feet, more or less (4.00'±)** from the end of the previous course to said boundary line between said land of Gedaro and said land of Musgrave;

Thence along said boundary line  $N84^{\circ}22'09''E$  **one-hundred-fifty-seven and thirty-eight hundredths feet, more or less (157.38'±)** to a point;

Thence through said land of Gedaro  $N78^{\circ}26'37''E$  **seven and sixty-six hundredths feet, more or less (7.66'±)**, to said westerly street line of Winding Way and the **Point of Beginning**.

Meaning and intending to convey a drainage easement through the Grantor's property whose interest was acquired in Book 24902 Page 302..

All bearings are Grid North, based on a survey by Owen Haskell, Inc. All deed book and page numbers reference the Cumberland County Registry of Deeds.

## Exhibit A

A certain drainage easement through land situated on the westerly side of Winding Way, in the City of Portland, Cumberland County, State of Maine, bounded and described as follows:

**Commencing** at a point on the westerly street line of Winding Way, at the boundary line between land now or formerly of Mary E. Gedaro (Book 24902 Page 302) and land now or formerly of Cheryl Musgrave (Book 25802 Page 21);

Thence along said westerly street line of said Winding Way  $N05^{\circ}37'51''W$  zero and seventy-nine hundredths feet (0.79') to a point;

Thence  $S78^{\circ}26'37''W$  seven and sixty-six hundredths feet, more or less ( $7.66' \pm$ ), to said boundary line between said land of Gedaro and said land of Musgrave and the **Point of Beginning**;

Thence along said boundary line  **$S84^{\circ}22'09''W$  one-hundred-fifty-seven and thirty-eight hundredths feet, more or less ( $157.38' \pm$ )**, to Nason's Brook;

Thence along said Nason's Brook to a point that lies on a **tie line with a bearing of  $S24^{\circ}15'44''E$  and a distance of twenty-six and ninety-one hundredths feet ( $26.91'$ )**, from the end of the previous course;

Thence through said land of Musgrave  **$N78^{\circ}26'37''E$  eighty-two and thirty-four hundredths feet, more or less ( $82.34' \pm$ )**, to a point;

Thence through said land of Musgrave and at right angles to the previous course  **$N11^{\circ}33'23''W$  ten and zero hundredths feet ( $10.00'$ )**, to a point;

Thence through said land of Musgrave  **$N78^{\circ}26'37''E$  eighteen and zero hundredths feet, more or less ( $18.00' \pm$ )**, to a point near the outer shingles of the existing garage on said land of said Musgrave;

Thence through said land of Musgrave and along said outer shingles of said existing garage  **$N05^{\circ}05'39''W$  one and forty-eight hundredths feet, more or less ( $1.48' \pm$ )**, to the corner of said outer shingles of said existing garage;

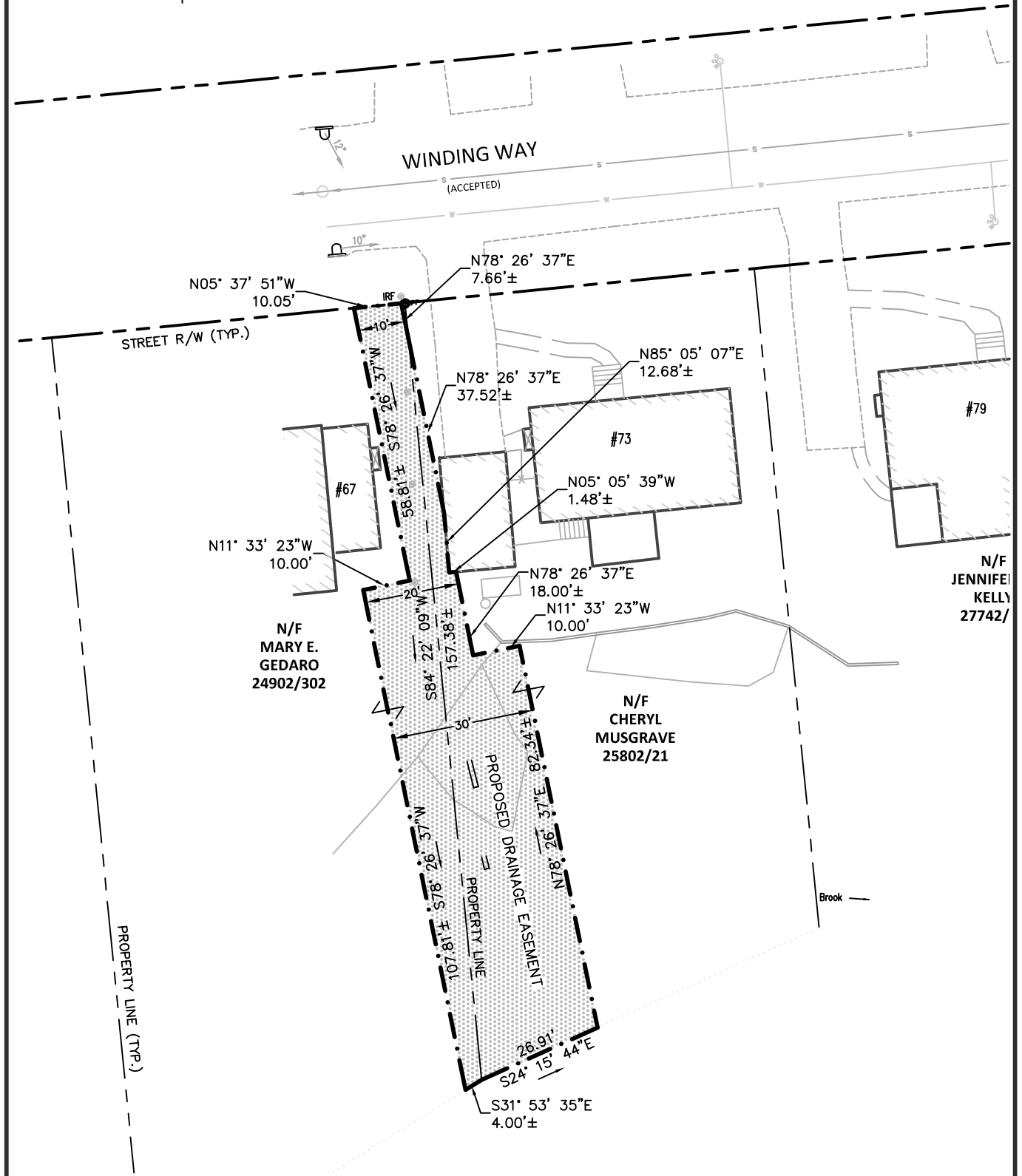
Thence continuing through said land of Musgrave and along said outer shingles of said existing garage  **$N85^{\circ}05'07''E$  twelve and sixty-eight hundredths feet, more or less ( $12.68' \pm$ )**, to a point;


Thence through said land of Musgrave  **$N78^{\circ}26'37''E$  thirty-seven and fifty-two hundredths feet, more or less ( $37.52' \pm$ )**, to said boundary line between said Gedaro and said Musgrave, and the **Point of Beginning**.

Meaning and intending to convey a drainage easement through the Grantor's property whose interest was acquired in Book 25802 Page 21.

All bearings are Grid North, based on a survey by Owen Haskell, Inc. All deed book and page numbers reference the Cumberland County Registry of Deeds.

EXHIBIT B



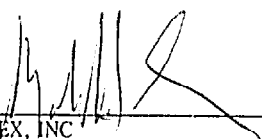
 <p>CITY OF PORTLAND PUBLIC SERVICES ENGINEERING DIVISION</p>	<p>PROPOSED DRAINAGE EASEMENT BETWEEN #67 &amp; #73 WINDING WAY</p>	<p>SCALE: 1" = 30'</p>
	<p>LDT PROJECT: WindingWayEasement2012 DRAWING: 2011-182topo_lks.dwg</p>	<p>DATE: 07/18/2012</p>

QUITCLAIM WITHOUT COVENANT DEED - SHORT FORM DEEDS ACT  
33 M.R.S.A. Section 761 et seq.

KNOW ALL BY THESE PRESENTS, that I, Mark H. Lawler, duly authorized officer of APEX, INC, a Corporation existing by law with a principal place of business in the County of Cumberland and State of Maine, for valuable consideration received, hereby grant to Leigh A. Carney and Thomas J. Carney of the County of Cumberland and State of Maine, as JOINT TENANTS, WITHOUT COVENANT, that certain lot or parcel of land, with any improvements thereon, located at 81 Winding Way, Portland, in the County of Cumberland and State of Maine, as more fully described in Exhibit A attached hereto and fully incorporated herein by reference.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on behalf of APEX, INC in my capacity aforesaid on October 15, 2001.

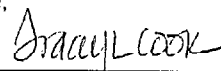
\_\_\_\_\_  
Witness

  
\_\_\_\_\_  
APEX, INC  
By: Mark H. Lawler  
Its: Officer

STATE OF MAINE  
Cumberland, ss:

On October 15, 2001, personally appeared the above-named Mark H. Lawler and acknowledged the foregoing deed to be his/her free act and deed and his/her free act and deed in his/her said capacity, and the free act and deed of said corporation.

Before me,

  
\_\_\_\_\_  
Notary Public/Attorney At Law

\_\_\_\_\_  
Type or Print Name

TRACY L. COOK  
Notary Public  
My Comm. Expires February 2, 2004

SEAL

**EXHIBIT A**  
**LEGAL DESCRIPTION OF PROPERTY LOCATED**  
In Cumberland County at 81 Winding Way, Portland, Maine

A certain lot or parcel of land, with the buildings thereon, situated in said Portland and being lot numbered fourteen (#14) as shown on the Plan of Riverview Point, recorded in the Cumberland County Registry of Deeds in Plan Book 45, Page 38.

This conveyance is made subject to certain easements granted to the Portland Water District as designated on said map.

Meaning and intending to convey and hereby conveying the same premises conveyed to Apex, Inc by deed in lieu of foreclosure dated March 14, 1997 and recorded in the Cumberland County Registry of Deeds in Book 12987, Page 261.

The purpose of this deed is to amend and correct a scrivners error in the Plan Page referenced in a deed from Apex, Inc. to Thomas J. Carney and Leigh A. Carney dated June 26, 1997 and recorded in the Cumberland County Registry of Deeds in Book 13163, Page 111.

**RECEIVED**  
RECORDED REGISTRY OF DEEDS

2001 OCT 31 AM 8:15

CUMBERLAND COUNTY

*John B. O'Brien*

RELEASE DEED

BROWN DEVELOPMENT CORP., a Maine corporation, with a mailing address of P.O. Box 7022, Scarborough, Maine 04070, for consideration paid, release to the CITY OF PORTLAND, a body politic and corporate, located in Portland, County of Cumberland and State of Maine, the following described real estate in Portland, County of Cumberland and State of Maine, bounded and described as follows:

See Exhibit A attached hereto and made a part hereof.

IN WITNESS WHEREOF, Brown Development Corporation has caused this instrument to be executed by Terrence C. Brown, thereunto duly authorized this 14th day of March, 2002.

WITNESS  
[Signature]

BROWN DEVELOPMENT CORP.  
[Signature]  
By: Terrence C. Brown  
Its: President

STATE OF MAINE  
Cumberland, ss.

March 14, 2002

Then personally appeared the above-named Terrence C. Brown and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of Brown Development Corp.

Before me,  
[Signature]  
Notary Public/Attorney at Law  
Printed Name: Lawrence R. Clough  
My commission expires:

EXHIBIT A

A certain lot or parcel of land located westerly of, but not adjacent to, Capisic Street and southwesterly of Starbird Road, so called as shown on Subdivision Plan of 12 Unit Condominium for Brown Development Corporation prepared by Sebago Technics, Inc., dated July 13, 2000, last revised January 30, 2002, in the City of Portland, County of Cumberland, State of Maine and being more particularly bounded and described as follows:

Beginning at an iron to be set on the westerly side of Starbird Road and the southeasterly corner of land now or formerly owned by John A. Thompson and Sarah J. Thompson as described in a deed recorded at the Cumberland County Registry of Deeds in Book 13125, Page 149;

Thence S 12° 16' 19" W, by and along the westerly side of said road, a distance of 43.71 feet to an iron to be set at the northwesterly corner of land of the Starbird Road Condominiums as shown on the Site Plan of Starbird Road Condominiums made for Brown Development Corporation by Sebago Technics, Inc. dated February 7, 2000, as revised through January 30, 2002;

Thence continuing S 12° 16' 19" W, by and along the said Starbird Road Condominiums a distance of four hundred thirty-seven and twenty-six hundredths (437.26) feet to an iron to be set in the northerly side of land now or formerly owned by Catherine A. Fox and Hugh T. Dozer as described in a deed recorded at the Cumberland County Registry of Deeds in Book 9796, Page 94;

Thence N 82° 28' 41" W, by and along land of said Fox and Dozer, a distance of sixty-three and eighty hundredths (63.80) feet to their most northwesterly corner;

Thence S 07° 13' 19" W, by and along land of said Fox and Dozer and land now or formerly of Jessica L.A. Roy as described in a deed recorded at Cumberland County Registry of Deeds in Book 14389, Page 215, a distance of one hundred fifty (150) feet to the southwesterly corner of said Roy;

Thence S 82° 28' 41" E, by and along the southerly sideline of said Roy a distance, of two and forty hundredths (2.40) feet to a point at the northwesterly corner of land now or formerly owned by Laura S. Martineau as described in a deed recorded at the Cumberland County Registry of Deeds in Book 6128, Page 38;

Thence S 07° 13' 19" W, by and along land of said Martineau, a distance of one hundred (100) feet to a point;



Thence S 82° 28' 41" E, by and along land of said Martineau, a distance of twenty-three and sixty hundredths (23.60) feet to a point in the northwesterly corner of land now or formerly owned by Julie L. Howison as described in a deed recorded in the Cumberland County Registry of Deeds in Book 10161, Page 90;

Thence S 00° 46' 25" W, by and along land of said Howison, a distance of ninety-seven and six hundredths (97.06) feet to an angle point;

Thence S 16° 15' 32" E, by and along land of said Howison, a distance of seventy-four and ninety-five hundredths (74.95) feet to a point at the northwesterly corner of land now or formerly owned by Edith C. Hallowell and Virginia E. and Jerome E. Reuter as described in a deed recorded at Cumberland County Registry of Deeds in Book 9435, Page 132;

Thence S 05° 05' 42" E, by and along land of said Hallowell and Reuter, a distance of one hundred ninety and thirty-one hundredths (190.31) feet, more or less, to the thread of stream as shown on said plan;

Thence generally northwesterly and southwesterly along the thread of a stream and along the northerly sideline of land now or formerly owned by Central Maine Power Company as described in a deed recorded at Cumberland County Registry of Deeds in Book 2378, Page 113 a distance of six hundred fifty-seven (657) feet, more or less, to a point in the Central Maine Power Company Transmission line as shown on said plan;

Thence N 33° 51' 34" W, through said Central Maine Power Company Transmission line, a distance of seven hundred sixty-eight and twenty-four hundredths (768.24) feet, more or less, to the thread of said stream;

Thence generally easterly, northerly, northwesterly, easterly, southeasterly and northeasterly along the thread of stream a distance of one thousand three hundred twenty-eight (1,328) feet, more or less, to a point in the southwesterly sideline of land now or formerly owned by the Maine Audubon Society as shown on said plan;

