#### SUSAN A. BERNSTEIN, Attorney at Law

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November 6, 2019

Boston Conservation Commission Boston City Hall 1 City Hall Square Room 709 Boston, MA 02201-2031

Attention: Amelia Croteau and Nicholas Moreno

RE: UNION WHARF: Notice of Intent Application

Dear Members of the Boston Conservation Commission:

This office represents Union Wharf Condominium Trust ("Union"), which is submitting the attached Notice of Intent to the Commission for its review and approval. The Notice of Intent is for proposed maintenance and repair work along the areas of the property that are adjacent to Boston Harbor. These include: periodic maintenance, repair, and stabilization of the seawall and granite blocks surrounding the property, including the Granite Building and the foundations and decks of the townhouse structures.

Given the location of Union's property on Boston Harbor, it is necessary for Union to maintain the exterior of the property, including the marina which serves the Trust's unit owners as well as docking space to the public.

No new activities are proposed, rather as shown on the attached plan, the Trust intends to continue its annual seawall maintenance and stabilization operations conducted along the granite block seawall along the perimeter of the property that encloses Union Wharf. As described by our engineer, Michael J. Atwood, P.E. of Haley & Aldrich, Inc., the work is inclusive to the entirety of the seawall and includes: visual inspection, routine maintenance (e.g., filling voids identified between adjacent granite blocks along the exposed face of the seawall using rout-filled geotextile bags) and stabilization (where needed).

We appreciate the Commission's consideration of this NOI.

Sincérely yours,

Susan A. Bernstein!

Attachment: WPA Form 3

cc: Mr. Michael J. Atwood, P.E., Haley & Aldrich

Union Wharf Condominium Trust



### WPA Form 3 - Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

1	Provided by MassDEP:
	MassDEP File Number
	Document Transaction Number
	Boston

City/Town

#### Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

#### A. General Information

343 Commercial St	treet	Boston	02109
a. Street Address		b. City/Town	c. Zip Code
latituda and lanait	4	42-21'-56"N	71-3'4"W
Latitude and Longi	lude:	d. Latitude	e. Longitude
<u>-</u>		<u> </u>	
f. Assessors Map/Plat N	lumber	g. Parcel /Lot Number	
Applicant:			
Union Wharf Conde	ominium Trust	-	
a. First Name		b. Last Name	
-			
c. Organization			
343 Commercial St	treet		
d. Street Address			
Boston		MA	02109
e. City/Town		f. State	g. Zip Code
<u>-</u>	<u>-</u>	<u>-</u>	
h. Phone Number	i. Fax Number	j. Email Address	
a. First Name		b. Last Name	
c. Organization		D. Last Ivallie	
c. Organization  d. Street Address			
c. Organization		f. State	g. Zip Code
c. Organization  d. Street Address	i. Fax Number		g. Zip Code
c. Organization d. Street Address e. City/Town		f. State	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number		f. State	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a		f. State j. Email address	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan	any):	f. State  j. Email address  Bernstein	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name	any):	f. State  j. Email address  Bernstein	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernstein	any): n, Attorney at Law	f. State  j. Email address  Bernstein	g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernstein c. Company 200 Highland Aven d. Street Address	any): n, Attorney at Law	f. State  j. Email address  Bernstein b. Last Name	
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernsteir c. Company 200 Highland Aven	any): n, Attorney at Law	f. State  j. Email address  Bernstein	g. Zip Code  02494-3035 g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernsteir c. Company 200 Highland Aven d. Street Address  Needham e. City/Town	any): n, Attorney at Law nue, Suite 306	f. State  j. Email address  Bernstein b. Last Name  MA f. State	02494-3035 g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernstein c. Company 200 Highland Aven d. Street Address Needham	any): n, Attorney at Law	f. State  j. Email address  Bernstein b. Last Name	02494-3035 g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernstein c. Company 200 Highland Aven d. Street Address Needham e. City/Town 781-290-5858 h. Phone Number	any): n, Attorney at Law nue, Suite 306  781-247-4266	f. State  j. Email address  Bernstein b. Last Name  MA f. State susan@sabernlaw.con j. Email address	02494-3035 g. Zip Code
c. Organization  d. Street Address  e. City/Town  h. Phone Number  Representative (if a Susan a. First Name Susan A. Bernstein c. Company 200 Highland Aven d. Street Address Needham e. City/Town 781-290-5858 h. Phone Number	any):  n, Attorney at Law  nue, Suite 306  781-247-4266 i. Fax Number  id (from NOI Wetland Fe	f. State  j. Email address  Bernstein b. Last Name  MA f. State susan@sabernlaw.con j. Email address  e Transmittal Form):	02494-3035 g. Zip Code



### WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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rov	rovided by MassDEP:			
	MassDFP File Number			
	Maddel The Number			
	Document Transaction Number			
	Desta			
	Boston			
	City/Town			

#### A General Information (continued)

A.	General information (continued)				
6.	<ol> <li>General Project Description:         Conduct ongoing maintenance and stabilization operations to the granite block seawall that enclose Union Wharf, townhouse building foundations, and other related exterior improvements. See attached narrative.     </li> </ol>				
7a.	Project Type Checklist: (Limited Project Types see	Section A. 7b.)			
	1. Single Family Home	2. Residential Subdivision			
	3. Commercial/Industrial	4. Dock/Pier			
	5. Utilities	6. Coastal engineering Structure			
	7. Agriculture (e.g., cranberries, forestry)	8. Transportation			
	9. 🛛 Other				
7b.	7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecologic Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?  1.   Yes  No  No  No  No  No  No  No  No  No  N				
	2. Limited Project Type				
	If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.				
8.	Property recorded at the Registry of Deeds for:				
	Suffolk	-			
	a. County 9116	b. Certificate # (if registered land) 578			
	c. Book	d. Page Number			
В.	<b>Buffer Zone &amp; Resource Area Impa</b>	acts (temporary & permanent)			
1.	☐ Buffer Zone Only – Check if the project is located Vegetated Wetland, Inland Bank, or Coastal Re	source Area.			
2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.Coastal Resource Areas).					
	Check all that apply below. Attach narrative and any				

project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

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For all projects affecting other Resource Areas. please attach a narrative explaining how the resource area was delineated.

### **Massachusetts Department of Environmental Protection**Bureau of Resource Protection - Wetlands

### WPA Form 3 - Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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	Citv/Town

#### B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resour	ce Area	Size of Proposed Alteration	Proposed Replacement (if any)		
а. 🗌	Bank	1. linear feet	2. linear feet		
b. 🗌	Bordering Vegetated Wetland	1. square feet	2. square feet		
с. 🗌	Land Under Waterbodies and	1. square feet	2. square feet		
	Waterways	3. cubic yards dredged			
Resour	ce Area	Size of Proposed Alteration	Proposed Replacement (if any)		
d. 🗌	Bordering Land Subject to Flooding	1. square feet	2. square feet		
		3. cubic feet of flood storage lost	4. cubic feet replaced		
e. 🗌	Isolated Land Subject to Flooding	1. square feet			
		2. cubic feet of flood storage lost	3. cubic feet replaced		
f. 🗌	Riverfront Area	1. Name of Waterway (if available) - spe	cify coastal or inland		
2.	2. Width of Riverfront Area (check one):				
	☐ 25 ft Designated D	ensely Developed Areas only			
	☐ 100 ft New agricult	ural projects only			
	200 ft All other proj	ects			
3. Total area of Riverfront Area on the site of the proposed project:					
4. Proposed alteration of the Riverfront Area:  4. Proposed alteration of the Riverfront Area:					
a. 1	total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.		
5. Has an alternatives analysis been done and is it attached to this NOI?					
6. '	Was the lot where the activ	ity is proposed created prior to Aug	ust 1, 1996? Yes No		
⊠ Coastal Resource Areas: (See 310 CMR 10.25-10.35)					

**Note:** for coastal riverfront areas, please complete **Section B.2.f.** above.



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#### B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your
document
transaction
number
(provided on your
receipt page)
with all
supplementary
information you
submit to the
Department.

4.

5.

Resource Area		Size of Proposed Alteration	Proposed Replacement (if any)
а. 🗌	Designated Port Areas	Indicate size under Land Unde	er the Ocean, below
b. 🗌	Land Under the Ocean	1. square feet	
		2. cubic yards dredged	
с. 🗌	Barrier Beach	Indicate size under Coastal Bea	ches and/or Coastal Dunes below
d. 🗌	Coastal Beaches	1. square feet	2. cubic yards beach nourishment
е. 🗌	Coastal Dunes	1. square feet	2. cubic yards dune nourishment
		Size of Proposed Alteration	Proposed Replacement (if any)
f. 🔀	Coastal Banks	1,400 lf of seawall (maintenance/ stabilization)	
g. 🗌	Rocky Intertidal Shores	1. square feet	
h. 🗌	Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. 🗌	Land Under Salt Ponds	1. square feet	
		2. cubic yards dredged	
j. 🔲	Land Containing Shellfish	1. square feet	
k. 🗌	Fish Runs		ks, inland Bank, Land Under the er Waterbodies and Waterways,
I. 🛛	Land Subject to Coastal Storm Flowage	1. cubic yards dredged 5,600 1. square feet	
☐ Restoration/Enhancement If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.			
a. squar	re feet of BVW	b. square feet of S	Salt Marsh
☐ Pr	oject Involves Stream Cros	ssings	
a. number of new stream crossings		b. number of repla	acement stream crossings



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#### C. Other Applicable Standards and Requirements This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists - Required Actions (310 CMR 10.11). Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review 1. Is any portion of the proposed project located in Estimated Habitat of Rare Wildlife as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the Massachusetts Natural Heritage Atlas or go to http://maps.massgis.state.ma.us/PRI\_EST\_HAB/viewer.htm. If yes, include proof of mailing or hand delivery of NOI to: a. ☐ Yes ☒ No **Natural Heritage and Endangered Species Program Division of Fisheries and Wildlife** 1 Rabbit Hill Road 2017 Westborough, MA 01581 b. Date of map If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below). c. Submit Supplemental Information for Endangered Species Review\* 1. Percentage/acreage of property to be altered:

(a)  $\boxtimes$  Project description (including description of impacts outside of wetland resource area & buffer zone)

percentage/acreage

percentage/acreage

(b) Photographs representative of the site

2. Assessor's Map or right-of-way plan of site

(a) within wetland Resource Area

(b) outside Resource Area

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<sup>2.</sup> Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work \*\*

<sup>\*</sup> Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <a href="http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/">http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/</a>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

<sup>\*\*</sup> MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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#### C. Other Applicable Standards and Requirements (cont'd)

	(c) MESA filing fee (fee information available at <a href="http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm">http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm</a> ). Make check payable to "Commonwealth of Massachusetts - NHESP" and <i>mail to NHESP</i> at above address				
	Projects				
(d) Vegetation cover type map of site					
(e) Project plans showing Priority & Estimated Habitat boundaries					
	(f) OF	R Check One of the Following			
Project is exempt from MESA review. Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10 <a href="http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions">http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions</a> the NOI must still be sent to NHESP if the project is within estimated habitat pursua 310 CMR 10.37 and 10.59.)					
	2. 🗌	Separate MESA review ongoing.	a. NHESP Tracking #	b. Date submitted to NHESP	
	3.	Separate MESA review completed. Include copy of NHESP "no Take" dete Permit with approved plan.	rmination or valid Conser	vation & Management	
3.	For coastal projects only, is any portion of the proposed project located below the mean high wat line or in a fish run?			v the mean high water	
	a. Not a	applicable – project is in inland resource	area only b. 🛛 Yes	☐ No	
If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:  South Shore - Cohasset to Rhode Island border, and horth Shore - Hull to New Hampshire border: the Cape & Islands:				either:	
				Hampshire border:	
	Southeast M Attn: Environ 836 South F New Bedfor	Marine Fisheries - Marine Fisheries Station nmental Reviewer Rodney French Blvd. d, MA 02744 F.EnvReview-South@state.ma.us	Division of Marine Fisheric North Shore Office Attn: Environmental Revie 30 Emerson Avenue Gloucester, MA 01930 Email: <u>DMF.EnvReviev</u>	wer	

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

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#### C. Other Applicable Standards and Requirements (cont'd)

	4.	Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
Online Users: Include your document		a. $\square$ Yes $\boxtimes$ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). <b>Note:</b> electronic filers click on Website.
transaction number		b. ACEC
(provided on your receipt page) with all	5.	Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
supplementary information you		a. 🗌 Yes 🗵 No
submit to the Department.	6.	Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
		a. 🗌 Yes 🗵 No
	7.	Is this project subject to provisions of the MassDEP Stormwater Management Standards?
		<ul> <li>a.  Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:</li> <li>1.  Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)</li> </ul>
		2. A portion of the site constitutes redevelopment
		3. Proprietary BMPs are included in the Stormwater Management System.
		b. 🛛 No. Check why the project is exempt:
		1. Single-family house
		2. Emergency road repair
		3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.
	D.	Additional Information
		This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).
		Applicants must include the following with this Notice of Intent (NOI). See instructions for details.
		<b>Online Users:</b> Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.
		1. Subscription of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

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to the boundaries of each affected resource area.

Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative

2.



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Provided by MassDEP:	
MassDEP File Number	
Document Transaction Number	
Boston	
City/Town	

D.	Addi	tional Information (cont'd)		
	3.	Identify the method for BVW and other resormed Data Form(s), Determination of Applicand attach documentation of the method	ability, Order of Resource	
	4. 🛛	List the titles and dates for all plans and oth	er materials submitted with	this NOI.
		achment A - Project Narrative; Figure 1 - Pro ntenance, Figure 3 - FIRM Map	ject Locus, Figure 2 - Limit	s of Seawall
		ey & Aldrich, Inc.	Michael J. Atwood, P.E.	
		repared By	c. Signed and Stamped by	
	Aug	just 2019	1 inch = 60 feet	
	d. F	nal Revision Date	e. Scale	
	f Ac	Iditional Plan or Document Title		g. Date
	5.	If there is more than one property owner, pl listed on this form.	ease attach a list of these p	•
	6.	Attach proof of mailing for Natural Heritage	and Endangered Species I	Program, if needed.
	7. 🔀	Attach proof of mailing for Massachusetts E	Division of Marine Fisheries	, if needed.
	8. 🛛	Attach NOI Wetland Fee Transmittal Form		
	9.	Attach Stormwater Report, if needed.		
E.	Fees			
	1.	Fee Exempt: No filing fee shall be assessed of the Commonwealth, federally recognized authority, or the Massachusetts Bay Transp	Indian tribe housing autho	

# Fee Transmittal Form) to confirm fee payment: 2. Municipal Check Number 3. Check date 4. State Check Number 5. Check date 7. Payor name on check: Last Name

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland

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#### WPA Form 3 – Notice of Intent

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Provided by MassDEP:

MassDER File Number

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City/Town

#### F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10,05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant

3. Signature of Property Owner/if different)

Acc "

5. Signature of Representative (if any)

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a copy of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



#### Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

#### **NOI Wetland Fee Transmittal Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

#### Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key





Α.	Applicant Info	ormation				
1.	Location of Project:					
	343 Commercial Str	eet	Boston			
	a. Street Address		b. City/Town			
	c. Check number		d. Fee amount			
2.	Applicant Mailing Ad	ldress:				
	c/o Susan		Bernstein			
	a. First Name		b. Last Name			
	Susan A. Bernstein, Attorney at Law					
	c. Organization					
	200 Highland Ave.,	Suite 306				
	d. Mailing Address					
	Needham		MA	02494-3035		
	e. City/Town		f. State	g. Zip Code		
	781-290-5858	781-247-4266	susan@sabernlaw.com			
	h. Phone Number	i. Fax Number	j. Email Address			
3.	Property Owner (if different):					
	Same as Above					
	a. First Name		b. Last Name			
	c. Organization					
	d. Mailing Address					
	e. City/Town		f. State	g. Zip Code		

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

#### B. Fees

h. Phone Number

Fee should be calculated using the following process & worksheet. *Please see Instructions before filling out worksheet.* 

i. Email Address

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

i. Fax Number

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

**Step 4/Subtotal Activity Fee:** Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

**Step 6/Fee Payments:** To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



#### **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands

#### **NOI Wetland Fee Transmittal Form**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)			
Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 5 - 1,400 lineal feet+/-	1	\$2,000	\$2,000
	Step 5/T	otal Project Fee:	\$2,000.00
	Step 6	Fee Payments:	
	Total	Project Fee:	\$2,000.00 a. Total Fee from Step 5
	State share	of filing Fee:	\$2,000.00 b. 1/2 Total Fee <b>less</b> \$12.50
	City/Town shar	e of filling Fee:	\$90.00 * c. 1/2 Total Fee <b>plus</b> \$12.50

#### C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection Box 4062 Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

**To MassDEP Regional Office** (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

#### Fee Explanation \*

The proposed work is classified as work on piers or revetments (coastal in this case) and is therefore Category 5. The Category 5 pricing is based on the linear feet of the seawall. The price per foot is \$4.00 or a maximum fee of \$2,000.00. The seawall is about 1,400 lineal feet; therefore, the total project fee is \$2,000. Since the City of Boston does not accept the Municipal portion of the fee, the State will receive the total project fee of \$2,000.

The City of Boston requires the following fees:

- \$25 for projects that cost \$1,000 or less
- \$50 for projects that cost between \$1,000 \$50,000
- \$75 for projects that cost between \$50,000 \$100,000, and
- .075% of the cost for projects that are more than \$100,000. The most we will charge you is \$1,500.

The expected cost of the proposed maintenance is \$40,000 per year. The Order of Conditions is valid for three-years; therefore, the total project is valued at \$120,000, and 0.075% of this is \$90.00. The fee payable to the City of Boston is \$90.00

DATE:09/26/2019 CK#:995 TOTAL:\$90.00\*\*\*\*\*\* BANK:Union Wharf Condo Tr(62ap2) PAYEE:City of Boston(v0003469) MEMO: Union Wharf NOI Filing Fee

Property Address - Code

Invoice - Date

Description

Amount

Union Wharf - 62

62-092019 - 09/20/2019

Union Wharf NOI Filing Fee

90.00

90.00

#### THE FACE OF THIS CHECK IS PRINTED BLUE - THE BACK CONTAINS A SIMULATED WATERMARK

#### **Union Wharf Condo Trust**

**Operating Account** 7 Wells Avenue Suite 11

Newton, MA 02459-3212

Bank United 136 East 57th Street New York, NY 10022 995

09/26/2019

\$90.00\*\*\*\*\*

PAY:

\*\*\*\* NINETY AND 00/100 DOLLARS

PAY TO THE

City of Boston

ORDER OF

**Conservation Commission** 

One City Hall Square

MEMO: Union Wharf NOI Filing Fee

Boston, MA 02201

DATE:09/26/2019 CK#:993 TOTAL:\$2,000.00\*\*\* BANK:Union Wharf Condo Tr(62ap2) PAYEE:Commonwealth of Massachusetts(v0000054) MEMO: Union Wharf NOI Filing Fee

Property Address - Code

Union Wharf - 62

Invoice - Date

62-092019A - 09/20/2019

Description

Union Wharf NOI Filing Fee

Amount

2,000.00

2.000.00

#### THE FACE OF THIS CHECK IS PRINTED BLUE - THE BACK CONTAINS A SIMULATED WATERMARK

#### **Union Wharf Condo Trust**

Operating Account
7 Wells Avenue
Suite 11

Newton, MA 02459-3212

Bank United 136 East 57th Street New York, NY 10022

09/26/2019

\$2,000.00\*\*\*

993

PAY:

\*\*\*\* TWO THOUSAND AND 00/100 DOLLARS

PAY TO THE Commonwealth of Massachusetts

ORDER OF Dept of Environmental Protection

P.O. Box 3982

Boston, MA 02241-3982

MEMO: Union Wharf NOI Filing Fee

7



#### Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands Program

### **Checklist for Stormwater Report**

#### A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals. This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8<sup>2</sup>
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

<sup>&</sup>lt;sup>1</sup> The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

<sup>&</sup>lt;sup>2</sup> For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



#### **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands Program

### **Checklist for Stormwater Report**

#### **B. Stormwater Checklist and Certification**

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

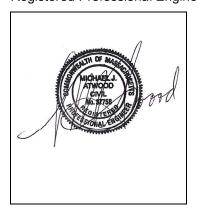
*Note:* Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

#### **Registered Professional Engineer's Certification**

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



SITE IS EXISTING DEVELOPED PROPERTY.
NO CHANGES TO CURRENT SITE FEATURES
WILL BE UNDERTAKEN THAT REQUIRE
CHANGES/ MODIFICATIONS TO CURRENT
STORMWATER MANAGEMENT PROCEDURES.

Signature and Date

#### Checklist

One	CKIISt
<b>Project Type:</b> Is the application for new developme redevelopment?	ent, redevelopment, or a mix of new and
□ New development	
Redevelopment	SITE IS EXISTING DEVELOPED PROPERTY
☐ Mix of New Development and Redevelopment	



### **Checklist for Stormwater Report**

#### Checklist (continued)

env	<b>LID Measures:</b> Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:		
	No disturbance to any Wetland Resource Areas		
	Site Design Practices (e.g. clustered development, reduced frontage setbacks)		
	Reduced Impervious Area (Redevelopment Only)		
	Minimizing disturbance to existing trees and shrubs		
	LID Site Design Credit Requested:		
	☐ Credit 1		
	Credit 2		
	☐ Credit 3		
	Use of "country drainage" versus curb and gutter conveyance and pipe		
	Bioretention Cells (includes Rain Gardens)		
	Constructed Stormwater Wetlands (includes Gravel Wetlands designs)		
	Treebox Filter		
	Water Quality Swale  SITE IS EXISTING DEVELOPED PROPERTY.		
	Grass Channel  NO CHANGES TO CURRENT SITE FEATURES  WILL BE UNDERTAKEN THAT REQUIRE		
	Green Roof  CHANGES/ MODIFICATIONS TO CURRENT STORMWATER MANAGEMENT PROCEDURES.		
	Other (describe):		
Sta	ndard 1: No New Untreated Discharges		
X	No new untreated discharges		
	Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth		
	Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.		



### **Checklist for Stormwater Report**

Cł	necklist (continued)
Sta	ndard 2: Peak Rate Attenuation NOT APPLICABLE
	Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding. Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
	Calculations provided to show that post-development peak discharge rates do not exceed pre- development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24- hour storm.
Sta	ndard 3: Recharge NOT APPLICABLE
	Soil Analysis provided.
	Required Recharge Volume calculation provided.
	Required Recharge volume reduced through use of the LID site Design Credits.
	Sizing the infiltration, BMPs is based on the following method: Check the method used.
	☐ Static ☐ Simple Dynamic ☐ Dynamic Field¹
	Runoff from all impervious areas at the site discharging to the infiltration BMP.
	Runoff from all impervious areas at the site is <i>not</i> discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
	Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
	Recharge BMPs have been sized to infiltrate the Required Recharge Volume <i>only</i> to the maximum extent practicable for the following reason:
	☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
	M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
	☐ Solid Waste Landfill pursuant to 310 CMR 19.000
	Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
	Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
	Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

<sup>&</sup>lt;sup>1</sup> 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



### **Checklist for Stormwater Report**

Cł	necklist (continued)
Sta	ndard 3: Recharge (continued)
	The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
	Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.
Sta	ndard 4: Water Quality NOT APPLICABLE
The	a Long-Term Pollution Prevention Plan typically includes the following: Good housekeeping practices; Provisions for storing materials and waste products inside or under cover; Vehicle washing controls; Requirements for routine inspections and maintenance of stormwater BMPs; Spill prevention and response plans; Provisions for maintenance of lawns, gardens, and other landscaped areas; Requirements for storage and use of fertilizers, herbicides, and pesticides; Pet waste management provisions; Provisions for operation and management of septic systems; Provisions for solid waste management; Snow disposal and plowing plans relative to Wetland Resource Areas; Winter Road Salt and/or Sand Use and Storage restrictions; Street sweeping schedules; Provisions for prevention of illicit discharges to the stormwater management system; Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL; Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan; List of Emergency contacts for implementing Long-Term Pollution Prevention Plan; List of Emergency contacts for implementing Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.  Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:  is within the Zone II or Interim Wellhead Protection Area
	is near or to other critical areas
	is vital of to other critical areas  is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)  involves runoff from land uses with higher potential pollutant loads.
	The Required Water Quality Volume is reduced through use of the LID site Design Credits.
	Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



### **Checklist for Stormwater Report**

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#### **Massachusetts Department of Environmental Protection**

Bureau of Resource Protection - Wetlands Program

### **Checklist for Stormwater Report**

Checklist (continued) Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable NOT APPLICABLE The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a: Limited Project Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area. Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff ☐ Bike Path and/or Foot Path Redevelopment Project Redevelopment portion of mix of new and redevelopment. Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report. The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions. Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control NOT APPLICABLE A Construction Period Poliution Prevention and Erosion and Sedimentation Control Plan must include the following information: Narrative: Construction Period Operation and Maintenance Plan; Names of Persons or Entity Responsible for Plan Compliance; Construction Period Pollution Prevention Measures: Erosion and Sedimentation Control Plan Drawings; Detail drawings and specifications for erosion control BMPs, including sizing calculations; Vegetation Planning; Site Development Plan; Construction Sequencing Plan: Sequencing of Erosion and Sedimentation Controls; Operation and Maintenance of Erosion and Sedimentation Controls; Inspection Schedule; Maintenance Schedule: Inspection and Maintenance Log Form.

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing

the information set forth above has been included in the Stormwater Report.



### **Checklist for Stormwater Report**

Checklist (continued)

	ndard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control ntinued)
	The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has <i>not</i> been included in the Stormwater Report but will be submitted <i>before</i> land disturbance begins.
	The project is <i>not</i> covered by a NPDES Construction General Permit.
	The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
	The project is covered by a NPDES Construction General Permit but no SWPPP been submitted.  The SWPPP will be submitted BEFORE land disturbance begins.
Sta	ndard 9: Operation and Maintenance Plan NOT APPLICABLE
	The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
	☐ Name of the stormwater management system owners;
	Party responsible for operation and maintenance;
	☐ Schedule for implementation of routine and non-routine maintenance tasks;
	☐ Plan showing the location of all stormwater BMPs maintenance access areas;
	☐ Description and delineation of public safety features;
	☐ Estimated operation and maintenance budget; and
	☐ Operation and Maintenance Log Form.
	The responsible party is <i>not</i> the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
	A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
	A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.
Sta	ndard 10: Prohibition of Illicit Discharges NOT APPLICABLE
	The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
	An Illicit Discharge Compliance Statement is attached;
	NO Illicit Discharge Compliance Statement is attached but will be submitted <i>prior to</i> the discharge of any stormwater to post-construction BMPs.

#### I. SITE CONDITIONS AND BACKGROUND INFORMATION

Union Wharf is a commercial and residential property fronting on Commercial Street in the North End and situated adjacent to Boston Harbor; refer to Figure 1. Portions of Union Wharf consist of a filled pier extending into Boston Harbor with a wood pile supported granite block seawall constructed around the outer perimeter of the Property, including the Granite Building and the Townhouses, as shown on Figure 2. The four, 3-story attached townhouse buildings comprised of residential units (designated as No. 5 through No. 27) are situated on the filled pier. The townhouse buildings' bearing walls have been constructed on continuous concrete wall footings at normal depths (4 to 5 ft) beneath the townhouse buildings' ground floor level and top of the adjacent seawall. The rear walls of the building units are supported by wing walls that reach out to the seawall and overhanging decks have been constructed beyond the face of the seawall.

On 3 October 2007, the Applicant submitted a Notice of Intent Application (NOI) requesting approval for maintenance, repair and restoration work at Union Wharf; including particularly the seawall and decks attached to the townhouse buildings. On 8 November 2007, an Order of Conditions DEP File No. 006-1132 (Order) was issued by the Boston Conservation Commission (ConCom). This Order was recently extended to 24 December 2019 to allow for the completion of work to replace the overhanging decks attached to the four townhouse buildings.

#### II. PROPOSED WORK UNDER THIS NOT

This NOI seeks approval for the continuation of the ongoing maintenance operations to preserve the seawall surrounding the Property, including the Granite Building and the townhouse foundations at Union Wharf.

Given the location of the Applicant's property on Boston Harbor, it is necessary for the Applicant to maintain and stabilize the seawall in order to preserve the townhouse foundations and the exterior property improvements, including the marina which serves not only the Applicant but also provides Harbor Walk and docking space to the public.

The Applicant intends to continue its annual seawall maintenance and stabilization operations conducted along the granite block seawall that encompasses Union Wharf, as shown on Figure 2. The work is inclusive to the entirety of the seawall from mudline to top of wall and includes the following:

- 1. **Visual Inspection**, typically conducted each spring and after any storm surge exceeding the 100-year flood elevation;
- 2. **Routine Maintenance** (e.g., filling voids identified between adjacent granite blocks along the exposed face of the seawall using grout-filled geotextile bags); and
- 3. **Stabilization Work** (where needed), that typically includes the installation of anchored brackets and clips to "knit" together a group of granite blocks.

**Visual Inspection** of the seawall is typically conducted from a boat and/or by walking along the docks, as well as walking landside along the top of the seawall, where accessible. Further, an optical survey to measure vertical movement of the top of the seawall and vertical movement of the townhouse foundations is conducted annually to evaluate if the seawall and townhouse foundations (that rely on the stability of the seawall) have experienced vertical movement that warrant actions be taken to

ATTACHMENT A - PROJECT NARRATIVE UNION WHARF 343 COMMERCIAL STREET BOSTON, MA

stabilize the wall.

**Routine Maintenance** includes filling voids identified between adjacent granite blocks along the exposed face of the seawall using grout-filled geotextile bags. Routine Maintenance is conducted when a visual assessment identifies a void/gap has occurred due to apparent movement of a seawall stone and that void/ gap is deemed large enough to potentially allow for migration of soil from the landward side of the seawall through the void/gap into the harbor. The migration of soil can lead to loss of support beneath the townhouse foundations that causes the townhouses to settle unevenly, which results in damage to these masonry structures.

The void filling is conducted in such a way as to maintain the seawall's original design intent, which is to allow natural drainage of water in and out of the seawall as the tide moves up and down. In addition, in accordance with Massachusetts Office of Coastal Management StormSmart Properties Fact Sheet 7: Repair and Reconstruction of Seawalls and Revetments, the grout-filled geotextile bags effectively "chink" the seawall and form a roughened surface texture in the seawall when the grout hardens.

The void filling activities are typically conducted by a crew of 2 to 3 laborers working from a skiff within an area enclosed/contained by a debris/siltation boom. Limited on-shore work is necessary to restore surface grades to landscaped areas immediately behind the seawall.

Materials are typically accessed from a support boat moored at the marina. The geotextile bags are filled with grout and sealed while on the support boat to prevent the release of grout into the resource area, and then loaded onto the skiff and transported to the work area to be deployed. Each bag is hand placed into the void/gap and pushed into the void/gap using a rod. Refer to photograph on Figure 2 showing in-place geotextile bags.

**Stabilization Work** is conducted when visual assessment of the seawall identifies a shifting-type movement (inward and/or outward) of seawall stone(s) relative to adjacent seawall stone(s). To halt the shifting-type movement, galvanized steel brackets/clips are installed to secure adjacent blocks; the brackets/clips are secured to the seawall stone using stainless steel anchor bolts (typically 4.5-in. length by 0.5-in. diameter). The anchor bolts are installed into pre-drilled hole and during drilling, the rock flour is wetted and captured to the extent possible to prevent direct transport into the resource area. The anchor bolts are threaded and develop their anchorage/ fixity to the rock mechanically by expanding when tightening. Refer to Figure 2 for typical in-place brackets/clips.

#### III. RESOURCE AREAS AND ANTICIPATED IMPACTS AND MITIGATIVE MEASURES

#### **Coastal Banks**

A Coastal Bank means the seaward face or side of any elevated landform, other than a coastal dune, which lies at the edge of land subject to tidal action in this case. The maintenance and stabilization activities are located outboard of the seaward face of the seawall, which is considered a manmade Coastal Bank. Approximately 1,400 linear feet of seawall is routinely inspected and maintained and/or stabilized.

The maintenance and stabilization activities will be to the existing seawall that encloses and essentially delineates the north, east and southern land boundaries of the Union Wharf (Project Site), as shown on Figure 1, and the USGS Quadrangle shown on Figure 2. The seawall is considered a coastal engineering structure/coastal bank as defined in 310 CMR 10.23, and further defined in 310 CMR

# ATTACHMENT A - PROJECT NARRATIVE UNION WHARF 343 COMMERCIAL STREET BOSTON, MA

10.30(2). The seawall is a vertical buffer to storm waters and is therefore considered to be critical to mitigate storm damage prevention or flood control. The proposed work is intended to provide greater stability to the coastal bank. The seawall maintenance is necessary to minimize storm damage to the existing on-site buildings, including the Granite Building and the Townhouses. In addition, the seawall is integral to the publicly accessible park, pathways, and Harbor Walk, 20-slip pile-anchored floating docks (marina), driveway and associated parking, all of which are licensed under Chapter 91 License Number 10179.

#### Performance Standards for Coastal Banks

The seawall is a Coastal Engineering Structure (CES), and the proposed work is maintenance, not new construction. The CES meets the definition of the Vertical-Buffer Banks and is only subject to the Performance Standard described in 310 CMR 10.30(6) for General Projects or CESs. **The primary goal of the applicant for this NOI is to maintain the structural integrity of the existing seawall.** There will be no new loads induced on top of wall and no work is proposed that could alter the wave action or surface water and groundwater flow as it currently exists. There is no work proposed that will induce erosion thereby meeting the Performance Standard (6) referenced above. The impacts to the resource areas will be minimized during the course of the work. The work will adhere to the design requirements of new CESs to the extent feasible. The proposed maintenance will include only work necessary to structurally stabilize the seawall, thereby improving compliance with Performance Standard (6) referenced above.

#### Land Subject to Coastal Storm Flowage

The limit of work for maintaining the seawall is from the top of the wall to the toe of the wall along approximately 1,400 linear feet surrounding the perimeter of the wharf. It is estimated that the area of the proposed alteration, if necessary, to stabilize the top of the wall is about 5,600 square feet, which is calculated based on the 1,400 linear feet of seawall by up to 4 ft of land extending landward from the seaward face of the seawall.

As shown on the attached Figure 1, the maintenance and stabilization work are mostly within the vertical zone between the Mean Low Water (MLW) and Mean High Water (MHW) elevations.

The maintenance and stabilization work will not alter the existing mudline.

The Project Site is not located within an estimated habitat of rare wildlife so it will not adversely affect this resource area.

As shown on Figure 3, the seawall is located within the FEMA mapped Zone VE (El. 13 NAVD 88) and much of the upland portion of the site is in the FEMA mapped Zone AE (El. 10 feet, NAVD 88). As shown on Figure 2, the VE Zone is equivalent to El. 19.46 Boston City Base (BCB), and the AE Zone is equivalent to El. 16.46 (BCB). These areas are considered "Land Subject to Coastal Storm Flowage", as defined in 310 CMR 10.04.

Any disturbance to current ground surfaces that is necessary to implement seawall maintenance/ stabilization activities will be replaced in kind with the same surface treatment, and surface grades will not be altered or changed from the existing grades. Therefore, there will be no changes in the impervious surface area, and no changes will be made to the existing drainage systems currently inplace, operating and maintained on the site. Accordingly, as indicated on the attached checklist, a

# ATTACHMENT A - PROJECT NARRATIVE UNION WHARF 343 COMMERCIAL STREET BOSTON, MA

Stormwater Management Report is not being prepared. Mitigative measures, consistent with Standard #8 in a Stormwater Management Report are presented below as Protective Measures to be implemented during maintenance/ stabilization activities. Since this is maintenance of an existing seawall that is located in the area subject to coastal storm flowage, the area is not a new altered resource area.

#### Performance Standards for Land Subject to Coastal Storm Flowage

There are no defined Performance Standards for Land Subject to Coastal Storm Flowage; however, the impacts to the resource areas will be minimized and protective measures described below will be followed.

