



**SAGE**  
ENVIRONMENTAL

**REMEDIAL ACTION WORK PLAN**

**Queen Anne Square  
Plat 24 Lot 346  
Newport, Rhode Island  
RIDEM Case No. 2012-010**

*Prepared For:*

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**SAGE Project #S2244**

**SEPTEMBER 2012  
(Revision 3 - October 2012)**



**SAGE**  
ENVIRONMENTAL

October 5, 2012

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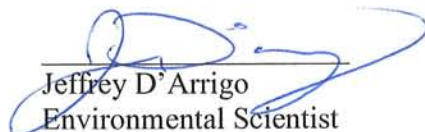
**RE: Remedial Action Work Plan – Rev. 3**  
**Queen Anne Square**  
**Plat 24 Lot 346**  
**Newport, Rhode Island**  
**RIDEM Case# 2012-010**  
**SAGE Project No. S2244**

Dear Mr. Martella:

On behalf of our client, SAGE Environmental Inc. (SAGE) has prepared the following Remedial Action Work Plan (RAWP) associated with the referenced property. This RAWP has been prepared in accord with Section 9.0 of the *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases* and with consideration to the Department's Program Letter issued August 24, 2012.

Should you have any questions pertaining to this information, please do not hesitate to contact the undersigned.

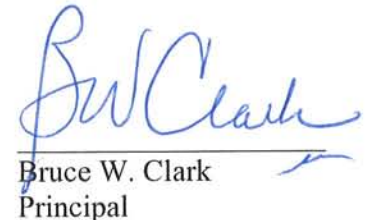
Sincerely,  
SAGE Environmental, Inc.



Jeffrey D'Arrigo  
Environmental Scientist



Rick Mandile  
Principal



Bruce W. Clark  
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JD/RM/BWC:car

Attachment

c: Kelly Owens, RIDEM, OWM  
Mr. Pieter Roos, Executive Director, Doris Duke Monument Foundation

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- Appendix 2 Proposed Grading Plan**

- Appendix 3 Cap Details and Supporting Figures**
- Appendix 4 Mr. Wheeler Opinion Letter**
- Appendix 5 Notice of Intent, Storm Water Pollution Prevention Plan and  
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## 1.0 INTRODUCTION AND BACKGROUND

SAGE Environmental, Inc. (SAGE), on behalf of its client, the Doris Duke Monument Foundation (DDMF), presents this Remedial Action Work Plan (RAWP) associated with the property identified as Lot 346 on Newport Assessor's Plat 24 in Newport, Rhode Island (hereinafter "Site"). The purpose of this RAWP is to describe technical details associated with the implementation of the preferred Site remedial alternatives proposed to and approved by the Rhode Island Department of Environmental Management (RIDEM) in its September 27, 2012 Remedial Decision Letter (RDL), a copy of which is included as **Appendix 1**.

This RAWP has been prepared in general accord with Section 9.0 of the Rhode Island *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations)* to mitigate impacts to soil identified and delineated through Site investigation activities completed at the Site. Assessment activities conducted at the Site have been summarized in reports and correspondences, previously furnished to the RIDEM, which include:

- *Memorandum from SAGE, on behalf of the City of Newport and the DDMF, containing unsigned Hazardous Material Release Notification Form and an environmental sample result information packet, February 22, 2012 by SAGE;*
- *Hazardous Material Release Notification Form signed by City of Newport representative, February 27, 2012 by SAGE;*
- *Meeting Summary, Queen Anne Square, Newport, Rhode Island, February 24, 2012 by SAGE;*
- *Response to Meeting Summary Comments, Queen Anne Square, Newport Rhode Island, March 1, 2012 by SAGE;*
- *Summary Report, April 2, 2012 Public Meeting and 10-Day Comment Period, Queen Anne Square (Assessors Plat 24 Lot 346), Newport Rhode Island, RIDEM*