Thence S 56° 16' 16" E, by and along the Maine Audubon Society land, a distance of sixty-four and thirty-three hundredths (64.33) feet, more or less, to a point at the northwesterly corner of land now or formerly owned by William J. Wipfler and Valerie S. Wipfler as described in a deed recorded at the Cumberland County Registry of Deeds in Book 7953, Page 269;

Thence S 33° 43' 44" W, by and along land of said Wipfler, a distance of one hundred ninety-five (195) feet to a point at the southwesterly corner of said Wipfler;

Thence S 56° 16' 16" E, by and along land of said Wipfler and land now or formerly of Stanley J. Vincent and Maxine S. Vincent passing through a 1" iron pipe found, a distance of three hundred (300) feet to a point at the southeast corner of said Vincent that is located N 51° 19' 04" W, along a tie line a distance of 424.22 feet from the southwesterly corner of land of said Howison;

Thence N 33° 43' 44" E, by and along land of said Vincent, a distance of one hundred ninety-five (195) feet to a 1" iron pipe in the southerly sideline of land now or formerly owned by Nancy A. MacWilliams and John R. MacWilliams as described in a deed recorded at Cumberland County Registry of Deeds in Book 14928, Page 149;

Thence S 56° 16' 16" E, by and along said MacWilliams, a distance of thirty-six and one hundredth (36.01) feet to a point at the southeasterly corner of said MacWilliams land;

Thence N 15° 01' 19" E, by and along land of said MacWilliams, land now or formerly of Elizabeth Ann Hoover as described in a deed recorded in Book 10039, Page 38, land now or formerly of CoVan and Muoi Quang as recorded in Book 12448, Page 223, land now or formerly of Ida M. Connolly and Peter M. Connolly, land now or formerly of Christine A. Hershey and Irene G. Dufour as described in a deed recorded in Book 13963, Page 74 and by land now or formerly owned by Terrance L. McCutcheon and Sandra L. McCutcheon all being recorded at the Cumberland County Registry of Deeds, a total distance of five hundred nineteen and fifty-four hundredths (519.54) feet to a 1" iron pipe 8" above grade at the southeasterly corner of land now or formerly of April L. Mathis and Eric T. Mathis as described in Book 13303, Page 154 at the Cumberland County Registry of Deeds;

Thence N 34° 12' 19" W, by and along land of said Mathis, distance of eighteen and forty-one hundredths (18.41) feet to a 1" iron 12" above grade at the most southerly corner of land now or formerly of Jan Chibka;

Thence N 63° 01' 19" E, by and along land of said Jan Chibka and land now or formerly of Frank J. Swift and Zoe H. Swift and passing through a 1" iron pipe 7" above grade, a distance of one hundred sixteen and sixty-eight hundredths (116.68) feet to a iron to be set in the westerly sideline of land now or formerly of John A. Thompson and Sarah J. Thompson as described in a deed recorded at Cumberland County Registry of Deeds in Book 13125, Page 149;

Thence S 12° 16' 19" W, by and along said Thompson, sixty-eight and twenty-five hundredths (68.25) feet to and iron to be set at the southwesterly corner of said Thompson;

Thence S 77° 43' 41" E, by and along land of said Thompson, a distance of one hundred thirty-five (135) feet to the point of beginning.

Meaning and intending to describe a total of 14.72 acres more or less, excepting rights to all existing easements as shown on said plan.

Bearings are based on magnetic north.

Subject to a all easements and restrictions of record.

Excepting and reserving for the benefit of Brown Development Corp., its successors and/or assigns the right to install, maintain, repair and replace a drainage easement and all apparatus related thereto for the purpose of draining surface water from remaining land of Grantor onto the premises above described, which apparatus is shown and depicted on the plan entitled "Grading and Utilities Plan of Starbird Road Condominiums" made for Brown Development Corporation by Sebago Technics dated February 7, 2000, as revised through January 30, 2002.

Subject to matters as shown and depicted on the subdivision plan of Starbird Road Condominiums made for Brown Development Corporation dated July 13, 2000, as revised through January 30, 2002.

RECEIVED  
RECORDED REGISTRY OF DEEDS  
2002 MAR 14 PH 2: 28  
CUMBERLAND COUNTY  
*John B O'Brien*

**WARRANTY DEED-Joint Tenancy**

**WILLIAM J. WIPFLER and VALERIE S. WIPFLER**, husband and wife, of Portland, Maine, for consideration paid, grant to **DEBRA A. ROTHENBERG and RICHARD B. PETERSON**, wife and husband, of Portland, Maine and whose mailing address is 74 Revere Street, #1, Portland, ME 04103, **WITH WARRANTY COVENANT**, as joint tenants and not as tenants in common, the following described premises:

A certain lot or parcel of land, together with any buildings thereon, situated on **Winding Way**, in the City of **Portland**, County of Cumberland, and State of Maine, being **Lot Number 15** as shown on a plan of **River View Point** drawn by Carl E. Emery, recorded June 20, 1956 in the Cumberland County Registry of Deeds in **Plan Book 45, Page 38**, to which Plan reference is hereby made for a more particular description. **EXCEPTING AND RESERVING** therefrom, however, to The Minat Corporation a right of way and easement over the following described portion thereof for the purpose of a private or public way and for the installation thereon or therein of utility services to serve the adjacent premises owned by The Minat Corporation:

BEGINNING at the most northerly corner of said Lot Number 15; thence southwesterly by the sideline of said Lot Number 15, fifty (50) feet to a point; thence southeasterly and parallel with the northeasterly sideline of said Lot Number 15, which sideline is also labelled "water main" on said Plan, to be the turnaround of Winding Way; thence generally northerly by said turnaround to said northeasterly sideline of said Lot 15; thence northwesterly by said northeasterly sideline of Lot Number 15 to the point of beginning. Said Lot Number 15 is also subject to a Water District easement sixty-five (65) feet in width as shown on said Plan and described in Book 2292, Page 459.

**EXCEPTING AND RESERVING** the following described parcel of land to be conveyed by warranty deed to abutters Thomas J. and Leigh A. Carney:

Beginning at a iron pipe on the westerly sideline of Winding Way in said Portland, Maine, said iron pipe marking the northeast corner of land now or formerly Wipfler as described in a deed recorded in Cumberland County Registry of Deeds Book 7953, Page 269, and being the northeast corner of Lot 15 as shown on Plan of "River View Point" Subdivision in Portland, Maine by Carl Emery, dated April 1956 and recorded in said Registry in Plan Book 45, Page 38;

Thence southwesterly along said Winding Way, across a Portland Water District Right-of-way (Book 2292, Page 459), on a curve to the left with a radius of 50.00 feet an arc length of 10.00 feet, to a point, said curve having a tie-line bearing of South 32° - 46' - 18" West 9.98 feet;

Thence turning and running across said Portland Water District Right-of-way and said land of Wipfler North 67° - 17' - 55" West 101.37 feet to point;

RETURN TO: Debra A Rothenberg & Richard B Peterson, 74 Revere St., #1, Portland, ME 04103

MAINE REAL ESTATE TAX PAID

Thence turning and running across said Portland Water District Right-of-way and along said land of Wipfler North 30° - 05' - 07" East 23.00 feet to a point located on the common boundary line of Lots 14 and 15 on said Plan, and at land of the within Grantees, Thomas J. Carney and Leigh A. Carney (Book 12987, Page 261), owners of Lot 14 as shown on said Plan;

Thence turning and running along said Portland Water District Right-of-way and said land of Carney South 59° - 54' - 53" East 101.00 feet to the point of beginning. Said parcel contains 1,658 square feet of land. Bearings are magnetic of the year 2001.


The within conveyed premises are conveyed **SUBJECT TO** the following:

1. Right of way and easement to the Portland Water District, recorded in said Registry in Book 2292, Page 459;
2. Rights of others to pass and repass over and across that portion of the within conveyed premises as are located within the bounds of Winding Way; and
3. Any other easements or rights of record.

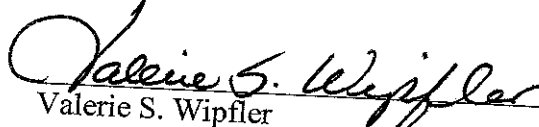
Being a portion of the same premises conveyed by Robert L. and Marilyn C. Simpson to the within Grantors by warranty deed dated September 1, 1987 and recorded in the Cumberland County Registry of Deeds in Book 7953, Page 269.

IN WITNESS WHEREOF, the said William J. Wipfler and Valerie S. Wipfler have hereunto set their hands and seals this 30<sup>th</sup> day of September, 2003.

Witness to both:

  
WITNESS

  
\_\_\_\_\_  
William J. Wipfler

  
\_\_\_\_\_  
Valerie S. Wipfler

STATE OF MAINE  
Cumberland, ss.

September 30<sup>th</sup>, 2003

Thence personally appeared the above named William J. Wipfler and Valerie S. Wipfler and acknowledged the foregoing to be their free act and deed.

Before me,



\_\_\_\_\_  
Notary Public/Attorney at Law

Printed Name: \_\_\_\_\_

My commission expires: \_\_\_\_\_

**KRISTINE M. SIMMONS**  
ATTORNEY AT LAW

Received  
Recorded Register of Deeds  
Oct 07, 2003 02:13:48P  
Cumberland County  
John B. O'Brien

**WARRANTY DEED-Joint Tenancy**

**WILLIAM J. WIPFLER and VALERIE S. WIPFLER**, husband and wife, of Portland, Maine, for consideration paid, grant to **THOMAS J. CARNEY and LEIGH A. CARNEY**, husband and wife, of Portland, Maine and whose mailing address is 81 Winding Way, Portland, ME 04102, **WITH WARRANTY COVENANT**, as joint tenants and not as tenants in common, the following described premises:

A certain lot or parcel of land situated in the City of **Portland**, County of Cumberland, and State of Maine, being more fully set forth and described as follows, to wit:

Beginning at a iron pipe on the westerly sideline of Winding Way in said Portland, Maine, said iron pipe marking the northeast corner of land now or formerly Wipfler as described in a deed recorded in Cumberland County Registry of Deeds Book 7953, Page 269, and being the northeast corner of Lot 15 as shown on Plan of "River View Point" Subdivision in Portland, Maine by Carl Emery, dated April 1956 and recorded in said Registry in Plan Book 45, Page 38;

Thence southwesterly along said Winding Way, across a Portland Water District Right-of-way (Book 2292, Page 459), on a curve to the left with a radius of 50.00 feet an arc length of 10.00 feet, to a point, said curve having a tie-line bearing of South 32° - 46' - 18" West 9.98 feet;

Thence turning and running across said Portland Water District Right-of-way and said land of Wipfler North 67° - 17' - 55" West 101.37 feet to point;

Thence turning and running across said Portland Water District Right-of-way and along said land of Wipfler North 30° - 05' - 07" East 23.00 feet to a point located on the common boundary line of Lots 14 and 15 on said Plan, and at land of the within Grantees, Thomas J. Carney and Leigh A. Carney (Book 12987, Page 261), owners of Lot 14 as shown on said Plan;

Thence turning and running along said Portland Water District Right-of-way and said land of Carney South 59° - 54' - 53" East 101.00 feet to the point of beginning. Said parcel contains 1,658 square feet of land. Bearings are magnetic of the year 2001.

**SUBJECT TO** the following:

1. Right of way and easement reserved to The Minat Corporation in deed from Robert L. and Marilyn C. Simpson to the within Grantors, dated September 1, 1987 and recorded in said Registry, Book 7953, Page 269;
2. Right of way and easement to the Portland Water District, recorded in said Registry in Book 2292, Page 459;
3. Rights of others to pass and repass over and across that portion of the within conveyed premises as are located within the bounds of Winding Way; and
4. Any other easements or rights of record.

MAINE REAL ESTATE TAX PAID

Being a portion of the same premises conveyed by Robert L. and Marilyn C. Simpson to the within Grantors by warranty deed dated September 1, 1987 and recorded in the Cumberland County Registry of Deeds in Book 7953, Page 269.

IN WITNESS WHEREOF, the said William J. Wipfler and Valerie S. Wipfler have hereunto set their hands and seals this 24<sup>th</sup> day of July, 2006.

Witness to both:

Jennifer D. Viale  
to Beth

William J. Wipfler  
William J. Wipfler

Valerie S. Wipfler  
Valerie S. Wipfler

STATE OF MAINE  
Cumberland, ss.

July 24, 2006

Thence personally appeared the above named William J. Wipfler and Valerie S. Wipfler and acknowledged the foregoing to be their free act and deed.

Before me,

Jennifer D. Viale

Notary Public/Attorney at Law

Printed Name:

JENNIFER D. VIALE  
NOTARY PUBLIC, MAINE

My commission expires:

My Commission Expires October 7, 2006

SEAL

Received  
Recorded Register of Deeds  
Jul 27, 2006 03:04:53P  
Cumberland County  
John B O'Brien



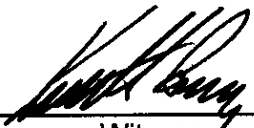
**TRUSTEES DEED**  
(Maine Statutory Short Form)

**Mary E. Gedaro and KeyBank National Association, successor in interest to KeyTrust Company National Association, co-Trustees of the Andrew R. Gedaro Residuary Trust**, under trust agreement dated January 30, 1996, grant to **Mary E. Gedaro**, with a mailing address of 67 Winding Way, Portland, Maine and **Androscoggin Bank, successor Co-Trustee of the Andrew R. Gedaro Residuary Trust**, with a mailing address of 30 Lisbon Street, Lewiston, Maine 04240, the following described real property situated at Portland, Cumberland County, Maine:

A certain lot or parcel of land, together with the buildings and other improvements thereon, situated in the City of Portland, County of Cumberland, State of Maine and described in a deed dated May 25, 1962, from the Minat Corporation to Andrew R. Gedaro, which deed is recorded in the Cumberland County Registry of Deeds in Book 2676 at Page 348, subject, however, to the restrictions and together with all rights therein cited or set out; excepting, however, those portions of the premises previously conveyed by said Andrew E. Gedaro in a deed dated January 2, 1964 to James F. Connors et al., which deed is recorded in said Registry of Deeds in Book 2796 at Page 346, a deed dated May 4, 1965 to Marcus L. Moschetto et al., which deed is recorded in said Registry of Deeds in Book 2896 at Page 60 and a deed dated September 27, 1967 to Donald W. Peterson et al., which deed is recorded in said Registry of Deeds in Book 3013, at Page 735.

Meaning and intending to convey the same premises described in a deed from Mary E. Gedaro, duly appointed and acting personal representative of the estate of Andrew R. Gedaro, dated July 7, 1999, and recorded in the Cumberland County Registry of Deeds in Book 14913, Page 217.

Witness my hand this 17 day of January, 2007.

  
\_\_\_\_\_  
Witness

  
\_\_\_\_\_  
Mary E. Gedaro, Trustee

Received  
Recorded Register of Deeds  
Mar 07, 2007 01:04:48P  
Cumberland County  
Pamela E. Lovley

  
\_\_\_\_\_  
KeyBank National Association, Trustee  
By: Debra Curran  
Its: Trust Real Estate Manager

STATE OF MAINE  
CUMBERLAND, SS

Jan. 17, 2007

Personally appeared the above named <sup>AC</sup> ~~Mary E. Gedaro~~ and Debra Curran, Trust Real Estate Manager for KeyBank National Association, Trustees of the Andrew R. Gedaro Residuary Trust, and acknowledged the foregoing instrument to be their free act and deed in said capacity, and the free act and deed of said trust.