#### IV. PROTECTIVE MEASURES

When maintenance and stabilization work is conducted to the seawall, the following protective measures will be taken:

Best Management Practices (BMPs) will be implemented during in-water or water-side activities to minimize turbidity and other water quality impacts. The Contractor will deploy a floating boom and an attached silt curtain to contain the work area. The debris boom/silt curtain will minimize the migration of fines and debris during the work and prevent the dispersal of material from the Project Site into the Harbor. The Contractor will also be required to have spill prevention and cleanup kits available on site for any over-water work.

During construction there will be no overnight stockpiling or storage of construction material including unconsolidated material, piles, debris or petroleum containing products, including equipment containing petroleum products or fluids within 25 ft of the seawall. Since the Project Site is located within the AE Zone, all equipment and construction materials will be removed from the Project Site in advance of any forecasted coastal flooding event.

#### V. HISTORIC WORK AT THE SITE

No new maintenance and stabilization activities are proposed below the mudline or within any other resource areas, including land under water.

- 1. Under a previous Order of Conditions (DEP File No. 006-764) issued by the ConCom in May 1998, stabilization activities were conducted in 1998 and 2000 that included installation/ construction of a steel sheetpile enclosed concrete-filled containment to the base of the seawall along the south side of the wharf. Refer to Appendix A for a copy of the Order of Conditions (DEP File No. 006-764) and drawings showing details of the work undertaken.
- 2. Under the current Order of Conditions (DEP File No. 006-1132) issued by the ConCom, stabilization activities were conducted in 2009, 2011, and 2014 to construct supplemental foundation support for select Townhouse units that were identified (through survey measurements) to be experiencing uneven settlement attributed to loss of soil materials through voids/gaps in the seawall. Refer to Appendix B for a copy of drawings showing details of the work undertaken.

The intent/goal of the routine maintenance/ stabilization activities proposed in II.1 to II.3 in this NOI is to

avoid to the extent possible conducting the historic work detailed in V.1 and V.2 above. Should work similar to that in V.1 and V.2 be required in the future (e.g., as a result of storm damage), a separate NOI or an Emergency NOI will be prepared and submitted to the ConCom for review and approval.

#### Attachments:

- Figure 1 Project Locus
- Figure 2 Limits of Seawall Maintenance
- Figure 3 FIRM Map
- Appendix A Order of Conditions (DEP File No. 006-764, May 1998) with Details of Typical Seawall Stabilization Activities Undertaken at Union Wharf in 1998 and 2000
- Appendix B Structural Details of Typical Mat Foundation, Strap Foundation and Micropile Stabilization Activities Previously Completed at Union Wharf in 2009, 2011 and 2014

6 November 2019 Page 1 of 2

# ATTACHMENT B – AFFIDAVIT OF SERVICE & NOTIFICATION TO ABUTTERS UNION WHARF 343 COMMERCIAL STREET BOSTON, MA

#### AFFIDAVIT OF SERVICE

Under the Massachusetts Wetland Protection Act

I, Michael Atwood, hereby certify under the pains and penalties of perjury that on 6 November 2019 I gave notification to abutters in compliance with the second paragraph of the Massachusetts General Laws Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated 8 April 1994 in conjunction with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act by Union Wharf Condominium Trust with the Boston Conservation Commission on 6 November 2019 for the property located at 343 Commercial Street, Boston, MA 02109.

The form of the notification, and a list of abutters to whom it was given and their addresses, are attached to this Affidavit of Service.

NAME

DATE

11/4/2019

# ATTACHMENT B – AFFIDAVIT OF SERVICE & NOTIFICATION TO ABUTTERS UNION WHARF 343 COMMERCIAL STREET BOSTON, MA

6 November 2019 Page 2 of 2

#### **Notification to Abutters**

Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

Union Wharf Condominium Trust has filed a Notice of Intent with the Boston Conservation Commission seeking permission to conduct ongoing annual seawall maintenance and stabilization operations conducted along the granite block seawall that encompasses Union Wharf. The work is inclusive to the entirety of the seawall and includes visual inspection, routine maintenance (e.g., filling voids identified between adjacent granite blocks along the exposed face of the seawall using grout-filled geotextile bags) and stabilization (where needed).

Copies of this notice of intent may be viewed at the Boston Conservation Commission, Boston City Hall, Room 709 between the hours of 9:00 AM to 4:00 PM, Monday through Friday. For more information, please contact the Boston Conservation Commission at (617) 635-3850.

A public hearing will take place at 6:00 PM on 20 November 2019 at Boston City Hall, 1 City Hall Square in the Piemonte Room, 5<sup>th</sup> floor. Notice of the public hearing, including its date, time and place, will be published at least five days in advance on the Boston Herald Newspaper or can be found online at <a href="https://www.boston.gov/public-notices">https://www.boston.gov/public-notices</a>.

If you have any questions pertaining to this application, please contact the Boston Conservation Commission at (617) 635-3850 or you may contact the nearest Department of Environmental Protection Regional Office at (978) 694-3200.

30	U.S. Postal Service™ CERTIFIED MAIL® RECEIPT  Domestic Mail Only
ш	For delivery information, visit our website at www.usps.com®.
	OFFICIAL USE
6418 0000	Certified Mail Fee  \$ Extra Services & Fees (check box, add fee as appropriate)    Return Receipt (inardcopy) \$   Return Receipt (electronic) \$   Certified Mail Restricted Delivery \$   Adult Signature Required \$   Adult Signature Restricted Delivery \$
1070	Postage \$ Total Postage and Fees \$
7017	Sent To DIVISION of Marine Fisheres North Shale Offi Street and Apt. No., or PO Box No. 36 Emersen Avenue City State, 2/P+4 MA 01930 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

	OWNER	ADDRESSEE	MLG ADDRESS	MLG CITYSTATE	MLG_ZIPCODE	LOC ADDRESS
303036001	BOSTON REDEVLPMNT AUTH		SARGENTS WHARF	_	02109	SARGENTS WHARF
		BOSTON REDEVELOPMNT AUTH	EASTERN AVE	,	02109	1 49 EASTERN AV
		UNION WHARF CONDOMINIUM TF		•	02109	295 - 343 COMMERCIAL ST
	MICHAEL B LATTI TRST	MICHAEL B LATTI TRST	295 COMMERCIAL	,	02109	295 COMMERCIAL ST #30
	CAULDER WILLIAM L		5 UNION WHARF #5	•	02109	5 UNION WH #5
	TH06 UNION WHARF REALTY		343 COMMERCIAL ST #6	,	02109	6 UNION WH #6
	GALLO MATTEO		7 UNION WHARF #TH7	,	02109	7 UNION WH #7
	COHEN JOSEPH L		8 UNION WHARF	·	02109	8 UNION WH #8
	WILDERMUTH MARK B		9 UNION WHARF #9	•	02109	9 UNION WH #9
303038221			9317 MORISON LANE	GREAT FALLS, VA		10 UNION WH #10
	KELLAN ROBERT E TS	KELLAN ROBERT E TS	49 SUTTON HILL ROAD	•	01845	11 UNION WH #11
	PECKHAM MARIANNE M	PECKHAM MARIANNE M	PO BOX 564	•	01890	12 UNION WH #12
	SMITH FRED CURTIS			•		
	ONEIL CATHERINE L		13 UNION WHARF #13 25 INMAN RD	•	02109	13 UNION WH #13 14 UNION WH #14
	KING ROBERT B		200 MONSIGNOR OBRIEN HWY	LONDON UK SW18 3BB		
		SIXTEEN UNION WHARF NOMINEE		•	02141 03079	15 UNION WH #15 16 UNION WH #16
				,		
	SEVENTEEN UNION WHARF	SEVENTEEN UNION WHARF	11 KEEWAYDIN DR	•	03079	17 UNION WH #17
	SMITH KATHERINE L	SMITH KATHERINE L	47 LITTLE POND RD	•	01532	18 UNION WH #18
	AMMERMAN ROBERT C	AMMERMAN ROBERT C	19 UNION WHARF #19	,	02109	19 UNION WH #19
	LISA BURKE TRUST		110 DRAKE RD	•	01803	20 UNION WH #20
	BUTCHER BENJAMIN S	BUTCHER BENJAMIN S	'021 UNION WHARF #'021	,	02109	'021 UNION WH #'021
	GILCHREST BARBARA		27 UNION WHARF #27	•	02109	27 UNION WH #27
	AVADIKOGLU MURAT A		26 UNION WHARF	,	02109	26 UNION WH #26
	EDWARDS DAVID A	EDWARDS DAVID A	343 COMMERCIAL ST #25	,	02109	25 UNION WH #25
	FOX JUDITH B		24 UNION WHARF	,	02109	24 UNION WH #24
	LAURELLA CARMELA		23 UNION WHARF	•	02109	23 UNION WH #23
	BASSIOUNI M READA	BASSIOUNI M READA	30 JEFFRIES ST	•	02128	22 UNION WH #22
			343 COMMERCIAL ST #101	,	02109	343 COMMERCIAL ST #101
		MARIO R FILARDO 2003 TRUST	440 SEAVIEW CT UNIT 1405	MARCO ISLAND, FL		343 COMMERCIAL ST #102
	BUCKLAND ARTHUR R		343 COMMERCIAL ST #103	,	02109	343 COMMERCIAL ST #103
	PRINN MICHAEL D		343 COMMERCIAL ST #104	•	02109	343 COMMERCIAL ST #104
	MELWANI MICHELLE	MELWANI MICHELLE	343 COMMERCIAL ST #105	,	02109	343 COMMERCIAL ST #105
	REGAN GEORGE K JR	REGAN GEORGE K JR	343 COMMERCIAL ST #106	•	02109	343 COMMERCIAL ST #106
	SCAPPICHIO ROSEMARY	SCAPPICHIO ROSEMARY	343 COMMERCIAL ST # 107	,	02109	343 COMMERCIAL ST #107
	ONE 08 UNION WHARF LLC	ONE 08 UNION WHARF LLC	343 COMMERCIAL ST #108	,	02109	343 COMMERCIAL ST #108
	KEOHANE FRANK REALTY LLC		343 COMMERCIAL ST	·	02109	343 COMMERCIAL ST #109
	REGAN GEORGE K JR	REGAN GEORGE K JR	343 COMMERCIAL ST #110	•	02109	343 COMMERCIAL ST #110
	REGAN GEORGE K JR		106 UNION WHARF	,	02109	343 COMMERCIAL ST #111A
303038302	MCFARLAND THOMAS J III	MCFARLAND THOMAS J III	343 COMMERCIAL ST	,	02109	343 COMMERCIAL ST #111B
303038304	KETABI MAHMOUD	KETABI MAHMOUD	28 ATLANTIC AVE #'0219	BOSTON, MA	02110	343 COMMERCIAL ST #112
			28 GREEN ST	·	02492	343 COMMERCIAL ST #113
303038308	343 COMMERCIAL STREET UN	343 COMMERCIAL STREET UNIT	33 BEAVER PLACE	BOSTON, MA	02108	343 COMMERCIAL ST #114
	JURGENS LORI	JURGENS LORI	343 COMMERCIAL ST #201	,	02109	343 COMMERCIAL ST #201
		ROBERT P SOMERVILLE TRUST	343 COMMERCIAL ST #202	,	02109	343 COMMERCIAL ST #202
	BAKER MARK F		343 COMMERCIAL ST # 203	,	02109	343 COMMERCIAL ST #203
	CUTLER ROBERT J	CUTLER ROBERT J	343 COMMERCIAL ST # 204	BOSTON, MA	02109	343 COMMERCIAL ST #204
303038318	GRUBER WILLIAM R	GRUBER WILLIAM R	75 HOPESTILL BROWN RD	SUDBURY, MA	01776	343 COMMERCIAL ST #205
	REGAN GEORGE K JR	REGAN GEORGE K JR	343 COMMERCIAL ST #206	BOSTON, MA	02109	343 COMMERCIAL ST #206
	GRAY STEPHEN S	GRAY STEPHEN S	343 COMMERCIAL ST UNIT 207	,	02109	343 COMMERCIAL ST #207
303038324	REGAN GEORGE K JR	REGAN GEORGE K JR	343 COMMERCIAL ST # 208	BOSTON, MA	02109	343 COMMERCIAL ST #208

30303	8326 CORREIA JOSEPH A II	CORREIA JOSEPH A II	39 PARK AV	WAKEFIELD, MA	01880	343	COMMERCIAL ST #209
30303	8328 SMITH MARILYN RAY TRST	SMITH MARILYN RAY TRST	100 GODDARD AV	BROOKLINE, MA	02445	343	COMMERCIAL ST #'0210
30303	8330 CHARA ZDENO	CHARA ZDENO	343 COMMERCIAL ST #'0211	BOSTON, MA	02109	343	COMMERCIAL ST #'0211 / '0213
30303	8332 ABRANO FRANK M	ABRANO FRANK M	8 RUBEN DUREN WY	BEDFORD, MA	01730	343	COMMERCIAL ST #'0212
30303	8336 CHARA ZDENO	CHARA ZDENO	343 COMMERCIAL ST #'0211	BOSTON, MA	02109	343	COMMERCIAL ST #'0214
30303	8338 CARBEAU KEVIN	CARBEAU KEVIN	343 COMMERCIAL ST #301	BOSTON, MA	02109	343	COMMERCIAL ST #301
30303	8340 ABRANO FRANK M	ABRANO FRANK M	8 RUBEN DUREN WAY	BEDFORD, MA	01730	343	COMMERCIAL ST #302
30303	8342 NAJARIAN MARK A	NAJARIAN MARK A	343 COMMERCIAL ST #303	BOSTON, MA	02109	343	COMMERCIAL ST #303
30303	8344 KREJCI DAVID	KREJCI DAVID	343 COMMERCIAL ST #304	BOSTON, MA	02109		COMMERCIAL ST #304
30303	8346 MAZZARELLA LYNN	MAZZARELLA LYNN	343 COMMERCIAL ST # 305	BOSTON, MA	02109		COMMERCIAL ST #305
	8348 ODONNELL PATRICIA E	ODONNELL PATRICIA E	343 COMMERCIAL ST #306	BOSTON, MA	02109	343	COMMERCIAL ST #306
	8350 ARDITO FRANK T	ARDITO FRANK T	343 COMMERCIAL ST #307	BOSTON, MA	02109		COMMERCIAL ST #307
	8352 JACOBSON WILLIAM	JACOBSON WILLIAM	343 COMMERCIAL ST #308	BOSTON, MA	02109		COMMERCIAL ST #308
	8354 SMETANA LAWRENCE P	SMETANA LAWRENCE P	343 COMMERCIAL ST #309	BOSTON, MA	02109		COMMERCIAL ST #309
	8356 ZAVRL FRANK	ZAVRL FRANK	87 SALEM ST	ANDOVER, MA	01810		COMMERCIAL ST #310
	8358 COCOZZA MARK J & SUSAN N		343 COMMERCIAL ST #311	BOSTON, MA	02109		COMMERCIAL ST #310
	8360 ZEGHIBE ROGER W	ZEGHIBE ROGER W	343 COMMERCIAL ST #311	BOSTON, MA	02109		COMMERCIAL ST #312
	8364 THRALL JAMES H	THRALL JAMES H	343 COMMERCIAL ST #312	BOSTON, MA	02109		COMMERCIAL ST #312
				•			
	8366 CHARA ZDENO	CHARA ZDENO	343 COMMERCIAL ST #401	BOSTON, MA	02109		COMMERCIAL ST #401
	8368 CAMPANELLI NICOLE	CAMPANELLI NICOLE	343 COMMERCIAL ST #402	BOSTON, MA	02109	343	COMMERCIAL ST #402
	8370 COLLINS MONICA	COLLINS MONICA	343 COMMERCIAL ST #403	BOSTON, MA	02109		COMMERCIAL ST #403
	8372 BRASSERT WALTER L	BRASSERT WALTER L	343 COMMERCIAL ST #404	BOSTON, MA	02109		COMMERCIAL ST #404
	8374 EDWARDS F ROSS	EDWARDS F ROSS	343 COMMERCIAL ST #405	BOSTON, MA	02109		COMMERCIAL ST #405
	8376 CONTI MATTHEW J	CONTI MATTHEW J	343 COMMERCIAL ST #508	BOSTON, MA	02109		COMMERCIAL ST #406
	8378 MIRABELLA STEVEN	MIRABELLA STEVEN	343 COMMERCIAL ST #407	BOSTON, MA	02109		COMMERCIAL ST #407
	8380 PRIMO A MICHAEL	PRIMO A MICHAEL	343 COMMERCIAL ST #408	BOSTON, MA	02109		COMMERCIAL ST #408
	8382 YACOBIAN ANTONIETTE	YACOBIAN ANTONIETTE	343 COMMERCIAL ST UNIT 501	BOSTON, MA	02109	343	COMMERCIAL ST #501
	8384 VICKERS NANCY J	VICKERS NANCY J	343 COMMERCIAL ST #402	BOSTON, MA	02109		COMMERCIAL ST #502
	8386 HOPKINS MERITA A	HOPKINS MERITA A	343 COMMERCIAL ST #503	BOSTON, MA	02109	343	COMMERCIAL ST #503
30303	8388 CORTELL MARY-BRENDA TS	CORTELL MARY-BRENDA TS	343 COMMERCIAL ST #504	BOSTON, MA	02109	343	COMMERCIAL ST #504
30303	8390 SCHILLER PHILIP WILLIAM TS	SCHILLER PHILIP WILLIAM TS	234 MIRAMANTES AVE	HALF MOON BAY, CA		94019 343	COMMERCIAL ST #505
30303	8392 EISEN WILLIAM J TS	EISEN WILLIAM J TS	343 COMMERCIAL ST #506	BOSTON, MA	02109	343	COMMERCIAL ST #506
30303	8394 SCHILLER PHILIP WILLIAM TS	SCHILLER PHILIP WILLIAM TS	234 MIRAMANTES AVE	HALF MOON BAY, CA		94019 343	COMMERCIAL ST #507
30303	8396 LOSCOCCO JAMES N TS	LOSCOCCO JAMES N TS	343 COMMERCIAL ST #508	BOSTON, MA	02109	343	COMMERCIAL ST #508
30303	8398 DORNBROOK MICHAEL	DORNBROOK MICHAEL	343 COMMERCIAL ST #602	BOSTON, MA	02109	343	COMMERCIAL ST #602
30303	8400 THOMAJAN GREGORY Z	THOMAJAN GREGORY Z	343 COMMERCIAL ST #604	BOSTON, MA	02109	343	COMMERCIAL ST #604
30303	8402 SULLIVAN DANIEL W	SULLIVAN DANIEL W	343 COMMERCIAL ST #606	BOSTON, MA	02109	343	COMMERCIAL ST #606
30303	8404 SCHILLER PHILIP WILLIAM TS	SCHILLER PHILIP WILLIAM TS	234 MIRAMANTES AV	HALF MOON BAY, CA		94019 343	COMMERCIAL ST #607
30303	8406 LOSCOCCO JAMES N TS	LOSCOCCO JAMES N TS	343 COMMERCIAL ST #608	BOSTON, MA	02109	343	COMMERCIAL ST #608
30303	9000 SAN MARCO-LINCOLN WH	SAN MARCO-LINCOLN WH	357 371 COMMERCIAL ST	BOSTON, MA	02109	357	371 COMMERCIAL ST
30303	9012 IUDICIANI FRANCO	IUDICIANI FRANCO	357 COMMERCIAL ST #1	BOSTON, MA	02109	357	COMMERCIAL ST #001
30303	9016 DIGENOVA GIULIANA	DIGENOVA GIULIANA	8 WINDHAM LANE	BEVERLY, MA	01915	357	COMMERCIAL ST #003
30303	9018 HAGER CHRISTIE L	HAGER CHRISTIE L	357 COMMERCIAL ST #4	BOSTON, MA	02109	357	COMMERCIAL ST #004
	9020 DIBARTOLOMEO ANGELO TS		357 COMMERCIAL ST #5	BOSTON, MA	02109		COMMERCIAL ST #005
	9022 PESATURO AUGUSTINE A SR		357 COMMERCIAL ST UNIT 006	BOSTON, MA	02109	357	COMMERCIAL ST #006
	9024 DIECIDUE SALVATORE A	DIECIDUE SALVATORE A	357 COMMERCIAL ST #7	BOSTON, MA	02109		COMMERCIAL ST #007
	9026 LABELLA PATRICIA	LABELLA PATRICIA	139 HOWE ST	NATICK, MA	01760		COMMERCIAL ST #008
	9028 ANDERSON MICHAEL H	ANDERSON MICHAEL H	357 COMMERCIAL ST #9	BOSTON, MA	02109		COMMERCIAL ST #009
	9030 MEIDHOF THOMAS J	MEIDHOF THOMAS J	357 COMMERCIAL ST #3	BOSTON, MA	02109	357	COMMERCIAL ST #010
	9032 CAPRARO ANTHONY J	CAPRARO ANTHONY J	357 COMMERCIAL ST #10	BOSTON, MA	02109		COMMERCIAL ST #010
	9034 FRISCO PAUL R	FRISCO PAUL R	20 BROWNFIELD DR	BRIDGEWATER, MA	02109		COMMERCIAL ST #011
30303	JUJT TRIJCO FAULR	I NIGCO FACE IX	ZO DINOVINI ILLO DI	DRIDGEWATER, IVIA	02324	337	CONTINIENCIAL 31 #012

303039036 ROYALFERN LLC	ROYALFERN LLC	1430 JACKSON AV #303	NEW ORLEANS, LA	7013	30 357	COMMERCIAL ST #013
303039038 MALOOF FERRIS B TS	MALOOF FERRIS B TS	24 BATES LANE	NORWELL , MA	02061		COMMERCIAL ST #14
303039040 LONDON JANINE	LONDON JANINE	357 COMMERCIAL ST #15	BOSTON, MA	02109		COMMERCIAL ST #015
303039042 MCGRATH DAMIEN A	MCGRATH DAMIEN A	132 ARLINGTON ST #2	BRIGHTON, MA	02135		COMMERCIAL ST #016
303039044 DISILVA DAVID E	DISILVA DAVID E	357 COMMERCIAL ST #17	BOSTON, MA	02109		COMMERCIAL ST #17
303039046 FISK KENNETT H	FISK KENNETT H	11 MONUMENT SQ	CHARLESTOWN, MA	02129		COMMERCIAL ST #018
303039048 DIMATTIA MICHELLE L	DIMATTIA MICHELLE L	357 COMMERCIAL ST #19	BOSTON, MA	02109		COMMERCIAL ST #019
303039050 GANDHIJINESH D	GANDHI JINESH D	6 KENLEY LANE	SOUTHBOROUGH, MA	01772		COMMERCIAL ST #020
303039052 TIBERI MASSIMO	TIBERI MASSIMO	357 COMMERCIAL ST #101	BOSTON, MA	02109		COMMERCIAL ST #101
303039054 AZUERO CATALINA	AZUERO CATALINA	357 COMMERCIAL ST #102	BOSTON, MA	02109		COMMERCIAL ST #102
303039056 HYMOVITZ MARC C	HYMOVITZ MARC C	357 COMMERCIAL ST #102	BOSTON, MA	02109		COMMERCIAL ST #102
303039058 BARTOLO CHARLES M	BARTOLO CHARLES M	357 COMMERCIAL ST #104	BOSTON, MA	02109		COMMERCIAL ST #104
303039060 DRISCOLL MAUREEN	DRISCOLL MAUREEN	357 COMMERCIAL #105	BOSTON, MA	02109		COMMERCIAL ST #105
303039062 LIN SHE FU	LIN SHE FU	357 COMMERCIAL #105	BOSTON, MA	02109		COMMERCIAL ST #106
303039064 CONNERY MICHAEL	CONNERY MICHAEL	357 COMMERCIAL #100	BOSTON, MA	02109		COMMERCIAL ST #107
303039066 COSTA STEVEN	COSTA STEVEN	PO BOX 987	COVENTRY, RI	02816		COMMERCIAL ST #107
303039068 COLAHAN JEANNE S	COLAHAN JEANNE S	357 COMMERCIAL ST #109	BOSTON, MA	02109		COMMERCIAL ST #109
303039070 WOODS CHRISTOPHER K	WOODS CHRISTOPHER K	357 COMMERCIAL ST WIDS	BOSTON, MA	02109		COMMERCIAL ST #110
303039070 WOODS CHRISTOFFIER R	VITALE DIANA R	4 MY WAY CIRCLE	WILMINGTON, MA	01887		COMMERCIAL ST #110
303039072 VITALE DIANA K 303039074 JMN ONE REALTY TRUST	JMN ONE REALTY TRUST	357 COMMERCIAL ST 112	BOSTON, MA	02109		COMMERCIAL ST #111
303039074 JWN ONE REALTY TROST	DIRENZO KAREN	357 COMMERCIAL #113	BOSTON, MA	02109		COMMERCIAL ST #112
303039070 DIKENZO KAKEN 303039078 TAYLOR DANIEL	TAYLOR DANIEL	357 COMMERCIAL #113	BOSTON, MA	02109		COMMERCIAL ST #114
303039078 TATLOR DANIEL 303039080 DALY MARY BETH	DALY MARY BETH	20 FINGER LANE	OSTERVILLE, MA	02655		COMMERCIAL ST #115
303039080 DALT MART BETH	FEDOROV KIRILL A	357 COMMERCIAL ST #116	BOSTON, MA	02109		COMMERCIAL ST #115
303039084 REYNOLDS MARIE	REYNOLDS MARIE	357 COMMERCIAL ST #116	BOSTON, MA	02109		COMMERCIAL ST #117
303039086 TAM WING HEI	TAM WING HEI	357 COMMERCIAL ST #117	BOSTON, MA	02109		COMMERCIAL ST #117
			•			
303039088 TEMPLE REGINA	TEMPLE REGINA	357 COMMERCIAL ST #119	BOSTON, MA	02109		COMMERCIAL ST #119
303039090 MEAHL HILLARY P	MEAHL HILLARY P	357 COMMERCIAL ST #120	BOSTON, MA	02109		COMMERCIAL ST #120
303039092 RYAN MARY RUTH 303039094 CHEVERIE DARLENE	RYAN MARY RUTH	357 COMMERCIAL ST #1'021 357 COMMERCIAL ST	BOSTON, MA	02109 02109		COMMERCIAL ST #1'021 COMMERCIAL ST #203
	CHEVERIE DARLENE		BOSTON, MA			
303039096 DECHRISTOFORO JANINE TS	DECHRISTOFORO JANINE TS	357 COMMERCIAL ST #204	BOSTON, MA	02109		COMMERCIAL ST #204
303039098 HYMOVITZ MARC	HYMOVITZ MARC	357 COMMERCIAL ST #205	BOSTON, MA	02109		COMMERCIAL ST #205
303039100 KONIK WALTER M	KONIK WALTER M	357 COMMERCIAL #206	BOSTON, MA	02109		COMMERCIAL ST #206
303039102 PETRIGNO FREDERICK	PETRIGNO FREDERICK	357 COMMERCIAL ST #207	BOSTON, MA	02109		COMMERCIAL ST #207
303039104 SYLVIA PATRICIA M	SYLVIA PATRICIA M	357 COMMERCIAL STREET UNIT 2	· ·	02109		COMMERCIAL ST #208
303039106 WARIAS DAVID B TS	WARIAS DAVID B TS	357 COMMERCIAL ST #'0211	BOSTON, MA	02109		COMMERCIAL ST #209
303039108 LANZA JEAN G	LANZA JEAN G	357 COMMERCIAL ST #'0210	BOSTON, MA	02109		COMMERCIAL ST #'0210
303039110 WARIAS DAVID B TS	WARIAS DAVID B TS	357 COMMERCIAL ST #'0211	BOSTON, MA	02109		COMMERCIAL ST #'0211
303039112 GARDNER AVRIL	GARDNER AVRIL	PO BOX 130087	BOSTON, MA	02113		COMMERCIAL ST #'0212
303039114 VITELLO D CYNTHIA	VITELLO D CYNTHIA	357 COMMERCIAL #506	BOSTON, MA	02109		COMMERCIAL ST #'0213
303039116 PECCI ANDREW J	PECCI ANDREW J	118 BARTLETT ST	SOMERVILLE, MA	02145		COMMERCIAL ST #'0214
303039118 LIN JIN EN	LIN JIN EN	357 COMMERCIAL #'0215	BOSTON, MA	02109		COMMERCIAL ST #'0215
303039120 DARTISTA LUCY M	DARTISTA LUCY M	357 COMMERCIAL ST #'0216	BOSTON, MA	02109		COMMERCIAL ST #'0216
303039122 MCNIFF MARY	MCNIFF MARY	357 COMMERCIAL #'0217	BOSTON, MA	02109		COMMERCIAL ST #'0217
303039124 HORWITZ JOHN	HORWITZ JOHN	6 WINNMERE AV	BURLINGTON, MA	01803		COMMERCIAL ST #'0218
303039126 QUINN SARAH	QUINN SARAH	357 COMMERCIAL #'0219	BOSTON, MA	02109		COMMERCIAL ST #'0219
303039128 HILL ALMA M	HILL ALMA M	357 COMMERCIAL ST #220	BOSTON, MA	02109		COMMERCIAL ST #220
303039130 RUGGIERO ROGER W	RUGGIERO ROGER W	357 COMMERCIAL ST #2'021	BOSTON, MA	02109		COMMERCIAL ST #2'021
303039132 BUCKLAND ARTHUR R	BUCKLAND ARTHUR R	343 COMMERCIAL ST #103	BOSTON, MA	02109		COMMERCIAL ST #301
303039134 ZERVOS COSTAS	ZERVOS COSTAS	357 COMMERCIAL ST #302	BOSTON, MA	02109		COMMERCIAL ST #302
303039136 PARKER BARBARA S	PARKER BARBARA S	357 COMMERCIAL ST #303	BOSTON, MA	02109	35/	COMMERCIAL ST #303

303039138 SILVA KIM M SILVA KI	IM M 357 COMME	RCIAL ST #304 BOSTON, N	MA 02109	357	COMMERCIAL ST #304
		RCIAL ST #305 BOSTON, N			COMMERCIAL ST #305
303039142 YAU MO WAI YAU MO		RCIAL ST #306 BOSTON, N			COMMERCIAL ST #306
303039144 WONG KERI F WONG I		RCIAL ST #307 BOSTON, N			COMMERCIAL ST #307
		RCIAL ST #308 BOSTON, N			COMMERCIAL ST #308
303039148 CHAN DAVID C CHAN D		RCIAL ST #309 BOSTON, N			COMMERCIAL ST #309
	RA HENRY A PO BOX 183	HAMILTON			COMMERCIAL ST #310
303039152 SCOTT DONALD SCOTT D		RCIAL ST # 311 BOSTON, N			COMMERCIAL ST #311
		RCIAL ST #312 BOSTON, N			COMMERCIAL ST #312
	SON KENNETH B 191 B WOOL	,	ROGUH, MA 01772		COMMERCIAL ST #313
	IN EDWIN B 19 PINE HILL		•		COMMERCIAL ST #314
	COLN LLC 242 HIGHLAI		,		COMMERCIAL ST #315
		RCIAL ST #316 BOSTON, N	·		COMMERCIAL ST #316
		RCIAL ST APT 317 BOSTON, N			COMMERCIAL ST #317
303039166 DITIRRO GINA A DITIRRO		RCIAL ST #318 BOSTON, N			COMMERCIAL ST #318
		RCIAL ST #319 BOSTON, N			COMMERCIAL ST #319
		ERCIAL ST #320 BOSTON			COMMERCIAL ST #320
	IER DENISE L 41 SUMMER		·		COMMERCIAL ST #3'021
303039174 HORES BRIAN HORES E		RCIAL ST #401 BOSTON, N	·		COMMERCIAL ST #401
	LEFREDO J 22 DOANE R	•			COMMERCIAL ST #402
		RCIAL ST #403 BOSTON, N	•		COMMERCIAL ST #403
		RCIAL ST #404 BOSTON, N			COMMERCIAL ST #404
		RCIAL ST #405 BOSTON, N			COMMERCIAL ST #405
		RCIAL ST #406 BOSTON, N			COMMERCIAL ST #406
		RCIAL ST #400 BOSTON, N			COMMERCIAL ST #407
303039188 LANGONE JOY LANGON		•			COMMERCIAL ST #407
	O FRANK M 8 RUBEN DU	•			COMMERCIAL ST #408
	A MARY E PO BOX 1302	,			COMMERCIAL ST #410
303039194 RABU MURIEL RABU M		,			COMMERCIAL ST #410
303039196 HUA JING HUA JIN		,			COMMERCIAL ST #411
		•			
		RCIAL ST #318 BOSTON, N			COMMERCIAL ST #413
		RCIAL ST #414 BOSTON, N			COMMERCIAL ST #414
	M NANCY I 357 COMME	•			COMMERCIAL ST #415
		RCIAL ST #416 BOSTON, N			COMMERCIAL ST #416
	ANE SHEILA M 16 ELM ST	MELROSE,			COMMERCIAL ST #417
		RCIAL ST #712 BOSTON, N			COMMERCIAL ST #418
	TI THOMAS 150 BEAVER	•			COMMERCIAL ST #419
		RCIAL ST #420 BOSTON, N			COMMERCIAL ST #420
		RCIAL ST #4'021 BOSTON, N			COMMERCIAL ST #4'021
		RCIAL ST #501 BOSTON, N			COMMERCIAL ST #501
303039218 QIU MEI HUAN QIU MEI		RCIAL ST #502 BOSTON, N			COMMERCIAL ST #502
303039220 ABATE VITA A ABATE \		RCIAL ST #503 BOSTON, N			COMMERCIAL ST #503
	LA CARMELA TS 112 UNION \	•			COMMERCIAL ST #504
303039224 PEREZ JOHN V PEREZ JO		RCIAL ST #505 BOSTON, N			COMMERCIAL ST #505
		RCIAL ST #506 BOSTON, N			COMMERCIAL ST #506
	AWRENCE G 11503 W 159		•		COMMERCIAL ST #507
	-KOPELSON GENE 139 WILD RO				COMMERCIAL ST #508
	-KOPELSON GENE 139 WILD RO				COMMERCIAL ST #509
		RCIAL ST UNIT 510 BOSTON, N			COMMERCIAL ST #510
303039236 CAIANI DIANE A CAIANI I	DIANE A 357 COMME	RCIAL ST #511 BOSTON, N	MA 02109	357	COMMERCIAL ST #511
303039238 WONG STEPHANIE L WONG S	STEPHANIE L 105 PINE STE	•			COMMERCIAL ST #512