*Case No. 2012-10 (Summary Report) May 3, 2012 by SAGE;*

- *Revised Proposed Scope of Work, Queen Anne Square, Newport, Rhode Island, June 25, 2012, by SAGE;*
- *Site Investigation Report Queen Anne Square, Newport Rhode Island August 23, 2012 by SAGE;*
- *Letter from SAGE to the Department, re: Queen Anne Square, Newport, Rhode Island, August 24, 2012, by SAGE;*

Based on the findings of the Site Investigation, remedial alternatives were evaluated, and a preferred alternative for the Site has been selected. The preferred remedy is emplacement of an engineered barrier Site-wide combined with limited excavation of four select locations, more specifically, one location where concentrations of total petroleum hydrocarbon (TPH) exceed the RIDEM Method 1 GB Leachability Criterion and three additional locations where lead concentrations in soil appear anomalously high and/or elevated headspace responses were detected. Implementation of an Environmental Land Use Restriction (ELUR) is also proposed as part of the remedy. This alternative is protective of exposures to impacting materials, will be compliant with the *Remediation Regulations*, and is technically feasible and implementable by the Site owner.

## **2.0 SITE DESCRIPTION**

### **2.1 Site Location**

The Site is identified as Lot 346 on Newport Assessor's Plat 24 in Newport, Rhode Island (hereinafter "Site"). The approximate center of the Site is located at 41° 29' 15" north latitude and 71° 18' 51" east-west longitude. A Site Location Map identifying the Site on a portion of the "Newport, Rhode Island Quadrangle" United States Geological Survey (USGS) topographic map is included as **Figure 1**. A Plat Plan depicting the Site on the

City of Newport Tax Assessor's Plat No. 24 as Lot 346 is included as **Figure 2**. According to the Newport Tax Assessor's Office, the Site consists of 1.75 acres of land.

## **2.2 Physical Setting**

According to the, "Newport, Rhode Island Quadrangle" USGS topographic Map, the elevation of the Site is approximately 34 feet above mean sea level. Site topography is flat with a slight slope west toward Newport Harbor.

According to the Bedrock Geologic Map of Rhode Island, geology beneath the Site consists of Esmond-Dedham Avalon stratified rock. According to the Rhode Island Soil Survey, the surficial geology consists of till.

Based on a review of the RIDEM Groundwater Classification Map for the Site and vicinity, the Site is located in an area with a GB groundwater classification. Groundwater resources classified as GB by RIDEM are those which have been designated to be unsuitable for public or private drinking water use without prior treatment.

Based on a review of a map obtained from the RIGIS database depicting wetlands and areas of critical environmental concern, no wetlands, rare species habitats or wildlife management areas are located on or within 500 feet of the Site.

According to Flood Insurance Rate Map (FIRM) #44005C0177H dated April 5, 2010, the Site is not located zone "X" indicating an area outside the 0.2% annual flood chance.

Area waterbodies consist of Newport Harbor located approximately 750 feet west of the Site.



### 3.0 SUMMARY OF SITE CONDITIONS

Contaminants of concern for the Site were identified as a result of traditional All Appropriate Inquiries efforts as well as the Public Meeting process (R.I.G.L. Title 23, *Health and Safety*, Chapter 23-19.14, *Industrial Property Remediation and Reuse Act*, Section 23-19.14-5, *Environmental Equity and Public Participation*, and Section 7.00, Rule 7.07.A.iii of *Remediation Regulations*). A total of 54 soil borings were advanced, five of which were completed as groundwater monitor wells. 106 soil samples were obtained for laboratory analysis: TPH (10 samples), volatile organic compounds (VOCs) (13 samples), polynuclear aromatic hydrocarbons (PAHs) (22 samples), metals (48 samples), and polychlorinated biphenyls (PCBs) (13 samples). With respect to soil, contaminants of concern identified above Method 1 Residential Direct Exposure Criteria include PAHs, metals (predominantly lead) more or less Site-wide, and TPH at a single location where the TPH concentration also exceeds the Method 1 GB Leachability Criteria.

Groundwater monitoring of monitor wells MW-1, MW-3, MW-4 and MW-5 was conducted in January 2012 and of monitor well MW-3 and borings B-37 and B-41 (using screened-point (SP) samplers) in July 2012. Groundwater analysis was limited to VOCs (9 samples) and metals (2 samples). No target analytes were detected above applicable Method 1 GB Groundwater Quality Objectives, where established.