Before  
**Amy C. Carr**  
Notary Public, Maine

  
\_\_\_\_\_  
Notary Public

**My Commission Expires September 8, 2011**

\_\_\_\_\_  
Printed Name

Prepared without the benefit of a title exam.

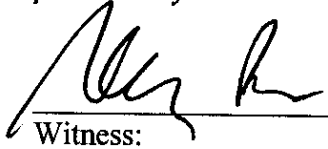
**SEAL**

# WARRANTY DEED Maine Statutory Short Form

**KNOW ALL PERSONS BY THESE PRESENTS, I, Virginia M. Johnson**  
of Portland, County of Cumberland, State of Maine,  
for consideration paid, does grant to Cheryl Musgrave  
of Portland, County of Cumberland, State of Maine,  
whose mailing address is 149 Bradley Street, Portland, Maine 04120  
with **warranty covenants**, the land in Portland, County of Cumberland State of Maine, described on the  
attached **EXHIBIT A**.

**WITNESS** our/my hand(s) and seal(s) this 6<sup>th</sup> day of January, 2008.

*Signed, Sealed and Delivered in  
presence of:*

  
\_\_\_\_\_  
Witness:  
\_\_\_\_\_

*Virginia M. Johnson by  
Stanton W. Gavitt as her Attorney in fact.*  
\_\_\_\_\_  
Virginia M. Johnson, by Stanton W. Gavitt,  
Jr. as her Attorney in fact under Power of  
Attorney

MAINE REAL ESTATE TAX PAID

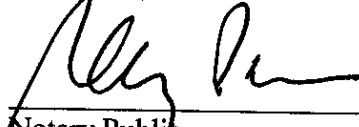
STATE OF MAINE

February 6, 2008

COUNTY OF Cumberland

Then personally appeared the above named Virginia M. Johnson, by Stanton W. Gavitt, Jr. as her attorney in fact under Power of Attorney and acknowledged the foregoing instrument to be His/Her free act and deed.

Before me,



Notary Public  
Printed Name: Kelly A. Peck  
My Commission Expires: State of Maine  
Comm. Exp. 04-02-2009

Order No: 1408105 (Musgrave / 0051207256)

**EXHIBIT 'A'**

A certain lot or parcel of land, together with the buildings thereon, situated in City of Portland, County of Cumberland and State of Maine and being lot numbered twelve (12) as shown on the Plan of Riverview Point recorded in the Cumberland County Registry of Deeds in Plan Book 45, Page 38.

This conveyance is made subject to the drainage right of way as designated on said plan.

Reference is hereby made to a Cheryl Musgrave by virtue of a deed from Virginia M. Johnson dated February 6, 2008 to be recorded herewith.

Received  
Recorded Register of Deeds  
Feb 07, 2008 01:06P  
Cumberland County  
Pamela E. Lovley

WARRANTY DEED (LONG FORM)

KNOW ALL BY THESE PRESENTS,

THAT IT, FIRST EVANGELICAL FREE CHURCH OF MAINE, formerly known as PAYSON PARK EVANGELICAL FREE CHURCH, a non-profit corporation organized and existing under the laws of the State of Maine, of Westbrook, Cumberland County, Maine, in consideration of ONE DOLLAR and other valuable consideration paid by JENNIFER A. KELLY, of Portland, Cumberland County, Maine, and whose mailing address is 39 Morning Street, Portland ME 04101, the receipt whereof it does hereby acknowledge, does hereby give, grant, bargain, sell and convey unto Jennifer A. Kelly, her heirs and assigns forever, the land and buildings in Portland, Cumberland County, Maine, more fully described on Exhibit A attached to this instrument.

TO HAVE AND TO HOLD the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to Jennifer A. Kelly, her heirs and assigns, to her and their use and behoof forever.

AND IT DOES COVENANT with the Grantee, her heirs and assigns, that it is lawfully seized in fee of the premises; that they are free of all encumbrances except as above noted and further, except for current zoning and land use regulations; that it has good right to sell and convey to the said Grantee to hold as aforesaid; and that it and its successors shall and will warrant and defend the same to Jennifer A. Kelly, her heirs and assigns forever, against the lawful claims and demands of all persons.

IN WITNESS WHEREOF, First Evangelical Free Church of Maine has hereunto caused these presents to be signed with its name this April 28, 2010

MAINE REAL ESTATE TAX PAID

SIGNED, SEALED AND DELIVERED  
IN PRESENCE OF:

Sarah A. Meek  
(Witness)

Sarah A. Meek  
(Witness)

FIRST EVANGELICAL FREE CHURCH  
OF MAINE

By: Jerry Harrington  
(printed name) Jerry Harrington  
Its: Chairman of the Stewardship Commission

By: Samuel Bond  
(printed name) Samuel Bond  
Its: Vice Chairman of the Board of Overseers

STATE OF MAINE  
CUMBERLAND, ss.

April 28, 2010

Then personally appeared Jerry Harrington, and Samuel Bond, the Chairman & Vice Chairman of First Evangelical Free Church of Maine and acknowledged the foregoing instrument to be his/her free act and deed in said capacity and the free act and deed of said First Evangelical Free Church of Maine.

Before me: Michelle M. Cileca  
Notary Public/Attorney at Law

NOTARY PRINT NAME:

Michelle M. Cileca  
Notary Public State of Maine  
Commission Expires: July 13, 2013

**EXHIBIT A**

Property Location: 79 Winding Way, Portland,  
Cumberland County, Maine

Municipal Assessor's Map 225 Block C Lot 26

A certain lot or parcel of land, together with the buildings thereon, situated on Winding Way, in the City of Portland, County of Cumberland and State of Maine, and being lot numbered 13 as shown on the plan of Riverview Point recorded in the Cumberland County Registry of Deeds in Plan Book 45, Page 38, to which plan reference is hereby made.

Being the same premises as conveyed to Payson Park Evangelical Free Church by deed of Barbara W. Ellis, dated October 2, 1989 and recorded in the Cumberland County Registry of Deeds Book 8934 Page 103.

Received  
Recorded Register of Deeds  
Apr 30 2010 02:17:48P  
Cumberland County  
Pamela E. Lovley

---

#### 4. EVIDENCE OF STATE AND/OR FEDERAL APPROVALS

The proposed work requires a Chapter 305 Section 2 Permit-by-Rule from the Maine Department of Environmental Protection (MaineDEP) for activity adjacent to a protected natural resource, i.e., within 75-feet of the Highest Annual Tide (H.A.T.) line of Nasons Brook, which is classified as a coastal wetland. This project also requires a Chapter 305 Section 7 Permit-by-Rule from the MaineDEP for the proposed outfall pipe. This application was filed with the MaineDEP on June 19, 2012, and a copy has been enclosed for your reference.

A NRPA Permit-by-Rule is a notification to MaineDEP. Work can commence 14 days after filing the permit, unless MaineDEP requires additional information; because more than 14 days has elapsed since the filing date without contact from MaineDEP, work can commence at the site following state Natural Resource Protection Act (NRPA) guidelines. No work is proposed within the regulated coastal wetland; therefore, no approval is needed from the US Army Corps of Engineers, or other federal agency.

---

**Figure 4-1: NRPA PBR Application**

**COMMITMENT & INTEGRITY**  
**DRIVE RESULTS**

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

T 800.426.4262  
T 207.774.2112  
F 207.774.6635



June 19, 2012

Jared Woolston, Field Services Representative  
Maine Department of Environmental Protection  
312 Canco Road  
Portland, ME 04103

Re: Chapter 305 Permit-by-Rule Application  
City of Portland – Winding Way Slope Stability Drainage Project

Dear Jared:

The enclosed Chapter 305 Permit-by-Rule (PBR) application and its attachments are being filed with the Maine Department of Environmental Protection (MaineDEP) to inform your office of the planned drainage project on Winding Way in the City of Portland. As discussed during our site visit on June 12, 2012, the drainage project is being performed to address a slope stability issue adjacent to the project. The properties affected by the slope stability issue are located at 73, 79, and 81 Winding Way. The slope stability issue is visible in the back yards of these properties, roughly parallel with a slope that extends along the tidal portion of Nasons Brook.

Per discussions during our site visit, we understand that the project can proceed under Chapter 305 Permit-By-Rule. We have prepared a figure that identifies the coastal wetland boundary, defined by the Highest Annual Tide (H.A.T.) line, along with a 75' setback line from the H.A.T. Work is proposed within 75' of the coastal wetland boundary, requiring review under Section 2 "Activity Adjacent to a Protected Natural Resource". There are several areas where slopes exceed 3:1 (H:V) between the work and the resource; however, we have designed all parallel drainage work in a manner to ensure that a 25' minimum buffer flatter than 3:1 exists within this setback area. In addition, the setback area between the work and the resource is highly vegetated and we will require the use of siltation fence and other erosion control measures down-gradient of the work.

In addition to the drainage work that runs parallel with the resource, we propose a new outfall that will discharge into a stabilized plunge pool adjacent to the coastal wetland. The new outfall will collect and manage stormwater that currently flows over-land through a shallow swale. There are signs of erosion within the existing swale, including where the drainage crosses a trail (managed by Portland Trails) south of an existing bridge associated with the trail. The outfall is an essential component of the overall drainage plan, providing drainage for the saturated soils that are contributing to the slope failure condition. In addition, the outfall will prevent the current erosive over-land flow conditions that are present at this location. We have sited the new outfall adjacent to the rip-rap embankment associated with a 42" water main crossing at Nasons Brook. We request review under Section 7 "Outfall Pipes" for this proposed work. We are not able to achieve 25' of vegetated filter strip between the outfall and the resource; however, we understand that MaineDEP can allow less based on review of project specific conditions. We request a waiver from the requirement for the 25' vegetated filter based on the following considerations: a 25' filter strip is not achievable in this location (the base of slope is adjacent to resource), the resultant outfall will provide a net water quality benefit when compared to the existing surface runoff/erosion that is occurring at this location, the stormwater collected in the underdrain system will consist primarily of roof water and filtered surface water, and the outfall will be located alongside a previously filled and disturbed rip-rap slope.

Lastly, the project proposes to hand-place additional rip-rap at the site of an existing stormdrain outfall behind #67/#73 Winding Way to minimize the potential for future erosive conditions. The proposed rip-rap apron is located at the site of the existing outfall, and a roughly 15' vegetated buffer will exist





between the base of the new apron and the protected natural resource. The rip-rap apron will extend from the steeper slope where the outfall pipe daylights to the flat slope below the pipe and above the resource. This will ensure that energy from stormwater discharging onto the slope is dissipated and that flow is spread out at the base of the slope prior to reaching the resource.

Ultimately, this project is necessary to remediate an existing slope instability condition. The City and their consultant team have evaluated several alternatives to addressing the slope instability, and have concluded that the proposed drainage plan is the lowest-impact method of addressing the issue. We appreciate the MaineDEP's assistance in meeting with us at the site and reviewing the project under Chapter 305 Permit-By-Rule. If you have any questions upon your review, please do not hesitate to call me at (207) 774-2112.

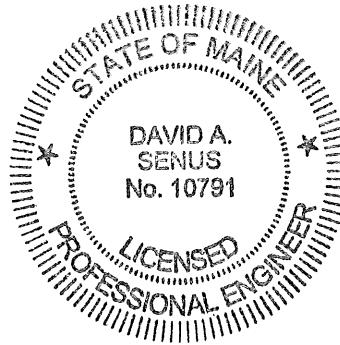
Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in black ink, appearing to read "D. Senus".

David A. Senus, PE  
Project Manager

SJT/das  
225672.14



Enclosure – Chapter 305 Permit-by-Rule Application Form  
Check for \$65 made payable to Treasurer – State of Maine  
USGS Map of Project Location  
Photographs of Project Site  
Plan Sheets C01, C02, C03 dated June 19, 2012  
Figure 01 – Phase 2 Concept Design (with impacts, setbacks & measurements)

cc: Eric Labelle, PE, City of Portland (1 Copy)

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**PERMIT BY RULE NOTIFICATION FORM**  
 (For use with DEP Regulation, Chapter 305)

PLEASE TYPE OR PRINT IN BLACK INK ONLY

Name of Applicant (owner):	Department of Public Services c/o Eric Labelle, Assistant Director	Name of Agent:	Woodard & Curran c/o Dave Senus, Project Manager		
Applicant Mailing Address:	City of Portland 55 Portland Street	Agent Phone # (include area code):	(207)774-2112		
Town/City:	Portland	PROJECT Information Name of Town/City:	Portland		
State and Zip code:	Maine, 04101	Name of Wetland or Waterbody:	Nasons Brook		
Daytime Phone # (include area code):	(207) 874-8801	Map #:	225	Lot #:	C027, C026, & C025
Detailed Directions to Site:	Head southwest from the Southern Maine Regional Office on Canco Rd then turn left onto Read St, right onto Ocean Ave, left onto Forest Ave, right onto Woodford St, left onto Stevens Ave, right on Capisic St, left onto Starbird Ln, first right onto Winding Way.				
The proposed outfalls are located adjacent to Nasons Brook.	UTM Northing (if known):	Unknown	UTM Easting (if known):	Unknown	
Description of Project:	This project a remedial action to slope instabilities that have occurred behind properties located at 73, 79, and 81 Winding Way adjacent to the Nasons Brook.				
Proposed work includes the installation of underdrains and catch basins along Winding Way and on the properties that would ultimately discharge into Nasons Brook to control surface and groundwater sources. Riprap outlet structures would also be constructed at the outlet locations.					
Part of a larger project? (check one) →	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	After the Fact? (check one) →	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Check one → This project <input type="checkbox"/> does (or) <input checked="" type="checkbox"/> does not involve work below mean low water (average low water).	

**PERMIT BY RULE (PBR) SECTIONS: (Check at least one)**

I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. I and my agents, if any, **have read** and will comply with all of the standards in the Sections checked below.


- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Sec. (2) Act. Adj. to Protected Natural Res. | <input type="checkbox"/> Sec. (10) Stream Crossing                                | <input type="checkbox"/> Sec. (17) Transfers/Permit Extension   |
| <input type="checkbox"/> Sec. (3) Intake Pipes                                   | <input type="checkbox"/> Sec. (11) State Transportation Facil.                    | <input type="checkbox"/> Sec. (18) Maintenance Dredging   |
| <input type="checkbox"/> Sec. (4) Replacement of Structures                      | <input type="checkbox"/> Sec. (12) Restoration of Natural Areas                   | <input type="checkbox"/> Sec. (19) Activities in/on/over significant vernal pool habitat  |
| <input type="checkbox"/> Sec. (5) REPEALED                                       | <input type="checkbox"/> Sec. (13) F&W Creation/Enhance/Water Quality Improvement | <input type="checkbox"/> Sec. (20) Activities in existing dev. areas located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird nesting, feeding & staging areas |
| <input type="checkbox"/> Sec. (6) Movement of Rocks or Vegetation                | <input type="checkbox"/> Sec. (14) REPEALED                                       |   |
| <input checked="" type="checkbox"/> Sec. (7) Outfall Pipes                       | <input type="checkbox"/> Sec. (15) Public Boat Ramps                              |   |
| <input type="checkbox"/> Sec. (8) Shoreline stabilization                        | <input type="checkbox"/> Sec. (16) Coastal Sand Dune Projects                     |   |
| <input type="checkbox"/> Sec. (9) Utility Crossing                               |   |   |

I have attached the following required submittals. **NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS:**

- Attach** a check for \$65 made payable to: "Treasurer, State of Maine".
- Attach** a U.S.G.S. topo map or Maine Atlas & Gazetteer map with the project site clearly marked.
- N/A Attach Proof of Legal Name.** If applicant is **not** an individual or municipality, provide a copy of Secretary of State's registration information (available at <http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x>).
- Attach photos of the proposed site where activity will take place as outlined in PBR Sections checked above.**
- Attach all other required submissions as outlined in the PBR Sections checked above.**

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules. I also understand that **this permit is not valid until approved by the Department or 14 days after receipt by the Department, whichever is less.**

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:		Date:	6/19/12
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**Keep a copy as a record of permit.** Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection at the appropriate regional office listed below. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP 17 STATE HOUSE STATION AUGUSTA, ME 04333-0017 (207)287-3901	PORTLAND DEP 312 CANCO ROAD PORTLAND, ME 04103 (207)822-6300	BANGOR DEP 106 HOGAN ROAD BANGOR, ME 04401 (207)941-4570	PRESQUE ISLE DEP 1235 CENTRAL DRIVE PRESQUE ISLE, ME 04769 (207)764-0477
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OFFICE USE ONLY	Ck.#		Staff	Staff	
PBR #	FP	Date	Acc. Date	Def. Date	After Photos

**Attachment – Photographs**

*The following attachment is presented in accordance with the State of Maine Department of Environmental Protection Chapter 305 Permit-by-Rule Sections 2 and 7 Application requirements.*

The following photographs show the existing conditions at Winding Way in Portland, Maine. Refer to C-01 of the plan set for reference.



*Photo 1. Surface Tension Crack behind house #73*



*Photo 2. Surface Tension Crack behind house #79*



Photo 3. Surface Tension Crack behind house #81



Photo 4. Project Purpose – Address poor drainage on and around the properties (including within Winding Way)



*Photo 5. Project Need – Stabilize the slope failure condition (Surface Tension Crack behind house #81)*



*Photo 6. Proposed pipe run to outfall southwest of 81 Winding Way (proposed outfall just right of existing rip rap)*



*Photo 7. Erosion across the trail at the proposed outfall location*



*Photo 8. Existing outfall to receive riprap located northwest of 73 Winding Way*

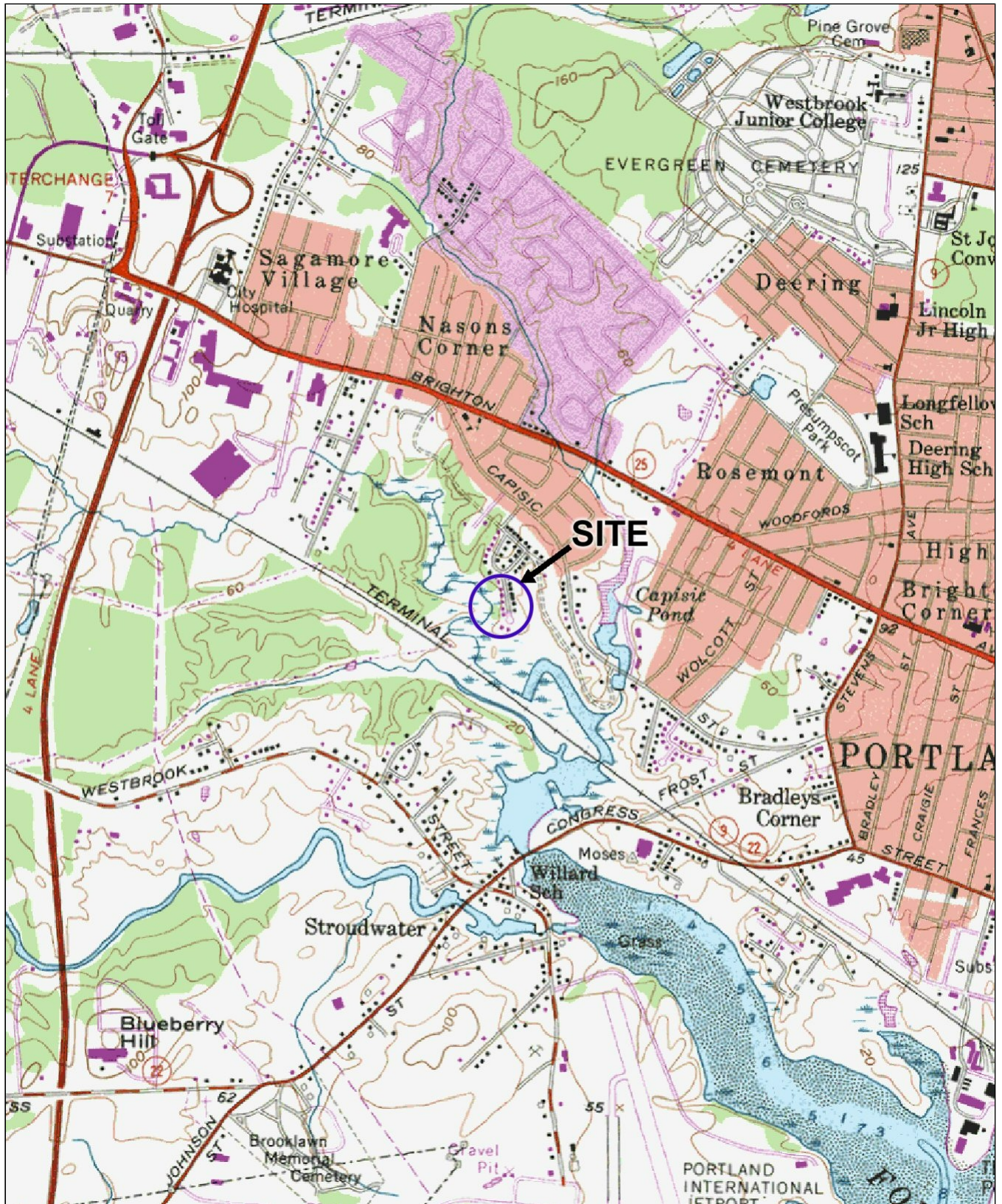


*Photo 9. Stream Channel*

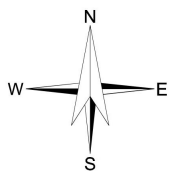


*Photo 10. Stream Channel as seen from the bridge*





SITE COORDINATES: 43°39'60"N 70°18'45"W



U.S.G.S. QUADRANGLE: PORTLAND WEST, ME

**HALEY & ALDRICH**

GEOTECHNICAL CONSULTING SERVICES  
SLOPE STABILITY EVALUATION  
PORTLAND, MAINE

PROJECT LOCUS

SCALE: 1:24,000  
MARCH 2012

FIGURE 1





### EROSION AND SEDIMENT CONTROL NOTES

#### Temporary Erosion Control

Contractor shall prepare and submit a soil erosion and water pollution control plan to engineer in accordance with section 656.

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up-slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and around material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsock, Siltsover Inlet Filter, or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 1	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events or every 14 days, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31 Nov. 1 to April 14	On all areas of exposed soil prior to precipitation or every 14 days, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting at the end of each working day. Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures daily, and maintain and repair as necessary.

#### Permanent Erosion Control:

Measure	Dates For Use	Timing, Activity, and Location
Pavement - Base Course - Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

#### Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of ruts.
Sediment Barrier	Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.

### EROSION AND SEDIMENTATION CONTROL NOTES

TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, HYDRAULIC MULCH, HAY AND STRAW MULCH, EROSION CONTROL BLANKET, TURF REINFORCED MATTING, RIPRAP AND TEMPORARY SEEDING. TEMPORARY SEDIMENT CONTROL MEASURES INCLUDE THE USE OF SILT FENCE, EROSION CONTROL MIX BERMS, PLUNGE POOLS, CHECK DAMS, SEDIMENT TRAPS, CATCH BASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE THE USE OF RIPRAP AT EXPOSED STORMDRAIN AND CULVERT INLETS AND OUTLETS, ARMORED SWALES AND SLOPES AND PERMANENT VEGETATION.

#### GENERAL

- THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT, IF APPLICABLE.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK PUBLISHED BY THE MAINE DEP UNLESS OTHERWISE NOTED IN THESE PLANS. <http://www.maine.gov/dep/blwq/docs/stand/escbms/>
- ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
- THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE SITE WHENEVER POSSIBLE WHILE ALLOWING PROPER SITE DEVELOPMENT.
- CONSTRUCTION STAGING SHALL BE CONDUCTED IN A WAY TO MINIMIZE THE POTENTIAL FOR STORMWATER RUN-ON TO DISTURBED AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:
  - FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS THAT 90% OF THE DISTURBED AREA IS COVERED WITH REASONABLY THICK UNIFORM STAND OF PERMANENT GRASS SPECIES, FREE FROM SIZABLE THIN OR BARE SPOTS.
  - FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THAT COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE OFF.
  - FOR MULCHED AREAS, PERMANENT STABILIZATION MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
  - FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE. STONE MUST BE SIZED APPROPRIATELY AND IN ACCORDANCE WITH SECTION E-6 OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
  - FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.
  - FOR OPEN CHANNELS, LEVEL SPREADERS, ENGINEERED BUFFERS OR OTHER DESIGNED STORMWATER CONVEYANCE STRUCTURE, PERMANENT STABILIZATION MEANS THE CHANNELIZED AREA(S) IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH APPROVED RIPRAP, OR WITH OTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE SHALL BE NO EVIDENCE OF SLUMPING, UNDERCUTTING OR DOWNCUTTING OF THE DESIGNED CHANNEL.
- IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD OR THROUGH THE USE OF PERMANENT MULCH OR RIPRAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED, OVERLY-COMPACTED SUBSOIL WITH TOPSOIL OR COMPOST AND LIGHTLY TILL 2-3" OF SOIL AMENDMENTS INTO THE TOP 8" OF SOIL.
- PERMANENT SEEDING SPECIFICATION: IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDING OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDING WITH ARROSTOCK WINTER RYE OR MULCHED AT SPECIFIED RATES. SEE WINTER SEEDING AND MULCHING SPECIFICATIONS FOR STABILIZATION AFTER NOVEMBER 1.
  - APPLY TOPSOIL TO A DEPTH OF 6 INCHES. IN COMPACTED AREAS TILL 2-3" OF COMPOST INTO UPPER 8" OF DISTURBED SOIL AND THEN APPLY 6 INCHES OF TOPSOIL.
  - APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 33 LBS PER 1000 SQUARE FEET AND GRANULAR, COMMERCIAL-GRADE FERTILIZER 10-10-10 AT A RATE OF 18 LBS PER 1000 SQUARE FEET.
  - UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2.5 BALES PER 1000 SQUARE FEET AND ANCHOR AS NECESSARY.
- PROTECT ALL SEEDED AREAS WITH MULCH OR EROSION CONTROL BLANKET IN AREAS OF SHEET OR CONCENTRATED FLOWS. MULCH ALL AREAS SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. SCHEDULE SEEDING OR SODDING TO AVOID FAILURE DUE TO SUMMER DROUGHT AND FALL FROST. NEWLY SEEDING AREAS SHOULD BE PROTECTED FROM VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE OR SURFACE EROSION IS EVIDENT.
- DITCH LININGS AND RIPRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF THE CULVERT.
- EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES 5:1 OR STEEPER OR AS OTHERWISE NOTED, IN THE BASE OF DITCHES AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (WETLANDS AND WATER RESOURCES). EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150N OR APPROVED EQUAL. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURE UPON STABILIZATION OF PROJECT AREA & COST SHALL BE INCIDENTAL TO CONTRACT.

#### WINTER CONDITIONS

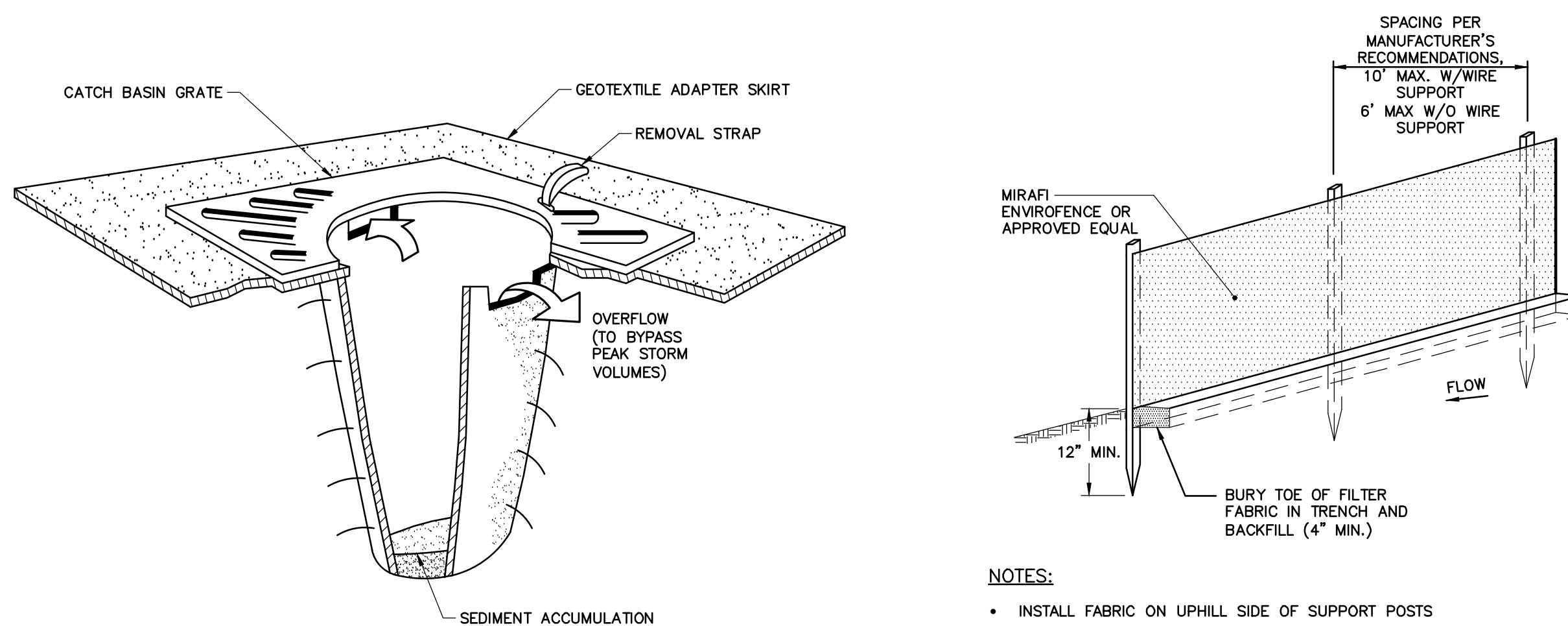
- WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 1. IF AREAS WITHIN THE CONSTRUCTION AREA ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15 THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS.