303039240 ABATE TINA	ABATE TINA	357 COMMERCIAL ST #513	BOSTON, MA	02109	357	COMMERCIAL ST #513
303039242 BUCCI MATTEO	BUCCI MATTEO	357 COMMERCIAL ST #514	BOSTON, MA	02109	357	COMMERCIAL ST #514
303039244 PASTO THEODORE L	PASTO THEODORE L	357 COMMERCIAL ST #515	BOSTON, MA	02109	357	COMMERCIAL ST #515
303039246 AVERY JOSEPH R	AVERY JOSEPH R	357 COMMERCIAL ST #516	BOSTON, MA	02109	357	COMMERCIAL ST #516
303039248 TEFFT KAREN L	TEFFT KAREN L	357 COMMERCIAL ST #517	BOSTON, MA	02109	357	COMMERCIAL ST #517
303039250 SHEA JOHN T	SHEA JOHN T	1100 S COLLIER BLVD #724	MARCO ISLAND, FL	3	4145 357	COMMERCIAL ST #518
303039252 LEWIS THOMAS A	LEWIS THOMAS A	357 COMMERCIAL ST #519	BOSTON, MA	02109		COMMERCIAL ST #519
303039254 GOLD HEATHER	GOLD HEATHER	26 FOREST AVE	SWAMPSCOTT, MA	01907		COMMERCIAL ST #520
303039256 HUI POH K	HUI POH K	1 TURTLE LANE	DOVER, MA	02030		COMMERCIAL ST #5'021
303039258 MANCHANDA AMAN	MANCHANDA AMAN	357 COMMERCIAL ST #601	BOSTON, MA	02109		COMMERCIAL ST #601
303039260 CARIFIO ANTHONY G	CARIFIO ANTHONY G	357 COMMERCIAL ST #602	BOSTON, MA	02109		COMMERCIAL ST #602
303039262 SINAGRA NANCY A	SINAGRA NANCY A	357 COMMERCIAL #603	BOSTON, MA	02109		COMMERCIAL ST #603
303039264 604 LINCOLN WHARF REALTY		357 COMMERCIAL ST #604	BOSTON, MA	02109		COMMERCIAL ST #604
303039266 PASTO THEODORE L	PASTO THEODORE L	357 COMMERCIAL ST #605	BOSTON, MA	02109		COMMERCIAL ST #605
303039268 357 COMMERCIAL STREET 60		357 COMMERCIAL ST #606	BOSTON, MA	02109		COMMERCIAL ST #606
303039270 JACKMAN SEAN R	JACKMAN SEAN R	20 ELISE LA	DARTMOUTH, MA	02747		COMMERCIAL ST #607
303039272 RIVA MARINA A TS	RIVA MARINA A TS	357 COMMERCIAL ST UNIT 608	BOSTON, MA	02109		COMMERCIAL ST #608
303039274 CAPOBIANCO MARGARET F	CAPOBIANCO MARGARET F	357 COMMERCIAL ST #609	BOSTON, MA	02109		COMMERCIAL ST #609
303039274 CAPOBIANCO MANGARETT	GOMES RONALD	357 COMMERCIAL ST #605	BOSTON, MA	02109		COMMERCIAL ST #610
303039278 PHANEUF VINCENT B TS	PHANEUF VINCENT B TS	357 COMMERCIAL ST #010	BOSTON, MA	02109		COMMERCIAL ST #611
303039280 CANTALUPO CORRINA	CANTALUPO CORRINA	357 COMMERCIAL ST #611	BOSTON, MA	02109		COMMERCIAL ST #612
303039280 CANTALOFO CORRINA 303039282 KURTZ SAMUEL J	KURTZ SAMUEL J	32 ATLANTIC ROAD	SWAMPSCOTT, MA	01907		COMMERCIAL ST #613
303039284 TILLOTSON DIANE C	TILLOTSON DIANE C	77 CORRELL ST	NEWTON LOWER FALLS, MA	02462		COMMERCIAL ST #614
303039284 TILLOTSON DIANE C	RILEY ARLENE M	357 COMMERCIAL #615	BOSTON, MA	02109		COMMERCIAL ST #615
303039288 257 COMMERCIAL STREET U		357 COMMERCIAL #013	BOSTON, MA	02109		COMMERCIAL ST #616
303039288 237 COMMERCIAL STREET OF	WEINREICH DAVID	26 VINTON ST	SOUTH BOSTON, MA	02109		COMMERCIAL ST #617
303039290 WEINKEICH DAVID	LOVUOLO ANTHONY TS	357 COMMERCIAL ST #618	BOSTON, MA	02109		COMMERCIAL ST #618
303039294 DI ZHU XIAO	DI ZHU XIAO	357 COMMERCIAL ST #618	BOSTON, MA	02109		COMMERCIAL ST #619
303039294 DI ZHO XIAO 303039296 MEEHAN JOANNE M	MEEHAN JOANNE M	357 COMMERCIAL ST #619	BOSTON, MA	02109		COMMERCIAL ST #620
303039298 ONEIL KAREN A	ONEIL KAREN A	357 COMMERCIAL ST #620	•	02109		COMMERCIAL ST #6'021
			BOSTON, MA			COMMERCIAL ST #701
303039300 MARCHESE SUSAN P	MARCHESE SUSAN P	357 COMMERCIAL ST #701	BOSTON, MA	02109		
303039302 KIRBY ROBERT L JR	KIRBY ROBERT L JR	357 COMMERCIAL ST #702	BOSTON, MA	02109		COMMERCIAL ST #702
303039304 REED DONNA J	REED DONNA J	4 GINOS WAY	RIDGEFIELD, CT	06877		COMMERCIAL ST #703
303039306 OLDROYD JAMES R	OLDROYD JAMES R	357 COMMERCIAL ST #704	BOSTON, MA	02109		COMMERCIAL ST #704
303039308 BATAL ROBERT C	BATAL ROBERT C	357 COMMERCIAL ST #705	BOSTON, MA	02109		COMMERCIAL ST #705
303039310 RODGERS RACHEL F	RODGERS RACHEL F	357 COMMERCIAL ST #706	BOSTON, MA	02109		COMMERCIAL ST #706
303039312 KYAN SANDRA	KYAN SANDRA	357 COMMERCIAL #707	BOSTON, MA	02109		COMMERCIAL ST #707
303039314 TORRISI CARMINE RICHARD	TORRISI CARMINE RICHARD	357 COMMERCIAL ST #708	BOSTON, MA	02109		COMMERCIAL ST #708
303039316 LANGONE JOSEPH A	LANGONE JOSEPH A	357 COMMERCIAL ST #709	BOSTON, MA	02109		COMMERCIAL ST #709
303039318 DELPRIORE ANGELO A	DELPRIORE ANGELO A	357 COMMERCIAL ST #710	BOSTON, MA	02109		COMMERCIAL ST #710
303039320 BUISIER SAAD NASSER	BUISIER SAAD NASSER	357 COMMERCIAL ST #712	BOSTON, MA	02109		COMMERCIAL ST #711
303039326 HUYNH DIANE	HUYNH DIANE	4048 WASHINGTON ST #3	ROSLINDALE, MA	02131		COMMERCIAL ST #714
303039328 SKOLE FAMILY TRUST	SKOLE FAMILY TRUST	357 COMMERCIAL ST #715	BOSTON, MA	02109		COMMERCIAL ST #715
303039330 CANTY ALLISON E	CANTY ALLISON E	357 COMMERCIAL ST #716	BOSTON, MA	02109		COMMERCIAL ST #716
303039332 BUCKLAND ARTHUR R	BUCKLAND ARTHUR R	343 COMMERCIAL ST #103	BOSTON, MA	02109		COMMERCIAL ST #717
303039334 BEACON HILL PROPERTIES LL		PO BOX 590097	NEWTON CENTRE, MA	02459		COMMERCIAL ST #718
303039336 FINIW M	FINIW M	357 COMMERCIAL ST #719	BOSTON, MA	02109		COMMERCIAL ST #719
303039338 HEWITT CAROLYN G	HEWITT CAROLYN G	357 COMMERCIAL ST #720	BOSTON, MA	02109		COMMERCIAL ST #720
303039340 SPARKS THERESA C	SPARKS THERESA C	357 COMMERCIAL ST #7'021	BOSTON, MA	02109		COMMERCIAL ST #7'021
303039342 BORLAND ISABEL ALVAREZ	BORLAND ISABEL ALVAREZ	357 COMMERCIAL ST #722	BOSTON, MA	02109		COMMERCIAL ST #722
303039344 DICENSO DELFINA TS	DICENSO DELFINA TS	357 COMMERCIAL ST #723	BOSTON, MA	02109	357	COMMERCIAL ST #723

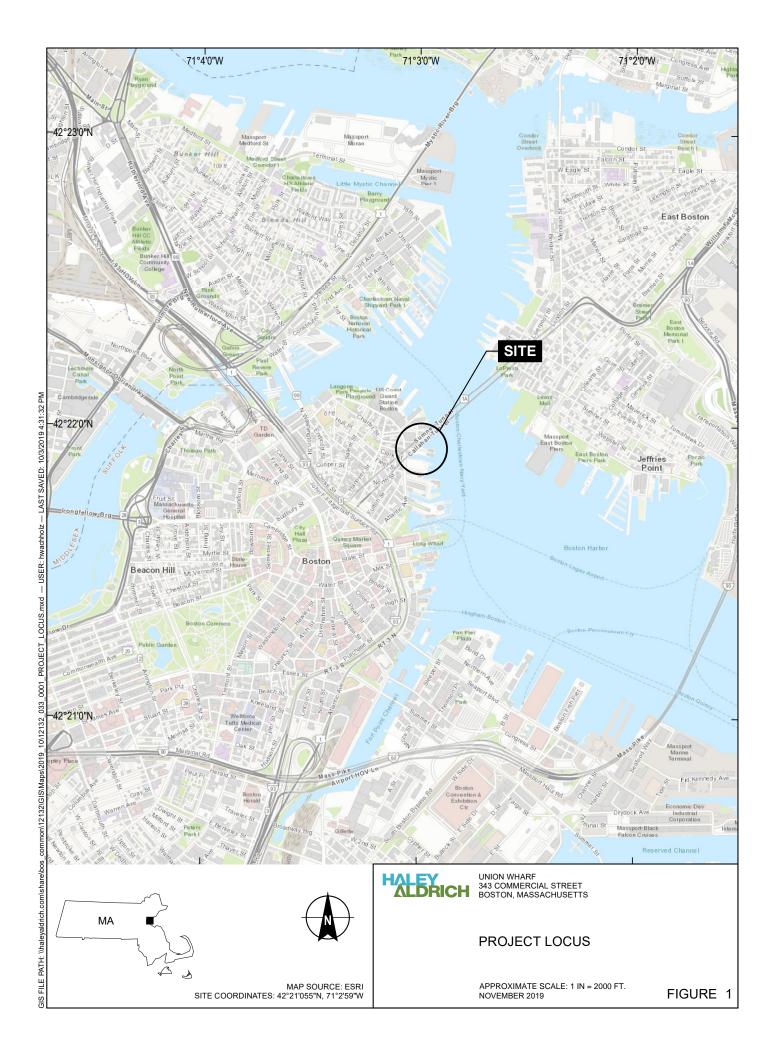
303039346	ASH BARBARA	ASH BARBARA	357 COMMERCIAL ST # 724	BOSTON, MA	02109	35	COMMERCIAL ST #724
303039348	THEOHARIDES THEOHARIS	THEOHARIDES THEOHARIS	357 COMMERCIAL ST #725	BOSTON, MA	02109	35	COMMERCIAL ST #725
303039350	DELPRIORE ANGELO A	DELPRIORE ANGELO A	357 COMMERCIAL ST #801	BOSTON, MA	02109	35	COMMERCIAL ST #801
303039356	YUNG FRANKLIN C C	YUNG FRANKLIN C C	357 COMMERCIAL ST #804	BOSTON, MA	02109	35	COMMERCIAL ST #804
303039358	BLACKBURN THOMAS S	BLACKBURN THOMAS S	17 FENWICK RD	WINCHESTER, MA	01890	35	COMMERCIAL ST #805
303039360	ELLEN DEMAMBRO	ELLEN DEMAMBRO	357 COMMERCIAL ST #806	BOSTON, MA	02109	35	COMMERCIAL ST #806
303039362	CHERCHIA PETER J	CHERCHIA PETER J	357 COMMERCIAL ST #807	BOSTON, MA	02109	35	COMMERCIAL ST #807
303039364	DAMBRA LOUISE P	DAMBRA LOUISE P	357 COMMERCIAL ST #808	BOSTON, MA	02109	35	COMMERCIAL ST #808
303039366	CICCONE MARK M	CICCONE MARK M	357 COMMERCIAL ST #809	BOSTON, MA	02109	35	COMMERCIAL ST #809
303039368	DAVIS CHERYL L	DAVIS CHERYL L	357 COMMERCIAL ST #810	BOSTON, MA	02109	35	COMMERCIAL ST #810
303039370	ANDREWS JOHN	ANDREWS JOHN	357 COMMERCIAL ST #811	BOSTON, MA	02109	35	COMMERCIAL ST #811
303039372	MARSHALL GERALDINE C TS	MARSHALL GERALDINE C TS	357 COMMERCIAL ST #822	BOSTON, MA	02109	35	COMMERCIAL ST #812
	MCMAHON DANIEL A	MCMAHON DANIEL A	357 COMMERCIAL ST #813	BOSTON, MA	02109		COMMERCIAL ST #813
	UNIT 814 REALTY TRUST	UNIT 814 REALTY TRUST	28 HILLCREST ROAD	NEEDHAM, MA	02492		7 COMMERCIAL ST #814
303039378		SONIS ERIC	357 COMMERCIAL ST #815	BOSTON, MA	02109		7 COMMERCIAL ST #815
	CASELDEN GINA	CASELDEN GINA	357 COMMERCIAL ST #816	BOSTON, MA	02109		7 COMMERCIAL ST #816
	MURPHY DREW WILLIAM	MURPHY DREW WILLIAM	357 COMMERCIAL ST #817	BOSTON, MA	02109		7 COMMERCIAL ST #817
		HARRINGTON CHRISTOPHER D	357 COMMERCIAL ST #818	BOSTON, MA	02109		7 COMMERCIAL ST #818
	SMILES ARCHIE C JR TS	SMILES ARCHIE C JR TS	357 COMMERCIAL ST #819	BOSTON, MA	02109		7 COMMERCIAL ST #819
	KRAINC DIMITRI	KRAINC DIMITRI	357 COMMERCIAL ST #820	BOSTON, MA	02109		7 COMMERCIAL ST #820
	KRAJNC DIMITRI	KRAJNC DIMITRI	357 COMMERCIAL ST #8'021	BOSTON, MA	02109		COMMERCIAL ST #8'021
	MARSHALL GERALDINE TS	MARSHALL GERALDINE TS	357 COMMERCIAL ST #822	BOSTON, MA	02109		7 COMMERCIAL ST #822
	WADE JOHN	WADE JOHN	10 ACORN DR	ANDOVER, MA	01810		COMMERCIAL ST #823
	MARCHAND BRADLEY K	MARCHAND BRADLEY K	357 COMMERCIAL ST #802-803	BOSTON, MA	02109		COMMERCIAL ST #802/803
	BURROUGHS WHARF CONDO		50 BATTERY ST 9TH FL	BOSTON, MA	02109		-50 BATTERY ST
	MILANO-PICARDI MICHAEL	MILANO-PICARDI MICHAEL	40 BATTERY ST #102	BOSTON, MA	02109		BATTERY ST #102
	STEMPLER MARILYN D	STEMPLER MARILYN D	40 BATTERY ST #103	BOSTON, MA	02109		BATTERY ST #103
	PITTARO TERRY B	PITTARO TERRY B	40 BATTERY ST #104	BOSTON, MA	02109		BATTERY ST #104
	PAUL G RICHARD TS	PAUL G RICHARD TS	40 BATTERY ST #105	BOSTON, MA	02109		BATTERY ST #105
	SOMMERS JOHN A TS	SOMMERS JOHN A TS	40 BATTERY ST #106	BOSTON, MA	02109		BATTERY ST #106
	ROCKEFELLER TRUST COMPA			,			
		ROCKEFELLER TRUST COMPANY TS GOLD PAULA	40 BATTERY ST #108				BATTERY ST #107 BATTERY ST #108
	GOLD PAULA			BOSTON, MA	02109		
	KUHNS JOHN B	KUHNS JOHN B	PO BOX '0214	ETNA, NH	03750		BATTERY ST #109
	MURRAY ROBERT J	MURRAY ROBERT J	40 BATTERY ST #110	BOSTON, MA	02109		BATTERY ST #110
	GREEN AUDLEY J	GREEN AUDLEY J	40 BATTERY ST #202	BOSTON, MA	02109		BATTERY ST #202
	KHOSHATEFEH RAMIN	KHOSHATEFEH RAMIN	40 BATTERY ST #301	BOSTON, MA	02109		BATTERY ST #301
	MILNER ANN L	MILNER ANN L	40 BATTERY ST #302	BOSTON, MA	02109		BATTERY ST #302
	DESROSIER THOMAS J	DESROSIER THOMAS J	40 BATTERY ST #303	BOSTON, MA	02109		BATTERY ST #303
	VAN DORN ELIZABETH	VAN DORN ELIZABETH	40 BATTERY ST UNIT 304	BOSTON, MA	02109		BATTERY ST #304
	COOGAN HENRY WILLIAM JR		115 BEN DOVER LANE	MANAKIN-SABOT, VA			BATTERY ST #305
	WALDSTEIN ARTHUR S	WALDSTEIN ARTHUR S	40 BATTERY ST #306	BOSTON, MA	02109		BATTERY ST #306
		ANGELO PICARDI & MARY ANN	40 BATTERY ST #307/308	BOSTON, MA	02109		BATTERY ST #307/308
			40 BATTERY ST #309	BOSTON, MA	02109		BATTERY ST #309
	DIPASQUALE DENISE	DIPASQUALE DENISE	40 BATTERY ST #310	BOSTON, MA	02109		BATTERY ST #310
	DUFTON MARK T	DUFTON MARK T	40 BATTERY ST #401	BOSTON, MA	02109		BATTERY ST #401
	COWHIG MICHAEL T	COWHIG MICHAEL T	40 BATTERY ST #402	BOSTON, MA	02109		BATTERY ST #402
	VIERAITIS ROBERT V JR	VIERAITIS ROBERT V JR	40 BATTERY ST #501	BOSTON, MA	02109		BATTERY ST #501
	MAIRS KIMBERLY A	MAIRS KIMBERLY A	40 BATTERY ST #502	BOSTON, MA	02109		BATTERY ST #502/606
	HAYES JOHN A JR	HAYES JOHN A JR	40 BATTERY ST #PH1	BOSTON, MA	02109		BATTERY ST #PH1
	BUCKLAND ARTHUR R	BUCKLAND ARTHUR R	343 COMMERCIAL ST #103	BOSTON, MA	02109	40	BATTERY ST #PH2
303040054	ECKELMAN BRYAN	ECKELMAN BRYAN	40 BATTERY ST #PH3	BOSTON, MA	02109	40	BATTERY ST #PH3

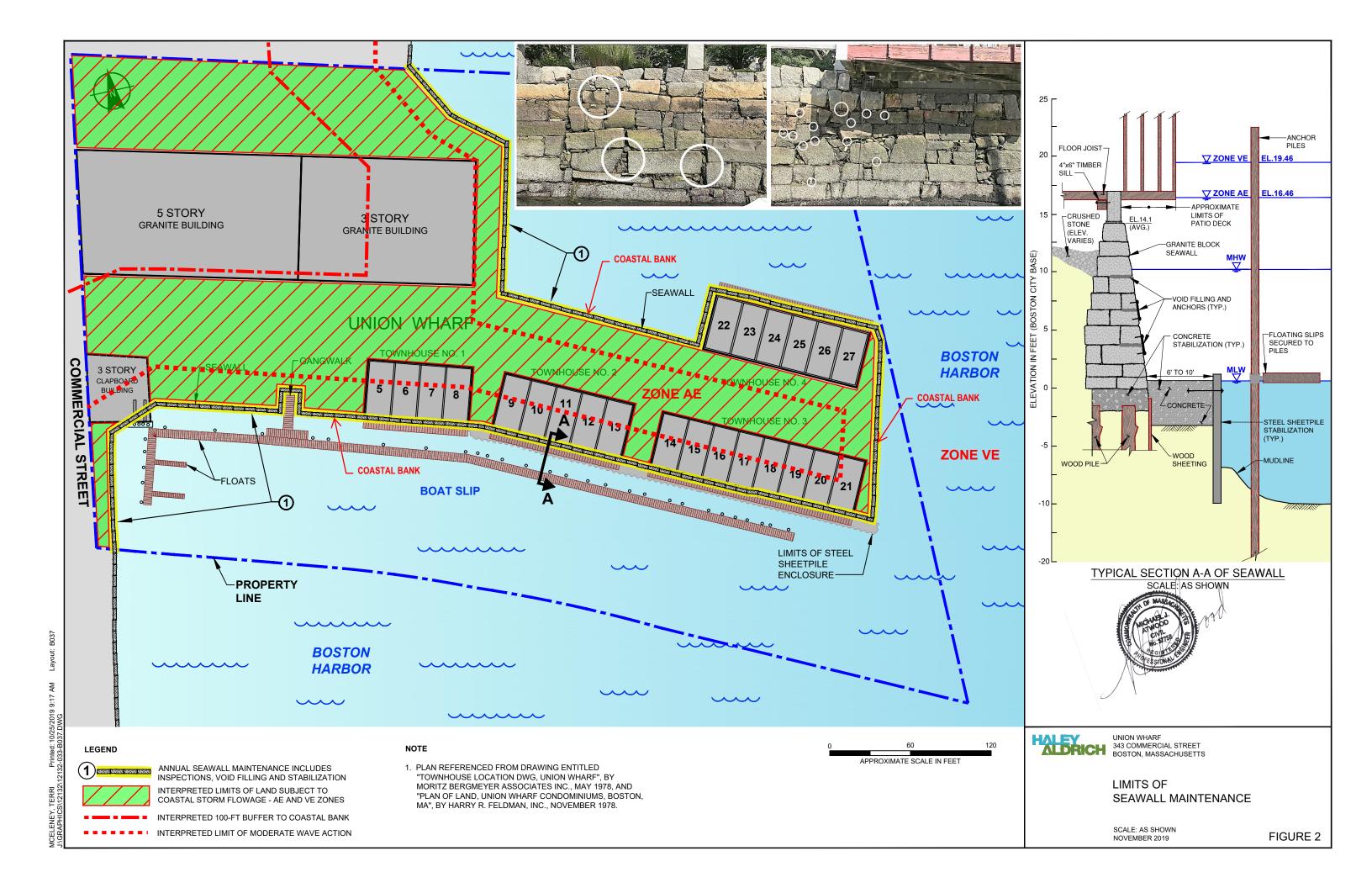
30	03040056	COLIN MOORE REVOCABLE TI	COLIN MOORE REVOCABLE TRUST	186 CENTRE STREET	DOVER, MA	02030	40	BATTERY ST #PH4
30	03040058	PREVITE FRANK E	PREVITE FRANK E	40 BATTERY ST #PH5	BOSTON, MA	02109	40	BATTERY ST #PH5
30	03040062	GRAY CAROL B	GRAY CAROL B	40 BATTERY ST #PH7	BOSTON, MA	02109	40	BATTERY ST #PH7
30	03040064	SIMONELLI JOSEPH E	SIMONELLI JOSEPH E	PO BOX 314	THOMPSON, CT	06277	40	BATTERY ST #PH8
30	03040066	CHARLES S MORRISON II	CHARLES S MORRISON II	40 BATTERY ST PH9	BOSTON, MA	02109	40	BATTERY ST #PH9
30	03040068	CAPOBIANCO KIM M	CAPOBIANCO KIM M	40 BATTERY ST	BOSTON, MA	02109	40	BATTERY ST #PH10
		PENNA ROBERT C TS	PENNA ROBERT C TS	40 BATTERY ST #PH11	BOSTON, MA	02109	40	BATTERY ST #PH11
30	03040074	LEETCH BRIAN	LEETCH BRIAN	40 BATTERY ST #PH13	BOSTON, MA	02109	40	BATTERY ST #PH13
30	03040076	BIRMDEN ASSOCIATES	BIRMDEN ASSOCIATES	50 BATTERY ST #FDU	BOSTON, MA	02109	50	BATTERY ST
		SANTORO PAUL V	SANTORO PAUL V	50 BATTERY ST #103/104	BOSTON, MA	02109	50	BATTERY ST #103/104
		CHARA TATIANA	CHARA TATIANA	343 COMMERCIAL ST #'0211	BOSTON, MA	02109		BATTERY ST #105
		POMPOSELLI FRANK B JR	POMPOSELLI FRANK B JR	50 BATTERY ST #106	BOSTON, MA	02109		BATTERY ST #106
		HINES BRIAN	HINES BRIAN	50 BATTERY ST #201	BOSTON, MA	02109		BATTERY ST #201
		RENFROE LYNDA A	RENFROE LYNDA A	1510 MONUMENT ST	CONCORD, MA	01742		BATTERY ST #202
		ROSS DENISE B	ROSS DENISE B	50 BATTERY ST #301	BOSTON, MA	02109		BATTERY ST #301
		WHITE CATHERINE A	WHITE CATHERINE A	50 BATTERY ST #302	BOSTON, MA	02109		BATTERY ST #302
		SHIH SAMANTHA MEE-YEE	SHIH SAMANTHA MEE-YEE	437 D STREET #2B	BOSTON, MA	2'0210		BATTERY ST #303
		BLONDIN PAUL E	BLONDIN PAUL E	50 BATTERY ST #304	BOSTON, MA	02109		BATTERY ST #304
		PHILIPPS ELIZABETH	PHILIPPS ELIZABETH	50 BATTERY ST #305	BOSTON, MA	02109		BATTERY ST #305
		COLLINS CHRISTOPHER W	COLLINS CHRISTOPHER W	50 BATTERY ST #306N	BOSTON, MA	02109		BATTERY ST #306
		KEOGH JOHN	KEOGH JOHN	50 BATTERY ST #307	BOSTON, MA	02109		BATTERY ST #307
		RAPPAPORT JAMES W	RAPPAPORT JAMES W	50 BATTERY ST #308	BOSTON, MA	02109		BATTERY ST #308
		CUCCHIARO STEPHEN	CUCCHIARO STEPHEN		•	02109		BATTERY ST #309
				50 BATTERY ST UNIT #309 & #3	BOSTON, MA	02109		BATTERY ST #309
		PAZUK STEPHEN M	PAZUK STEPHEN M	114 QUARTERDECK MALL	MARINA DEL RAY, CA	02400		
		KEOGH JOHN C	KEOGH JOHN C	50 BATTERY ST #312	BOSTON, MA	02109		BATTERY ST #312
		PASTRNAK DAVID	PASTRNAK DAVID	50 BATTERY ST UNIT 401	BOSTON, MA	02109		BATTERY ST #401
		SHEA MAUREEN A	SHEA MAUREEN A	50 BATTERY ST #402	BOSTON, MA	02109		BATTERY ST #402
		PASTRNAK DAVID	PASTRNAK DAVID	50 BATTERY ST UNIT 501	BOSTON, MA	02109		BATTERY ST #501
		STAUFF MICHAEL F	STAUFF MICHAEL F	50 BATTERY ST #502	BOSTON, MA	02109		BATTERY ST #502
		INDECK PAMELA E	INDECK PAMELA E	50 BATTERY ST #PH1	BOSTON, MA	02109		BATTERY ST #PH1.
		WINTERLE JOHN F	WINTERLE JOHN F	50 BATTERY ST #PH2	BOSTON, MA	02109		BATTERY ST #PH2
		PETER NANCI S	PETER NANCI S	50 BATTERY ST #PH3	BOSTON, MA	02109		BATTERY ST #PH3
		FITZPATRICK DANIEL J III	FITZPATRICK DANIEL J III	50 BATTERY ST #PH4	BOSTON, MA	02109		BATTERY ST #PH4
			50 BATTERY WHARF NOMINEE	50 BATTERY ST #PH5	BOSTON, MA	02109		BATTERY ST #PH5
			HARBOUR VIEW REALTY TRUST II	50 BATTERY ST. APT. 606	BOSTON, MA	02109		BATTERY ST #PH6
		STADELMANN KRISTIN M	STADELMANN KRISTIN M	50 BATTERY ST #PH7	BOSTON, MA	02109		BATTERY ST #PH7
		LEVY LAWRENCE M	LEVY LAWRENCE M	50 BATTERY ST #PH8	BOSTON, MA	02109		BATTERY ST #PH8
30	03040138	MEGHAN M NEVILLE REVOCA	MEGHAN M NEVILLE REVOCABLE	PO BOX 240	RYE, NH	03870	50	BATTERY ST #PH9
30	03040140	CAVALLARI FORD D	CAVALLARI FORD D	50 BATTERY ST #PH10	BOSTON, MA	02109		BATTERY ST #PH10
30	03525000	BRODER COMMERCIAL ST LLC	BRODER COMMERCIAL ST LLC	38 NEWBURY ST 3RD FL	BOSTON, MA	02116	280	290 COMMERCIAL ST
30	03536000	CHERUBINI JULIAN H	CHERUBINI JULIAN H	297 HIGH ST	DEDHAM, MA	02026	350	348 COMMERCIAL ST
30	03537000	COMMERCIAL NORTH 8TH	COMMERCIAL NORTH 8TH	346 COMMERCIAL	BOSTON, MA	02109	346	342 COMMERCIAL ST
30	03537002	THREE42-346 COMMERCIAL S	THREE42-346 COMMERCIAL ST	342 COMMERCIAL ST #C-1	BOSTON, MA	02109	342	COMMERCIAL ST #C-1
30	03537004	BRUMBAUGH SARA A	BRUMBAUGH SARA A	342 COMMERCIAL ST #2	BOSTON, MA	02109	342	COMMERCIAL ST #1
30	03537006	RICHMOND LARRY B	RICHMOND LARRY B	43 NEWFANE RD	BEDFORD, NH	03110	342	COMMERCIAL ST #2
30	03537008	BUCKLEY JEANMARIE	BUCKLEY JEANMARIE	365 NORTH ST #3	BOSTON, MA	02113	342	COMMERCIAL ST #3
30	03537010	CAMMARATA GILDA C	CAMMARATA GILDA C	527 SALEM ST #33	LYNNFIELD, MA	01940	342	COMMERCIAL ST #4
30	03537012	HEANEY GRACE	HEANEY GRACE	342 COMMERCIAL ST #5	BOSTON, MA	02109	342	COMMERCIAL ST #5
30	03537014	BOUCHER TERESA	BOUCHER TERESA	365 NORTH ST #6	BOSTON, MA	02113	342	COMMERCIAL ST #6
30	03537016	VESPIGNANI ALESSANDRO	VESPIGNANI ALESSANDRO	342 COMMERCIAL ST #7	BOSTON, MA	02109	342	COMMERCIAL ST #7
30	03537018	WARD MICHAEL F	WARD MICHAEL F	365 NORTH ST #8	BOSTON, MA	02113	342	COMMERCIAL ST #8

303538000	COMMERCIAL-NORTH CONDO	COMMERCIAL-NORTH CONDO ASS	338 COMMERCIAL	BOSTON, MA	02109	338 COMMERCIAL ST
303538002	DOW JENNIFER	DOW JENNIFER	338 COMMERCIAL ST # C-100	BOSTON, MA	02109	338 COMMERCIAL ST #C-100
303538004	ROONEY DENISE M	ROONEY DENISE M	338 COMMERCIAL ST #101	BOSTON, MA	02109	338 COMMERCIAL ST #101
303538006	ROSS MARK J	ROSS MARK J	338 COMMERCIAL ST #201	BOSTON, MA	02109	338 COMMERCIAL ST #201
303538008	BONZAGNI RICHARD J	BONZAGNI RICHARD J	338 COMMERCIAL ST #301	BOSTON, MA	02109	338 COMMERCIAL ST #301
303538010	PRUDDEN JAMIE	PRUDDEN JAMIE	338 COMMERCIAL ST #401	BOSTON, MA	02109	338 COMMERCIAL ST #401
303538012	BUCOLO RICHARD A II	BUCOLO RICHARD A II	338 COMMERCIAL ST #402	BOSTON, MA	02109	338 COMMERCIAL ST #402
	LONDON ARNOLD	LONDON ARNOLD	334 COMMERCIAL ST	BOSTON, MA	02109	334 336 COMMERCIAL ST
		THREE 28 COMMERCIAL STREET	328 COMMERCIAL	BOSTON, MA	02109	328 326 COMMERCIAL ST
	FDDG-MA LLC	FDDG-MA LLC	326 COMMERCIAL ST	BOSTON, MA	02109	328 326 COMMERCIAL ST #CS3
	REGAN GEORGE K JR	REGAN GEORGE K JR	300 COMMERCIAL ST	BOSTON, MA	02109	341 NORTH ST #CS2
	HARDING ROBERT	HARDING ROBERT	328 COMMERCIAL ST #'021	BOSTON, MA	02109	328 326 COMMERCIAL ST #'021
	URA MICHELE A	URA MICHELE A	328 COMMERCIAL ST #22	BOSTON, MA	02109	328 326 COMMERCIAL ST #22
	CUTELIS CYNTHE J	CUTELIS CYNTHE J	328 COMMERCIAL ST #23	BOSTON, MA	02109	328 326 COMMERCIAL ST #23
	KATIE WOOLFORD TRUST	KATIE WOOLFORD TRUST	328 COMMERCIAL ST #24	BOSTON, MA	02109	328 326 COMMERCIAL ST #24
	BURKE KEVIN E	BURKE KEVIN E	328 COMMERCIAL ST #25	BOSTON, MA	02109	328 326 COMMERCIAL ST #25
	LAROSA JEAN T	LAROSA JEAN T	510 REVERE BCH BL #102	REVERE, MA	02151	328 326 COMMERCIAL ST #25
	STROZZI DENNIS	STROZZI DENNIS	328 COMMERCIAL ST #32	BOSTON, MA	02109	328 326 COMMERCIAL ST #31
	THOMAS BENJAMIN	THOMAS BENJAMIN	328 COMMERICAL ST #32	BOSTON, MA	02109	328 326 COMMERCIAL ST #32
	THOMPSON JAMES F	THOMPSON JAMES F	328 COMMERCIAL ST #34	BOSTON, MA	02109	328 326 COMMERCIAL ST #33
	ABELSON CAMILLE	ABELSON CAMILLE	328 COMMERCIAL ST #35	BOSTON, MA	02109	328 326 COMMERCIAL ST #34
	JAMISON SCOTT	JAMISON SCOTT	328 COMMERCIAL ST #41	BOSTON, MA	02109	328 326 COMMERCIAL ST #33
	BENEVIDES JOANNA	BENEVIDES JOANNA	328 COMMERCIAL ST #41	BOSTON, MA	02109	328 326 COMMERCIAL ST #41
	BONITO FRANK	BONITO FRANK		,	02109	
			328 COMMERCIAL ST #43	BOSTON, MA		328 326 COMMERCIAL ST #43
	BELLEFATTO LAURA	BELLEFATTO LAURA	328 COMMERCIAL ST #44	BOSTON, MA	02109	328 326 COMMERCIAL ST #44
	CARPENITO FRANCIS P JR	CARPENITO FRANCIS P JR	328 COMMERCIAL ST UNIT #45	BOSTON, MA	02109	328 326 COMMERCIAL ST #45
303540042		PC & Z LLC		MASHPEE, MA	02649	328 326 COMMERCIAL ST #52
	GUNSCH NATHAN D	GUNSCH NATHAN D	328 COMMERCIAL ST #53	BOSTON, MA	02109	328 326 COMMERCIAL ST #53
	KEITH ROBERT P	KEITH ROBERT P	327 CONNOR RD	KENILWORTH, IL		0043 328 326 COMMERCIAL ST #54
	BURNS MARIELLEN C	BURNS MARIELLEN C	328 COMMERCIAL ST #55	BOSTON, MA	02109	328 326 COMMERCIAL ST #55
			300 COMMERCIAL ST #310	BOSTON, MA	02109	300 COMMERCIAL ST
	MARINER 300 VENTURES LLC		300 COMMERCIAL ST #C-1	BOSTON, MA	02109	300 COMMERCIAL ST #C-1
		REGAN COMMUNICATIONS GROU		BOSTON, MA	02109	300 COMMERCIAL ST #C-2
	BRUYERE JOHN	BRUYERE JOHN	646 SO MAIN ST #3	DUBOIS PA		5801 300 COMMERCIAL ST #201
		BATES DONNA MANSOLILLI	25 POND ST #101	AMESBURY, MA	01913	300 COMMERCIAL ST #202
	ABRANO FRANK M	ABRANO FRANK M	8 RUBEN DUREN WAY	BEDFORD, MA	01730	300 COMMERCIAL ST #203
	CHALFEN KAREN A LT	CHALFEN KAREN A LT	300 COMMERCIAL ST #204	BOSTON, MA	02109	300 COMMERCIAL ST #204
	FILARDO MARIO R TS	FILARDO MARIO R TS	20 PARK PLAZA STE 1115	BOSTON, MA	02116	300 COMMERCIAL ST #205
		HATGELAKAS ANGELICA V	300 COMMERCIAL ST #206	BOSTON, MA	02109	300 COMMERCIAL ST #206
	BONIFACE PETER M TS	BONIFACE PETER M TS	P O BOX 557	E SANDWICH, MA	02537	300 COMMERCIAL ST #207
	HARRIS MICHAEL	HARRIS MICHAEL	PO BOX 1960	WAKEFIELD, MA	01880	300 COMMERCIAL ST #208
303543026	ARMSTRONG LISA M	ARMSTRONG LISA M	300 COMMERCIAL ST #209	BOSTON, MA	02109	300 COMMERCIAL ST #209
303543028	DELUCA JOHN B	DELUCA JOHN B	300 COMMERCIAL ST # '0210	BOSTON, MA	02109	300 COMMERCIAL ST #'0210
303543030	INTERRANTE ROSELLE A	INTERRANTE ROSELLE A	300 COMMERCIAL ST #'0211	BOSTON, MA	02109	300 COMMERCIAL ST #'0211
303543032	RUFO GLEN	RUFO GLEN	105 FOURTH ST	PITTSFIELD, MA	01201	300 COMMERCIAL ST #'0212
303543034	TOWER ROAD INC	TOWER ROAD INC	7 BULFINCH PL	BOSTON, MA	02114	300 COMMERCIAL ST #'0213
303543036	ZAPPALA CYNTHIA C	ZAPPALA CYNTHIA C	6 HUNTER LA	CANTON, MA	02021	300 COMMERCIAL ST #'0214
303543038	KAPLAN MARLENE S TS	KAPLAN MARLENE S TS	300 COMMERCIAL ST #'0215	BOSTON, MA	02109	300 COMMERCIAL ST #'0215
303543040	SBARATTA ROSEMARIE	SBARATTA ROSEMARIE	300 COMMERCIAL ST #'0216	BOSTON, MA	02109	300 COMMERCIAL ST #'0216
303543042	OLIVEIRA SEAN M	OLIVEIRA SEAN M	300 COMMERCIAL ST UNIT 301	BOSTON, MA	02109	300 COMMERCIAL ST #301
303543044	MATTHEWS NICOLE	MATTHEWS NICOLE	300 COMMERCIAL ST #302	BOSTON, MA	02109	300 COMMERCIAL ST #302