The results of Site Investigations indicate that the primary risk associated with the conditions present at the Site is direct exposure to shallow soils exhibiting concentrations of metals and PAHs above the RIDEM Method 1 Residential Direct Exposure Criteria. An additional risk is posed by a small soil area in the vicinity of boring B-21 where TPH was identified in exceedance of the RIDEM Method 1 Residential Direct Exposure Criteria and the GB Leachability Criteria. A review of soil data further indicates that in addition to the TPH impact, there are three locations where concentrations of lead in soil appear anomalously elevated and/or elevated headspace responses were detected. Given

the threat to groundwater quality exhibited by the TPH-impacted soil and the presence of a RIDEM Upper Concentration Limit (UCL) exceedance for lead and the elevated metals and/or PID responses exhibited by soils limited removal efforts are proposed in these areas.

A summary of soil and groundwater conditions at the Site is provided in **Sections 3.1** and **3.2**, respectively.

### **3.1 Summary of Soil Conditions**

Field observations made during Site investigation activities identified evidence of fill material including bricks, concrete debris, metal and plastic scrap, black coal-ash-like material and traces of asphalt which are associated with former urban filling practices and the razing of several commercial buildings at the property. Analytical data was obtained from soil samples collected from depths between the surface and 16.5 feet below ground level (bgl) in borings advanced by *SAGE*. 106 soil samples were obtained for laboratory analysis: TPH (10 samples), VOCs (13 samples), PAHs (22 samples), metals (48 samples), and PCBs (13 samples). With respect to soil, contaminants of concern identified above Method 1 Residential Direct Exposure Criteria include PAHs, metals (predominantly lead) more or less Site-wide, and TPH at a single location where the TPH concentration also exceeds the Method 1 GB Leachability Criteria. A review of soil data further indicates that in addition to the TPH impact, there are three locations where concentrations of lead in soil appear anomalously elevated and/or elevated headspace responses were detected. The above soil locations are summarized in **Table 1**.

**Table 1**  
**Proposed Limited Removal Areas**  
**Queen Anne Square**  
**Plat 24 Lot 346**  
**Newport, Rhode Island**

<b>Area</b>	<b>Location</b>	<b>Rationale</b>
1	Vicinity of boring B-21	TPH exceedance of GB Leachability Standard; UCL exceedance for lead in boring B-40 S1; and elevated PID responses in boring B-41 (max hit 999 ppm)
2	Vicinity of boring B-37	Elevated PID responses (max 550 ppm)
3	Vicinity of boring B-6	Elevated PID responses (max 1050 ppm)
4	Vicinity of boring B-49	Lead detected at concentrations of 4,050 ppm

Soil samples exceeding Method 1 Residential Direct Exposure Criteria are summarized in **Table 2**. Boring locations are depicted on **Figure 3**.

**Table 2**  
**Soil Sampling Exceedance Summary**  
**Queen Anne Square**  
**Plat 24 Lot 346**  
**Newport, Rhode Island**