#### GOOD HOUSEKEEPING AND POLLUTION PREVENTION

- SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER RUNOFF AND APPROPRIATE SPILL PREVENTION, CONTAINMENT AND RESPONSE PLANNING AND IMPLEMENTATION.
- DURING CONSTRUCTION, PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUND OR SURFACE WATERS MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO INFILTRATION AREAS. AN INFILTRATION AREA IS ANY ARE OF THE SITE THAT BY DESIGN, OR AS A RESULT OF SOIL AND TOPOGRAPHY, ACCUMULATES RUNOFF THAT INFILTRATES IN THE SOIL. DIKES, BERMS, SUMPS AND OTHER FORMS OF TEMPORARY SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
- LOCATE ALL MATERIAL STOCKPILES WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.
- TAKE ALL REASONABLE MEASURES TO MINIMIZE DUST RESULTING FROM THE PROJECT. OIL MAY NOT BE USED FOR DUST CONTROL.
- LOCATE ALL LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.
- TRENCH OR FOUNDATION DE-WATERING MUST BE SPREAD THROUGH SUFFICIENT NATURAL BUFFERS THAT HAVE CAPACITY TO INFILTRATE THE PUMPED WATER OR SHOULD BE PUMPED TO DESIGNED CONSTRUCTION DEWATERING DEVICES AS DESCRIBED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK.
- SEDIMENTS AND SOIL MATERIALS SHOULD BE SWEEPED FROM PAVED SURFACES AT THE END OF EACH WORKDAY OR PRIOR TO RAIN EVENTS, WHENEVER POSSIBLE.

#### INSPECTION AND MAINTENANCE

- A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT, THE MAINE EROSION AND SEDIMENT CONTROL BMPs HANDBOOK OR ANY MUNICIPAL REQUIREMENTS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF ADDITIONAL BMPs OR MODIFICATIONS TO BMPs ARE NECESSARY, THE MODIFICATIONS MUST BE IMPLEMENTED WITH 7 CALENDAR DAYS OR PRIOR TO ANY PRECIPITATION EVENT. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
- AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT BY THE CONTRACTOR, SUMMARIZING THE SCOPE OF THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO THE OPERATION OF EROSION AND SEDIMENT CONTROL BMPs, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE CONSTRUCTION AREA. THE INSPECTION LOG SHOULD BE DELIVERED TO THE PROPERTY OWNER OR RESPONSIBLE CONTRACTING ENTITY UPON COMPLETION OF THE PROJECT.



#### NOTES:

CATCH BASIN PROTECTION TO BE "SILTSACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).

INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.

INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

### TEMPORARY INLET PROTECTION

N.T.S.

#### NOTES:

- INSTALL FABRIC ON UPHILL SIDE OF SUPPORT POSTS
- INSTALL SILT FENCE ACROSS SLOPES
- SILT FENCE SHALL NOT BE USED IN DRAINAGE WAYS

**MAINTENANCE:** INSPECT FOR TEARS IN THE FABRIC OR DAMAGE TO SUPPORTS. REPAIR AS NECESSARY. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES A DEPTH OF SIX-INCHES OR LESS.

**REMOVAL:** WHEN UPSLOPE AREAS ARE STABILIZED, THE STRUCTURE AND ANY ACCUMULATED SEDIMENT WILL BE REMOVED.

### SEDIMENT BARRIER - SILTATION FENCE DETAIL

N.T.S.

#### NOTES:

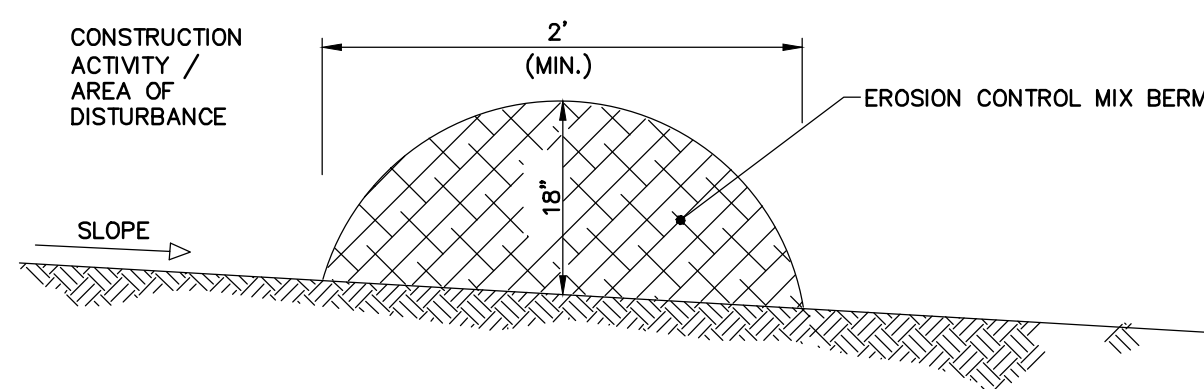
##### Erosion Control Mix Berms

Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material and may include: shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

##### Composition

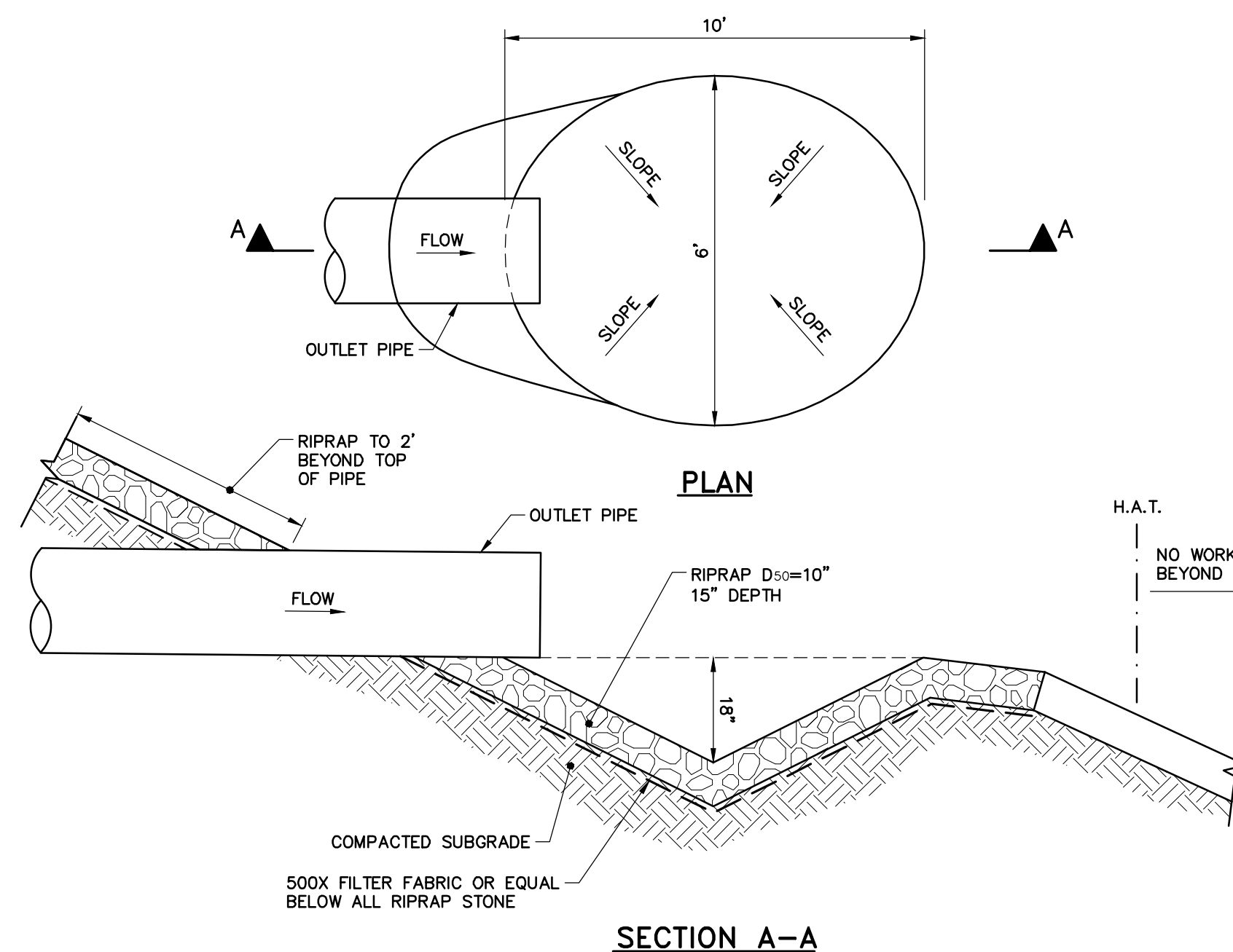
Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

- The organic matter content shall be between 80 and 100%, dry weight basis.
- Particle size by weight shall be 100% passing a 6" screen and a minimum of 70% maximum of 85%, passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content shall be < 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.



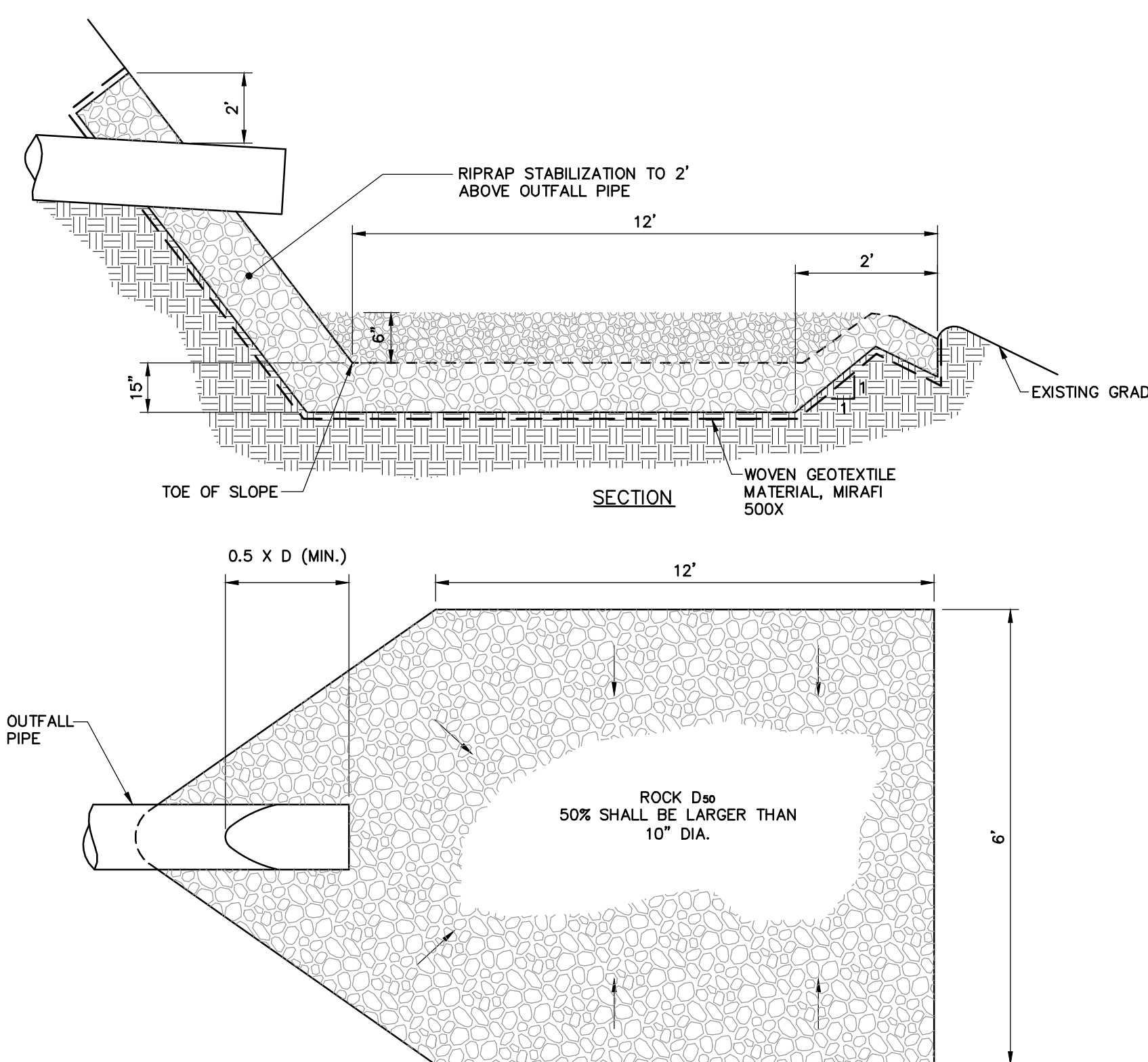
### SEDIMENT BARRIER - EROSION CONTROL MIX BERM

N.T.S.



### RIPRAP PLUNGE POOL

N.T.S.



### RIPRAP OUTLET

N.T.S.

41 Hutchins Drive  
Portland, Maine 04102  
800.428.4282 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

WOODARD & CURRAN

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DAVID M. CURRAN, P.E.  
Professional Engineer  
No. 10781  
June 19, 2012

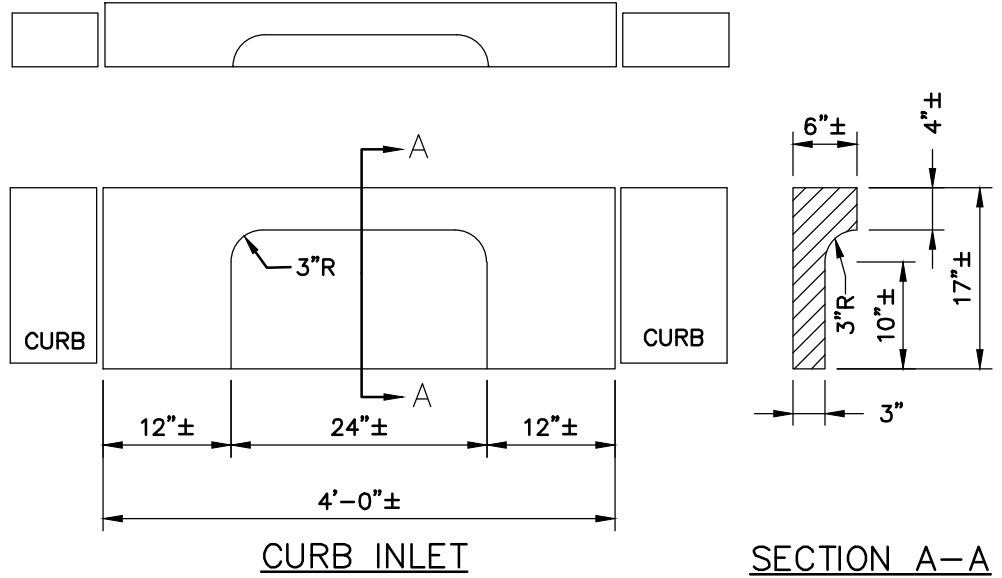
REV	DESCRIPTION	DATE	CHECKED BY: DJS	DESIGNED BY: DJS	DATE
1	ISSUED FOR PERMIT	06/19/12	Z28848 DJS	DJS	06/19/12
2	ISSUED FOR PERMIT	06/19/12	Z28848 DJS	DJS	06/19/12