202542046 PEUDA CVAITURA A	DELINA CVALTURA A	200 001 41 4500141 67 1/202	DOCTON AAA	02400	20	0. 001414500141 67 #202
303543046 REHM CYNTHIA A	REHM CYNTHIA A	300 COMMERCIAL ST #303	BOSTON, MA	02109		0 COMMERCIAL ST #303
303543048 CROWE EDWARD	CROWE EDWARD	300 COMMERCIAL ST #304	BOSTON, MA	02109		0 COMMERCIAL ST #304
303543050 TAYLOR CHRISTIE	TAYLOR CHRISTIE	300 COMMERCIAL ST #305	BOSTON, MA	02109		0 COMMERCIAL ST #305
303543052 JOST LLC	JOST LLC	351 POPE RD	CONCORD, MA	01742		0 COMMERCIAL ST #306
303543054 ASHLEY MERRIAGNES M	ASHLEY MERRIAGNES M	300 COMMERCIAL ST #307	BOSTON, MA	02109		0 COMMERCIAL ST #307
303543056 STETS JULIE K	STETS JULIE K	300 COMMERICAL ST #308	BOSTON, MA	02109		0 COMMERCIAL ST #308
303543058 HENDERSON JEFFERSON S III	HENDERSON JEFFERSON S III	5641 WOODSONG TRL	DUNWOODY, GA			0 COMMERCIAL ST #309
303543060 TRIPP BRIAN	TRIPP BRIAN	300 COMMERCIAL ST #310	BOSTON, MA	02109		0 COMMERCIAL ST #310
303543062 RUSSELL MARK	RUSSELL MARK	300 COMMERCIAL ST #311	BOSTON, MA	02109		0 COMMERCIAL ST #311
303543064 BUONADIES REBECCA C	BUONADIES REBECCA C	300 COMMERCIAL ST #312	BOSTON, MA	02109		0 COMMERCIAL ST #312
303543066 BIELUNIS MICHELLE Z	BIELUNIS MICHELLE Z	300 COMMERCIAL ST #313	BOSTON, MA	02109	30	
303543068 ONG SHIRLEY A	ONG SHIRLEY A	3 MAYFAIR LANE #304	NASHUA, NH	03063	30	0 COMMERCIAL ST #314
303543070 DIMASI JOSEPH A	DIMASI JOSEPH A	300 COMMERCIAL ST #315	BOSTON, MA	02109	30	0 COMMERCIAL ST #315
303543072 SWEENEY ANNE B	SWEENEY ANNE B	300 COMMERCIAL ST #316	BOSTON, MA	02109	30	0 COMMERCIAL ST #316
303543074 GORBERG DANIEL L	GORBERG DANIEL L	300 COMMERCIAL ST #401	BOSTON, MA	02109	30	0 COMMERCIAL ST #401
303543076 CHIANG KOPHU	CHIANG KOPHU	300 COMMERCIAL ST #402	BOSTON, MA	02109	30	0 COMMERCIAL ST #402
303543078 SAYLES JOHN	SAYLES JOHN	300 COMMERCIAL ST #403	BOSTON, MA	02109	30	0 COMMERCIAL ST #403
303543080 SAPIENZA PAUL	SAPIENZA PAUL	300 COMMERCIAL ST #404	BOSTON, MA	02109	30	0 COMMERCIAL ST #404
303543082 ALUSOW NANCY J	ALUSOW NANCY J	300 COMMERCIAL ST #405	BOSTON, MA	02109	30	0 COMMERCIAL ST #405
303543084 PHAN ANDREA W H	PHAN ANDREA W H	300 COMMERCIAL ST #406	BOSTON, MA	02109	30	0 COMMERCIAL ST #406
303543086 MAINI MANDEEP	MAINI MANDEEP	1015 PHILLIPS RD	DELRAY BEACH, FL		33483 30	0 COMMERCIAL ST #407
303543088 PIERCE ANDREW	PIERCE ANDREW	71 GREEN ST	NEWBURY, MA	01951	30	0 COMMERCIAL ST #408
303543090 MELIA KEVIN C ETAL	MELIA KEVIN C ETAL	116 SKYLINE DR	ACTON, MA	01720	30	0 COMMERCIAL ST #409
303543092 PRINN MATTHEW J	PRINN MATTHEW J	300 COMMERCIAL ST #410	BOSTON, MA	02109	30	0 COMMERCIAL ST #410
303543094 CELUZZA DAVID ETAL	CELUZZA DAVID ETAL	300 COMMERCIAL ST #411	BOSTON, MA	02109	30	0 COMMERCIAL ST #411
303543096 AVALLON JENNIFER L	AVALLON JENNIFER L	300 COMMERCIAL ST #412	BOSTON, MA	02109	30	0 COMMERCIAL ST #412
303543098 POTTER KATHERINE E	POTTER KATHERINE E	300 COMMERCIAL ST #413	BOSTON, MA	02109	30	0 COMMERCIAL ST #413
303543100 STEWART MEREDITH K	STEWART MEREDITH K	300 COMMERCIAL ST #414	BOSTON, MA	02109		0 COMMERCIAL ST #414
303543102 TORTOLANI AUDREY	TORTOLANI AUDREY	300 COMMERCIAL ST #415	BOSTON, MA	02109	30	0 COMMERCIAL ST #415
303543104 PAPPAS GARY A	PAPPAS GARY A	300 COMMERCIAL ST #416	BOSTON, MA	02109	30	0 COMMERCIAL ST #416
303543106 LAPUENTE PILAR RUIZ	LAPUENTE PILAR RUIZ	300 COMMERCIAL ST #501	BOSTON, MA	02109	30	
303543108 RKW VENTURES LLC	RKW VENTURES LLC	14 CAMP ST	CAMBRIDGE, MA	02140		0 COMMERCIAL ST #502
303543110 AVALLON JEFF	AVALLON JEFF	300 COMMERCIAL ST #503	BOSTON, MA	02109	30	
303543112 KANE VICTORIA BARTHOLON			DOVER MA	02030		0 COMMERCIAL ST #504
303543114 PRIVES LYNNE A	PRIVES LYNNE A	300 COMMERCIAL ST #505	BOSTON, MA	02109		0 COMMERCIAL ST #505
303543116 ODONNELL MICHAEL E	ODONNELL MICHAEL E	36 WINDING BROOK RD	NEWBURY, NH	03255		0 COMMERCIAL ST #506
303543118 OLSZEWSKI JANE I	OLSZEWSKI JANE I	300 COMMERCIAL ST #507	BOSTON, MA	02109		0 COMMERCIAL ST #507
303543120 ONEILL MAUREEN F	ONEILL MAUREEN F	300 COMMERCIAL ST #508	BOSTON, MA	02109	30	
303543122 FEDERICO PHYLLIS M TS	FEDERICO PHYLLIS M TS	300 COMMERCIAL ST #509	BOSTON, MA	02109		0 COMMERCIAL ST #509
303543124 BROWN GEORGE	BROWN GEORGE	300 COMMERCIAL #510	BOSTON, MA	02109	30	
303543124 BROWN GEORGE 303543126 NOMINEE TRUST SERVICES T.		7 ANNE TERESA WAY	WESTFORD, MA	01886	30	
303543128 300 COMMERCIAL ST REAL	300 COMMERCIAL ST REAL	10 HIGH HAITH ROAD	ARLINGTON, MA	02476	30	
303543130 ROSER SACHIKO	ROSER SACHIKO	300 COMMERCIAL ST #513	•		30	
303543132 WHITE CHRISTINE K	WHITE CHRISTINE K	32 SOUTHPORT DR	BOSTON, MA	02109 02649		0 COMMERCIAL ST #513
303543134 CHERUBINI NICOLE A	CHERUBINI NICOLE A	297 HIGH ST	MASHPEE, MA	02049		
			DEDHAM, MA			0 COMMERCIAL ST #601
303543136 CHERUBINI BARBARA TS 303543138 FALZONE MICHAEL	CHERUBINI BARBARA TS	297 HIGH ST	DEDHAM, MA	02026	30	0 COMMERCIAL ST #602
	FALZONE MICHAEL	300 COMMERCIAL ST #603	BOSTON, MA	02109		
303543140 KRANTZ ALAN T	KRANTZ ALAN T	300 COMMERCIAL ST #604	BOSTON, MA	02109	30	
303543142 BULLOCK PAUL STEPHEN	BULLOCK PAUL STEPHEN	300 COMMERCIAL ST #605	BOSTON, MA	02109	30	
303543144 TIGHE JOHN F TS	TIGHE JOHN F TS	36 FOXCROFT RD	WINCHESTER, MA	01890	30	
303543146 WILLIAM R THOMPSON AND	WILLIAM K THOMPSON AND	1733 WATERLEAF DR	SEWICKLEY, PA		15143 30	0 COMMERCIAL ST #607

303543148	BUCKLAND ARTHUR R	BUCKLAND ARTHUR R	343 COMMERCIAL ST #103	BOSTON, MA	02109	300	COMMERCIAL ST #608
303543150	ALLEGRONE LOUIS E	ALLEGRONE LOUIS E	300 COMMERCIAL ST #609	BOSTON, MA	02109	300	COMMERCIAL ST #609
303543152	ALLEGRONE LOUIS	ALLEGRONE LOUIS	300 COMMERCIAL ST UNIT 610	BOSTON, MA	02109	300	COMMERCIAL ST #610
303543154	SAADE JACQUES A	SAADE JACQUES A	PO BOX 15303	BOSTON, MA	2'0215	300	COMMERCIAL ST #611
303543156	SCHILKE KARYN L	SCHILKE KARYN L	P O BOX 81	NO.MARSHFIELD, MA	02059	300	COMMERCIAL ST #612
303543158	RE JAMES B	RE JAMES B	300 COMMERCIAL ST #613	BOSTON, MA	02109	300	COMMERCIAL ST #613
303543160	WONG SENTA L	WONG SENTA L	300 COMMERCIAL ST #701	BOSTON, MA	02109	300	COMMERCIAL ST #701
303543162	DIGREGORIO MARC F	DIGREGORIO MARC F	300 COMMERCIAL ST #702	BOSTON, MA	02109	300	COMMERCIAL ST #702
303543164	SAIA COMMERCIAL STREET TI	SAIA COMMERCIAL STREET TRUST	4 ELIZABETH WAY	LYNNFIELD, MA	01940	300	COMMERCIAL ST #703
303543166	CFM TEK REALTY TRUST	CFM TEK REALTY TRUST	300 COMMERCIAL ST #704	BOSTON, MA	02109	300	COMMERCIAL ST #704
303543168	MARABITO JOSEPH V III TS	MARABITO JOSEPH V III TS	300 COMMERCIAL ST # 701	BOSTON, MA	02109	300	COMMERCIAL ST #705
303543170	CRAVEN MARGARET E	CRAVEN MARGARET E	300 COMMERCIAL ST #706	BOSTON, MA	02109	300	COMMERCIAL ST #706
303543172	FORISH JASON T	FORISH JASON T	56 WINTHROP STREET	CHARLESTOWN, MA	02129	300	COMMERCIAL ST #707
303543174	STAHL ELLEN	STAHL ELLEN	300 COMMERCIAL ST #708	BOSTON, MA	02109	300	COMMERCIAL ST #708
303543176	CALHOUN WILLIAM	CALHOUN WILLIAM	P O BOX 752	HINGHAM, MA	02043	300	COMMERCIAL ST #709
303543178	LAM YUN KIT	LAM YUN KIT	300 COMMERCIAL ST #710	BOSTON, MA	02109	300	COMMERCIAL ST #710
303543180	OLIVEIRA SEAN M	OLIVEIRA SEAN M	300 COMMERCIAL ST #801	BOSTON, MA	02109	300	COMMERCIAL ST #801
303543182	POWELL MARY JANE TS	POWELL MARY JANE TS	31 CHEEEVER CIRCLE	ANDOVER, MA	01810	300	COMMERCIAL ST #802
303543184	POWELL MARY JANE	POWELL MARY JANE	300 COMMERCIAL ST #803	BOSTON, MA	02109	300	COMMERCIAL ST #803
303543186	M VORLICEK ASSOCIATES LLC	M VORLICEK ASSOCIATES LLC	5 FIELDMONT RD	BELMONT, MA	02478	300	COMMERCIAL ST #804
303543188	HUBBARD JOHN A	HUBBARD JOHN A	300 COMMERCIAL ST #805	BOSTON, MA	02109	300	COMMERCIAL ST #805
303543190	BERARDINELLI NICOLINO TS	BERARDINELLI NICOLINO TS	10 DIBENEDETTO DR	WESTON, MA	02493	300	COMMERCIAL ST #806
303543192	DENENBERG FAMILY REVOCA	DENENBERG FAMILY REVOCABLE	300 COMMERCIAL ST #807	BOSTON, MA	02109	300	COMMERCIAL ST #807
303543194	OLIVEIRA DUARTE N	OLIVEIRA DUARTE N	300 COMMERCIAL ST #808	BOSTON, MA	02109	300	COMMERCIAL ST #808
303543196	SERGI ADELINE TS	SERGI ADELINE TS	PO BOX 634	N CHELMSFORD, MA	01863	300	COMMERCIAL ST #809
303543198	SERGI ADELINE TS	SERGI ADELINE TS	PO BOX 634	N CHELMSFORD, MA	01863	300	COMMERCIAL ST #810
303543200	BERNERT MICHAEL J	BERNERT MICHAEL J	13 CANTERBURY RD	WINDHAM, NH	03087	300	COMMERCIAL ST #901
303543202	MANNING ROBERT	MANNING ROBERT	300 COMMERCIAL ST #902	BOSTON, MA	02109	300	COMMERCIAL ST #902
303543204	WATSON KEITH	WATSON KEITH	300 COMMERCIAL ST #903	BOSTON, MA	02109	300	COMMERCIAL ST #903
303543206	NEWFOUND STARR LLC	NEWFOUND STARR LLC	PO BOX 343 43 PICKERING LANE	HEBRON, NH	03241	300	COMMERCIAL ST #904
303543208	TALBOT ELISABETH L TS	TALBOT ELISABETH L TS	300 COMMERCIAL ST #905	BOSTON, MA	02109	300	COMMERCIAL ST #905
303543210	PETRACCA DEAN S	PETRACCA DEAN S	300 COMMERCIAL ST #906	BOSTON, MA	02109	300	COMMERCIAL ST #906
303543212	BOSTON, MARINER REALTY LI	BOSTON, MARINER REALTY LLC	90 BAY STATE RD	WAKEFIELD, MA	01880	300	COMMERCIAL ST #1001
303543214	BOYLAN JEANNE MARIE	BOYLAN JEANNE MARIE	300 COMMERCIAL ST #1002	BOSTON, MA	02109	300	COMMERCIAL ST #1002
303543216	BOTHWELL ROBERT J	BOTHWELL ROBERT J	41 SPARJAWK PATH	MARSHFIELD, MA	02050	300	COMMERCIAL ST #1003
303543218	REGAN GEORGE K JR	REGAN GEORGE K JR	106 UNION WHARF	BOSTON, MA	02109	300	COMMERCIAL ST #1004





## National Flood Hazard Layer FIRMette

AREA OF MINIMAL FLOOD HAZARD

1,000

250

500

1,500



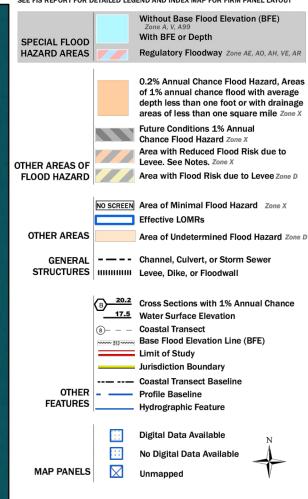
colore: Esti, Digital Gobe, Geo Eye, Earthstar Geographics, CNES/Airbus S,USDA, USCS, Aerc GRID, IGN, and the GIS User Community

1:6,000

2,000

#### Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The base map shown complies with FEMA's base map accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/18/2018 at 4:13:23 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: base map imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



FIRM MAP

#### Appendix A

Order of Conditions (DEP File No. 006-764, May 1998) with Details of Typical Seawall Stabilization Activities Undertaken at Union Wharf in 1998 and 2000

MAY-19-1998 16:35

CITY OF BOSTON

| Fax to: Jason Cortell From: Ken Fields | | Co.: Cortell Assoc. | Boston Conservation Commission | | Fax:890-3430 | | 635-3435 |

Phone 635-4417

310 CMR 10.99

DEP File No 6- 764

(To be provided by DEP)

Form 5

Commonwealth of Massachusetts

City/Town Boston

Applicant Union Wharf Condominium Trust

#### Order of Conditions Massachusetts Wetlands Protection Act G.L. c. 131, s. 40

From Boston Conservation Commission (BCC) Issuing Authority

To Union Wherf Condominium Trust
(Name of Applicant) Union Wharf Condominium Trust
(Name of property owner)

Address 343 Commercial Street, Boston, MA 02109 Address 343 Commercial Street, Boston, MA 02109

This order is issued and delivered as follows:

by hand delivery to applicant or representative on \_\_\_\_\_\_(date)

D by certified mail, return receipt requested on \_\_\_\_\_\_(date)

This project is located Union Wharf, Boston Harbor

The property is recorded at the Registry of Suffolk

Book Page

Certificate (if registered)

The Notice of Intent for this project was filed on 4/24/98 (date)

Findings

The BCC has reviewed the shower referenced Notice of littent and plans and has held a public hearing on the project. Based on the information available to the BCC at this time, the BCC has determined that the area on which the proposed work is to be done is significant to the following interests in accordance with the Presumptions of Significance set forth in the regulations for each Area Subject to Protection Under the Act (check as appropriate):

77

Public water su  Private water su  Ground Water	apply	☐ Flood Control ☐ Storm damage prevention ☐ Prevention of pollution	□Land containing shellfish □ Fisherics □ Protection of Wildlife Habitat
Total Piling Fce Submitted	\$260.00	State Share	\$117.50 (1/2 fcc in excess of \$25)
City/Town Share \$142.50 Total Refund Due \$City	) Towa Partic	m \$ State	Partion S

Therefore, the <u>BCC</u> hereby finds that the following conditions are necessary, in accordance with the Performance standards set forth in the regulations, to protect those interests checked above. The <u>BCC</u> orders that all work shall be performed in accordance with said conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications or other proposals submitted with the Notice of Intent, the conditions shall control.

#### General Conditions

- Fallure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this order.
- 2. The order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or Invasion of private rights.
- 3. This order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations.
- 4. The work authorized hereunder shall be completed within three years from the date of this order unless either of the following apply:
  - (a) the work is a maintenance dredging project as provided for in the Act, or
  - (b) the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance and both that date and the special circumstances warranting the extended time period are set forth in this Order.
- 5. This order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
- 6. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.
- 7. No work shall be undertaken until all administrative appeal periods from this order have clapsed or, if such an appeal has been filed, until all proceedings before the Department have been completed.
- 8. No work shall be undertaken until the Final order has been recorded in the Rogistry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the Final order shall also be noted on the Land Court Certificate of Title

617 635 2970 P.03

of	the owner	of the land	upon which	the proposed	work is to	be done.	The recording	information
sb	all be subm	nitted to the	BCC	on the form	at the end	of this o	rder prior to	
		ent of the w		1 100			-	

- 9. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words, "Massachusens Department of Environmental Protection, File Number 6- "
- 10. Where the Department of Environmental Protection is requested to make a determination and to issue a superseding order, the Conservation Commission shall be a party to all agency proceedings and hearings before the Department.
- 11. Upon completion of the work described herein, the applicant shall forthwith request in writing that a Cortificate of Compliance be issued stating that the work has been eatisfactorily completed.

Plans: Title	Dated	Signed and stamped by:	on File with:
IIIE	Dates	diffica and aramban al.	BCC Suffolk
			County Registry
	·		of Deeds

See Attached.

(Leave Space Blank)

CITY OF ROSTON

617 635 2970 P.04

Detach on dotted line and submit to the	prior to commencement of work,	
		***************************************
To Boston Conservation Commission	n Issuing Authority	
Please be advised that the Order of Co	onditions for the project at	
File Number has been rec	orded at the Registry of	and
has been noted in the chain of title of	the affected property in accordance	with General Condition 8 on
, 19		
If recorded land, the instrument numb	er which identifies this transaction is	S
If registered land, the document numb	per which identifies this transaction is	s
Signature	Applica	nt

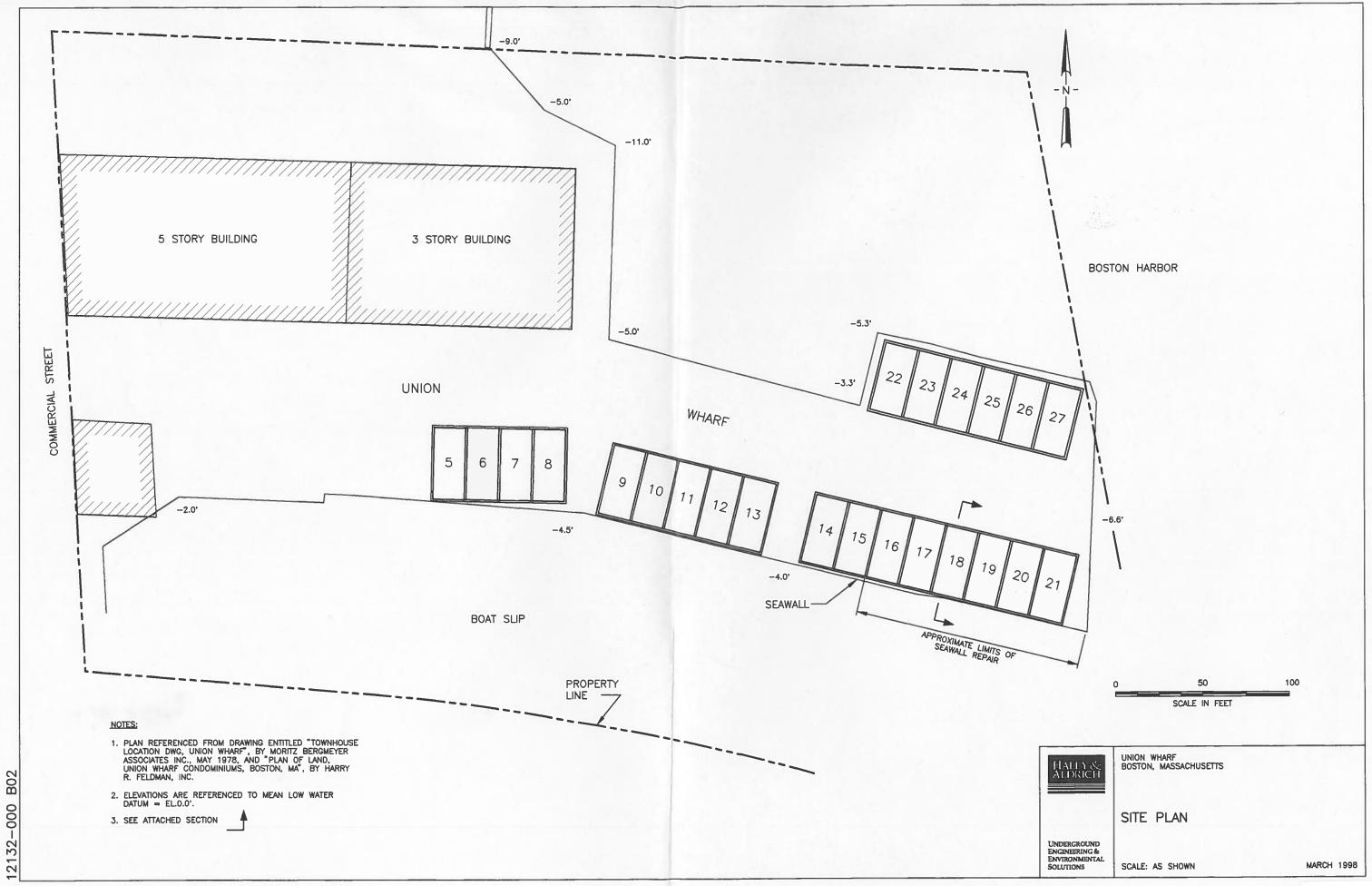
Attachment A- Special Conditions (Union Wharf Condominium Trust - Repair of Seawall, Union Wharf)
Page 1 of 2.

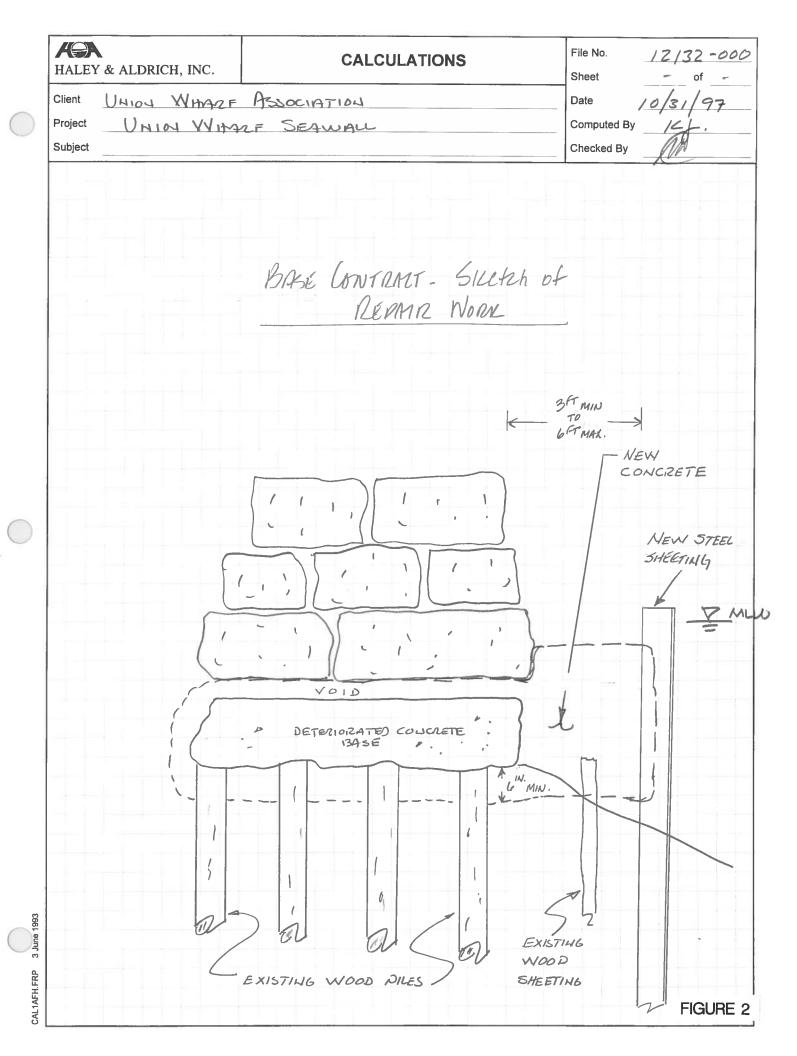
- 13. The provisions of this Order shall apply to and be binding upon the applicant, its employees, contractors and subcontractors, and all successors and assignees in interest or control. The applicant and its leaseholder assume all responsibility for the proper conduct of all activities permitted including proper monitoring of any contractors' compliance with the Conditions of this Order. The proponent is hereby instructed to review such conditions with all contractors and workers involved in on site operations prior to any new construction. Any contractors and workers arriving after construction commences shall likewise be appraised of these conditions.
- 14. Members and agents of the Commission shall have the right to access and inspect the work area to evaluate compliance with the Conditions of this Order and the Act, and to require the submittal of any data deemed necessary for that evaluation.
- 15. The proponent shall attach a copy of this Order to the contract documents associated with this project,
- 16. Any changes made or intended in the submitted plans shall require the proponent to inquire to the Commission in writing as to whether the changes warrant further formal Commission review. Any errors in the plans or information submitted by the applicant shall be considered changes.
- 17. If at any time during the implementation of the project a fish kill or significant water quality problem occurs in the vicinity of the project, all site related activities impacting the water shall coase until the source of the problem is identified and adequate mitigating measures employed to the satisfaction of the Commission.

- 18. Where relevant, all facilities and equipment will be continually operated and maintained so as to comply with the conditions and the Act. The applicant, owner successor or assignces shall be responsible for maintaining all on site drainage structures and outfalls, assuring the lasting integrity of the surface cover on the site and site activities so as to prevent crosion, siltation, sedimentation, chemical contamination or other detrimental impact to the on-site and/or off-site resources areas. This condition shall be a maintenance condition, and shall not expire upon the issuance of a certificate of compliance.
- 19. A copy of this Order of Conditions, including all referenced documents and plans, and all other subsequent approvals and directives issued by the Boston Conservation Commission, shall be available for inspection at the work area.
- 20. The Commission reserves the right to impose additional conditions or require the submittal of additional information as necessary to protect the interests of the Act.
- 21. Any equipment used in the resource area or buffer zone that uses fuel, oil or hydraulic fluid shall be inspected daily for leakage. All such equipment shall be manned when in use. Any equipment requiring repair shall be repaired outside of the resource area and the buffer zone.
- 22. The proponent and contractor shall develop a spill management plan for any hazardous materials which may be employed during work in the buffer zone or over the water. Specifically, the proponent should prepare to effectively deal with spillage of fuel or hydraulic fluids from equipment. A quick-absorbent material, such as "Speedy Dry" or equivalent, will be stored in a dry readily available area, and used in the event petroleum based fluids are spilled or leaked. The spent material is then to be containerized and disposed of property. An emergency fuel boom or absorbent pads shall be readily available in case any such spill threatens the water resources.

Attachment A- Special Conditions (Union Wharf Condominium Trust - Repair of Scawall, Union Wharf) Page 2 of 2.

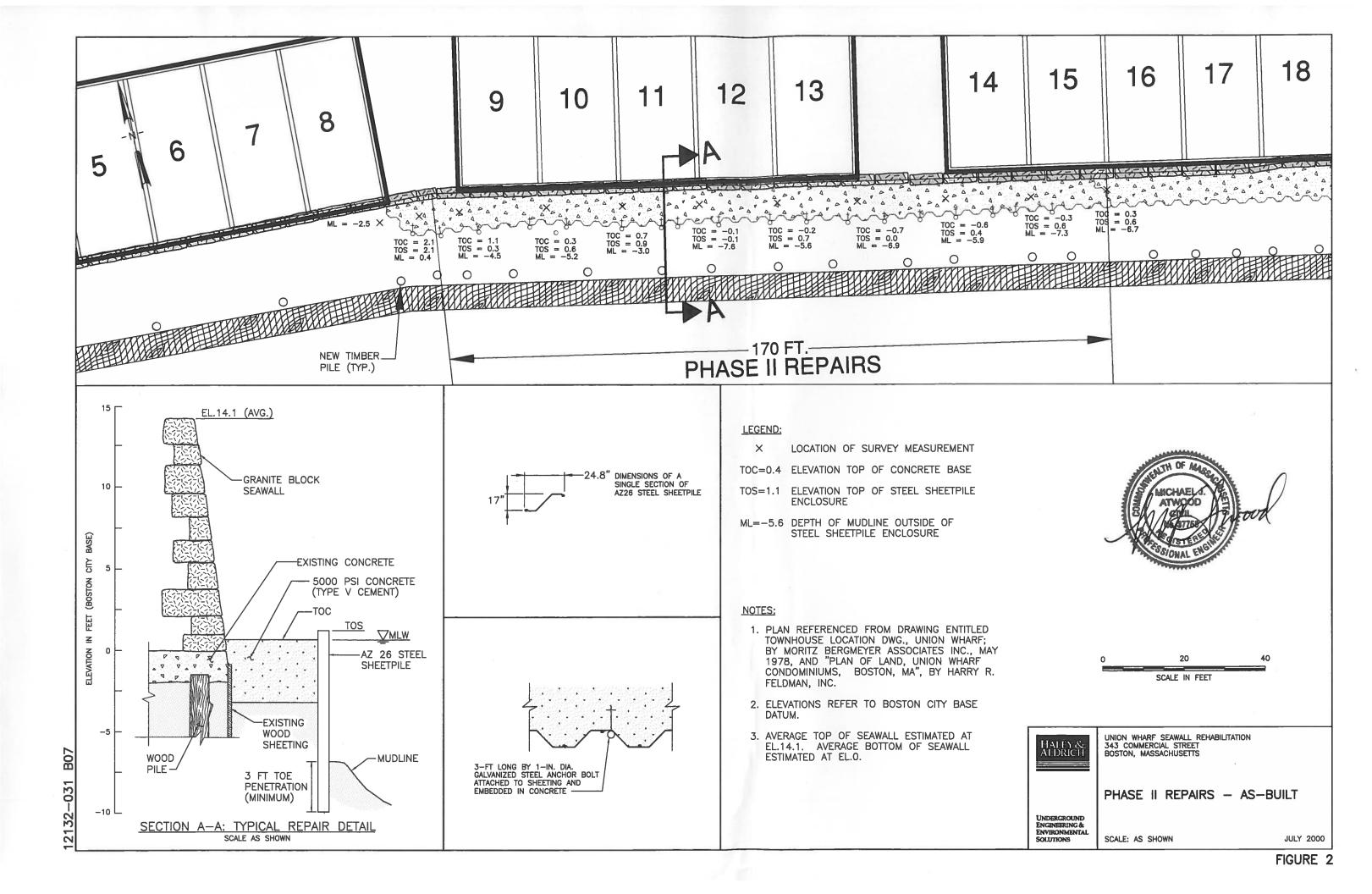
- 23 The proponent shall clean the work area and or barge deck at the end of each workday to prevent wind deposition of fugitive dust and accumulation of debris in the buffer zone or in the water.
- 24. The applicant shall inform the Commission of any violation of this Order and any other project related spill or accident that may have impact on wetland resource areas, and take appropriate action to mitigate impacts from such spill or accident.
- 25. The proponent has committed to submit an public access plan no later than August 19, 1998.
- 26. Prior to initiating any work on the seawall the contractor shall deploy a silt curtain which shall remain and be maintained throughout the project. There shall be sufficient slack in the curtain to allow its movement during the ebb and flow of the tide. The curtain shall not extend more than two (2) feet above the bottom at high tide.
- 27. Opening of the curtain for the movement of work boats, barges and/or construction equipment shall be restricted to the period between low slack and high slack tides. The curtain cannot be opened (except for emergencies) on the ebb tide cycle. Prior to opening the curtain the contractor shall remove and properly dispose any floating debris in the project work area.