Boring ID	Terminal Boring Depth (feet)	Sample ID	Date Sampled	Exceedances of Residential Direct Exposure Criteria			
				Total Petroleum Hydrocarbon (TPH)	Volatile Organic Compound (VOC)	Semi-Volatile Organic Compounds (SVOC)	Priority Pollutant 13 Metals (PP13)
B-6	15*	S1	1/16/12			X	X
		S4A	1/16/12		No Exceedance		
B-7	12*	S1	1/16/12			X	X
B-8	6*	S1	1/16/12		No Exceedance		
B-9	12*	S1	1/16/12			X	X
B-10	12*	S1	1/23/12			X	
B-11	11.5*	S2	1/23/12				X
B-12	12*	S1	1/23/12			X	X
B-13	12*		1/23/12		Not analyzed		
B-14	12*	S1	1/23/12		No Exceedance		
B-15	3*		1/23/12		Not analyzed		
B-16	3*		1/23/12		Not analyzed		
B-17	11.5*	S1	1/23/12		No Exceedance		
		S1B	1/23/12			X	
B-18	11.5*		1/23/12		Not analyzed		
B-19		S1	1/23/12		No Exceedance		
	12*	S1B	1/23/12			X	
B-20	3*		1/23/12		Not analyzed		
B-21	12*	S1	1/23/12		No Exceedance		
		S1B	1/23/12	X			
		S2B	1/23/12			X	
		S3B	1/23/12		No Exceedance		
B-22	12*		1/23/12		Not analyzed		
B-23	11*		1/23/12		Not analyzed		
B-24	11*	S1	1/24/12				X
		S1B	1/24/12			X	
B-25	9*	S1	1/24/12				X
		S2A	1/24/12		No Exceedance		
B-26	10*	S1	1/24/12				X
		S1B	1/24/12			X	
B-27	9*	S1	1/24/12		No Exceedance		
		S1C	1/24/12		No Exceedance		
B-28	11.5*	S1	1/24/12		No Exceedance		
		S1B	1/24/12		No Exceedance		
B-29	9.5*		1/24/12		Not analyzed		
B-30	11.5*		1/24/12		Not analyzed		
B-31		S1	1/24/12				X
	12*	S1B	1/24/12			X	
B-32	7*	S1	1/24/12				X
		S1B	1/24/12			X	
B-33	10*	S1	1/24/12				X
		S1B	1/24/12			X	
B-34	8*	S1	1/24/12		No Exceedance		
		S1B	1/24/12		No Exceedance		
		S2	1/24/12		No Exceedance		
B-35	10*	S1	1/24/12		No Exceedance		
		S1B	1/24/12			X	
B-36	12*	S1	1/24/12				X
		S1C	1/24/12			X	
B-37	16*	S1	7/18/12		No Exceedance		X
	16*	S3B	7/18/12		No Exceedance		
	16*	S4	7/18/12		No Exceedance		
B-38	11*	S1	7/18/12		No Exceedance		X
B-39	8*	S3	7/18/12		No Exceedance		
		S1	7/18/12		No Exceedance		
	8*	S1B	7/18/12		No Exceedance		
B-40	9*	S1	7/18/12		No Exceedance		X
	9*	S1B	7/18/12		No Exceedance		X
B-40A	4	(4')	7/27/12		No Exceedance		X
B-41	16.5*	S1	7/18/12		No Exceedance		X
	16.5*	S2A	7/18/12		No Exceedance		
	16.5*	S3B	7/18/12		No Exceedance		
	16.5*	S4B	7/18/12		No Exceedance		
B-42	11*	S1	7/18/12		No Exceedance		
	11*	S3	7/18/12		No Exceedance		
B-43	2	S1	7/18/12		No Exceedance		
B-44	2	S1	7/18/12		No Exceedance		
B-45	2	S1	7/18/12		No Exceedance		
B-46	2	S1	7/18/12		No Exceedance		X
B-47	2	S1	7/18/12		No Exceedance		
B-48	2	S1	7/18/12		No Exceedance		
B-49	2	S1	7/18/12		No Exceedance		X
B-50	2	(0-2')	7/27/12		No Exceedance		X
B-51	2	(0-2')	7/27/12		No Exceedance		X
B-52	2	(0-2')	7/27/12		No Exceedance		
B-53	2	(0-2')	7/27/12		No Exceedance		X
B-54	2	(0-2')	7/27/12		No Exceedance		
B-55	2	(0-2')	7/27/12		No Exceedance		X
B-56	2	(0-2')	7/27/12		No Exceedance		
B-57	2	(0-2')	7/27/12		No Exceedance		X
B-57	34 inches	(34")	7/27/12		No Exceedance		
B-58	2	(0-2')	7/27/12		No Exceedance		

\* Presumed bedrock refusal

Note: Samples designated "No Exceedances" indicates that specific analyses performed on the particular sample did not yield a result exceeding RIDEEM Method 1 Residential Direct Exposure Criteria.