DETAILS - 1

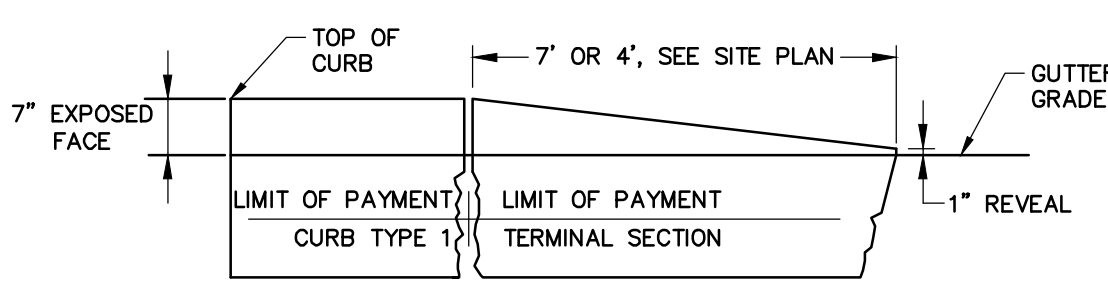
CITY OF PORTLAND  
PORTLAND, MAINE

WINDING WAY  
DRAINAGE IMPROVEMENTS

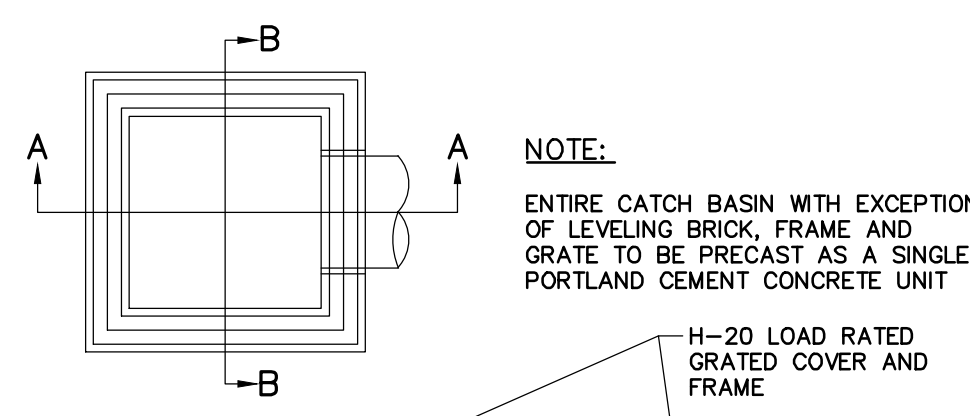
JOB NO.: 222804.85  
DATE: JUNE 2012  
SCALE: AS NOTED  
SHEET: 2 OF 3



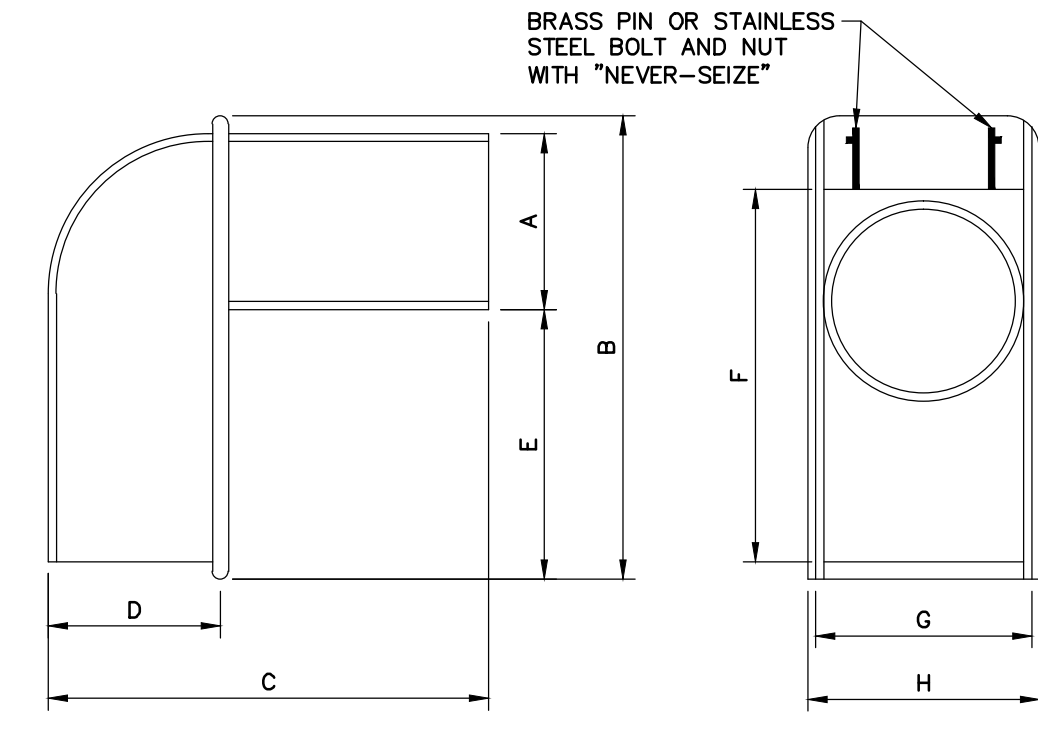
**TYPE 1 GRANITE CURB INLET**  
N.T.S.



**TERMINAL CURB SECTION**  
N.T.S.



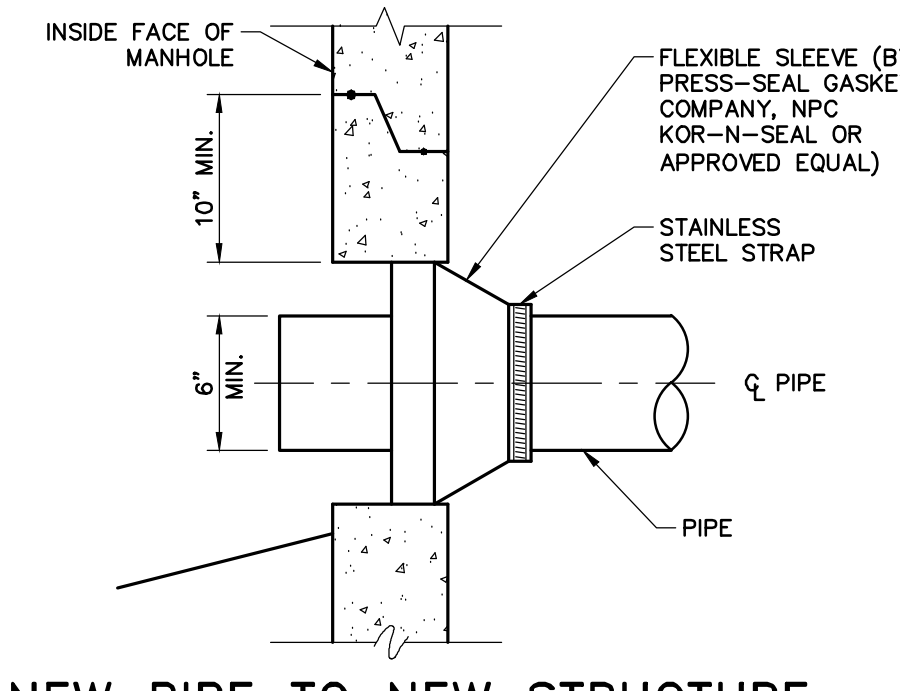
**CATCH BASIN TYPE "F"**  
N.T.S.



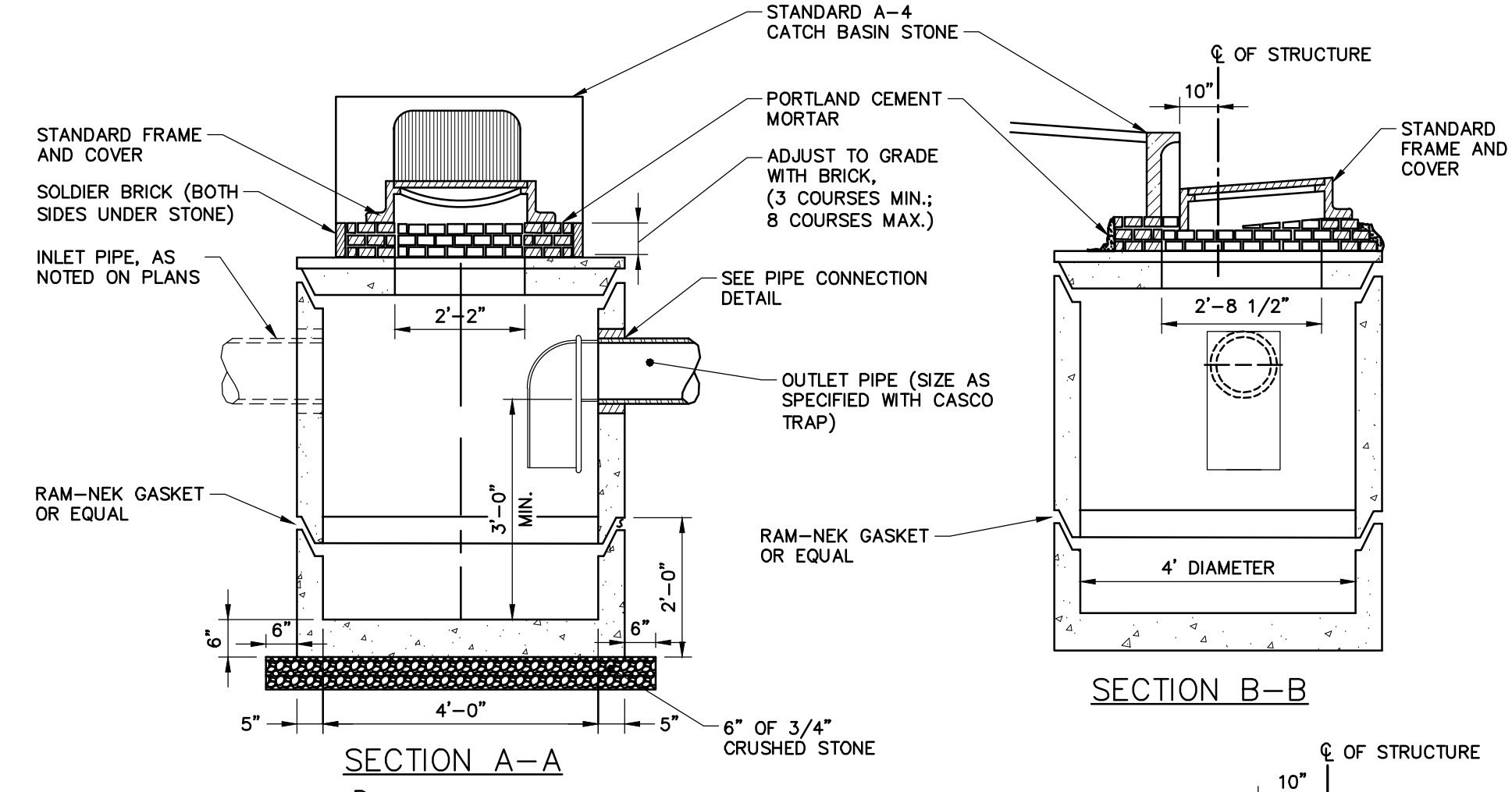
SIZE	A	B	C	D	E	F	G	H
10"	9 1/2"	16"	16 1/4"	6"	4 1/2"	14 1/8"	11 1/2"	12 3/8"

- NOTE:**
- CASCO TRAP SHALL BE CAST IRON CASCO TRAP BY ETHERIDGE FOUNDRY OR APPROVED EQUAL.
  - BOLT AND NUT REQUIRED WHERE HOOD WILL NOT OPEN COMPLETELY.
  - CASCO TRAP SHALL BE INSTALLED ON ALL CATCH BASIN OUTLET PIPES, INCIDENTAL TO COST OF CATCH BASIN.

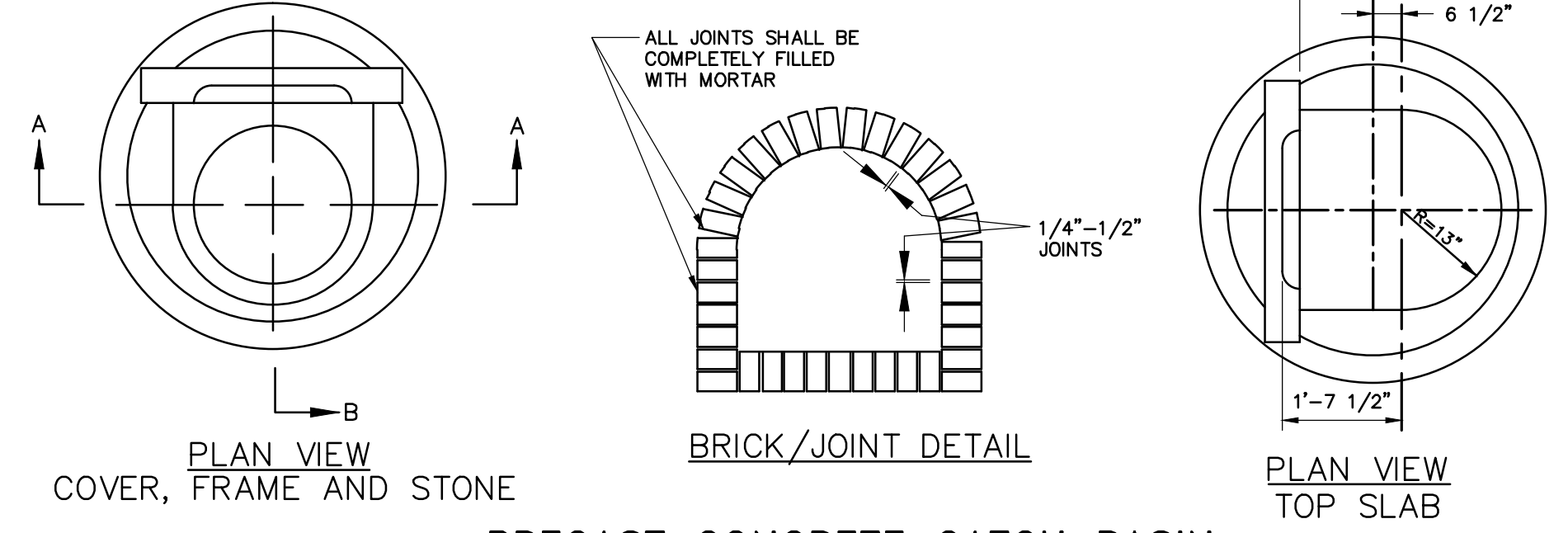
**CASCO TRAP DETAIL**  
N.T.S.