	HALFY & ALDRICH	CALCULATIONS	File No. /2/32 - 00 D Sheet - of -
	Client UNIO4 W Project UNIO4 (	HAZE COHDOMINIUM ASSOCIATION.	Date 6-29-98  Computed By Checked By
	MLW 7 1.1	TOP OF COLICRETE	EXISTING SEAWALL
	1- 14" GALY	NEW COHCRETE	
		STEEL SHEET PILE	
H.FRP 20 November 1997	NOTE: BOLTS	ARE INTENDED FOIR TIEOFF OF	FLOATING DOCKS ONLY.

FIGURE 3



#### Appendix B

Structural Details of Typical Mat Foundation, Strap Foundation and Micropile Stabilization Activities Previously Completed at Union Wharf in 2009, 2011 and 2014

#### STRUCTURAL NOTES:

#### A. GENERAL

- 1. ALL DESIGN AND CONSTRUCTION REQUIRED OF THE CONTRACTORS BY THE CONTRACT DOCUMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE AND OSHA REGULATIONS, SUPPLEMENTED BY THE CONTRACT DOCUMENTS. THE GOVERNING BUILDING CODE USED IN THE STRUCTURAL DESIGN IS THE MASSACHUSETTS STATE BUILDING CODE, SEVENTH EDITION WITH THE LATEST ADOPTED AMENDMENTS. WHERE THE EDITION OF THE REFERENCE STANDARDS CITED IN THESE NOTES IS NOT GIVEN, THE EDITION SHALL BE AS STATED IN THE GOVERNING BUILDING CODE. OR THE LATEST PUBLISHED EDITION IF NOT STATED IN THE GOVERNING BUILDING CODE.
- 2. WHERE "DESIGNS" ARE REQUIRED OF THE CONTRACTORS BY THE CONTRACT DOCUMENTS, THE DESIGNS SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE AND BY PROFESSIONAL ENGINEERS, REGISTERED IN THE DISCIPLINE OF THE DESIGNS THEY ARE PERFORMING AND IN THE STATE IN WHICH THE PROJECT IS LOCATED. SUCH DESIGNS SHALL BE PREPARED IN A DESIGN DOCUMENT FORMAT (NOT A SHOP DRAWING FORMAT), BE STAMPED AND SIGNED BY THE PROFESSIONAL ENGINEERS WHO PERFORMED THE DESIGNS AND BE SUBMITTED TO THE ENGINEER WHEN REQUESTED FOR EITHER A REVIEW OR RECORD PURPOSES AS SPECIFIED IN THE REQUEST. IN ADDITION, THE PROFESSIONAL ENGINEERS RETAINED BY THE CONTRACTORS TO PERFORM THE DESIGNS REQUIRED BY THE CONTRACT DOCUMENTS SHALL AS A MINIMUM, REVIEW THE SHOP DRAWINGS ASSOCIATED WITH THEIR DESIGNS AND VISIT THE CONSTRUCTION SITE TO OBSERVE THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THEIR DESIGNS. THE COSTS ASSOCIATED WITH THEIR DESIGNS, MATERIALS AND LABORS, SHALL BE BORNE BY THE CONTRACTORS. THE RESPONSIBILITY FOR DESIGNS REQUIRED OF THE CONTRACTORS SHALL REMAIN SOLELY WITH THE CONTRACTORS.
- STRUCTURAL CONTRACT DOCUMENTS SHALL BE USED AND COORDINATED BY THE CONTRACTORS IN CONJUNCTION WITH THE SITE CONTRACT DOCUMENTS, THE SHOP DRAWINGS AND OTHER SUBMITTALS. THE EXISTING BUILDING DOCUMENTS, AND THE SUBSURFACE/GEOTECHNICAL
- 4. ALL DIMENSIONS, ELEVATIONS AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTORS AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. FOR WORK ATTACHED TO OR WITHIN EXISTING STRUCTURES, THE CONTRACTORS SHALL DETERMINE ALL NECESSARY DIMENSIONS, ELEVATIONS AND CONDITIONS REQUIRED FOR THE ACCURATE FABRICATION AND ERECTION OF THE BUILDING COMPONENTS. DIMENSIONS AND ELEVATIONS NOTED IN THE CONTRACT DOCUMENTS AS (+/-) AND ALL FIELD CONDITIONS SHALL BE VERIFIED IN THE FIELD (V.I.F.) BY THE CONTRACTORS PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. UPON RECEIPT OF SHOP DRAWINGS, THE ENGINEER HAS THE RIGHT TO ASSUME THAT ALL FIELD DIMENSIONS, ELEVATIONS AND CONDITIONS HAVE BEEN VERIFIED BY THE CONTRACTORS AND THAT THE SHOP DRAWINGS ACCURATELY REFLECT SUCH VERIFICATIONS UNLESS STATED OTHERWISE ON THE SHOP DRAWINGS.
- 5. UNLESS OTHERWISE NOTED, DETAILS, SECTIONS AND NOTES CONTAINED IN THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

#### SHOP DRAWINGS

- CHECKED SHOP DRAWINGS, FIRST REVIEWED AND APPROVED BY THE CONTRACTOR, FOR CONCRETE MIX DESIGNS, CONCRETE REINFORCING, SHALL BE SUBMITTED TO THE ENGINEER FOR ENGINEER'S REVIEW AND COMMENT BEFORE FABRICATION, OR DELIVERY OF MATERIAL NOT REQUIRING FABRICATION, CAN PROCEED. SHOP DRAWINGS SUBMITTED TO THE ENGINEER WITHOUT FIRST BEING STAMPED "REVIEWED" BY THE CONTRACTOR SHALL BE RETURNED WITHOUT BEING REVIEWED BY THE ENGINEER. REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTORS FROM CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 2. SHOP DRAWINGS SHALL BE ORIGINAL DRAWINGS PREPARED BY THE CONTRACTORS. REPRODUCTION OF THE STRUCTURAL CONTRACT DOCUMENTS FOR USE AS A SHOP DRAWING IS UNACCEPTABLE AND WILL BE REJECTED FOR NON-COMPLIANCE.
- 3. PROPOSED CHANGES, SUBSTITUTIONS OR DELETIONS, MADE BY THE CONTRACTORS TO THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND COMMENT PRIOR TO THEIR INCORPORATION INTO THE PROJECT. THE SUBMISSION SHALL HIGHLIGHT AND NOTE THE PROPOSED CHANGE, SUBSTITUTION OR DELETION. PROPOSED CHANGES, SUBSTITUTIONS OR DELETIONS TO THE STRUCTURAL CONTRACT DOCUMENTS WHICH DO NOT FOLLOW THIS REVIEW PROCEDURE SHALL BE CONSIDERED UNACCEPTABLE.
- 4. RECORD SETS OF SUBMITTALS (I.E., SHOP DRAWINGS, SAMPLES, PRODUCT DATA AND CERTIFICATES) SHALL BE MAINTAINED IN THE FIELD OFFICE BY THE CONTRACTOR. CONSTRUCTION SHALL ONLY BE PERFORMED FROM SUBMITTALS REVIEWED BY THE CONTRACTOR AND REVIEWED AND NOT REJECTED BY THE ENGINEER.

#### C. CAST-IN-PLACE CONCRETE

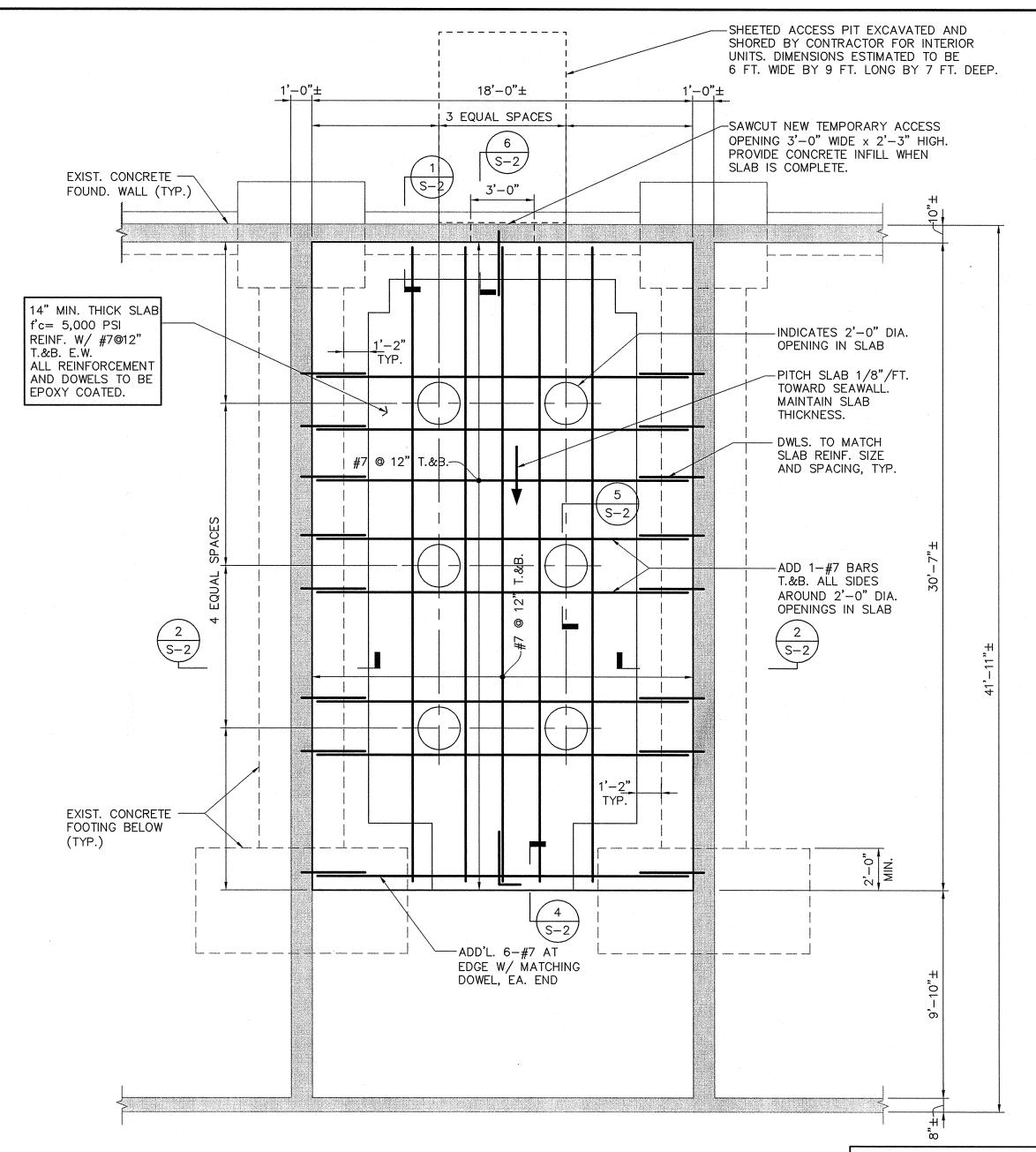
- 1. ALL CONCRETE SHALL BE READY MIX COMPLYING WITH THE REQUIREMENTS OF ASTM C94 WITH THE FOLLOWING CONSTITUENTS:
- A. PORTLAND CEMENT; ASTM C150 TYPE II.
- B. LIGHT WEIGHT AGGREGATES; ASTM C330. C. WATER; POTABLE.
- AIR-ENTRAINING ADMIXTURES; ASTM C260. E. WATER-REDUCING ADMIXTURES; ASTM C494, MID-RANGE TYPE
- A. HIGH RANGE TYPE F OR G. F. ACCELERATOR AND RETARDER ADMIXTURES; ASTM C494, TYPE C AND D RESPECTIVELY.
- G. CORROSION INHIBITOR; ASTM C494, TYPE C. DOSAGE RATE SHALL BE 3.0 GALLONS PER CUBIC YARD.

2. ALL CONCRETE FOR MAT SLABS, SHALL BE LIGHT WEIGHT AND

- AT THE END OF 28 DAYS AS DETERMINED BY ASTM C39 WITH THE FOLLOWING PROPERTIES PER CUBIC YARD:
- A. 560 POUNDS OF CEMENT PER CUBIC YARD MINIMUM, TYPE II. B. 145 POUNDS OF CLASS C FLY ASH PER CUBIC YARD.

ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 5,000 PSI

- C. LIGHT WEIGHT AGGREGATE SHALL BE PRESOAKED PRIOR TO BATCHING WITH 15 PERCENT MIN INTERNAL MOISTURE.
- WATER-CEMENT RATIO = 0.40 MAXIMUM. E. MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) IN HARDENED CONCRETE AT 28 DAYS OF 0.15 PERCENT BY WEIGHT OF CEMENT FROM WATER, AGGREGATES, CEMENTITIOUS MATERIALS AND
- ADMIXTURES. F. AIR DRY WEIGHT OF 110 TO 120 POUNDS PER CUBIC FOOT AS
- DETERMINED BY ASTM C567. G. 6 PERCENT +/- 1.5 PERCENT AIR ENTRAINMENT.





SCALE: 1/4" = 1'-0"

#### **CONTRACTOR NOTE:**

THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SUBMIT ANY DISCREPANCIES TO THE ARCHITECT ON A SET OF CONTRACT DRAWINGS.

THIS INFORMATION SHALL ALSO BE SUPPLIED AND COORDINATED WITH ALL SUBCONTRACTORS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR APPROVAL.

#### C. CAST-IN-PLACE CONCRETE (Continued) D. CONCRETE REINFORCING

- 3. ALL TYPES OF CONCRETE ELEMENTS (SLABS, BEAMS, FOOTINGS, UNDERPINNING, ETC.) SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS, EXCEPT WHERE SPECIFICALLY SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS. CONSTRUCTION JOINTS NOT SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS SHALL NOT BE ADDED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- 4. THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE REFERRED TO FOR LOCATIONS OF CONTROL AND EXPANSION JOINTS. CONTROL AND EXPANSION JOINTS ARE MANDATORY WHERE SHOWN. CONSTRUCTION JOINTS, WHERE USED, SHALL COINCIDE WITH DEFINED CONTROL OR EXPANSION JOINT LOCATIONS.
- 5. SURFACE OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED PRIOR TO PLACING NEW CONCRETE. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
- 6. OPENINGS REQUIRED IN CONCRETE ELEMENTS AND NOT SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS, SHALL BE INSTALLED ONLY WITH THE PRIOR APPROVAL OF THE ENGINEER AND WITH THE PROPER ADDITIONAL REINFORCING AS SHOWN IN THE CONTRACT DOCUMENTS.
- 7. PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY LOW TEMPERATURES, FROST, FREEZING ACTIONS, HIGH TEMPERATURES, HIGH WIND AND LOW HUMIDITY IN ACCORDANCE WITH ACI 306 "COLD WEATHER CONCRETING" AND ACI 305 "HOT WEATHER CONCRETING" AS APPLICABLE.
- START CURING OF CONCRETE AS SOON AS FREE WATER HAS DISAPPEARED FROM THE SURFACES AFTER FINISHING. CONTINUE CURING FOR AT LEAST 7 DAYS IN ACCORDANCE WITH ACI 308 "RECOMMENDED PRACTICE FOR CURING CONCRETE". AVOID RAPID DRYING AT END OF FINAL CURING PERIOD. EXTEND THE CURING PERIOD BEYOND THE 7 DAYS WHEN REQUIRED BY THE SPECIFIED HOT AND COLD WEATHER CONCRETING PROCEDURES. FLATWORK SHALL BE WET-CURED.
- CONCRETE SLABS OF ALL TYPES, INCLUDING BUT NOT LIMITED TO; SLABS-ON-GRADE, AND FORMED SLABS SHALL BE CAST SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN INDICATED IN THE CONTRACT DOCUMENTS. THIS REQUIRES THAT FOR SLABS-ON-GRADE AND FORMED SLABS THAT THE GRADE AND FORMS BE SET PARALLEL TO THE FINAL TOP SURFACE OF THE SLAB.

- 1. ALL REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL BE
- DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 EPOXY COATED. A. ALL EPOXY-COATED REINFORCING BARS SHALL CONFORM TO ASTM

A775 AND A884 RESPECTIVELY. DAMAGED EPOXY-COATING SHALL

- BE REPAIRED IN ACCORDANCE WITH ASTM A775 AND A884 AND THE MATERIAL MANUFACTURER'S RECOMMENDATIONS. B. ADHESIVE ANCHORING SYSTEM FOR ANCHORING DOWELS TO EXISTING CONCRETE SHALL BE HIT-ICE/HIT-HY150 MANUFACTURED BY HILTI CORP.
- 2. ALL REINFORCING, SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED OR REQUIRED, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS, STANDARD HOOKS AT DISCONTINUOUS ENDS AND SPLICED ONLY WHERE ABSOLUTELY
- A. SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 24 INCHES.
- B. LAP AND DEVELOPMENT LENGTHS FOR CONCRETE REINFORCING SHALL BE IN CONFORMANCE WITH ACI 318, CHAPTER 12 AND THE SCHEDULES SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS. LAPS FOR WELDED WIRE MESH SHALL BE 8 INCHES MINIMUM AT SIDES AND ENDS MEASURED FROM THE FIRST CROSS-BAR.
- 4. ALL SUPPORT BARS, SPREADER BARS, PRECAST CONCRETE BLOCKS, BOLSTERS, CHAIRS, SIDE FORM SPACERS, TIE WIRE AND ACCESSORIES NECESSARY TO HOLD THE REINFORCING BARS AND WELDED WIRE MESH SECURELY AND ACCURATELY IN POSITION SHALL BE SHOWN AND SCHEDULED WITHIN THE REINFORCING SHOP DRAWINGS AND BE IN ACCORDANCE WITH CRSI "PLACING REINFORCING BARS". USE CLASS 1 BAR SUPPORTS IN ALL CONCRETE EXPOSED TO THE WEATHER OR MOISTURE. USE EPOXY-COATED BAR SUPPORTS AND TIE WIRE AT ALL EPOXY-COATED REINFORCING BARS. USE CLASS 2. TYPE A BAR SUPPORTS AT ALL OTHER CONDITIONS.
- CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT. WITHIN CAST- IN-PLACE, CONCRETE IN ACCORDANCE WITH THE CONCRETE COVER REQUIREMENTS TABLE SHOWN IN THE STRUCTURAL CONTRACT DRAWINGS AND ACI 318, SECTION 7. THE COVER REQUIREMENTS SHALL BE SHOWN IN THE REINFORCING BAR SHOP DRAWINGS.

## D. CONCRETE REINFORCING (Continued)

6. THE MAXIMUM TOLERANCE FOR THE FINAL POSITION OF REINFORCING BARS IN HARDENED CONCRETE SHALL BE IN ACCORDANCE WITH THE CONCRETE COVER REQUIREMENTS TABLE SHOWN IN THE STRUCTURAL CONTRACT DRAWINGS AND ACI 318, SECTION 7. THE TOLERANCE REQUIREMENTS SHALL BE SHOWN IN THE REINFORCING BAR SHOP DRAWINGS.

#### E. SOIL BEARING

- 1. EXCAVATE MATERIALS TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. TO THE EXTENT POSSIBLE, PLACE ALL MATERIALS EXCAVATED FROM THE OPEN CRAWL SPACE AREA BENEATH THE UNIT BEING IMPROVED TO A LOCATION OUTSIDE THE LIMITS OF SLAB WORK DESIGNATED BY THE ENGINEER. AREAS BEING CONSIDERED INCLUDE THAT PORTION OF THE CRAWL SPACE BOUNDED BY THE CANTILEVER FOUNDATION WALLS AND SEAWALL NOT PART PART OF THE NEW MAT SLAB AND WITHIN ADJACENT CRAWL SPACE AREAS.
- 2. EXCAVATION METHODS MUST BE MADE BY HAND WITH SHOVELS AND/OR OTHER TYPE DIGGING TOOLS NOT REQUIRING POWER BY AIR COMPRESSOR OR GASOLINE FUEL SOURCES.
- THE EXCAVATION SUBGRADE SHALL BE MADE LEVEL AND CLEANED OF ALL DISTURBED MATERIAL AND MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING, DOWELING, AND TYING ANY SLAB REINFORCEMENT.

#### F. TEMPORARY/PERMANENT BRACING

- 1. THE CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY AND/OR PERMANENT SHORING, BRACING AND SUPPORTS, IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE REGULATIONS, AT ALL EXCAVATIONS AND UNDERPINNING OPERATIONS TO RESIST ALL DEAD, CONSTRUCTION AND LIVE LOADS, INCLUDING BACKFILLING AND TAMPING OPERATIONS, TO ASSURE COMPLETE SAFETY AGAINST COLLAPSE OF EARTH AND DAMAGE TO PROPERTY INCLUDING BUT NOT LIMITED TO: EXISTING STREETS, SIDEWALKS, SITE STRUCTURES. BUILDINGS AND UTILITIES. ALL DESIGNS SHALL BE PREPARED IN ACCORDANCE WITH GENERAL NOTE #2 HEREIN.
- 2. ALL TEMPORARY SHORING, BRACING AND SUPPORTS SHALL REMAIN SECURELY IN PLACE UNTIL THE NEW PRIMARY STRUCTURAL COMPONENTS HAVE BEEN INSTALLED, CURED AND CONNECTED SO AS TO PROVIDE THE PERMANENT SHORING, BRACING AND SUPPORT.

## PART. FOUNDATION PLAN TYPICAL END BAY

—ADD'L. 6-#7 AT

DOWEL, EA. END

EDGE W/ MATCHING

18'-0"±

3 EQUAL SPACES

1'-0"±

EXIST. CONCRETE -

14" MIN. THICK SLAB

f'c= 5,000 PSI

EPOXY COATED.

T.&B. E.W.

REINF. W/ #7@12"

ALL REINFORCEMENT

AND DOWELS TO BE

FOUND. WALL (TYP.)

----

S-2

EXIST. CONCRETE

FOOTING BELOW

(TYP.)

SCALE: 1/4" = 1'-0"

### G. OWNER'S QUALITY ASSURANCE

1. THE OWNER SHALL ENGAGE INDEPENDENT TESTING AND INSPECTION AGENCIES AND OTHERS AS REQUIRED FOR STRUCTURAL TESTS AND INSPECTIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SUCH WORK AS FOLLOWS:

\S-2/

- A. COOPERATE WITH THE TESTING AGENCY, STRUCTURAL TESTS AND INSPECTIONS ADMINISTRATOR, BUILDING OFFICIAL, OWNER. AND THE DESIGN TEAM MEMBERS, AND PROVIDE SAFE ACCESS TO THE WORK AREAS.
- B. PROVIDE INCIDENTAL LABOR, EQUIPMENT, MATERIALS AND FACILITIES TO OBTAIN, HANDLE, STORE AND CURE SAMPLES AT THE SITE OR AT THE SOURCE OF PRODUCTS TO BE SAMPLED, TESTED, AND INSPECTED.
- C. NOTIFY THE APPROPRIATE INSPECTION AGENCY AT LEAST 24 HOURS PRIOR TO EXPECTED TIMES OF OPERATIONS THAT REQUIRE SAMPLING, TESTING, AND INSPECTIONS.
- D. TESTING, INSPECTION AND SAMPLING IN THE SHOP OR FIELD SHALL NOT RELIEVE THE CONTRACTOR OR SUB-CONTRACTORS OF THEIR RESPONSIBILITIES TO FURNISH MATERIALS AND WORKMANSHIP THAT COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHOP
- STRUCTURAL TESTS AND INSPECTIONS DOES NOT APPLY TO THE DESIGNS OF THE CONTRACTOR. THE CONTRACTOR AND HIS/HER DESIGN MEMBERS ARE RESPONSIBLE FOR THE DESIGNS THEY PERFORM. DESIGNS, ANALYSES, AND FIELD OBSERVATIONS (SAMPLING, TESTING AND INSPECTIONS) OF THE CONTRACTOR'S EQUIPMENT, MEANS, METHODS, SEQUENCES, TECHNIQUES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO SHALL REMAIN STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. THE SCOPE OF THE STRUCTURAL TESTS AND INSPECTIONS IS DEFINED BY THE GOVERNING BUILDING CODE, THE CONTRACT DOCUMENTS, AND THE STRUCTURAL ENGINEER-OF-RECORD.



SHEETED ACCESS PIT EXCAVATED AND

SAWCUT NEW TEMPORARY ACCESS

OPENING 3'-0" WIDE x 2'-3" HIGH

-INDICATES 2'-0" DIA.

-PITCH SLAB 1/8"/FT

TOWARD SEAWALL.

MAINTAIN SLAB

- DWLS. TO MATCH

ADD 1-#7 BARS

T.&B. ALL SIDES

S-2

AROUND 2'-0" DIA.

OPENINGS IN SLAB

SLAB REINF. SIZE

AND SPACING, TYP.

THICKNESS.

OPENING IN SLAB

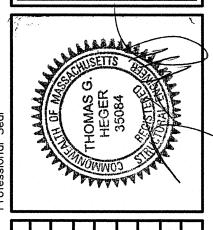
PROVIDE CONCRETE INFILL WHEN

SLAB IS COMPLETE.

SHORED BY CONTRACTOR FOR END UNITS

(OPTIONAL). DIMENSIONS ESTIMATED TO BE

6 FT. WIDÉ BY 9 FT. LONG BY 7 FT. DEEP.



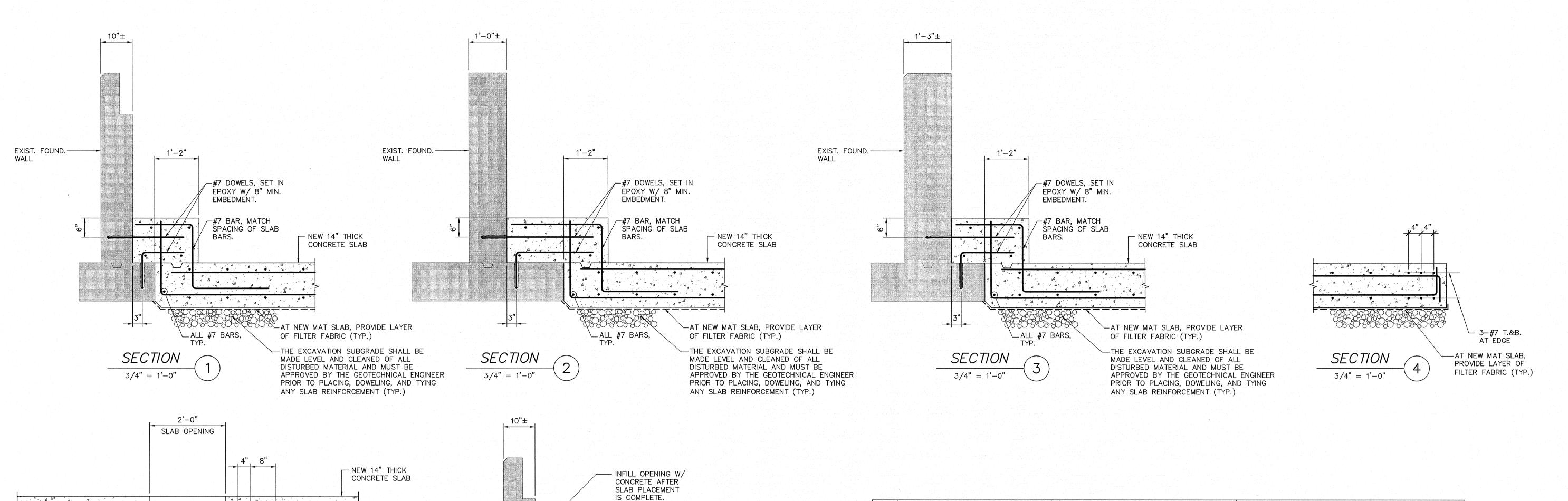
U 34 CO BC

TOWNH SEPAIR STREET  $\mathbb{F} S$ UNION FOUND COMME BOSTON

> NDATION PL NO ON

Approved By: Checked By: TGH TQ Drawn By: AS NOTED Scale:

DMBC PROJECT No: 09026



1'-2"

-#7 DOWELS, SET IN EPOXY W/ 8" MIN.

EMBEDMENT.

BARS.

\_\_ALL #7 BARS,

-#7 BAR, MATCH SPACING OF SLAB

ARROSO CONTRONOCIONO

- NEW 14" THICK

CONCRETE SLAB

-AT NEW MAT SLAB, PROVIDE LAYER

MADE LEVEL AND CLEANED OF ALL

DISTURBED MATERIAL AND MUST BE

ANY SLAB REINFORCEMENT (TYP.)

-THE EXCAVATION SUBGRADE SHALL BE

APPROVED BY THE GEOTECHNICAL ENGINEER

PRIOR TO PLACING, DOWELING, AND TYING

OF FILTER FABRIC (TYP.)

3/4" = 1'-0"	3)
CONCRETE COVE	R REQUIREMENTS
TYPE	CAST-IN-PLACE CONCRETE
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH	3/4"

- ADD'L. 1-#7<sub>-</sub> T.&B., ALL

SIDES OF

OPENING

CONDITION	
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH FOR SLABS:	3/4"

- REINFORCMENT SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS CAST, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN TOLERANCES AS FOLLOWS:
- d > 8 INCHES; TOLERANCE ON d =  $\pm 1/2$  INCH: TOLERANCE ON COVER = -1/2 INCH

FOR ALL "d"'s: TOLERANCE ON COVER SHALL NOT EXCEED MINUS 1/3 THE TABULATED COVER REQUIREMENTS AND THE TOLERANCE FOR THE CLEAR DISTANCE TO FORMED SOFFITS SHALL BE MINUS 1/4 INCH.

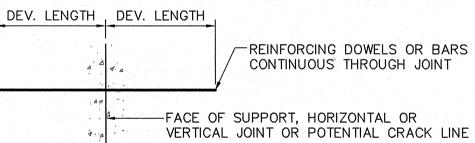
± 2 INCHES EXCEPT AT DISCONTINUOUS ENDS OF MEMBERS WHERE THE TOLERANCES SHALL BE  $\pm 1/2$  INCH.

TENSION REINFORCEMENT IN INCHES.

2. THE COVER, TOLERANCE AND BAR AND MESH SUPPORT REQUIREMENTS SHALL BE SHOWN ON THE REINFORCING SHOP DRAWINGS.

	DEVELOPMEN	T LENGTH, (ld), inches	LAP SPLICE LENGTH, inches					
BAR	TENSION DEVELOR	PMENT LENGTH	COMPRESSION DEV. LENGTH	TENSION LAP	LENGTH			
SIZE	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS			
	5000	5000	5000	5000	5000			
#3	16"	13"	8"	22"	16"			
#4	22"	17"	9"	29"	22"			
#5	28"	21"	11-41-12   11   Hospita 11",   11   12   12   13	36"	28"			
#6	33"	25"	14"	43"	33"			
#7	48"	37"	16"	63"	48"			
#8	55"	42"	18"	72"	55"			
#9	62"	48"	20"	81"	62"			
#10	69"	53"	23"	90"	69"			
#11	76"	58"	25"	99"	76"			

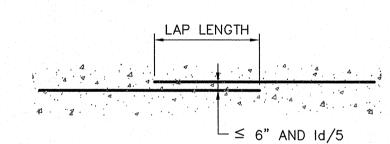
SEE NOTES BELOW FOR EPOXY-COATING, COVER, AND BUNDLED BAR FACTORS.



#### **DEVELOPMENT**

REFER TO "HOOKED REINFORCEMENT DEVELOPMENT LENGTH SCHEDULE" WHEN STRAIGHT DEVELOPMENT LENGTH TENSION CANNOT BE ACCOMMODATED IN THE CONCRETE SECTION.

- 1. ALWAYS USE TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICE LENGTH VALUES, EXCEPT WHEN THE PLANS OR DETAILS NOTE SPECIFICALLY COMPRESSION LENGTHS.
- 2. TABULATED DEVELOPMENT AND LAP SPLICE LENGTHS ARE BASED ON REINFORCING YIELD STRENGTH FY = 60 KSI, NORMAL WEIGHT CONCRETE AND CLASS B LAPS.
- 3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR
- 4. WHEN DIFFERENT BAR DIAMETERS ARE SPLICED, USE LARGER BAR LAP SPLICE
- 5. ALL TABULATED VALUES ARE MINIMUM LENGTHS. IN CASE OF CONFLICT WITH THE PLANS, SECTIONS OR DETAILS, USE THE LONGER LENGTH.
- 6. FOR TENSION DEVELOPMENT AND TENSION LAP SPLICE LENGTHS, THE LIGHTWEIGHT CONCRETE FACTOR IS 1.30. THE EPOXY-COATED BAR FACTOR FOR TENSION DEVELOPMENT AND TENSION LAP SPLICE LENGTHS IS 1.2. THIS FACTOR INCREASES TO 1.5 WHEN THE COVER OF THE BARS IS LESS THAN 3db OR THE CLEAR SPACING IS LESS THAN 6db. TABULATED VALUES FOR DEVELOPMENT AND LAP LENGTHS IN TENSION SHALL BE FACTORED BY 1.5 WHEN THE CLEAR COVER IS LESS THAN db AND THE CLEAR SPACING IS LESS THAN db (AND THERE ARE STIRRUPS OR TIES ALONG Id) OR IS LESS THAN 2db (AND THERE ARE NO STIRRUPS OR TIES ALONG Id). TABULATED DEVELOPMENT AND LAP LENGTHS IN TENSION AND COMPRESSION FOR BUNDLED BARS SHALL BE FACTORED BY 1.2 FOR 3 BAR BUNDLES AND 1.33 FOR 4 BAR BUNDLES.



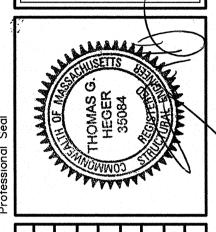
LAP SPLICE

LAP SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 24 INCHES. WELDED OR MECHANICAL SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 30 INCHES.