### **3.2 Summary of Groundwater Conditions**

*SAGE* performed an elevation survey for the purposes of calculating top of casing (TOC) elevations and locations of the newly-installed wells. Survey activities were performed using standard differential leveling methods and utilized monitor well top of PVC elevations relative to an arbitrary datum of 100 feet assigned to a benchmark located at the Site. The horizontal location of each new well was measured with a cloth tape relative to permanent Site features. The survey data was combined with the April 20, 2012 depth to groundwater gauging data to calculate equivalent head groundwater elevations. Apparent overburden groundwater flow is predominantly westerly as depicted on **Figure 4**.

Groundwater monitoring was conducted in January and July 2012 from the five monitor wells and two borings (B-37 and B-41) using the SP sampling technique (July event only). Groundwater analysis was limited to VOCs (9 samples) and metals (2 samples). No target analytes were detected above applicable Method 1 GB Groundwater Quality Objectives, where established.

Based on groundwater analytical results from the Site investigation, no contaminants of potential environmental concern were identified in Site groundwater.

### **4.0 PREVIOUS REMEDIAL EFFORTS**

To *SAGE*'s knowledge, no previous remedial efforts have been conducted at the Site.

## **5.0 REMEDIAL OBJECTIVES**

### **5.1 Soil Objectives**

Applicable remedial objectives for impacted soil are RIDEM Method 1 Residential (within two feet of surface) and Industrial/Commercial Direct Exposure Criteria and GB Leachability Criteria. The construction of an engineered barrier/cap over impacted portions of the Site will effectively reduce the risk of direct exposures to impacted soil. Limited excavation of subsurface soils (a.k.a. "Limited Removal Areas") containing exceedances of GB Leachability Criteria and UCL (lead) will effectively reduce the risk of contaminants leaching from soil to groundwater. Emplacement of an ELUR on the Site will further reduce the risk of future exposure to impacted material by restricting Site use and subsurface intrusive activities and will also prevent transport of contaminants by limiting subsurface activities without the appropriate precautions.

### **5.2 Groundwater Objectives**

Applicable remedial objectives for groundwater beneath the Site are RIDEM Method 1 GB Groundwater Objectives. Based on analytical data for groundwater samples collected at the Site, no exceedances of the RIDEM Method 1 GB Groundwater Objectives have been detected in Site groundwater.

### **5.3 Air Objectives**

The nature and concentrations of impacting substances identified during the Site Investigation process are not reasonably expected to create impacts to ambient air. Therefore, no applicable remedial objectives for air are presented. However, air monitoring and dust suppression techniques will be employed during the construction process to reduce any potential for airborne impact. Moreover, prior to initiating

excavation efforts, the Site perimeter will be secured with a six (6) foot chain link fence equipped with a filter fabric material to limit the transmission of dust particles off Site.

## **6.0 PROPOSED REMEDY**

The results of Site Investigations indicate that the primary risk associated with the conditions present at the Site is direct exposure to shallow soils exhibiting concentrations of metals and PAHs above the RIDEM Method 1 Residential Direct Exposure Criteria.

To eliminate the risk of direct exposure to impacted surficial soils an engineered cap is the selected remedy. Installation of an engineered barrier meeting RIDEM's two (2) foot or equivalent policy for capping contaminated sites will be performed. The majority of the Site will consist of a vegetated cap consisting of one (1) foot of clean fill over a geotextile fabric. Additional cap styles proposed at the Site include brick walkways, foundations, and a cobble stone street. Details of the engineered cap are summarized in **Section 7.1**. Prior to installation of the engineered cap, limited excavations will be performed in the four areas previously discussed in **Section 3.1** to address TPH and lead impact and elevated PID responses. Limited excavations will remove TPH and lead impact and out of an abundance of caution additional limited removal in these areas are proposed to evaluate surrounding soil conditions and to confirm no shallow sources are present from prior dry cleaning operations and other Site uses which may have contributed to the elevated PID responses detected during Site Investigations. Details of the limited excavations are described further in **Section 7.2**.