**NEW PIPE TO NEW STRUCTURE CONNECTION DETAIL**  
N.T.S.



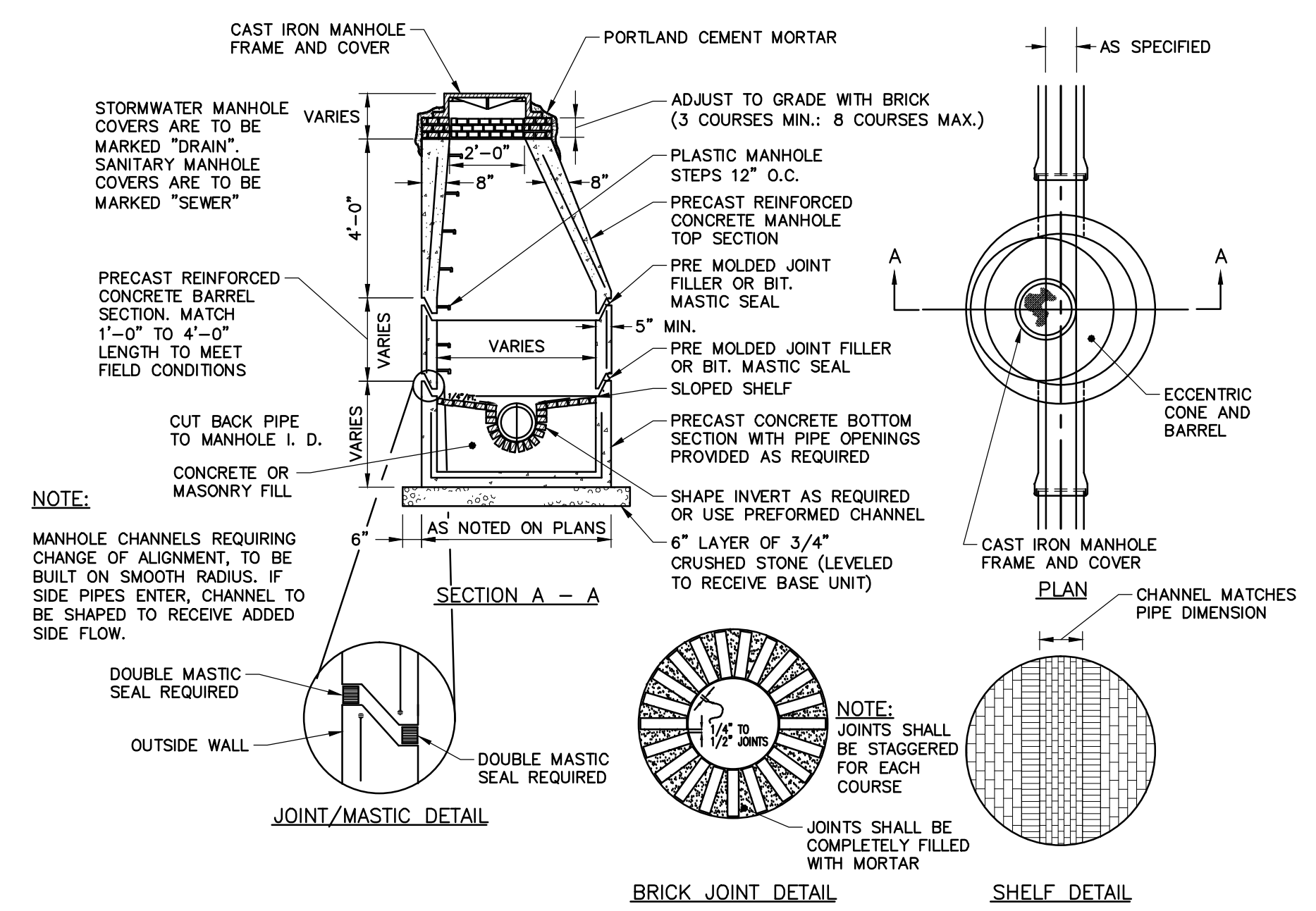
**PRECAST CONCRETE CATCH BASIN**  
N.T.S.



**PRECAST CONCRETE CATCH BASIN**  
N.T.S.

**GENERAL NOTES FOR MANHOLES AND CATCH BASINS**

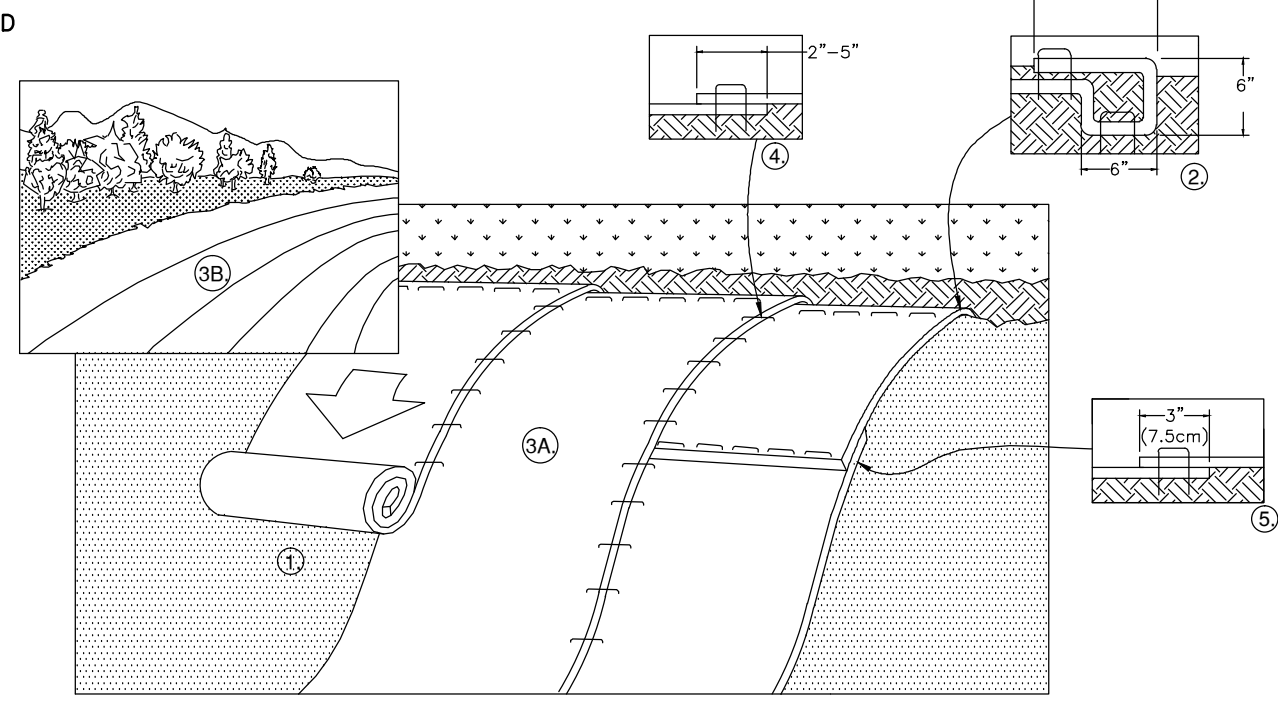
- ALL CONCRETE SHALL BE CLASS "A" AND HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4000 LBS. PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
- PRECAST REINFORCED CONE BARREL MANUFACTURED PER ASTM SPEC. C-478.
- ALL MANHOLES SHALL HAVE A BITUMINOUS WATERPROOFING APPLIED TO THE EXTERIOR SURFACE. IF CONSTRUCTED OF BRICK MASONRY, SURFACE SHALL BE PLASTERED WITH A SMOOTH MORTAR FINISH 3/8" THICK. AFTER THE MORTAR HAS SET, THE SURFACE SHALL BE WATERPROOFED AS REQUIRED BY SUPPLEMENTAL SPECIFICATIONS SECTION 604.
- CASTINGS SHALL CONFORM TO ASTM DESIGNATION A48-CLASS 35. ALL PARTS OF CASTINGS, EXCEPT FINISHED SURFACE, SHALL RECEIVE A COAT OF COAL TAR PITCH VARNISH OR ASPHALTUM PAINT WHICH SHALL BE SMOOTH AND TOUGH BUT NOT BRITTLE.
- MANHOLES MAY BE CONSTRUCTED OF MASONRY, PRECAST REINFORCED CONCRETE, OR CAST IN PLACE.
- CONTRACTOR SHALL SUBMIT ANTI-FLOATATION CALCULATIONS FOR ALL MANHOLE AND CATCH BASIN STRUCTURES.
- ALL PRECAST MANHOLES AND CATCH BASINS SHALL BE IDENTIFIED BY STATION, OFFSET, AND STRUCTURE ID PAINTED ON THE SIDE OF THE STRUCTURE BY THE MANUFACTURER.
- STORM AND SEWER MANHOLES SHALL HAVE SOLID COVERS WITH ONE DRILLED PICK HOLE.
- EXISTING MANHOLES, CATCH BASINS, FRAMES, AND COVERS SHALL BE SALVAGED BY THE CONTRACTOR, AND SHALL REMAIN THE PROPERTY OF THE CITY OF PORTLAND.
- WHEN THE FLOW CHANGES DIRECTION IN A MANHOLE, THE CHANNEL ALIGNMENT SHALL FOLLOW A SMOOTH RADIUS. CHANNELS SHALL BE FORMED TO ACCEPT ALL INLET PIPES.
- ON STORM AND SEWER MANHOLES, THE SHELF AND CHANNEL SHALL BE FORMED BY BRICK SET IN GEMENT MORTAR OR BY FACTORY PRE-CAST CONCRETE. SUCH PRE-CAST CONCRETE SHALL BE EPOXY COATED AND THE SHELF SHALL HAVE A PERMANENT NON-SKID SURFACE.



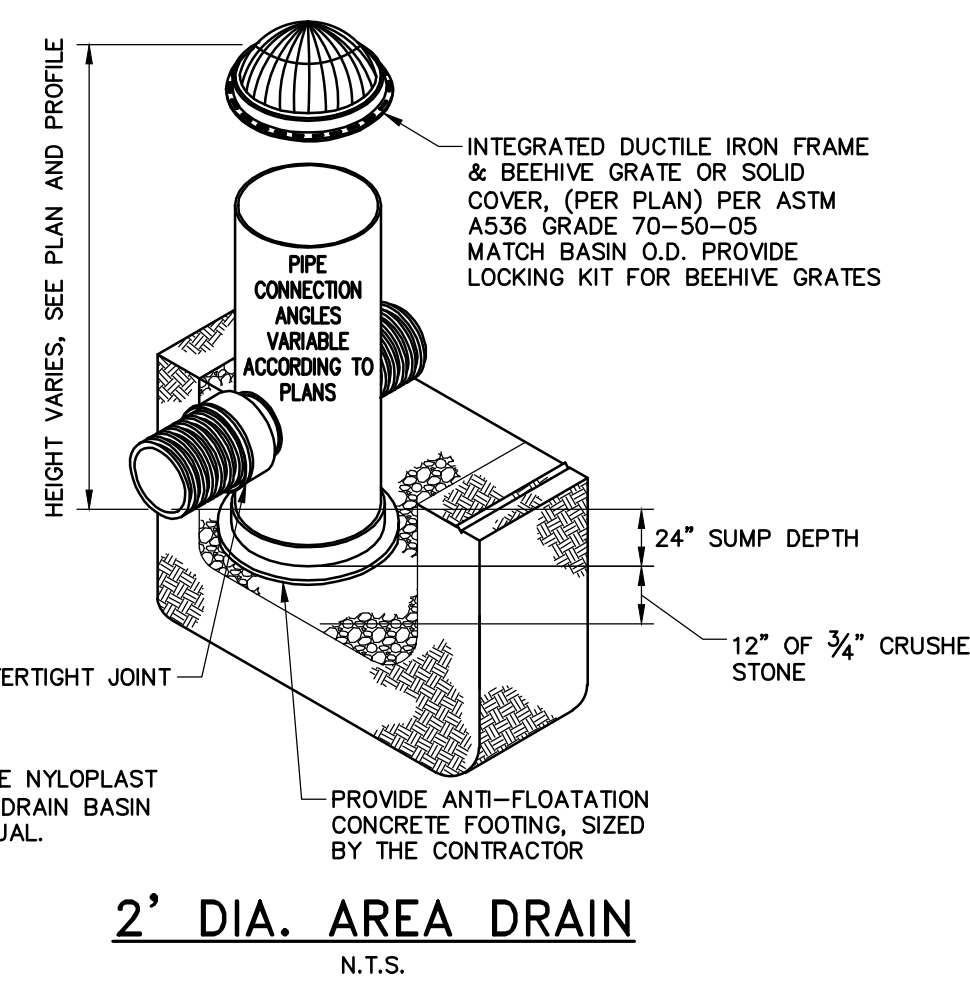
**PRECAST CONCRETE MANHOLE**  
N.T.S.

ROLLED EROSION CONTROL MATTING NOTES:

- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED AS WELL AS REMOVING ANY PROTRUDING ROCKS, STUMPS OR ROOTS. DURING THE GROWING SEASON (APRIL 15- SEPTEMBER 15) USE RECP'S ON THE BASE OF GRASSED WATERWAYS, SOIL SLOPES HAVING A GRADE GREATER THAN 15%, OR ANYWHERE WHERE HAY MULCH HAS PROVEN TO BE INEFFECTIVE AT CONTROLLING SHEET EROSION. RECP'S ARE A MANUFACTURED COMBINATION OF MULCH AND NETTING DESIGNED TO PREVENT EROSION AND RETAIN SOIL MOISTURE.
- FOR OVER WINTER PROTECTION, APPLY RECP'S ON THE BASE AND SIDE SLOPES OF GRASSED WATERWAYS AND ON SLOPES STEEPER THAN AN 8% GRADE.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S.
- ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON RECP'S TYPE.
- CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP'S WIDTH. NOTE: \*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.
- UNTIL GRASS IS ABUNDANT, INSPECT PERIODICALLY AND AFTER EACH RAINFALL TO CHECK FOR EROSION. IMMEDIATELY REPAIR AND ADD MORE MULCH UNTIL GRASSES ARE FIRMLY ESTABLISHED.
- DO NOT MOW THE FIRST YEAR.
- DETAIL SHALL BE CONSIDERED GENERAL GUIDANCE FOR RECP INSTALLATION; CONTRACTOR SHALL INSTALL RECP IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