- WELDED AND/OR MECHANICAL SPLICES MAY BE USED AT THE GENERAL CONTRACTORS OPTION PROVIDED THAT THE SPLICE IS CAPABLE OF DEVELOPING AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE LARGER BAR IN TENSION. THE GENERAL CONTRACTOR SHALL USE WELDED AND/OR MECHANICAL SPLICES WHERE LAP SPLICES WOULD CREATE BAR CONGESTION THAT WOULD INTERFERE WITH THE PLACING AND FINISHING OF THE CONCRETE. SPLICES IN "TENSION-TIE" MEMBERS SHALL BE FULL WELDED OR FULL MECHANICAL SPLICES. WHERE WELDED AND/OR MECHANICAL SPLICES ARE TO BE USED, THE GENERAL CONTRACTOR SHALL SUBMIT FULL DATA ON THE PROPOSED MATERIALS. PROCEDURES AND INSTALLATION INSTRUCTIONS TO THE ENGINEER FOR REVIEW AS A SHOP DRAWING SUBMISSION.
- 8. ALL STRAIGHT BAR DEVELOPMENTS AND SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318. ALL WELDED SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.4.
- 9. db = BAR DIAMETER

STRAIGHT REINFORCEMENT DEVELOPMENT AND SPLICE LENGTH SCHEDULE

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DMBC PROJECT No: 09026

NOTES:

AT NEW MAT SLAB,

PROVIDE LAYER OF FILTER FABRIC (TYP.)

d ≤ 8 INCHES: TOLERANCE ON d = ± 3/8 INCH TOLERANCE ON COVER = -3/8 INCH

TOLERANCE FOR LONGITUDINAL LOCATION AT BENDS AND ENDS OF REINFORCEMENT SHALL BE

WHERE d = THE DISTANCE FROM THE EXTREME COMPRESSION FIBER TO THE CENTER OF

#### STRUCTURAL NOTES:

#### A. GENERAL

- ALL DESIGN AND CONSTRUCTION REQUIRED OF THE CONTRACTORS BY THE CONTRACT DOCUMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE AND OSHA REGULATIONS, SUPPLEMENTED BY THE CONTRACT DOCUMENTS. THE GOVERNING BUILDING CODE USED IN THE STRUCTURAL DESIGN IS THE MASSACHUSETTS STATE BUILDING CODE, SEVENTH EDITION WITH THE LATEST ADOPTED AMENDMENTS. WHERE THE EDITION OF THE REFERENCE STANDARDS CITED IN THESE NOTES IS NOT GIVEN, THE EDITION SHALL BE AS STATED IN THE GOVERNING BUILDING CODE, OR THE LATEST PUBLISHED EDITION IF NOT STATED IN THE GOVERNING BUILDING CODE.
- WHERE "DESIGNS" ARE REQUIRED OF THE CONTRACTORS BY THE CONTRACT DOCUMENTS, THE DESIGNS SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE AND BY PROFESSIONAL ENGINEERS, REGISTERED IN THE DISCIPLINE OF THE DESIGNS THEY ARE PERFORMING AND IN THE STATE IN WHICH THE PROJECT IS LOCATED. SUCH DESIGNS SHALL BE PREPARED IN A DESIGN DOCUMENT FORMAT (NOT A SHOP DRAWING FORMAT). BE STAMPED AND SIGNED BY THE PROFESSIONAL ENGINEERS WHO PERFORMED THE DESIGNS AND BE SUBMITTED TO THE ENGINEER WHEN REQUESTED FOR EITHER A REVIEW OR RECORD PURPOSES AS SPECIFIED IN THE REQUEST. IN ADDITION, THE PROFESSIONAL ENGINEERS RETAINED BY THE CONTRACTORS TO PERFORM THE DESIGNS REQUIRED BY THE CONTRACT DOCUMENTS SHALL AS A MINIMUM, REVIEW THE SHOP DRAWINGS ASSOCIATED WITH THEIR DESIGNS AND VISIT THE CONSTRUCTION SITE TO OBSERVE THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THEIR DESIGNS. THE COSTS ASSOCIATED WITH THEIR DESIGNS, MATERIALS AND LABORS, SHALL BE BORNE BY THE CONTRACTORS. THE RESPONSIBILITY FOR DESIGNS REQUIRED OF THE CONTRACTORS SHALL REMAIN SOLELY WITH THE CONTRACTORS.
- STRUCTURAL CONTRACT DOCUMENTS SHALL BE USED AND COORDINATED BY THE CONTRACTORS IN CONJUNCTION WITH THE SITE CONTRACT DOCUMENTS, THE SHOP DRAWINGS AND OTHER SUBMITTALS, THE EXISTING BUILDING DOCUMENTS, AND THE SUBSURFACE/GEOTECHNICAL
- ALL DIMENSIONS, ELEVATIONS AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTORS AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. FOR WORK ATTACHED TO OR WITHIN EXISTING STRUCTURES, THE CONTRACTORS SHALL DETERMINE ALL NECESSARY DIMENSIONS, ELEVATIONS AND CONDITIONS REQUIRED FOR THE ACCURATE FABRICATION AND ERECTION OF THE BUILDING COMPONENTS. DIMENSIONS AND ELEVATIONS NOTED IN THE CONTRACT DOCUMENTS AS (+/-) AND ALL FIELD CONDITIONS SHALL BE VERIFIED IN THE FIELD (V.I.F.) BY THE CONTRACTORS PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. UPON RECEIPT OF SHOP DRAWINGS, THE ENGINEER HAS THE RIGHT TO ASSUME THAT ALL FIELD DIMENSIONS, ELEVATIONS AND CONDITIONS HAVE BEEN VERIFIED BY THE CONTRACTORS AND THAT THE SHOP DRAWINGS ACCURATELY REFLECT SUCH VERIFICATIONS UNLESS STATED OTHERWISE ON THE SHOP DRAWINGS.
- UNLESS OTHERWISE NOTED, DETAILS, SECTIONS AND NOTES CONTAINED IN THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.

#### B. SHOP DRAWNGS

- 1. CHECKED SHOP DRAWINGS, FIRST REVIEWED AND APPROVED BY THE CONTRACTOR, FOR CONCRETE MIX DESIGNS, CONCRETE REINFORCING, SHALL BE SUBMITTED TO THE ENGINEER FOR ENGINEER'S REVIEW AND COMMENT BEFORE FABRICATION, OR DELIVERY OF MATERIAL NOT REQUIRING FABRICATION, CAN PROCEED. SHOP DRAWINGS SUBMITTED TO THE ENGINEER WITHOUT FIRST BEING STAMPED "REVIEWED" BY THE CONTRACTOR SHALL BE RETURNED WITHOUT BEING REVIEWED BY THE ENGINEER. REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTORS FROM CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- SHOP DRAWINGS SHALL BE ORIGINAL DRAWINGS PREPARED BY THE CONTRACTORS. REPRODUCTION OF THE STRUCTURAL CONTRACT DOCUMENTS FOR USE AS A SHOP DRAWING IS UNACCEPTABLE AND WILL BE REJECTED FOR NON-COMPLIANCE.
- PROPOSED CHANGES, SUBSTITUTIONS OR DELETIONS, MADE BY THE CONTRACTORS TO THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND COMMENT PRIOR TO THEIR INCORPORATION INTO THE PROJECT. THE SUBMISSION SHALL HIGHLIGHT AND NOTE THE PROPOSED CHANGE, SUBSTITUTION OR DELETION. PROPOSED CHANGES, SUBSTITUTIONS OR DELETIONS TO THE STRUCTURAL CONTRACT DOCUMENTS WHICH DO NOT FOLLOW THIS REVIEW PROCEDURE SHALL BE CONSIDERED UNACCEPTABLE.
- RECORD SETS OF SUBMITTALS (I.E., SHOP DRAWINGS, SAMPLES, PRODUCT DATA AND CERTIFICATES) SHALL BE MAINTAINED IN THE FIELD OFFICE BY THE CONTRACTOR. CONSTRUCTION SHALL ONLY BE PERFORMED FROM SUBMITTALS REVIEWED BY THE CONTRACTOR AND REVIEWED AND NOT REJECTED BY THE ENGINEER.

#### C. CAST-IN-PLACE CONCRETE

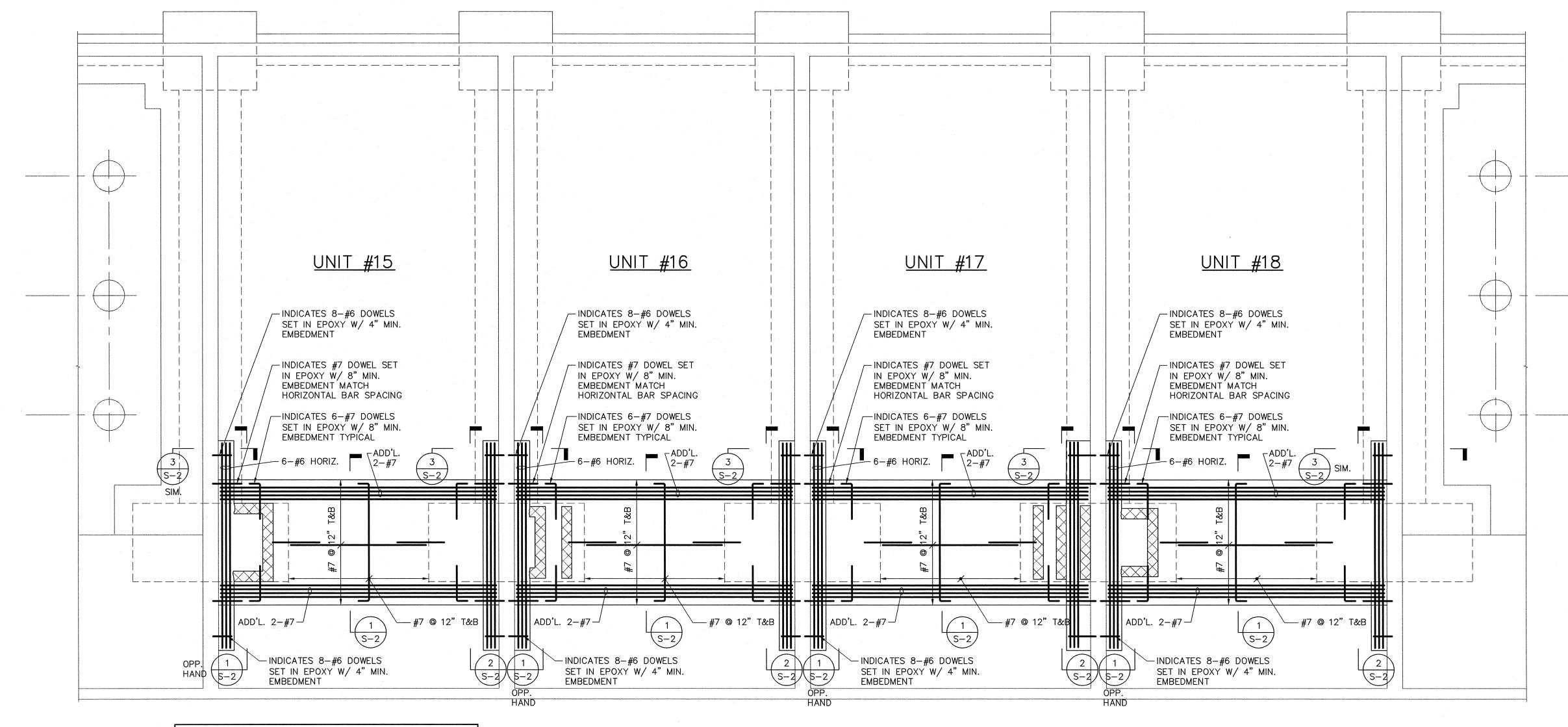
- 1. ALL CONCRETE SHALL BE READY MIX COMPLYING WITH THE REQUIREMENTS OF ASTM C94 WITH THE FOLLOWING CONSTITUENTS:
- A. PORTLAND CEMENT; ASTM C150 TYPE II.
- B. LIGHT WEIGHT AGGREGATES; ASTM C330.

FOLLOWING PROPERTIES PER CUBIC YARD:

- C. WATER: POTABLE. AIR-ENTRAINING ADMIXTURES; ASTM C260.
- E. WATER-REDUCING ADMIXTURES; ASTM C494, MID-RANGE TYPE A, HIGH RANGE TYPE F OR G.
- F. ACCELERATOR AND RETARDER ADMIXTURES; ASTM C494, TYPE C AND D RESPECTIVELY.
- G. CORROSION INHIBITOR; ASTM C494, TYPE C. DOSAGE RATE
- SHALL BE 3.0 GALLONS PER CUBIC YARD.
- ALL CONCRETE SHALL BE LIGHT WEIGHT AND ATTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 5,000 PSI AT THE END OF 28 DAYS AS DETERMINED BY ASTM C39 WITH THE
- A. 560 POUNDS OF CEMENT PER CUBIC YARD MINIMUM, TYPE II. B. 145 POUNDS OF CLASS C FLY ASH PER CUBIC YARD.

C. LIGHT WEIGHT AGGREGATE SHALL BE PRESOAKED PRIOR TO

- BATCHING WITH 15 PERCENT MIN INTERNAL MOISTURE. D. WATER-CEMENT RATIO = 0.40 MAXIMUM. E. MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) IN HARDENED CONCRETE AT 28 DAYS OF 0.15 PERCENT BY WEIGHT OF CEMENT FROM WATER, AGGREGATES, CEMENTITIOUS MATERIALS AND
- ADMIXTURES. F. AIR DRY WEIGHT OF 110 TO 120 POUNDS PER CUBIC FOOT AS
- DETERMINED BY ASTM C567. G. 6 PERCENT +/- 1.5 PERCENT AIR ENTRAINMENT



#### **CONTRACTOR NOTE:**

THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SUBMIT ANY DISCREPANCIES TO THE ARCHITECT ON A SET OF CONTRACT DRAWINGS.

THIS INFORMATION SHALL ALSO BE SUPPLIED AND COORDINATED WITH ALL SUBCONTRACTORS PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR APPROVAL.

### C. CAST-IN-PLACE CONCRETE (Continued)

- 3. ALL TYPES OF CONCRETE ELEMENTS (SLABS, BEAMS, FOOTINGS, UNDERPINNING, ETC.) SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS, EXCEPT WHERE SPECIFICALLY SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS. CONSTRUCTION JOINTS NOT SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS SHALL NOT BE ADDED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- 4. THE STRUCTURAL CONTRACT DOCUMENTS SHALL BE REFERRED TO FOR LOCATIONS OF CONTROL AND EXPANSION JOINTS. CONTROL AND EXPANSION JOINTS ARE MANDATORY WHERE SHOWN. CONSTRUCTION JOINTS, WHERE USED, SHALL COINCIDE WITH DEFINED CONTROL OR EXPANSION JOINT LOCATIONS.
- 5. SURFACE OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED PRIOR TO PLACING NEW CONCRETE. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
- 6. OPENINGS REQUIRED IN CONCRETE ELEMENTS AND NOT SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS, SHALL BE INSTALLED ONLY WITH THE PRIOR APPROVAL OF THE ENGINEER AND WITH THE PROPER ADDITIONAL REINFORCING AS SHOWN IN THE CONTRACT DOCUMENTS.
- PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY LOW TEMPERATURES, FROST, FREEZING ACTIONS, HIGH TEMPERATURES, HIGH WIND AND LOW HUMIDITY IN ACCORDANCE WITH ACI 306 "COLD WEATHER CONCRETING" AND ACI 305 "HOT WEATHER CONCRETING" AS APPLICABLE.
- 8. START CURING OF CONCRETE AS SOON AS FREE WATER HAS DISAPPEARED FROM THE SURFACES AFTER FINISHING. CONTINUE CURING FOR AT LEAST 7 DAYS IN ACCORDANCE WITH ACI 308 "RECOMMENDED PRACTICE FOR CURING CONCRETE". AVOID RAPID DRYING AT END OF FINAL CURING PERIOD. EXTEND THE CURING PERIOD BEYOND THE 7 DAYS WHEN REQUIRED BY THE SPECIFIED HOT AND COLD WEATHER CONCRETING PROCEDURES. FLATWORK SHALL BE WET-CURED.
- CONCRETE SLABS OF ALL TYPES, INCLUDING BUT NOT LIMITED TO; SLABS-ON-GRADE, AND FORMED SLABS SHALL BE CAST SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN INDICATED IN THE CONTRACT DOCUMENTS. THIS REQUIRES THAT FOR SLABS-ON-GRADE AND FORMED SLABS THAT THE GRADE AND FORMS BE SET PARALLEL TO THE FINAL TOP SURFACE OF THE SLAB.

### D. CONCRETE REINFORCING

- 1. ALL REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 EPOXY COATED.
- A. ALL EPOXY-COATED REINFORCING BARS SHALL CONFORM TO ASTM A775 AND A884 RESPECTIVELY. DAMAGED EPOXY-COATING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A775 AND A884 AND THE MATERIAL MANUFACTURER'S RECOMMENDATIONS.
- B. ADHESIVE ANCHORING SYSTEM FOR ANCHORING DOWELS TO EXISTING CONCRETE SHALL BE HIT-ICE/HIT-HY150 MANUFACTURED BY HILTI CORP.
- 2. ALL REINFORCING, SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED OR REQUIRED, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS, STANDARD HOOKS AT DISCONTINUOUS ENDS AND SPLICED ONLY WHERE ABSOLUTELY NECESSARY.
- A. SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF
- B. LAP AND DEVELOPMENT LENGTHS FOR CONCRETE REINFORCING SHALL BE IN CONFORMANCE WITH ACI 318, CHAPTER 12 AND THE SCHEDULES SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS. LAPS FOR WELDED WIRE MESH SHALL BE 8 INCHES MINIMUM AT SIDES AND ENDS MEASURED FROM THE
- 4. ALL SUPPORT BARS, SPREADER BARS, PRECAST CONCRETE BLOCKS, BOLSTERS, CHAIRS, SIDE FORM SPACERS, TIE WIRE AND ACCESSORIES NECESSARY TO HOLD THE REINFORCING BARS AND WELDED WIRE MESH SECURELY AND ACCURATELY IN POSITION SHALL BE SHOWN AND SCHEDULED WITHIN THE REINFORCING SHOP DRAWINGS AND BE IN ACCORDANCE WITH CRSI "PLACING REINFORCING BARS". USE CLASS 1 BAR SUPPORTS IN ALL CONCRETE EXPOSED TO THE WEATHER OR MOISTURE. USE EPOXY-COATED BAR SUPPORTS AND TIE WIRE AT ALL EPOXY-COATED REINFORCING BARS. USE CLASS 2. TYPE A BAR SUPPORTS AT ALL OTHER CONDITIONS.
- CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT WITHIN CAST- IN-PLACE, CONCRETE IN ACCORDANCE WITH THE CONCRETE COVER REQUIREMENTS TABLE SHOWN IN THE STRUCTURAL CONTRACT DRAWINGS AND ACI 318, SECTION 7. THE COVER REQUIREMENTS SHALL BE SHOWN IN THE REINFORCING BAR SHOP DRAWINGS.

#### D. CONCRETE REINFORCING (Continued)

6. THE MAXIMUM TOLERANCE FOR THE FINAL POSITION OF REINFORCING BARS IN HARDENED CONCRETE SHALL BE IN ACCORDANCE WITH THE CONCRETE COVER REQUIREMENTS TABLE SHOWN IN THE STRUCTURAL CONTRACT DRAWINGS AND ACI 318, SECTION 7. THE TOLERANCE REQUIREMENTS SHALL BE SHOWN IN THE REINFORCING BAR SHOP DRAWINGS.

#### E. SOIL BEARING

PART. FOUNDATION PLAN

TOWNHOUSE UNITS 15-18

SCALE: 1/4" = 1'-0"

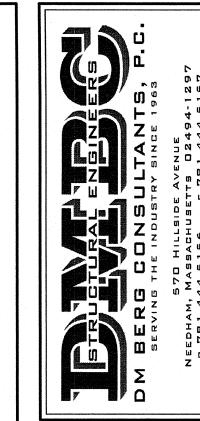
- EXCAVATE MATERIALS TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. TO THE EXTENT POSSIBLE, PLACE ALL MATERIALS EXCAVATED FROM THE OPEN CRAWL SPACE AREA BENEATH THE UNIT BEING IMPROVED TO A LOCATION OUTSIDE THE LIMITS OF SLAB WORK DESIGNATED BY THE ENGINEER. AREAS BEING CONSIDERED INCLUDE THAT PORTION OF THE CRAWL SPACE BOUNDED BY THE FRONT SIDE EDGE OF THE STRAP BEAM AND THE FRONT FOUNDATION WALL OF THE UNIT.
- EXCAVATION METHODS MUST BE MADE BY HAND WITH SHOVELS AND/OR OTHER TYPE DIGGING TOOLS NOT REQUIRING POWER BY AIR COMPRESSOR OR GASOLINE FUEL SOURCES.
- 3. THE EXCAVATION SUBGRADE SHALL BE MADE LEVEL AND CLEANED OF ALL DISTURBED MATERIAL AND MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING, DOWELING, AND TYING ANY SLAB REINFORCEMENT.

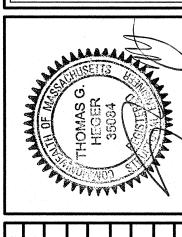
#### F. TEMPORARY/PERMANENT BRACING

- 1. THE CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY AND/OR PERMANENT SHORING, BRACING AND SUPPORTS, IN ACCORDANCE WITH OSHA AND OTHER APPLICABLE REGULATIONS, AT ALL EXCAVATIONS AND UNDERPINNING OPERATIONS TO RESIST ALL DEAD, CONSTRUCTION AND LIVE LOADS, INCLUDING BACKFILLING AND TAMPING OPERATIONS, TO ASSURE COMPLETE SAFETY AGAINST COLLAPSE OF EARTH AND DAMAGE TO PROPERTY INCLUDING BUT NOT LIMITED TO; EXISTING STREETS, SIDEWALKS, SITE STRUCTURES, BUILDINGS AND UTILITIES. ALL DESIGNS SHALL BE PREPARED IN ACCORDANCE WITH GENERAL NOTE #2 HEREIN.
- 2. ALL TEMPORARY SHORING, BRACING AND SUPPORTS SHALL REMAIN SECURELY IN PLACE UNTIL THE NEW PRIMARY STRUCTURAL COMPONENTS HAVE BEEN INSTALLED, CURED AND CONNECTED SO AS TO PROVIDE THE PERMANENT SHORING, BRACING AND SUPPORT

#### G. OWNER'S QUALITY ASSURANCE

- 1. THE OWNER SHALL ENGAGE INDEPENDENT TESTING AND INSPECTION AGENCIES AND OTHERS AS REQUIRED FOR STRUCTURAL TESTS AND INSPECTIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE SUCH WORK AS FOLLOWS:
- A. COOPERATE WITH THE TESTING AGENCY, STRUCTURAL TESTS AND INSPECTIONS ADMINISTRATOR, BUILDING OFFICIAL, OWNER, AND THE DESIGN TEAM MEMBERS, AND PROVIDE SAFE ACCESS TO THE WORK AREAS.
- B. PROVIDE INCIDENTAL LABOR, EQUIPMENT, MATERIALS AND FACILITIES TO OBTAIN, HANDLE, STORE AND CURE SAMPLES AT THE SITE OR AT THE SOURCE OF PRODUCTS TO BE SAMPLED, TESTED, AND INSPECTED.
- C. NOTIFY THE APPROPRIATE INSPECTION AGENCY AT LEAST 24 HOURS PRIOR TO EXPECTED TIMES OF OPERATIONS THAT REQUIRE SAMPLING, TESTING, AND INSPECTIONS.
- D. TESTING, INSPECTION AND SAMPLING IN THE SHOP OR FIELD SHALL NOT RELIEVE THE CONTRACTOR OR SUB-CONTRACTORS OF THEIR RESPONSIBILITIES TO FURNISH MATERIALS AND WORKMANSHIP THAT COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHOP
- E. STRUCTURAL TESTS AND INSPECTIONS DOES NOT APPLY TO THE DESIGNS OF THE CONTRACTOR. THE CONTRACTOR AND HIS/HER DESIGN MEMBERS ARE RESPONSIBLE FOR THE DESIGNS THEY PERFORM. DESIGNS, ANALYSES, AND FIELD OBSERVATIONS (SAMPLING, TESTING AND INSPECTIONS) OF THE CONTRACTOR'S EQUIPMENT, MEANS, METHODS, SEQUENCES, TECHNIQUES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO SHALL REMAIN STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. THE SCOPE OF THE STRUCTURAL TESTS AND INSPECTIONS IS DEFINED BY THE GOVERNING BUILDING CODE, THE CONTRACT DOCUMENTS, AND THE STRUCTURAL ENGINEER-OF-RECORD.



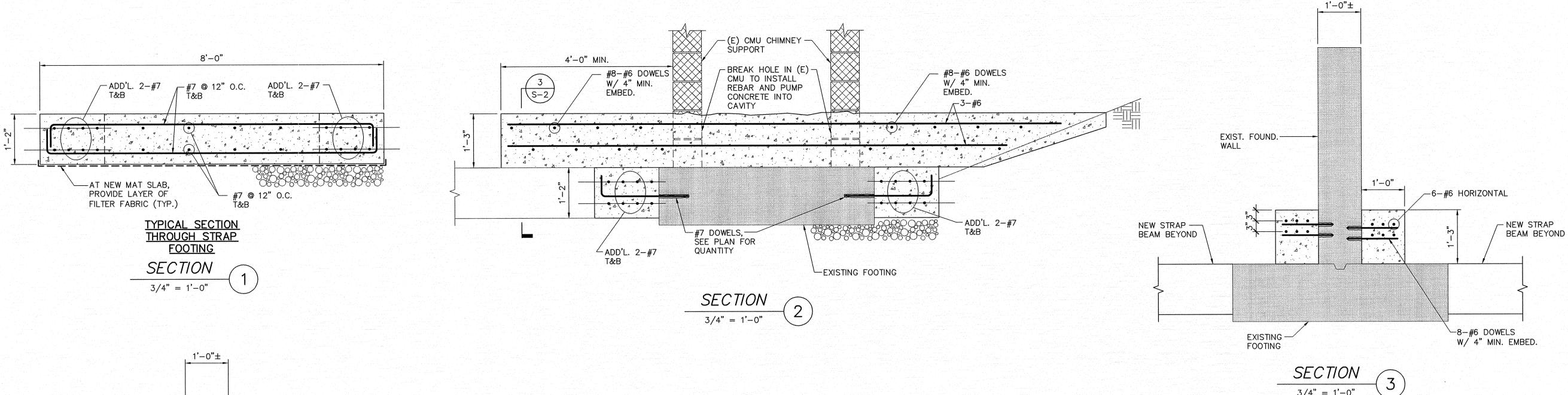


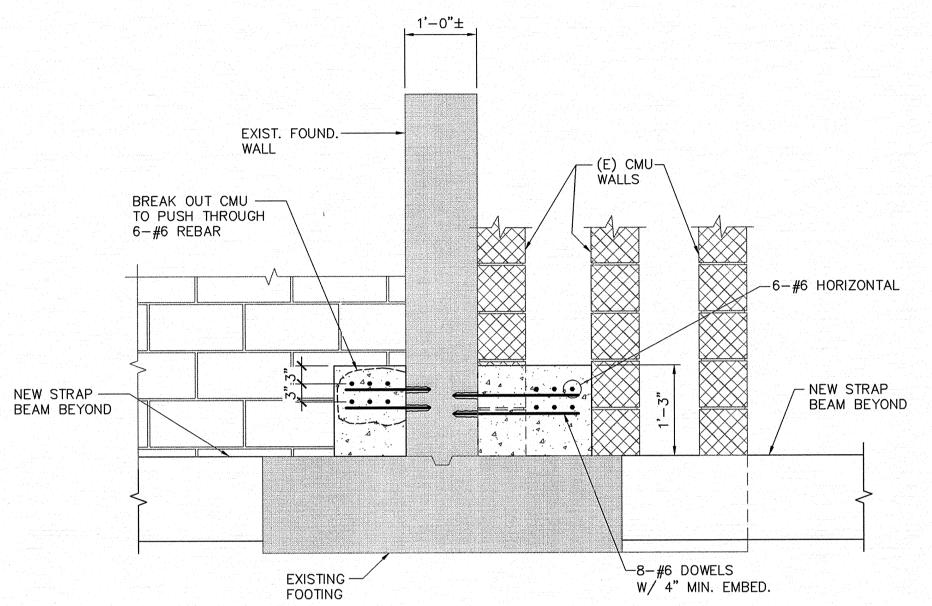
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DMBC PROJECT No: 10180





CONCRETE CO	VER REQUIREMENTS
TYPE	CAST-IN-PLACE CONCRETE
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH FOR SLABS:	3/4"

### NOTES:

- 1. REINFORCMENT SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS CAST, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN TOLERANCES AS FOLLOWS:
- $d \le 8$  INCHES: TOLERANCE ON  $d = \pm 3/8$  INCH TOLERANCE ON COVER = -3/8 INCH
- d > 8 INCHES; TOLERANCE ON d =  $\pm$  1/2 INCH: TOLERANCE ON COVER = -1/2 INCH

FOR ALL "d"'s: TOLERANCE ON COVER SHALL NOT EXCEED MINUS 1/3 THE TABULATED COVER REQUIREMENTS AND THE TOLERANCE FOR THE CLEAR DISTANCE TO FORMED SOFFITS SHALL BE MINUS 1/4 INCH.

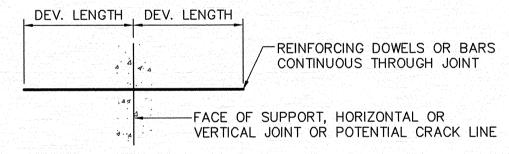
TOLERANCE FOR LONGITUDINAL LOCATION AT BENDS AND ENDS OF REINFORCEMENT SHALL BE ± 2 INCHES EXCEPT AT DISCONTINUOUS ENDS OF MEMBERS WHERE THE TOLERANCES SHALL BE  $\pm 1/2$  INCH.

WHERE d = THE DISTANCE FROM THE EXTREME COMPRESSION FIBER TO THE CENTER OF TENSION REINFORCEMENT IN INCHES.

2. THE COVER, TOLERANCE AND BAR AND MESH SUPPORT REQUIREMENTS SHALL BE SHOWN ON THE REINFORCING SHOP DRAWINGS.

	DEVELOPMEN	IT LENGTH, (Id), inches	LAP SPLICE LENGTH, inches				
BAR	TENSION DEVELO	PMENT LENGTH	COMPRESSION DEV. LENGTH	TENSION LAP	LENGTH		
SIZE	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS		
	5000	5000	5000	5000	5000		
#3	16"	13"	8"	22"	16"		
#4	22"	17"	9"	29"	22"		
#5	28"	21"	11"	36"	28"		
#6	33"	25"	14"	43"			
#7	48"	37"	16"	63"	48"		
#8	55"	42"	18"	72"	55"		
#9	62"	48"	20"	81"	62"		
<b>#</b> 10	69"	53"	23"	90"	69"		
#11	<b>76"</b>	58"	25"	99"	76"		

SEE NOTES BELOW FOR EPOXY-COATING, COVER, AND BUNDLED BAR FACTORS.

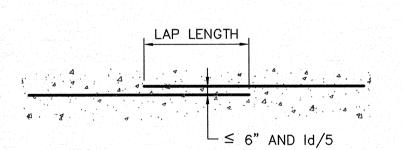


DEVELOPMENT

REFER TO "HOOKED REINFORCEMENT DEVELOPMENT LENGTH SCHEDULE" WHEN STRAIGHT DEVELOPMENT LENGTH TENSION CANNOT BE ACCOMMODATED IN THE CONCRETE SECTION.

#### NOTES:

- 1. ALWAYS USE TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICE LENGTH VALUES, EXCEPT WHEN THE PLANS OR DETAILS NOTE SPECIFICALLY COMPRESSION LENGTHS.
- 2. TABULATED DEVELOPMENT AND LAP SPLICE LENGTHS ARE BASED ON REINFORCING YIELD STRENGTH FY = 60 KSI, NORMAL WEIGHT CONCRETE AND CLASS B LAPS.
- 3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR
- 4. WHEN DIFFERENT BAR DIAMETERS ARE SPLICED, USE LARGER BAR LAP SPLICE
- 5. ALL TABULATED VALUES ARE MINIMUM LENGTHS. IN CASE OF CONFLICT WITH THE PLANS, SECTIONS OR DETAILS, USE THE LONGER LENGTH.
- 6. FOR TENSION DEVELOPMENT AND TENSION LAP SPLICE LENGTHS, THE LIGHTWEIGHT CONCRETE FACTOR IS 1.30. THE EPOXY-COATED BAR FACTOR FOR TENSION DEVELOPMENT AND TENSION LAP SPLICE LENGTHS IS 1.2. THIS FACTOR INCREASES TO 1.5 WHEN THE COVER OF THE BARS IS LESS THAN 3db OR THE CLEAR SPACING IS LESS THAN 6db. TABULATED VALUES FOR DEVELOPMENT AND LAP LENGTHS IN TENSION SHALL BE FACTORED BY 1.5 WHEN THE CLEAR COVER IS LESS THAN db AND THE CLEAR SPACING IS LESS THAN db (AND THERE ARE STIRRUPS OR TIES ALONG Id) OR IS LESS THAN 2db (AND THERE ARE NO STIRRUPS OR TIES ALONG Id). TABULATED DEVELOPMENT AND LAP LENGTHS IN TENSION AND COMPRESSION FOR BUNDLED BARS SHALL BE FACTORED BY 1.2 FOR 3 BAR BUNDLES AND 1.33 FOR 4 BAR BUNDLES.



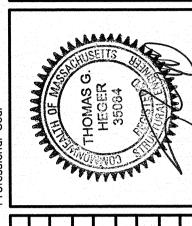
LAP SPLICE

LAP SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 24 INCHES. WELDED OR MECHANICAL SPLICES

- FINISHING OF THE CONCRETE. SPLICES IN "TENSION—TIE" MEMBERS SHALL BE FULL WELDED OR FULL MECHANICAL SPLICES. WHERE WELDED AND/OR MECHANICAL SPLICES ARE TO BE USED, THE GENERAL CONTRACTOR SHALL SUBMIT FULL DATA ON THE PROPOSED MATERIALS, PROCEDURES AND INSTALLATION INSTRUCTIONS TO THE ENGINEER FOR REVIEW AS A SHOP DRAWING SUBMISSION.
- 8. ALL STRAIGHT BAR DEVELOPMENTS AND SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318. ALL WELDED SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.4.
- 9. db = BAR DIAMETER

STRAIGHT REINFORCEMENT DEVELOPMENT AND SPLICE LENGTH SCHEDULE





						11/10/10	
# Issue :	# Issue :	# Issue :	Construction Set Issue :	Owner/Bid Revision Issue :	et Issue :	Building Permit Issue : 11,	Comment American Inches
Revision #	Revision #	Revision #	Construct	Owner/Bio	Pricing Set Issue	Building F	

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SEC

Approved By:	TGH
Checked By:	TGH
Drawn By:	T.B.
Scale:	AS NOTED

DMBC PROJECT No: 10180

IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 30 INCHES.
7. WELDED AND/OR MECHANICAL SPLICES MAY BE USED AT THE GENERAL CONTRACTORS OPTION PROVIDED THAT THE SPLICE IS CAPABLE OF DEVELOPING AT LEAST 125
PERCENT OF THE YIELD STRENGTH OF THE LARGER BAR IN TENSION. THE GENERAL
CONTRACTOR SHALL USE WELDED AND/OR MECHANICAL SPLICES WHERE LAP SPLICES
WOULD CREATE BAR CONGESTION THAT WOULD INTERFERE WITH THE PLACING AND
FINICIPAL OF THE CONCRETE SPHORE IN "TENSION TIE" MEMBERS SHALL BE FILL

#### **GENERAL NOTES:**

- 1.— All work shall conform to the requirements of the State Building Code of the Commonwealth of Massachusetts, 8th edition, and referenced sections of the 2009 Internation Building Code (IBC)
- 2.— Coordinate with Haley & Aldrich foundation inprovement plan drawings for project location and geotechnical information including observations and investigations.
- 3.— The Contractor shall verify all dimensions and conditions in the field prior to commencing work. Where dimensions and elevations of existing construction could affect the new construction, it is the Contractor's responsibility to make field measurements in time for their incorporation in the Shop Drawings. The Architect and Engineer shall be notified of any discrepancies that may exist.
- 4.— See architectural drawings for floor elevations, slopes, and locations of depressed floor areas. The Contractor shall compare the structural drawings with the architectural drawings and report any discrepancy to the Architect and Engineer prior to construction.
- 5.— Furnish and place all supports, temporary and permanent, whether shoring, bracing, needling, underpinning, or sheet piling, necessary to brace existing walls or framing to remain, so that no horizontal or vertical settlement occurs to the existing structures. Temporary supports shall be maintained in place until permanent supports are installed. Design of these supports shall be by a registered engineer in the employ of the Contractor.
- 6.— Alternate connection details may be approved if such details are submitted to the Engineer for review and acceptance is granted. However, the Engineer shall be the sole judge of acceptability and the Contractor's bid shall anticipate the use of those specific details shown on the drawings. The Contractor shall retain a registered Structural Engineer to be responsible for the design of any alternate details which he proposes.
- 7.— The Contractor shall be completely responsible for the safety of adjacent structures, property, his workmen, and the public, as affected by the construction of this project.
- 8.— All Contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to agreeing to perform the work. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the Contractor from furnishing any materials or performing any work in accordance with drawings and specifications without additional cost to the Owner.
- 9.— Structural drawings may represent construction with a reference scale. Due to the inherent process of drawing development and presentation not all work may be shown "exact" in that scale. Do not "scale" drawings to obtain any missing information or to interpret any information not specifically dimensioned for "exact" detailing or construction purposes.
- 10.— Provide openings in the existing concrete foundation walls where necessary to accomplish foundation improvement work. Openings, if made, shall not cut through top and bottom wall reinforcing, and shall be temporarily shored where
- 11.— Provide temporary sheeting, shoring and bracing of excavations as necessary to perform foundation waork, in accordance with OSHA requirements and other applicable regulations.
- 12.— Comply with ACI recommendations for all rebar installations and for all dowels and embedment lengths, lap splices and development lengths.
- 13.- Adhesive grout systemfor drilled dowels shall be the Simpson AT-XP Anchoring Adhesive System, or approved equivalent, using deformed epoxy protected rebar

#### **CONCRETE:**

- 1.— All concrete work shall conform to the LATEST edition of the ACI Building Code Requirements for Reinforced Concrete (ACI 318) and the Commonwealth of Massachusetts State Building Code. In case of conflict, the State Building Code shall govern.
- 2.— All concrete shall be controlled concrete, mixed and placed under the super-vision of an approved concrete testing agency.
- 3.— Concrete for new mat slabs and grade beams shall be 5,000 psi 28—day strength Type II sulphate resistant concrete. Use lightweight aggregates per ASTM C330 for maximum 115 PCF lightweight concrete at mat slabs. Use normal weight aggregates per ASTM C33 for 145 PCF normal weight concrete at grade beams.