In as much as groundwater sampling conducted at the Site did not identify concentrations of any target analyte exceeding the RIDEM Method 1 GB Groundwater Objectives, no remedy has been proposed.

## 7.0 FIELD IMPLEMENTATION OF PROPOSED REMEDY

Prior to initiating intrusive activities, *SAGE* will notify DIGSAFE. In addition, the Site perimeter will be secured with a six (6) foot chain link fence equipped with a filter fabric material to limit the transmission of dust particles off-Site. All gated entries to the Site perimeter security fence will be locked and secured at the end of each work day. The fence and filter fabric will be inspected at a minimum each morning and at the end of each work day, and any opening, tears, or other problems noted during the perimeter inspection will be promptly repaired.

### 7.1 Engineered Caps

Capping of the Site is proposed to eliminate direct exposure to impacted surficial soils. At a minimum, installation of an engineered barrier meeting RIDEM's two (2) foot or equivalent policy for capping contaminated sites will be performed. RIDEM approved cap types typically include: a) two (2) feet of clean fill; b) one (1) foot of clean fill over a Geotextile material; c) installation of concrete and asphalt at a thickness of four inches underlain by six inches of clean fill. A selection of various cap styles meeting these requirements is proposed for the Site. Generally these caps consist of (1) one soil/vegetated caps and (2) two hard caps.

#### 7.1.1 Soil/Vegetated Caps

To bring the Site to proposed elevations, grading will be performed prior to capping efforts. All limited soil removal actions and associated confirmatory sampling activities will be conducted prior to any grading activities in those respective areas. Overcutting of soils is proposed as outlined in the "Grading Plan" attached herein as **Appendix 2**. Overcutting is proposed Site wide to allow for the addition of a vegetated cap consisting of the following specifications. The vegetated cap is proposed to consist of ten (10) inches of clean fill material to be laid over a geotextile fabric with a minimum burst



strength of 400 psi and a minimum puncture strength of 120 pounds. Geotextile fabric will be placed with a one foot overlap on sheets. Following the addition of the ten (10) inches of clean fill an additional two (2) inches of new sod is proposed to be placed on top of the clean fill. This cap style represents a typical soil cap to be applied to the majority of the Site. A cross-section example of this cap specification is depicted on "Detail Sheet 2" attached herein as **Appendix 3**.

As part of the proposed park redevelopment plan, select existing mature tree species are to remain in-place. With respect to the preservation of the mature tree species, Mr. Scott D. Wheeler, the Newport Tree Warden, was consulted for insight on excavating within the trees' root zones. Mr. Wheeler provided technical recommendations as an ISA Certified Arborist and Newport's Tree Warden regarding steps to be taken to preserve the existing specimen trees in Queen Anne Square while completing the needed soil remediation work. Mr. Wheeler opined that it would not be possible to excavate the full soil profile to a depth of twelve (12) inches to allow for the one (1) foot cap with geotextile membrane without severely jeopardizing the integrity of the trees' anchorage. Mr. Wheeler further opined that an alternative method be implemented at the Site in the form of Air Spading. An air spade is a tool that allows for excavation of soils around tree root zones while minimizing damage to the root system. Furthermore Mr. Wheeler specifically recommended that air spading be utilized to remove existing soil to a minimum depth of eight (8) inches within a fenced tree protection zone defined as 1.5 times the diameter of the trees' canopy. Based on Mr. Wheeler's experience working with an air spade and after consulting with a number of his colleagues, eight (8) inches is the excavation limit of what is typically possible over a large area in heavily compacted park soils. The removed soil shall be replaced with eight (8) inches of a soil mix that includes additional organic matter to be installed, utilizing low ground weight equipment to minimize compaction. Finally, a two (2) inch layer of sod will be installed for a total cap of ten (10) inches. To insure the effectiveness of the soil and sod cap within the tree protection zone, the grass will be maintained with an automatic sprinkler system with

zones designed specifically to target existing tree beds. A long-term fertility, aeration and over-seeding program will be implemented to insure the health of the turf and to introduce shade and wear tolerant rye and fescue grasses into blue grass sod. A copy of Mr. Wheeler's expert opinion is attached herein as **Appendix 4**. A cross-section example of this cap specification is depicted on "Detail Sheet 2" attached herein as **Appendix 3**.