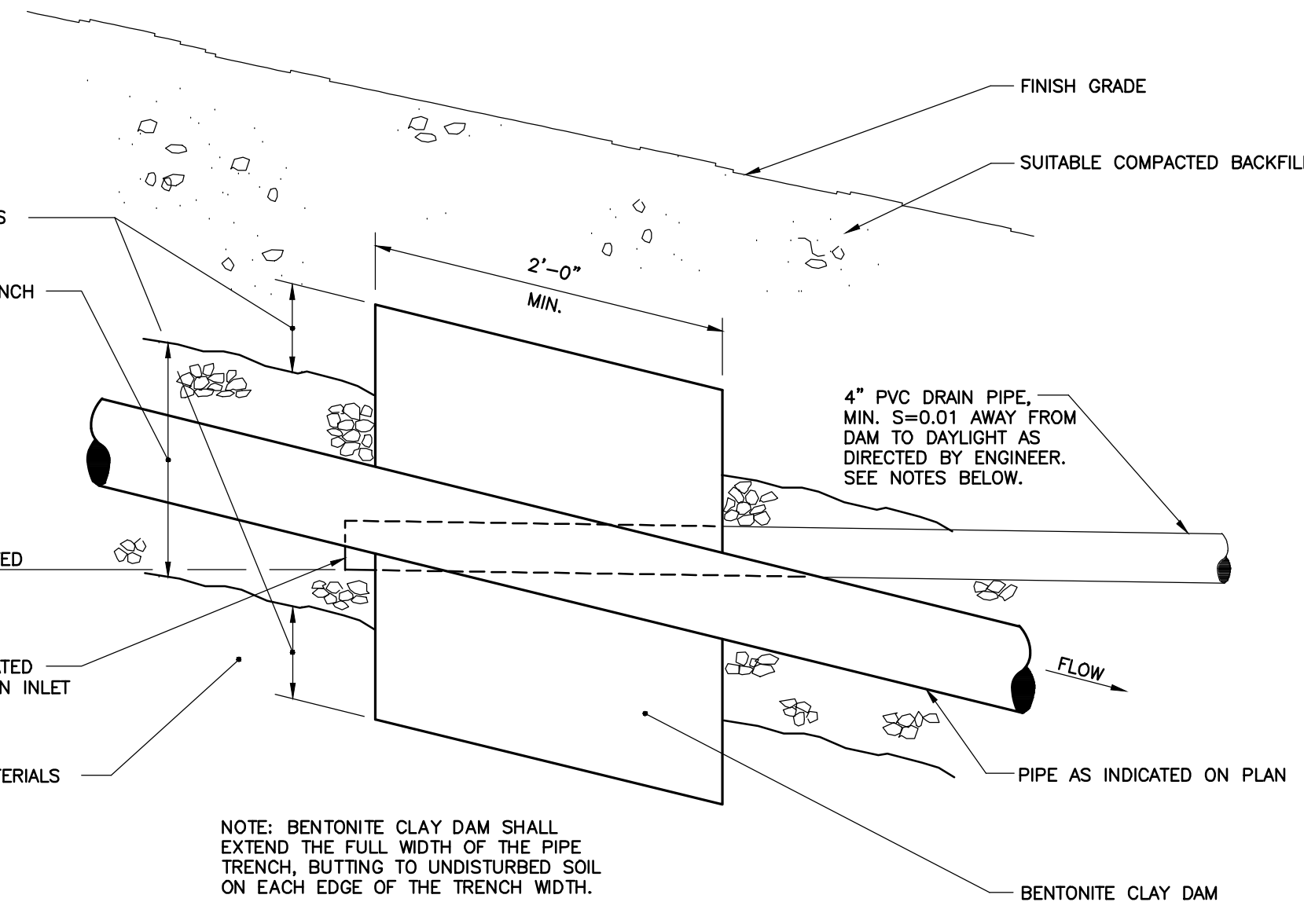


**ROLLED EROSION CONTROL MATTING**  
N.T.S.



**2' DIA. AREA DRAIN**  
N.T.S.

- NOTES:**
- AREA DRAIN TO BE NYLOPLAST 24" DIA. CUSTOM DRAIN BASIN OR APPROVED EQUAL.
  - PROVIDE ANTI-FLOATATION CONCRETE FOOTING SIZED BY THE CONTRACTOR



**CLAY DAM AND DRAIN DETAIL**  
N.T.S.

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Portland, Maine 04102  
800.426.4262 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

WOODARD & CURRAN

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DESIGNED BY: DAS  
CHECKED BY: DAS  
DRAWN BY: BOM

REVISIONS

DATE: 10/28/12

DESCRIPTION: WINDING WAY DRAINAGE IMPROVEMENTS

JOB NO.: 222804.85  
DATE: JUNE 2012  
SCALE: AS NOTED  
SHEET: 3 OF 3

C-03

DETAILS - 2

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## 5. EVIDENCE OF FINANCIAL AND TECHNICAL CAPACITY

### 5.1 FINANCIAL CAPACITY

This project will be funded using drainage improvement funds allocated within the City's Capital Improvement Budget. The City of Portland has adequate financial capacity to perform this project.

### 5.2 TECHNICAL CAPACITY

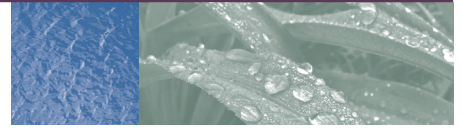
On behalf of the City of Portland, Woodard & Curran is preparing this site plan application and working as the design-build team on the Winding Way Slope Stability Drainage project. Woodard & Curran has extensive experience designing drainage improvement projects, and resumes can be made available upon request. We have attached an overall profile of the firm, as well as an overview of our Civil Engineering services as Figure 5-1 for your reference. Woodard & Curran is a 650 person Portland based firm that has provided engineering services to Maine communities for almost 30 years, including civil/site/utility engineering; development review; parks and recreation facility design; mechanical, electrical and structural engineering; and GIS and asset management services.

Haley & Aldrich will provide geotechnical engineering support, and the excavation subcontractor on the project will be Storey Brothers construction. Qualifications for these firms can be made available upon request.

**Figure 5-1: Woodard & Curran Profile**

# PROFILE OF THE FIRM

WOODARD & CURRAN



Woodard & Curran is a 550-person, integrated engineering, science, and operations company. Privately held and steadily growing, we serve public and private clients locally and nationwide.

From our environmental roots to the range of consulting, engineering, and operations expertise we provide today, we work for a diverse clientele - including municipalities, the energy industry, food & beverage manufacturers, colleges and universities, and the real estate community.

Talented people are at the heart of our firm. Our company was founded in 1979 on a simple business concept: provide an enjoyable place to work with opportunity, integrity, and commitment, and we will attract talented people. It happened. At the heart of our company are people who are experts in their fields and passionate about what they do, showing a level of commitment and integrity that drive results for our clients. You experience this power every day in our actions, our solutions, and our promises kept.

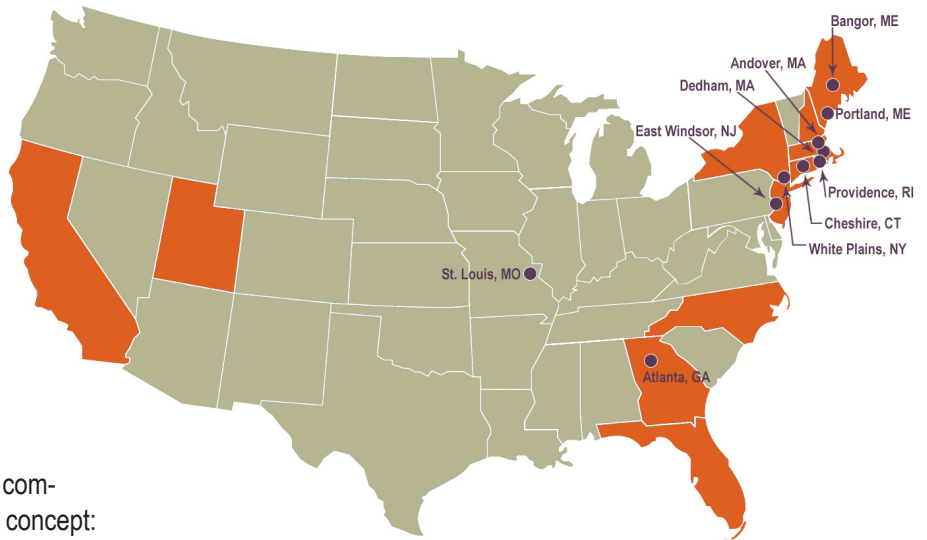
## Commitment evident in personal approach

Our commitment is reflected in the personal attention, collaborative resources, and dedication to results that we devote to each project. We assign the right people with the right expertise to the job, and provide clients with easy accessibility to senior experts.

Our work is characterized by responsiveness, resourcefulness, and willingness to do what it takes to get the job done properly. Examples range from helping communities garner state and federal funding for wastewater treatment system improvement to managing a multi-vendor manufacturing project through a major snowstorm and getting production lines up and running. We are expert at navigating the complexities of environmental regulations and have been involved in transforming many brownfields sites into marketable properties. In defining moments like these, it is commitment that brings our clients results.

## Operating with integrity

Our integrity impacts our decision-making at all junctures of our work — from the openness of our communication to the fairness of our prices to placing your interests above our pocketbook. We hire people who share our values of honesty, respect, and fairness and who want to do the right thing. They, in turn, treat everyone — our people, our clients, regulators, and stakeholders — respectfully and honestly.



Woodard & Curran operates 10 offices in the locations noted above, as well as treatment facilities in the states that appear in orange.



## Full-service firm with multidisciplined staff

Our integrity and commitment are matched only by the depth of our expertise. Our staff are specialists in their fields, offering in-depth understanding of cutting-edge technology, astute problem-solving, multidisciplinary engineering, and expert regulatory guidance. The firm has received numerous honors and awards, and we have ranked among *Engineering News Record's* top 100 environmental firms every year since 2000.

## Services to the public sector

We have been serving cities, towns, and state governments for over 30 years. Today, we offer services beginning with studies, concept, and design on through construction and operations to address our clients' solid waste, wastewater, water, stormwater, and civil engineering needs.

These projects often incorporate hydrogeology, Geographic Information Services, and instrumentation and controls. We also offer strong capabilities in health, safety, and security, including vulnerability assessments of public water supplies, emergency planning, and environmental sustainability.

## Services to the private sector

Woodard & Curran provides a range of environmental engineering, science, and operations support to companies in the bottled water, pulp & paper, automotive, food processing, pharmaceuticals, electronics, and metals forging industries, as well as to hospitals, colleges and universities, and law firms.

While the range of clients we serve has grown, our work has always been characterized by long-term relationships. Typical projects include compliance and permitting; process and infrastructure improvements; corrective and remedial action; expert witness/litigation support; air quality; and environmental information management. Our private-sector clients also benefit from our services in health, safety, and security, and environmental sustainability.

## Operations and Management

Woodard & Curran operates nearly 50 water, wastewater, and groundwater treatment facilities across the U.S. Our O&M specialists focus on contract operations and other O&M assignments for water, wastewater, groundwater, and solid waste facilities.

We design flexible, expandable solutions that keep operations efficient, maximize existing assets, and conserve costs. Our projects have ranged from quick, hard-hitting operational and training assignments to comprehensive plant evaluations and process control improvements to full contract operations.

## Woodard & Curran's Services Offered

### Civil and environmental engineering

- wastewater engineering
- civil engineering
- water supply
- solid waste management
- Design-build contracting

### Environmental management consulting

- expert witness
- environmental information systems
- compliance
- health, safety, and security
- sustainability

### Industrial engineering

- food and beverage manufacturing and source infrastructure
- electrical, instrumentation, and controls
- industrial wastewater
- process engineering

### Corrective action and real estate services

- due diligence
- site investigation and remediation
- risk assessment
- real estate development
- environmental ecology
- civil/site engineering and permitting

### Operations and management

- contract operations
- water & wastewater treatment
- water reclamation
- groundwater remediation
- training services
- health and safety



# CIVIL ENGINEERING

## CIVIL ENGINEERING



Since 1979, Woodard & Curran has worked with municipalities to provide civil engineering services that support the process engineering, solid waste, hazardous waste, water, and wastewater services communities require. Whether acting as a municipality's general engineer or working with a community on a project-specific basis, our civil engineers provide the services and experience to assure that all needs are met.

### On schedule and within budget: a long history

One critical factor in meeting our clients' needs is the ability to complete projects on schedule and within budget. Our engineers spend the time necessary to develop accurate cost and construction estimates, and keep up to date on funding and regulatory changes and any potential impacts they could have on a project. Woodard & Curran enjoys a long history of completing projects on budget and on time.

### Focus on the coast: waterfront development and marine engineering

Master planning and design services for waterfront development projects put the talents of our engineers and designers to good use. Woodard & Curran has also worked on a number of municipal pier projects, including designing and overseeing the construction of the first municipal pier application of fiber-reinforced-polymer (FRP-gluelam), a material that significantly reduces construction and maintenance costs.

### Meeting the needs of educational institutions

Reconfiguring a school to meet fluctuating enrollment, requirements such as the Americans with Disabilities Act guidelines, current technology needs, and maintaining overall facility integrity are significant challenges that all school systems face. With a wide range of experience, Woodard & Curran's civil engineers can meet a school system's unique needs.

### Brownfield redevelopment: reclaiming land for communities

Brownfields – sites that once housed manufacturing plants, military bases, or other significant developments – must be developed carefully because of their real or perceived threat of environmental contamination. Our experienced staff can thoroughly assess a site, develop a plan to prevent further contamination, safely clean up a site, and develop a plan for reuse.

### Our in-house services:

- Downtown revitalization
- Sidewalks
- Parking lots
- Storm drains
- Sanitary sewers
- Water mains
- Street reconstruction
- Lighting
- Waterfront development
- Master planning
- Municipal piers
- Sand and salt sheds
- Material storage buildings
- Public works facilities
- Solid waste transfer stations
- Drainage evaluation and design
- Storage tank evaluation and design
- Underground tank removal and replacement
- Aboveground storage tanks
- Site planning and design
- Permitting
- Department of Transportation, Department of Environmental Protection, and Coastal Zone Management permits
- Army Corps of Engineers permits
- U.S. EPA permits
- Wetlands and waterfront permits
- Local zoning ordinances
- Construction administration
- Roof system design
- Physically challenged access
- Industrial parks
- Design/build

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## 6. ASSESSMENT OF ZONING

The project site is located in the R-3 Residential Zone and the Shoreland Zone, and will be designed to comply with the standards and intent of Divisions 4 and 26 of the land use regulations.

Figure 1 of the plan set identifies the Highest Annual Tide (H.A.T.) line, along with a 75-foot setback line from the H.A.T. (DEP NRPA setback). The whole project area is within the 250-foot setback from the H.A.T, which defines the Shoreland Zone area.

### 6.1 R-3 RESIDENTIAL ZONE REQUIREMENTS

This project will not result in any alterations to the existing use, nor will it create new development.

### 6.2 SHORELAND ZONE REQUIREMENTS

There are no principal or accessory structures proposed in this zone. However, appropriate erosion and sedimentation measures will be utilized, as demonstrated in the enclosed plan set. Some small growth underbrush will need to be cleared to accommodate the installation of the proposed underdrain piping and outfall; however, no significant clearing is anticipated to result from this activity.

## 7. SIGNIFICANT NATURAL FEATURES

The proposed project site is in an existing residential development adjacent to Nasons Brook, a tidal waterway which is considered a protected natural resource. The site does not include significant wildlife habitat. The project proposes erosion and sediment control measures designed in accordance with MaineDEP requirements for the protection of coastal wetland areas. No work is proposed within the coastal wetland boundary.

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## **8. STORMWATER MANAGEMENT**

### **8.1 BASIC STANDARD**

In accordance with Section 5 of the City of Portland Technical Standards, the project is required to meet the Basic Standard of the Maine DEP Chapter 500 rules. Erosion and sedimentation control measures will be utilized during construction to ensure that the work will not result in impacts to adjacent natural resources.

This project will result in exposed soil that will have the potential for erosion. Sedimentation barriers will be used around the perimeter of the work area to keep sediment within the site. Catch basin inlet protection will be installed on all new and proposed catch basins to ensure sediment does not discharge to the brook.

Details for all proposed erosion and sedimentation control measures are included in the plan set submitted with this application. The plans also include a narrative describing the plan for all temporary and permanent erosion control techniques to be utilized on this project in accordance with MaineDEP Erosion Control Best Management Practices.

### **8.2 GENERAL STANDARD**

This project will not result in any new impervious or developed areas, but will result in improved water quality from the installation of a soil filter layer above the proposed underdrains (filtration of surface water).

### **8.3 FLOODING STANDARD**

This project will not result in any new impervious area. Consequently, there is no anticipated increase in runoff from the project site.

### **8.4 URBAN IMPAIRED STREAM STANDARD**

The proposed project is located within the Nasons Brook Watershed, which is classified by the City of Portland as an Urban Impaired Stream. However, no new impervious or developed area will result from this project. The requirements of the Urban Impaired Stream Standard are thus not applicable.