### **REINFORCING:**

- 1.- All concrete reinforcing bars shall conform to ASTM A615, Grade 60, deformed bars, except where noted. All reinforcing bars to be welded shall shall conform to ASTM A706. Reinforcing bars may not be welded without prior approval of the Structural Engineer. All rebar shall be epoxy protected per ASTM A775.
- 2.- All welded wire fabric (W.W.F.) shall conform to ASTM 185.(Fy=65 KSI min.) W.W.F. shall be provided in flat sheets. The following W.W.F. shall be used: W.W.F. 6x6, W2.9xW2.9. W.W.F. shall be epoxy protected.

### **DRILLED PILES:**

1.- Drilled mini-piles shall be 9 5%" outside diameter steel pipe cased concrete filled piles—(see geotechnical information for pile specifications and special detailing.) Piles shall extend through the fill and organic material and into the underlying embedment stratum(naturally deposited inorganic clay) a minimum of 22'-0" below the bottom of the permanent steel casing for a total approximate length of 60'-0" from existing grades for the 40k piles, and a minimum of 27' and approximate 65'-0" length for the 50k piles. See plans for pile spacing.

Design pile capacities shall be as follows: 9 % diameter = 40 kips 9  $\frac{1}{2}$  diameter = 50 kips, where shown.

2.— Design of piles, grade beams and mat slabs assumes support to the existing 8" wide concrete grade beams at the rear of the units on the existing granite seawalls. Previous foundation repair work drawings indicate 8" grade beam and a portion of the ends of the cantilevered party wall foundations were grouted solid to the granite seawall. Condition to be field verified for compliance with foundation improvement design intent. If conditions are found to be contrary to

#### INSPECTION - CONCRETE

accommodate.

1.— Concrete inspection and testing will be made in accordance with building code requirements, and Contract Documents, and will include the following:

design intent, revisions shall be made to pile layouts and grade beams to

- a. Testing concrete for strength, slump, air content, temperature, and unit weight.
- b. Marking and testing concrete cylinders, including furnishing cylinder containers for
- c. Transporting and storing of all specimens involved in testing and inspection. Test cylinders are to be transported to laboratory not later than 24 hours after casting, not earlier than 16 hours after casting.
- d. Inspection of mixing and placing of concrete at the site, including recording of: amount and location of concrete placement, method of placing concrete, and any other pertinent information.
- 2.— The Testing laboratory will take specimens as follows: At least one set of four cylinders for each 50 cubic yards or fraction thereof of each class of concrete, but not less than one set for any one day's operations.
  - a. For concrete placed by pumping, test specimens and concrete used for determination of slump, air content, and weight are to be taken at the point of placement of concrete into the forms.
  - b. Samples will be obtained in accordance with ASTM C172.
  - c. Marking, curing and subsequent handling of test cylinders, except as modified herein, shall be in accordance with ASTM C31. Testing shall be in accordance with ASTM C39.
  - d. The cylinders shall be placed in laboratory storage under moist curing conditions at approximately 70 degrees F within 24 hours after molding, and maintain therein until tested. Tests will be as follows:
  - 1) One cylinder shall be tested at 7 days for information.
  - 2) Two cylinders shall be tested at 28 days for acceptance. The acceptance test results shall be the average strength of these two cylinders.
  - 3) One cylinder shall be kept for eventual testing at 56 days to verify any marginal results of 28-day tests. If not required to be tested, cylinder will be discarded after 28 days.
- 3.— Test Reports: Reports of cylinder tests shall be submitted as specified herein within five days of laboratory testing. Test reports shall, as a minimum, include:
  - a. Results of field testing at time of sampling including date and time of sampling, amount of water added at site prior to sampling, ambient air temperature and concrete temperature, concrete slump and air content, and concrete wet unit weight.
  - b. Results of laboratory testing including date test specimens were transported to laboratory, date and age of concrete at time of testing, compressive strength of each cylinder tested, average compressive strength of tested cylinders, and specified design strength of concrete represented by the test.
- 4.— Additional Testing: Contractor shall bear the cost of testing and inspection resulting as a consequence of the following:
  - a. Work not in compliance with the Contract Documents.
  - b. Testing requested by the Contractor or Subcontractor such as additional cylinders for early breaks, etc.
  - c. Testing to verify the adequacy of work done without prior notice, without proper supervision, or contrary to standard construction practice.
- 5.- Reinforcing Steel Inspection: Concrete reinforcing shall be inspected prior to closing of concrete form work or placing of concrete. Inspector to verify size, spacing, quantity of reinforcing concrete cover, embedded items, per latest contract documents.

#### SUBMITTALS

- 1.— Submit substantiating data for each concrete mix design contemplated for use to the Structural Engineer not less than six weeks prior to first concrete placement. Data for each mix shall, as a minimum, include the following:
  - a. Mix identification designation (unique for each mix submitted).
  - b. Statement of intended use for mix.
  - c. Mix proportions, including all admixtures used.
  - d. Manufacturer's data and/or certifications verifying conformance of all mix materials, including admixtures, with specified requirements.
  - e. Wet and dry unit weight. f. Entrained air content.
  - g. Design slump.
  - h. Required average strength qualification data per ACI 301 3.9.1 and 3.9.2. Submit separate qualification data for each production facility which will supply concrete to the project.
- 2.— Submit shop drawings for fabrication, bending and placement of concrete reinforcement. Comply with ACI Detailing Manual (SP 66). Provide 1/4" scale elevations of all walls with reinforcing shown.
- 3.— Submit Structural Steel shop drawings. Clearly indicate profiles, sizes, spacing and locations of structurals members, connections, attachments, anchorages, framed openings, size and type of fasteners, cambers, and clearances.

### STRUCTURAL STEEL

- 1.— Structural steel work shall conform to "Specification for Design, Fabrication and Erection of Structural Steel for Buildings" (AISC Ninth Edition), and "Structural Welding Code - Steel" (AWS D1.1 Latest Edition).
- 2.— All NEW structural steel rolled shapes, plates, and bars shall conform to the following ASTM designations:

ASTM A-572, GRADE 50 

unless noted otherwise

ASTM A-325, Type SC or N . . . . . . . . . . . All bolts for connecting structural members.

- 3.— No change in size or position of the structural elements shall be made without prior approval of the Engineer.
- 4.— Shop connections unless otherwise noted, shall be made by welding.
- 5.— All shop and field welds shall be made by certified welders, and shall conform to the American Welding Society Code, AWS D1.1, latest edition. Unless noted otherwise, all welds shall develop the full strength of the members or components being connected.
- 6.— Electrodes for all field and shop welding shall conform to AWS E-70 Series.
- 7.— All welding shall be inspected in the field by qualified welding inspectors.
- 8.— Field connections shall be made by bolting with 3/4" diameter A325 bolts, minimum, unless noted otherwise.
- 9.— All A325 or A490 bolts shall be installed with the bolt tension specified in "Specification" for Structural Joints using ASTM A325 or ASTM A490 Bolts."
- 10.— All structural steel details and connections shall conform to the standards of the AISC.
- 11.— Minimum connection plate thickness shall be 3/8".
- 12.- Splicing structural members where not detailed on the drawings is prohibited without prior approval of the structural engineer.
- 13.— Cuts, holes, coping, etc. required for work of other trades shall be shown on the shop drawings and made in the shop. Cuts or burning of holes in structural steel members in the field will not be permitted, unless approved by the Structural Engineer.
- 14.— Prior to fabrication and construction, submit and receive Engineer's approval of structural steel shop drawings.
- 15.— All steel shall be hot dipped galvanized.

### STRUCTURAL STEEL INSPECTIONS

- A. The Testing Agency shall test field welds in accordance with AWS D1.1 as follows:
  - a. All welds 100% visual.
  - b. Full Penetration Welds: Ultrasonic all welds
- B. The welding inspector will have the authority to reject weldments. Such rejection may be based on visual inspection where in his opinion the weldment would not pass a more detailed investigation.
- C. Reports by the Testing Agency's inspector will contain, as a minimum, an adequate description of each weld tested, the identifying mark of the welder responsible for the weld, a critique of any defects noted by visual inspection or testing, and a statement regarding the acceptability of the weld tested, as judged by current A.W.S. standards. Reports shall be distributed as early as possible but not later than one work week after the tests have been performed. The Structural Engineer shall be notified by phone if, in the judgment of the inspector, test results require immediate comment.
- D. High Strength Bolts:
  - a. Standard Bolts:
  - 1) Verify Contractor's testing of installation procedures (turn of the nut) to achieve specified bolt tensions for each lot of bolts. Contractor to provide a calibrated device capable of indicating bolt tension.
  - 2) If rejectable bolts are found in any connection all the remaining bolts in that connection shall be inspected for tightness. Inspection procedure shall be in accordance with "Specification for Structural Joints Using ASTM A325 or A490 Bolts" approved by Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation (Research Council on Structural Connections). Cost of additional inspection required by this paragraphshall be borne by the

#### DRILLED-IN CONCRETE ANCHORS:

- 1.— Chemical Anchors: Threaded carbon steel or stainless steel rod complete with required nuts, washers, adhesive system and manufacturer's installation instructions. Current ICBO approval and published ICC ESR Code Report required and conforming to ICC ES AC308. Size and manufacturer as indicated on drawings.
  - a. Provide field drilled adhesive grout dowels as indicated below.
- 2.- Simpson Strong-Tie Company, Inc.:

Simpson AT-XP anchoring adhesive system using deformed epoxy protected rebar dowels

3.— At locations where post installed anchors are being used in concrete, a survey shall be preformed to locate existing rebar. using ground penetrating radar. Survey results are to be coordinated with shop drawings. Alternatively, anchor rods are to be installed after which a template is to be created for use by the fabricator in the shop drawings. Notify Engineer of record (E.O.R.) if as—installed location varies more than  $\frac{1}{2}$ " from theoretical.

#### INSPECTION - POST INSTALLED ANCHOR DOWELS:

- 1. The Testing Agency shall inspect, drilled—in anchors shown on the structural drawings as follows:
  - a. Epoxy—Bonded Inserts: The Testing Agency shall be present at the site to observe the installation of the first 10 inserts placed. Such observation shall be to ensure that drilled holes are of required diameter and depth, holes are properly cleaned prior to the installation of the insert, and that holes are completely filled with properly mixed epoxy after installation.
- 2. All anchors shall be visually inspected after installation to ensure that they been installed perpendicular to the receving surface and to proper depth.
- 3. Inspect 10% of all anchors at each level for a tension load of 150% of the manufacturer's recommended allowable working loads in tension. If at any time the number of rejectable anchors exceeds 10% of the number of anchors tested at that level, all anchors in that group shall be tested by the same method and this 100% testing rate shall be continued until 10% or less of the anchors tested in a group are found to be rejectable. Cost of additional testing required by this paragraph shall be borne by the contractor.

#### INSPECTION - EPOXY ADHESIVE ANCHORS

- 1. Epoxy adhesive anchors
- A. Epoxy adhesive anchor inspection and testing will be made in accordance with building code requirements, and Contract Documents, and will include the following:
  - a. Proper anchor location
  - b. Proper embedment length
  - c. Anchor diameter
  - d. Anchor projection
  - e. Cleaning of drilled holes f. Proper application of epoxy
  - a. Proper application of rod anchors h. Proper material temperature
  - i. Proper setting time
  - i. Pull testing of epoxy adhesive anchor per direction of E.O.R.
  - k. Pull test procedure to follow the requirements of ASTM 488

I. Refer to manufactures for additional requirements



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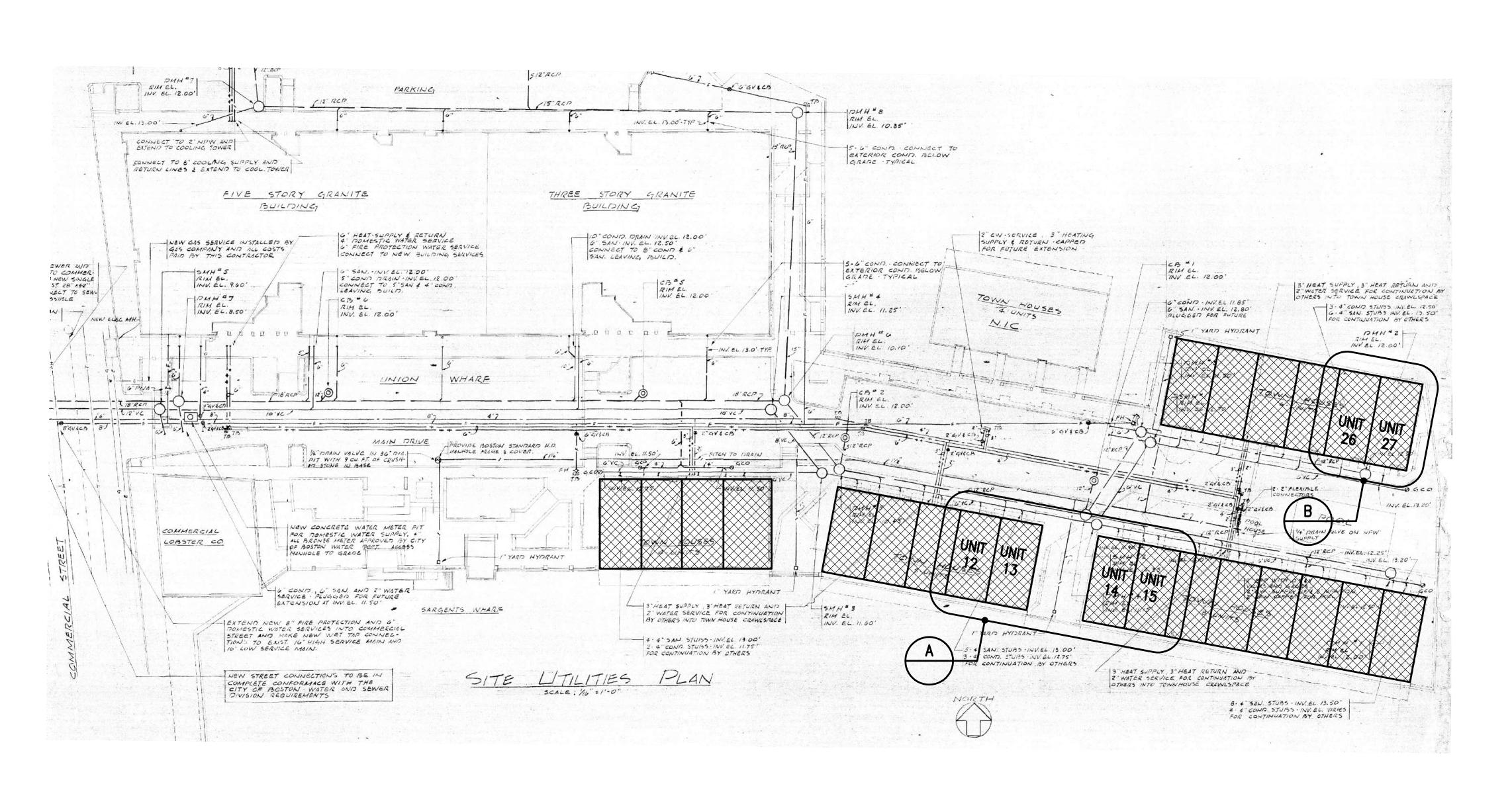
JULY 31, 2014

DRAWING NAME:

**UNION WHARF GENERAL NOTES** 

DRAWING NUMBER:

SHFFTI



OVERALL UNIT LAYOUT/KEY PLAN SCALE: N.T.S.



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PROJECT NUMBER: 13130.00

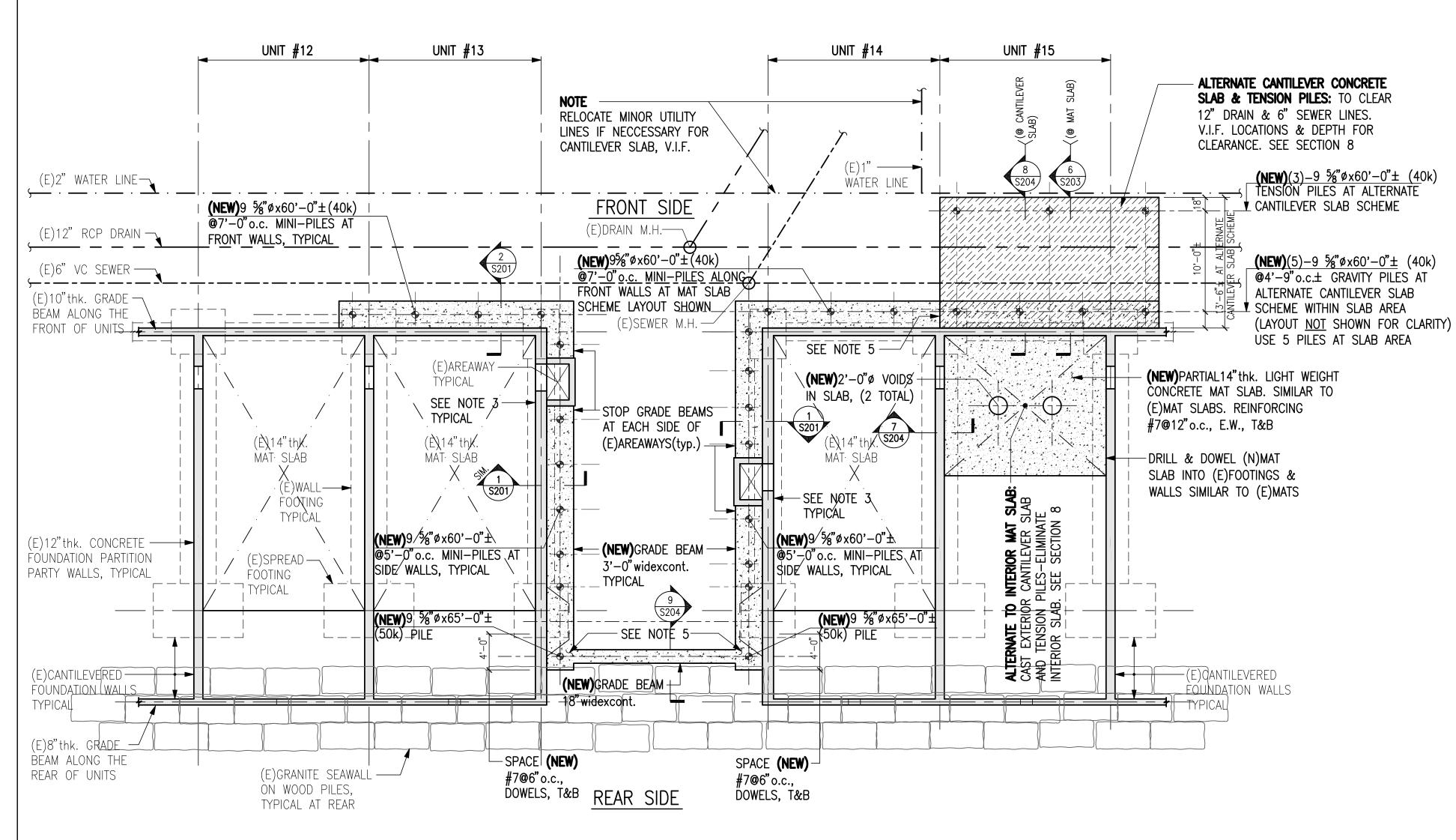
DATE: JULY 31, 2014

SCALE:

DRAWING NAME:

UNION WHARF OVERALL UNIT LAYOUT/ KEY PLAN

DRAWING NUMBER:





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

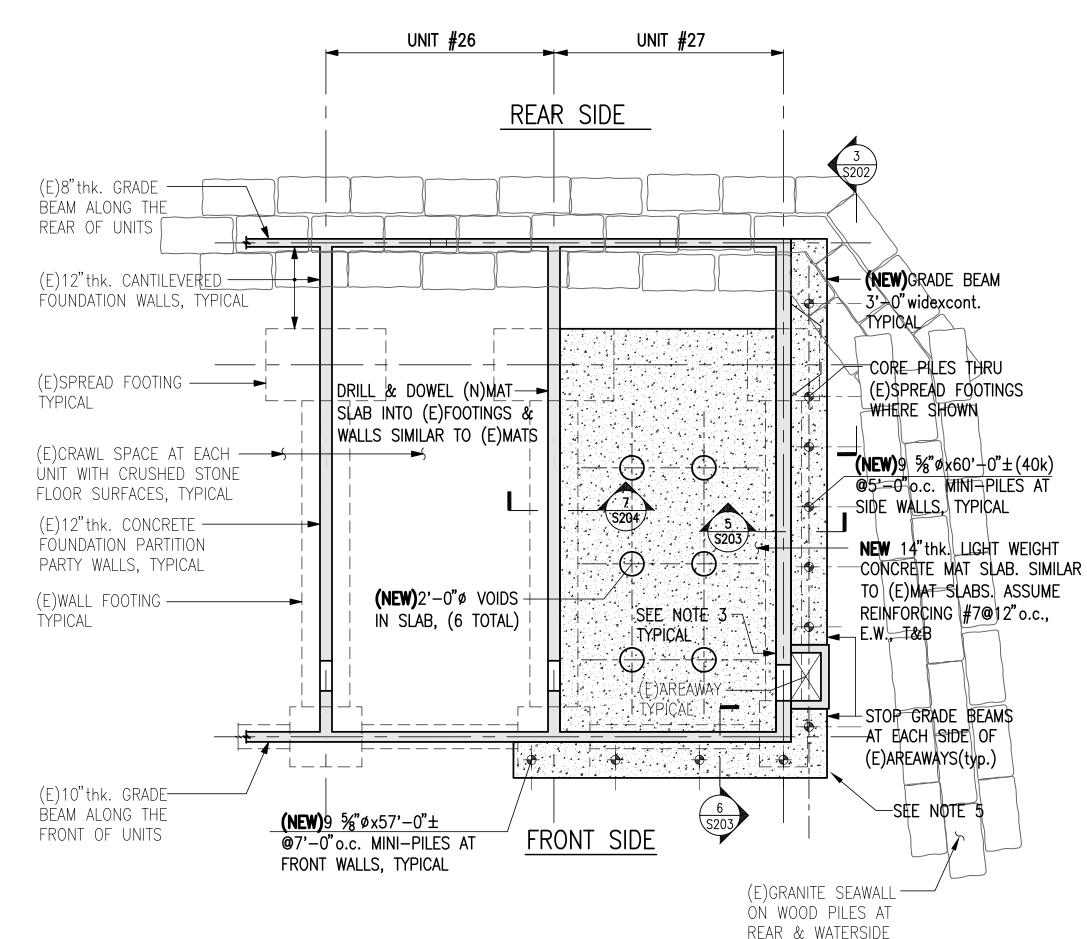
#### 1 \ 0.5/

- 1.) 9 %"ø MINI-PILES = 40k CAP EACH OR 9 %"ø MINI-PILES = 50k CAP EACH WHERE SHOWN.
- 2.) PROVIDE ADDITIONAL DOWELS BETWEEN MAT SLABS AND GRADE BEAMS, EACH SIDE OF THE AREAWAYS. TYPICAL
- 3.) NUMBER OF PILES FOR UNIT #13 = 11 PILES

  NUMBER OF PILES FOR UNIT #14 & #15

  MAT SLAB SCHEME: = 15 PILES

  CANTILEVER SLAB SCHEME: = 16 PILES + 3 TENSION PILES
- 4.) REINFORCE EXISTING FOUNDATION WALL AT AREAWAY.
- 5.) PROVIDE (4) ADDITIONAL #6 BARS 8'-0"Ig. TOP & BOTTOM WITH, #4 TIES AT 6"o.c.. 4'-0" EACH SIDE OF LOCATION (TOTAL 8'-0") AND EACH WAY AT CORNERS.
- 6.) FOR PARTIAL MAT SLAB OPTION AT UNIT 15, REMOVE EXCAVATED SOIL FROM SITE. PROVIDE TEMPORARY OPENINGS IN FOUNDATION WALL IF NECESSARY TO PERFORM WORK. PATCH BACK w/NEW REINFORCED CONCRETE AS NECESSARY TO MAINTAIN WALL INTEGRITY. REVIEW "PATCH—BACK" DETAILS WITH STRUCTURAL ENGINEER FOR APPROVAL.



## PART PLAN AT UNIT 27

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

- 1.) 9 5%" ø MINI-PILES = 40k CAP EACH OR 9 5%" ø MINI-PILES = 50k CAP EACH WHERE SHOWN.
- 2.) PROVIDE ADDITIONAL DOWELS BETWEEN MAT SLABS AND GRADE BEAMS, EACH SIDE OF THE AREAWAYS. TYPICAL

TYP. WHERE SHOWN

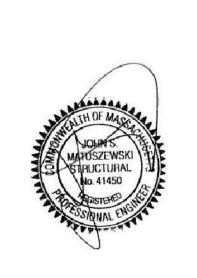
- 3.) NUMBER OF PILES FOR UNIT #27 = 11 PILES
- 4.) REINFORCE EXISTING FOUNDATION WALL AT AREAWAY
- 5.) PROVIDE (4) ADDITIONAL #6 BARS 8'-0"Ig. TOP & BOTTOM WITH, #4 TIES AT 6"o.c.. 4'-0" EACH SIDE OF LOCATION (TOTAL 8'-0") AND EACH WAY AT CORNERS.
- 6.) FOR PARTIAL MAT SLAB OPTION AT UNIT 27, REMOVE EXCAVATED SOIL FROM SITE. PROVIDE TEMPORARY OPENINGS IN FOUNDATION WALL IF NECESSARY TO PERFORM WORK. PATCH BACK w/NEW REINFORCED CONCRETE AS NECESSARY TO MAINTAIN WALL INTEGRITY. REVIEW "PATCH—BACK" DETAILS WITH STRUCTURAL ENGINEER FOR APPROVAL.



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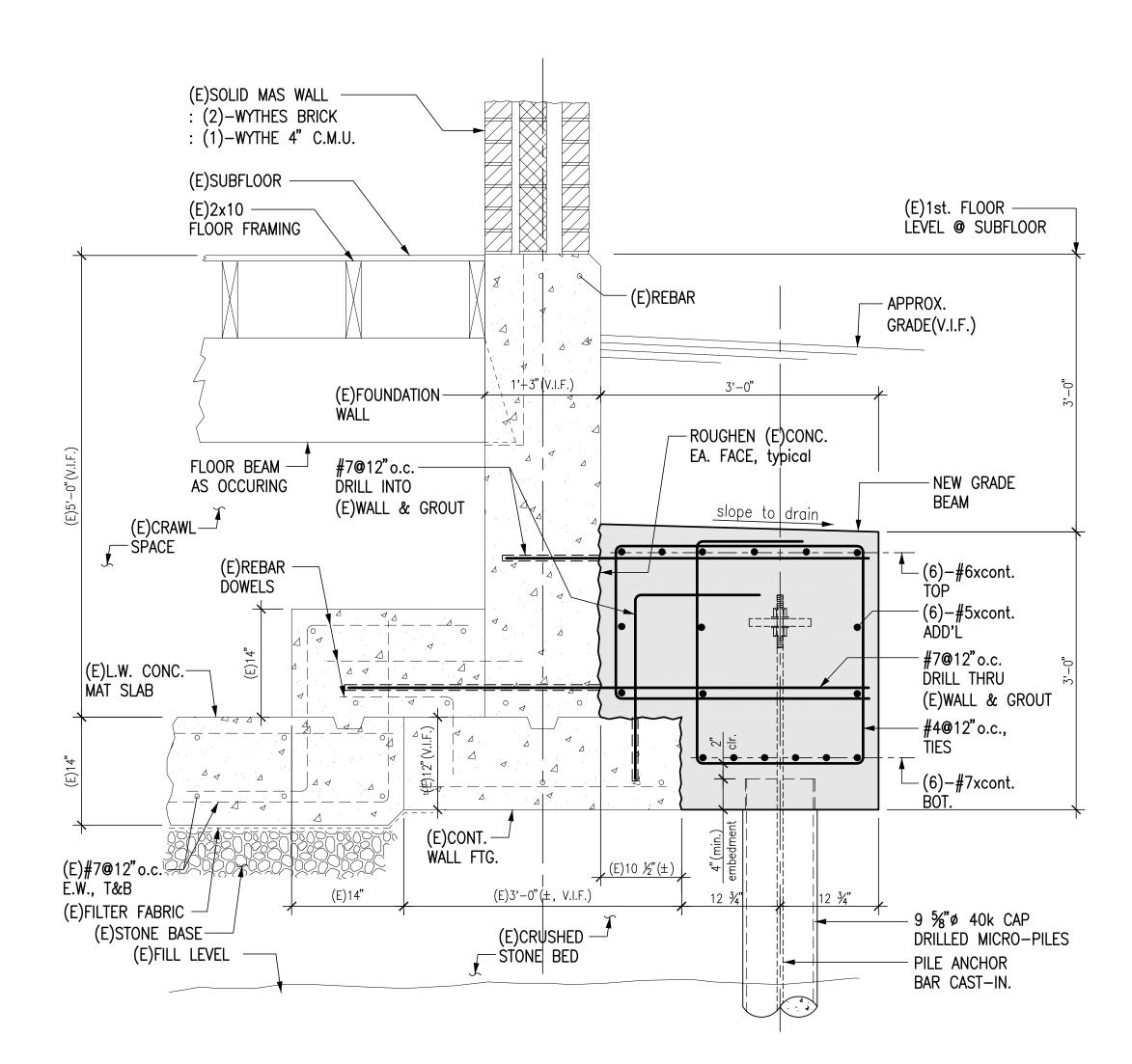
DATE: JULY 31, 2014

SCALE:

DRAWING NAME:

FOUNDATION SECTIONS

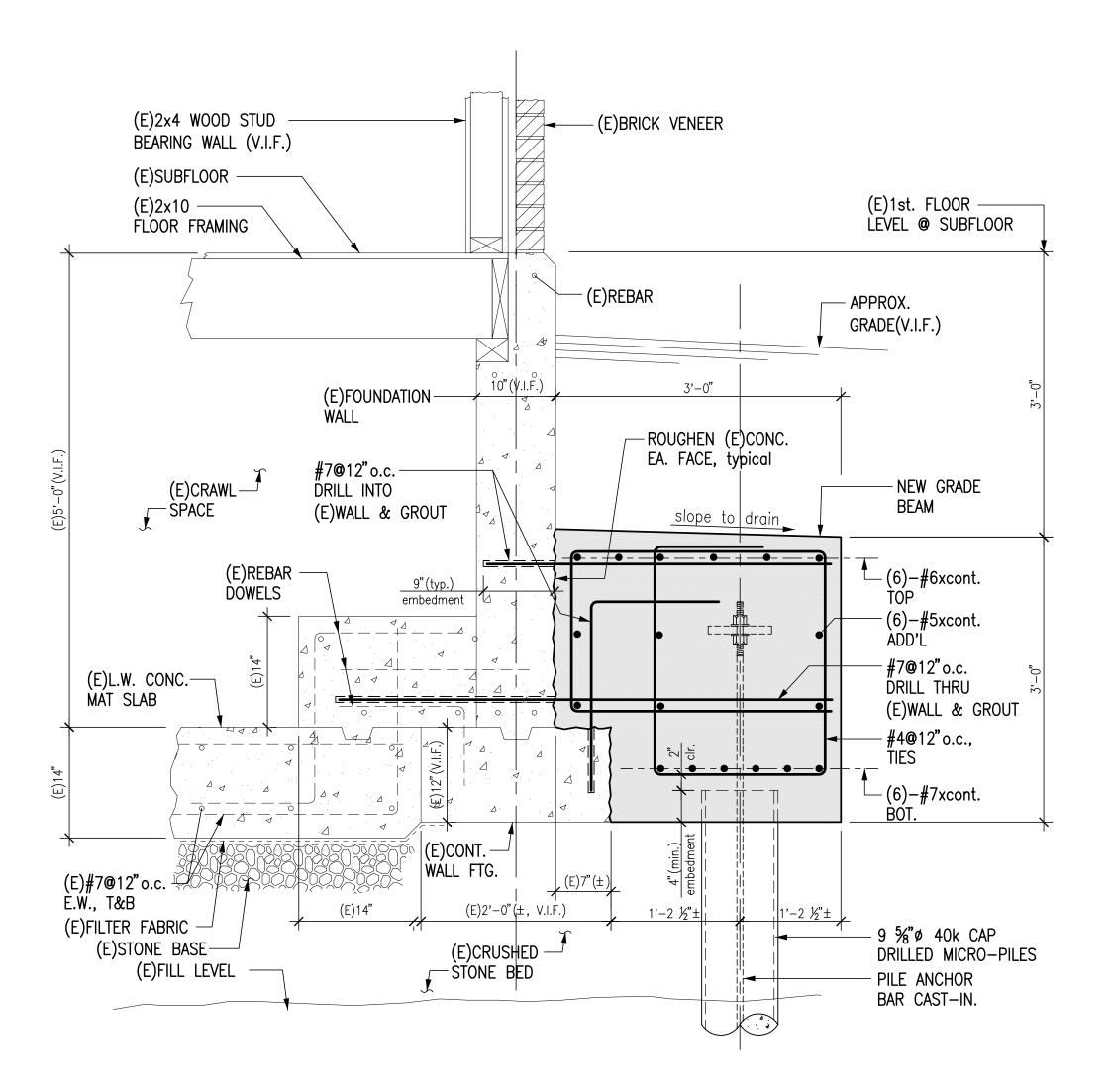
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#### NOTES:

- 1.) REBAR INFORMATION FOR EXISTING MAT SLAB TAKEN FROM D. BERG DRAWINGS dated: 08/03/2009
- 2.) FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS.
- 3.) COORDINATE WITH GEOTECHNICAL INFORMATION FOR ACTUAL PILE DETAILS.
- 4.) PRIOR TO DRILLING NEW DOWELS INTO EXISTING FOUNDATION WALLS, FIELD VERIFY THAT EXISTING UTILITY LINES PENETRATING THE WALLS WILL BE CLEARED BY THE NEW DOWELS.
- 5.) COORDINATE WITH TYPICAL DIAGRAMMATIC PILE DETAIL 1 ON SHEET S301.



# 2

# SECTION AT NEW GRADE BEAM AND PILES AT FRONT WALL-TYPICAL

SCALE:  $1^{\circ} = 1$ 

#### NOTES:

- 1.) REBAR INFORMATION FOR EXISTING MAT SLAB TAKEN FROM D. BERG DRAWINGS dated: 08/03/2009
- 2.) FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS.
- 3.) COORDINATE WITH GEOTECHNICAL INFORMATION FOR ACTUAL PILE DETAILS.
- 4.) PRIOR TO DRILLING NEW DOWELS INTO EXISTING FOUNDATION WALLS, FIELD VERIFY THAT EXISTING UTILITY LINES PENETRATING THE WALLS WILL BE CLEARED BY THE NEW DOWELS.
- 5.) COORDINATE WITH TYPICAL DIAGRAMMATIC PILE DETAIL 1 ON SHEET S301.



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PROJECT NUMBER: 13130

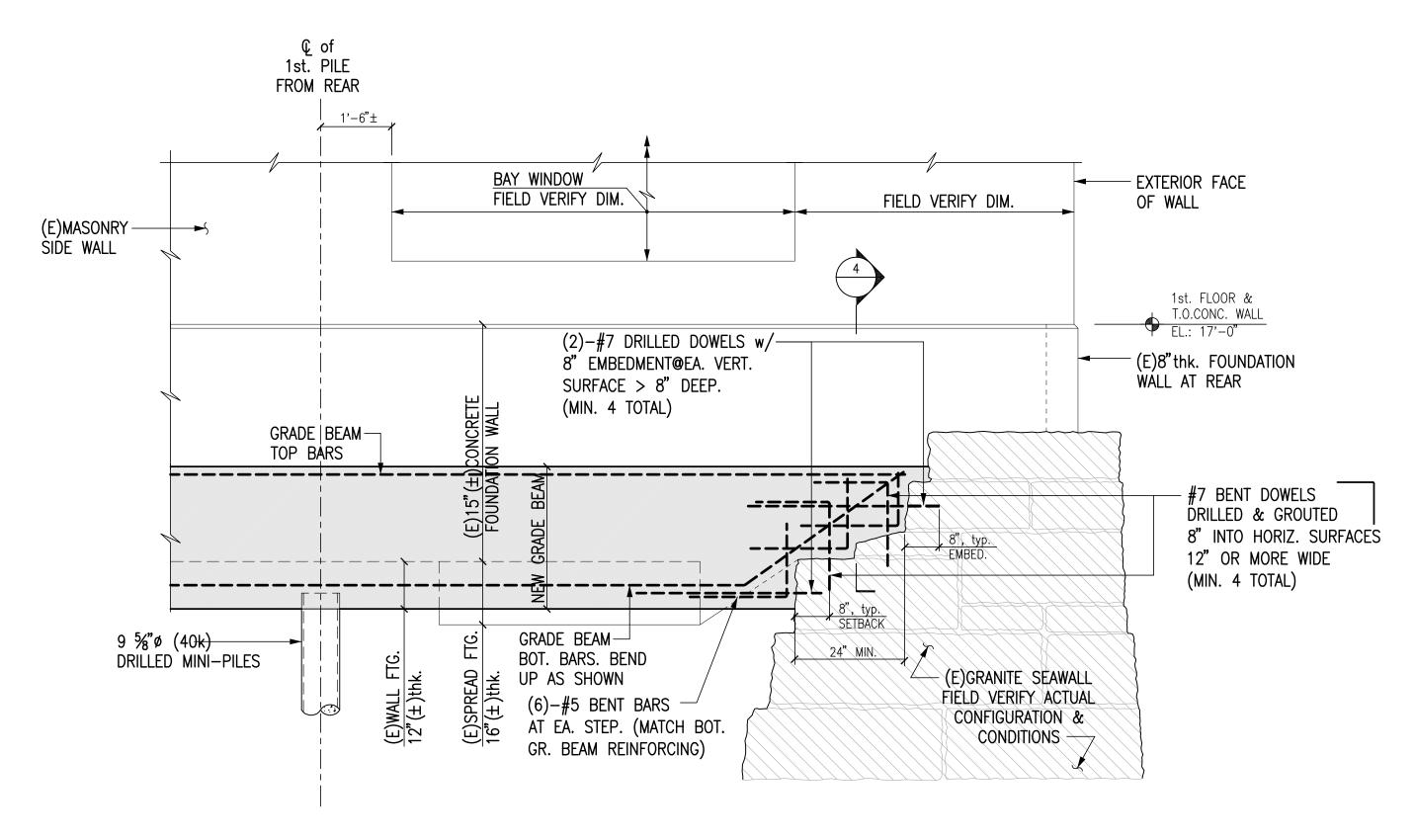
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SECTIONS & DETAILS
SHEET I

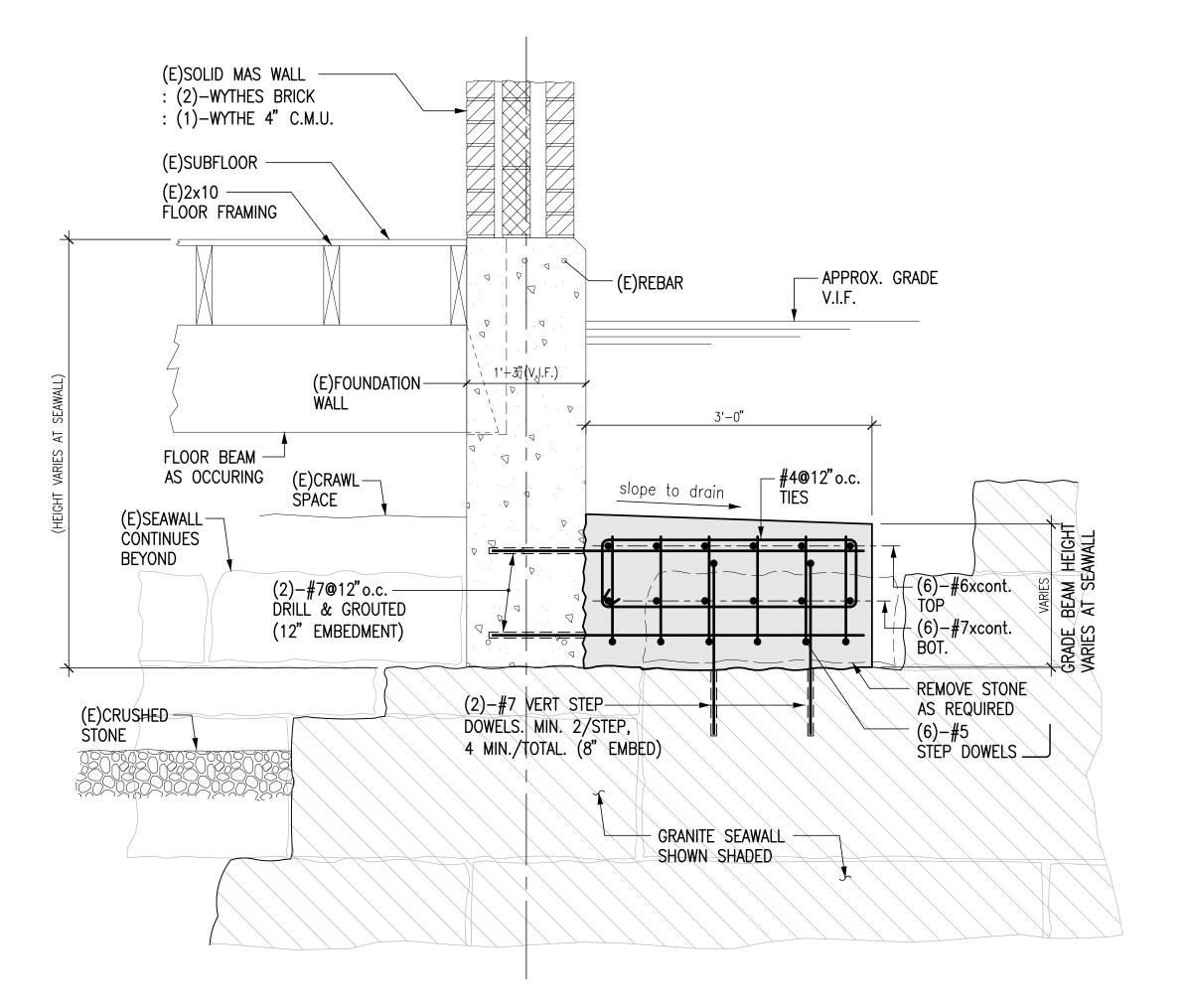
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## SECTION ELEVATION GRADE BEAM ALONG SEAWALL AT UNIT 27 SCALE: 1/2"=1'-0"

## NOTES:

1.) GRADE BEAM HORIZONTIAL "SKIN" REINFORCING AND TIES NOT SHOWN FOR CLARITY. 2.) SEAT NEW GRADE BEAM MIN. 24" ONTO (E)STONE SEAWALL. CLEAN OFF STONE AT GRADE BEAM BEARING DOWN TO SOUND STONE REMOVING ALL LOOSE DEBRIS, FOREIGN MATERIAL AND MARINE LIFE. (BARNACLES, CLAMS, ETC.)







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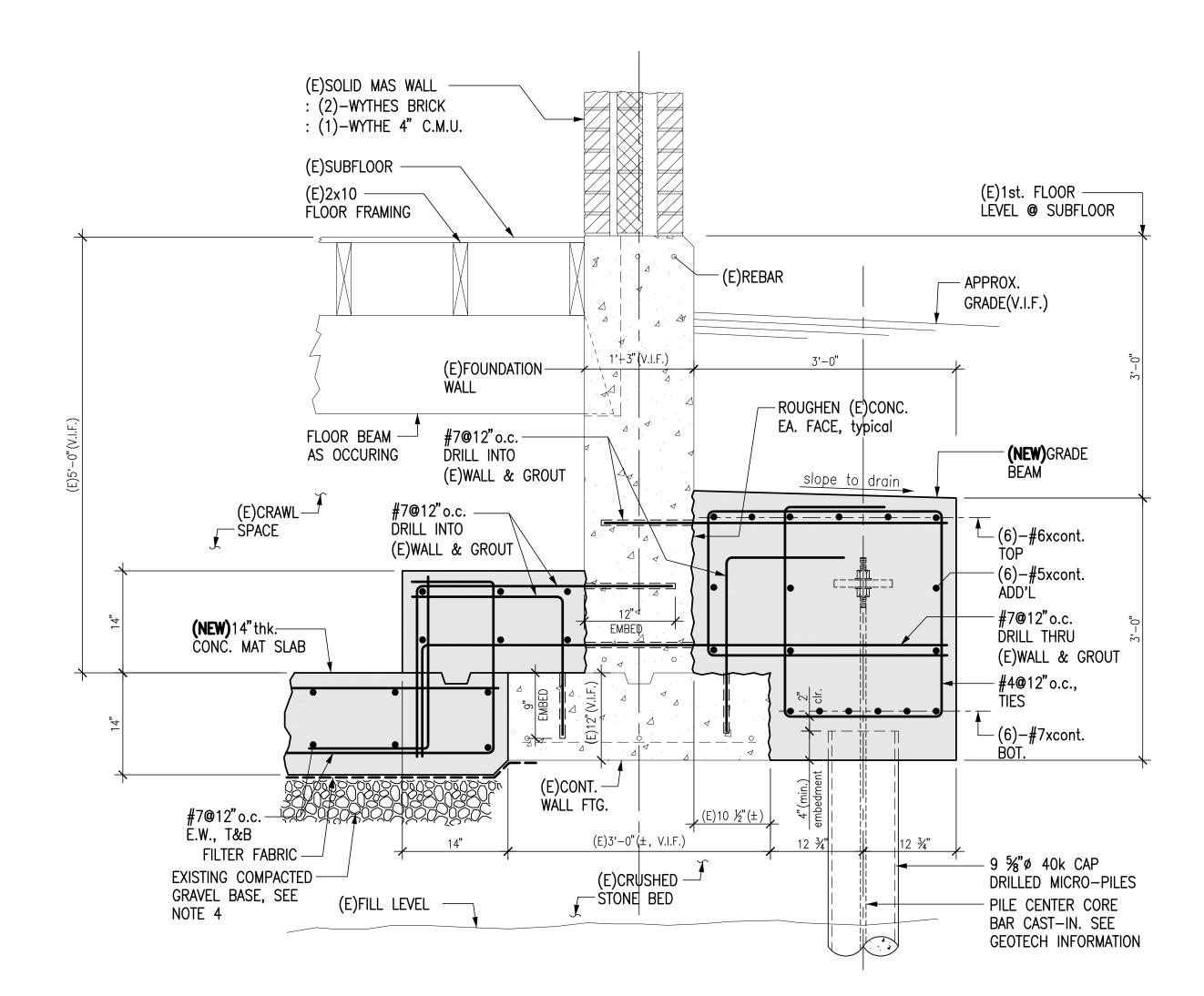
Foundation Improvements



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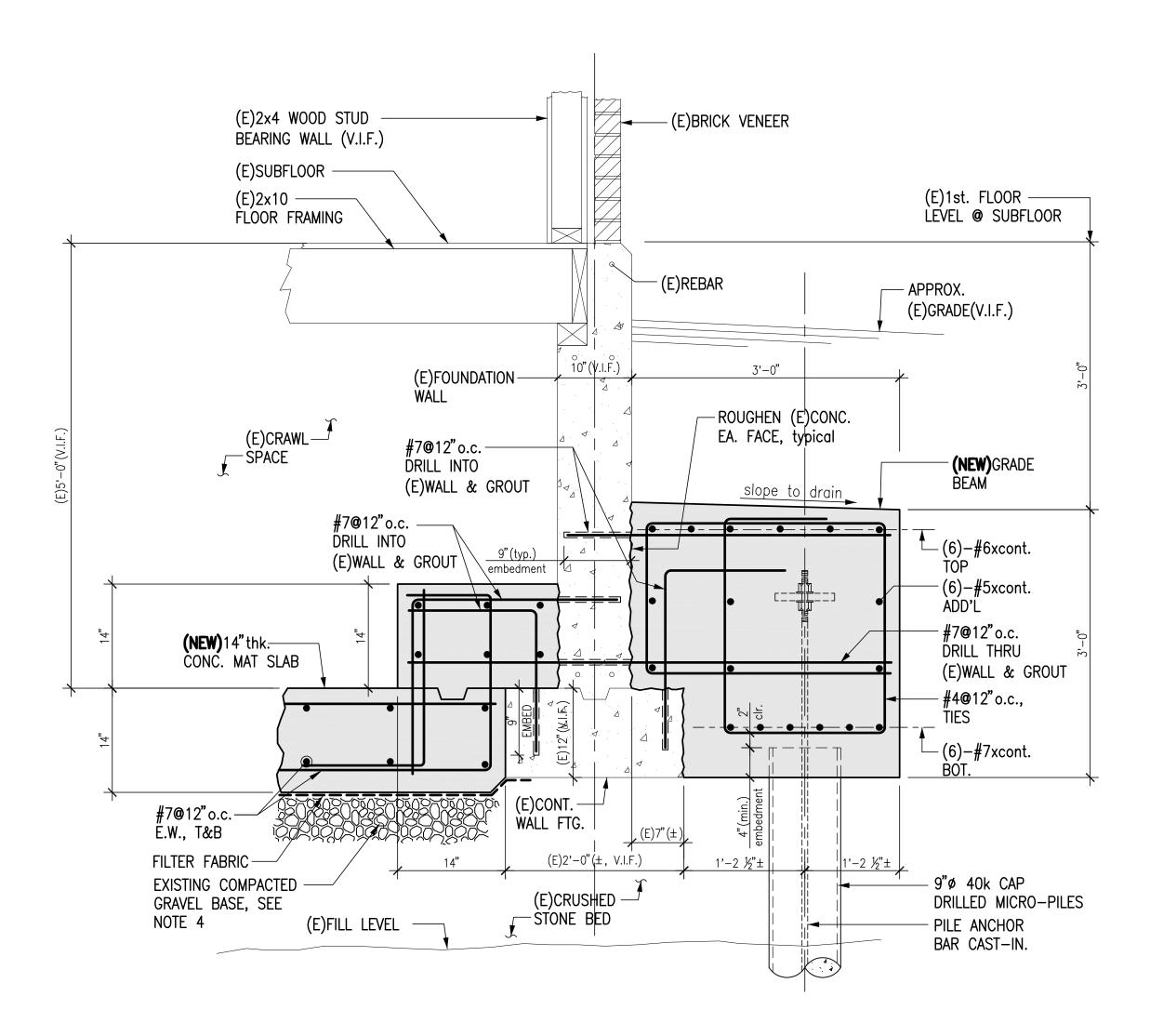
SECTIONS & DETAILS SHEET II





NOTES:

- 1.) FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS.
- 2.) COORDINATE WITH GEOTECHNICAL INFORMATION FOR ACTUAL PILE DETAILS.
- 3.) PRIOR TO DRILLING NEW DOWELS INTO EXISTING FOUNDATION WALLS, FIELD VERIFY THAT EXISTING UTILITY LINES PENETRATING THE WALLS WILL BE CLEARED BY THE NEW DOWELS.
- 4.) EXCAVATE EXISTING COMPACTED GRAVEL BASE AS NECESSARY TO LEVEL CONDITION AND CLEAN THE SUBGRADE SURFACE TO THE APPROVAL OF THE GEOTECHNICAL ENGINEERS.
- 5.) COORDINATE WITH TYPICAL DIAGRAMMATIC PILE DETAIL 1 ON SHEET S301.



## SECTION AT NEW GRADE BEAM AND PILES AT FRONT WALL-TYPICAL

SCALE: 1"=1'-0" NOTES:

- 1.) FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS.
- 2.) COORDINATE WITH GEOTECHNICAL INFORMATION FOR ACTUAL PILE DETAILS.
- 3.) PRIOR TO DRILLING NEW DOWELS INTO EXISTING FOUNDATION WALLS, FIELD VERIFY THAT EXISTING UTILITY LINES PENETRATING THE WALLS WILL BE CLEARED BY THE NEW DOWELS.
- 4.) EXCAVATE EXISTING COMPACTED GRAVEL BASE AS NECESSARY TO LEVEL CONDITION AND CLEAN THE SUBGRADE SURFACE TO THE APPROVAL OF THE GEOTECHNICAL ENGINEERS.
- 4.) COORDINATE WITH TYPICAL DIAGRAMMATIC PILE DETAIL 1 ON SHEET S301.



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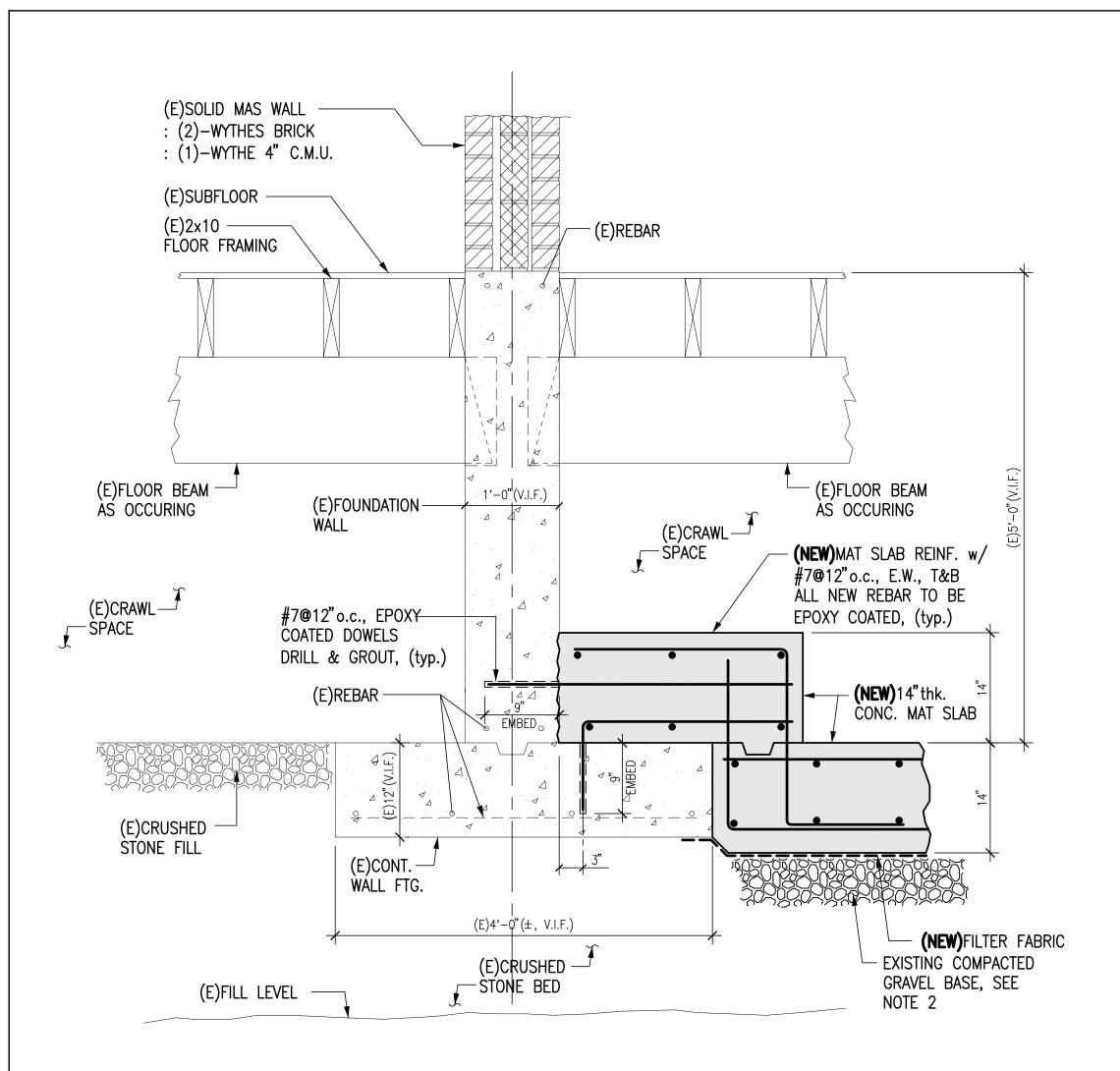


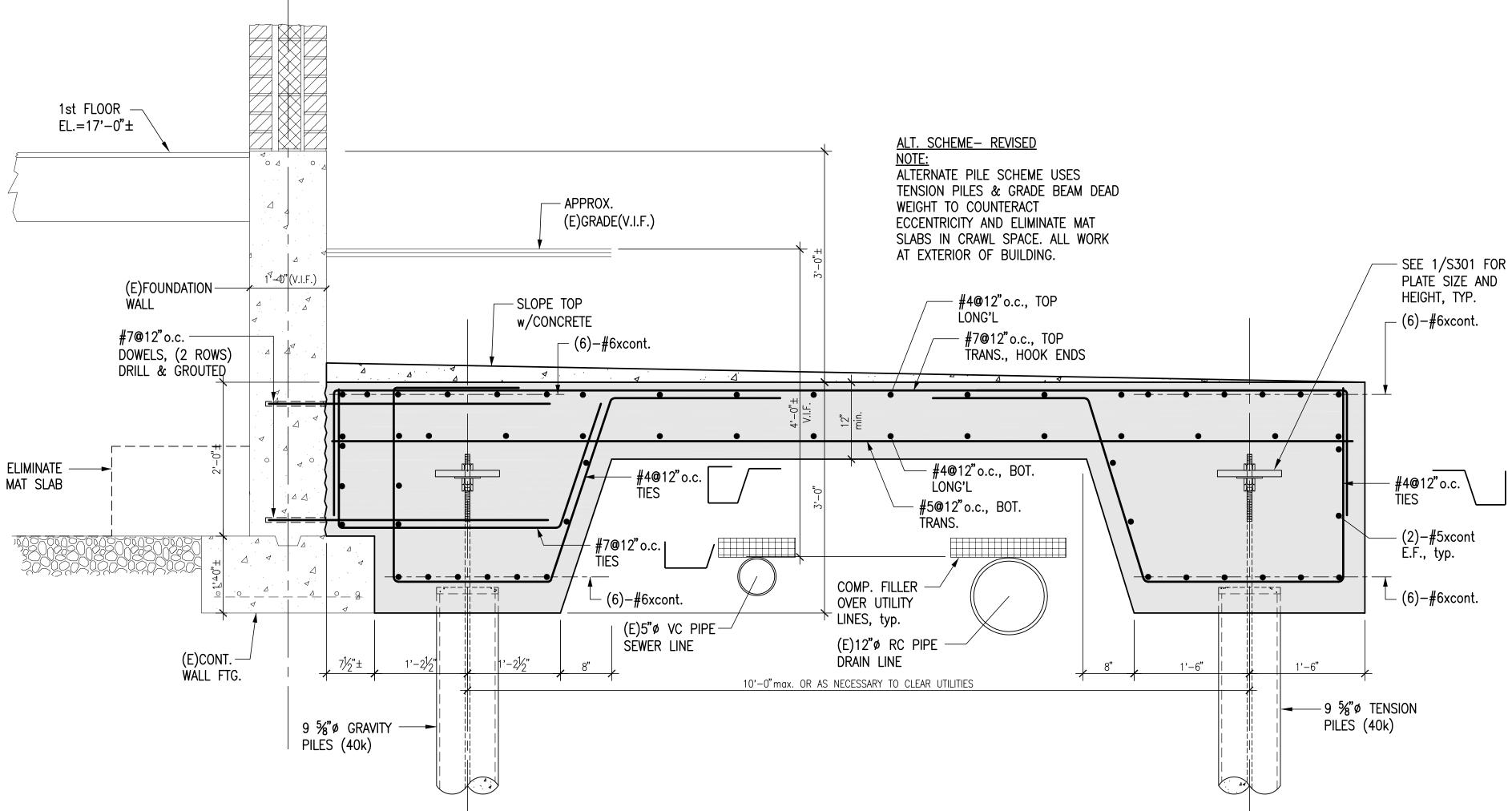
PROJECT NUMBER: 13130.00 JULY 31, 2014

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SECTIONS & DETAILS SHEET III

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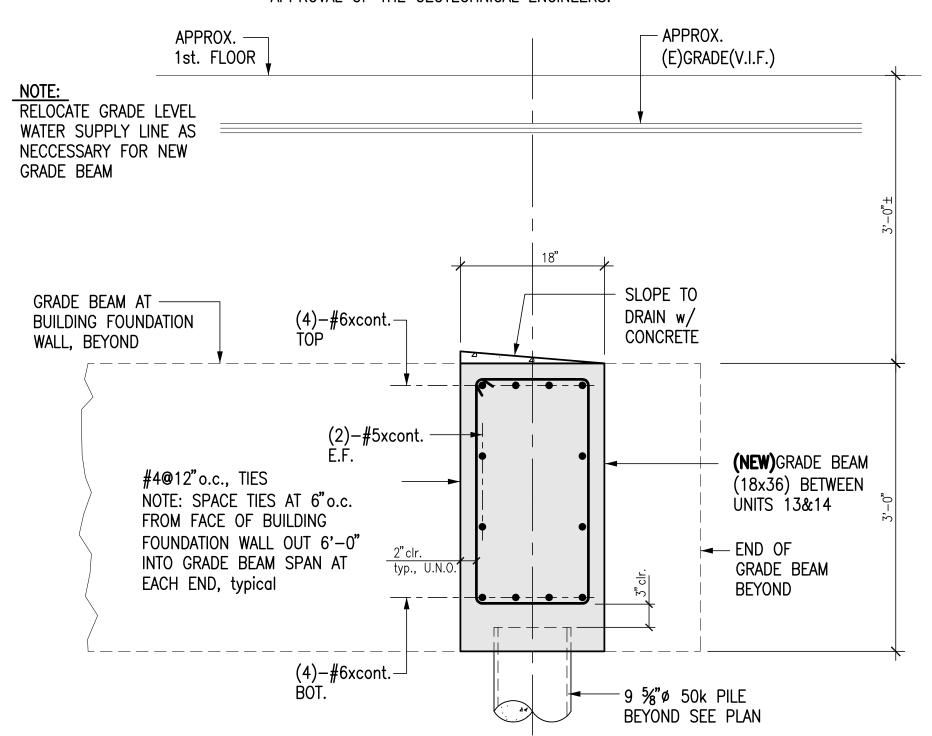




# 7 SECTION AT NEW MAT SLAB AT EXISTING PARTY WALL—TYPICAL SCALE: 1"=1'-0"

NOTES:

- 1.) FIELD VERIFY ALL EXISTING DIMENSIONS & CONDITIONS.
- 2.) EXCAVATE EXISTING COMPACTED GRAVEL BASE AS NECESSARY TO LEVEL CONDITION AND CLEAN THE SUBGRADE SURFACE TO THE APPROVAL OF THE GEOTECHNICAL ENGINEERS.



SECTION AT UNIT #13 & #14

GRADE BEAM

SCALE: 1"=1'-0"

# 8 SECTION AT ALT PILE SCHEME AT CANTILEVER SLAB SCALE: 1"=1'-0"

#### NOTES:

- 1.) COORDINATE WITH TYPICAL DIAGRAMMATIC PILE DETAIL 1 ON SHEET S301.
- 2.) PILE CENTERBAR REINFORCING PLATE AT GRADE BEAM HEIGHT VARIES WITH PILE TYPE-SEE 1/S301.



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UNION WHARF Boston, MA

Foundation Improvements



PROJECT NUMBER: 13130.0

DATE: JULY 31, 2014

SCALE:

DRAWING NAME:

SECTIONS & DETAILS SHEET IV

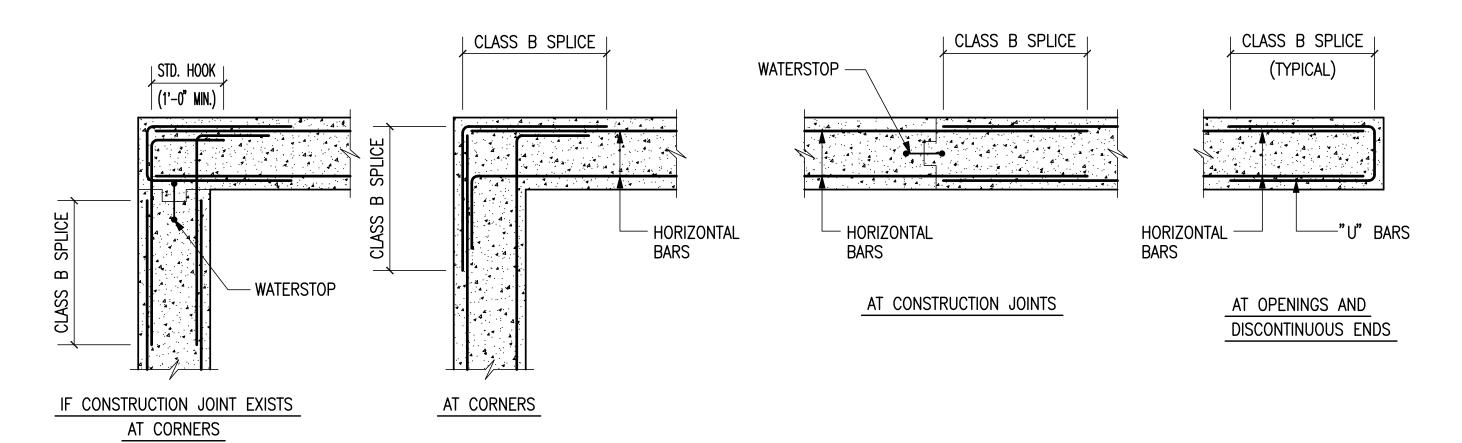
DRAWING NUMBER:

# TENSION DEVELOPMENT LENGTH (Lap Class A) AND LAP SPLICE LENGTHS (Lap Class B) FOR GRADE 60 DEFORMED REINFORCING BARS (inches) (UNLESS SHOWN OTHERWISE ON DRAWINGS)

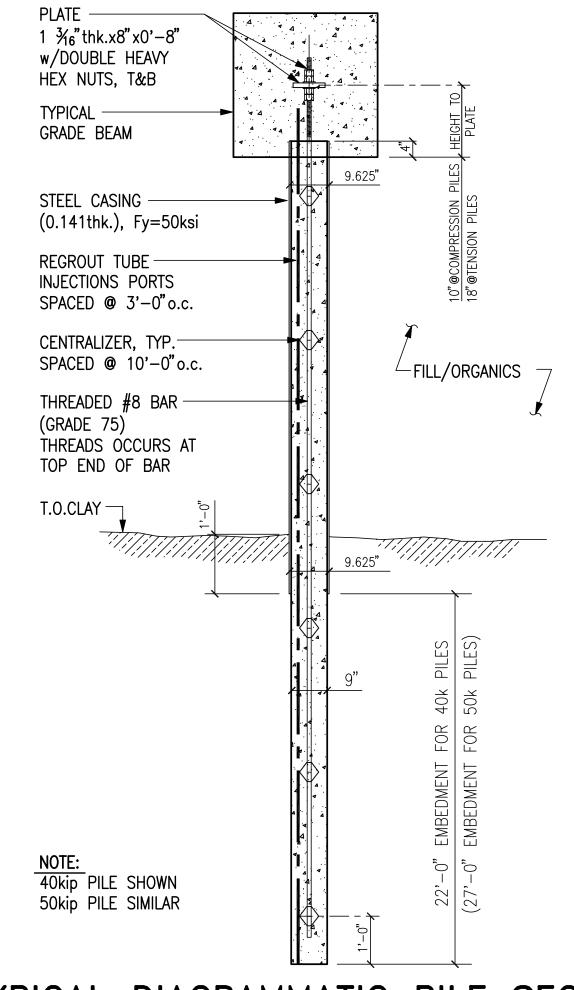
#### f'c = 5000 PSI NORMAL WEIGHT CONCRETE

									t'c	= 5000	PSI, NORI	MAL WEIGH	IT CONCRE	.IE							
BAR	LAP		CONCRETE COVER $>=0.75$ in. CLEAR BAR SPACING <sup>2</sup> $>=1.5$ in.				RETE COV BAR SPA				CONCRETE COVER >=1.50 in.  CLEAR BAR SPACING <sup>2</sup> >=3.0 in.				RETE COV			CONCRETE COVER $>=3.00$ in. CLEAR BAR SPACING <sup>2</sup> $>=6.0$ in.			
SIZE	CLASS	UNCC	DATED	EPOXY-	-COATED	UNCC	ATED	EPOXY-	-COATED	UNCC	ATED	EPOXY-	-COATED	UNCC	DATED	EPOXY-	-COATED	UNC	DATED	EPOXY-COATED	
		TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER	TOP <sup>1</sup>	OTHER
#3	Α	12	12	13	12	12	12	13	12	12	12	12	12	12	12	12	12	12	12	12	12
πο	В	16	16	17	16	16	16	17	16	16	16	16	16	16	16	16	16	16	16	16	16
#4	A	17	13	22	19	14	12	18	16	14	12	16	13	14	12	18	13	14	12	16	13
#*	В	22	17	28	25	18	16	23	20	18	16	21	16	18	16	21	16	18	16	21	16
<b>#</b> 5	Α	25	19	32	28	20	15	26	23	17	13	22	19	17	13	20	16	17	13	20	16
# <sup>3</sup>	В	32	25	42	37	26	20	34	30	22	17	28	25	22	17	26	20	22	17	26	20
#6	Α	33	26	44	38	27	21	36	32	20	16	26	23	20	16	26	23	20	16	24	19
#0	В	43	33	57	50	35	27	46	41	26	20	34	30	26	20	34	30	26	20	31	24
<b>#</b> 7	A	54	41	70	62	44	34	58	51	33	25	43	38	29	23	38	34	29	23	35	27
# /	В	70	54	91	80	58	44	75	66	43	33	56	49	38	29	50	44	38	29	45	35
Дο	Α	66	51	87	77	55	43	72	64	42	32	54	48	33	26	44	38	33	26	40	31
#8	В	86	66	113	100	72	55	94	83	54	42	71	62	43	33	57	50	43	33	52	40
<b>#</b> 9	A	80	62	105	93	68	52	88	78	51	40	67	59	41	32	54	48	38	29	49	43
₩ <sup>3</sup>	В	104	80	136	120	88	68	115	101	67	51	87	77	54	41	70	62	49	38	64	56
Ш10	Α	97	74	126	111	82	63	107	94	63	48	82	72	51	39	67	59	42	33	55	49
#10	В	126	97	164	145	106	82	139	123	82	63	107	94	66	51	86	76	55	42	72	63
#11	Α	113	87	148	131	97	75	126	112	75	58	98	86	61	47	80	70	47	36	61	54
# ' '	В	147	113	192	170	126	97	164	145	97	75	127	112	79	61	104	92	61	47	80	70

- 1. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
- 2. CLEAR BAR SPACING = CENTER TO CENTER SPACING BAR DIAMETER.
- 3. AVOID SPLICES IN REGIONS OF MAXIMUM MOMENT. IF THIS IS NOT POSSIBLE, STAGGER SPLICES SO THAT SPLICES DO NOT REQUIRE MORE THAN 50% OF THE BARS ARE SPLICED WITHIN A REQUIRED SPLICE LENGTH OTHERWISE INCREASE SPLICE LENGTH BY 30%.



## TYPICAL PLAN OF HORIZONTAL WALL REINFORCING



TYPICAL DIAGRAMMATIC PILE SECTION



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Foundation Improvements



PROJECT NUMBER:

DRAWING NAME:

UNION WHARF TYPICAL CONCRETE SECTIONS , DETALS & SCHEDULES SHEETI