Additional supporting documents and figures depicting planned utility upgrades, as well as an overview "Soil Remediation Plan" depicting specific areas to be redeveloped are also attached herein as **Appendix 3**.

#### 7.1.2 *Hard Caps*

Additional areas of the Site are proposed to be capped utilizing various methods to meet RIDEM specifications. Additional areas include brick walkways, foundations and a cobblestone street. These capped areas will consist of the following specifications. Areas of brick walkways will consist of twelve (12) inches of processed gravel compacted to 95% with a four (4) inch concrete slab overlain with a two (2) inch stone dust layer finished to grade with a reclaimed Boston brick pattern set. The cobblestone street way identified as Frank Street will consist of twelve (12) inches of processed gravel compacted to 95% with a six (6) inch concrete slab with welded wire fabric finished to grade with reclaimed cobblestones set in ½ inch mortar. Cross-section examples of these capping style specifications are depicted on "Detail Sheet 1" attached herein as **Appendix 3**. As noted on Detail Sheet 3 in **Appendix 3** also included are specifications for a "typical seating wall" and "typical shed foundation wall" each of which are also caps. The seating walls extend to a depth of approximately three+ (3+) feet below grade, are 1.5 feet thick, are poured concrete and rise above grade to become brick, stone or concrete veneered seating walls. The foundation walls also extend to a depth of three+ (3+) feet below grade and extend a minimum of four (4) inches above grade or tie into an eight (8) inch gravel sub-base and four (4) inch concrete cap at grade. These caps are actually deeper than the two (2) foot cap required by the *Remediation Regulations* and

will interlock with surrounding caps. Drawing Detail Sheet 1 (D-1) details the types of caps that will be contained within the Seating Areas. These caps generally consist of a geotextile membrane above which is either a ten (10) inch or twelve (12) inch layer of washed/crushed stone or 50/50 sand and clean loam mix atop which is a two (2) inch stabilized aggregate or salvaged cleft bluestone paving having a minimum two (2) inch spacing between the blocks.

## **7.2 Limited Excavation of Subsurface Soils**

Prior to capping, four select areas will undergo limited excavations to remove impacted subsurface material. The above soil locations are summarized in **Table 1**. Locations of “Limited Removal Areas” are depicted on **Figure 5** and are described in detail in the following sections.

### *7.2.1 Limited Removal Area 1 – Area of TPH Impact, Lead UCL Exceedance, and Elevated PID Response*

During Site investigations, soil samples were collected from boring B-21 S2B from an approximate depth of four (4) to eight (8) feet bgl. The concentration of TPH detected in this sample exceeded the RIDEM GB Leachability Criteria. Additionally, the soil sample collected from boring B-40 at a depth of zero (0) to two (2) feet bgl exceeded the RIDEM Upper Concentration Limit for lead. Additional lead sampling Site wide suggests that the UCL exceedance is likely an anomaly, and concentrations exceeding UCL standards are likely limited to this area. Excavation of TPH- and lead-impacted material will be conducted in this area.

Additionally, elevated PID responses were encountered during screening of recovered soils during boring advancement of boring B-41. Although analytical data revealed no exceedances of the RIDEM Residential Direct Exposure Criteria for TPH and VOCs, out of an abundance of caution, additional limited removal in this area is proposed to

evaluate surrounding soil conditions and to confirm no shallow sources are present from prior dry cleaning operations which were formerly conducted in this vicinity.

As depicted in **Figure 5**, excavation limits will be extended around these boring locations. Specifically, the excavation will extend approximately five (5) feet in each cardinal direction from boring locations B-40, B-41, and B-21 (MW-2). Excavation depth will be advanced to a minimum depth of eight (8) feet bgl to assure that TPH- and lead-impacted material is completely removed. Soil excavation will be additionally extended to explore for potential shallow source areas potentially contributing to the elevated PID response detected in Boring B-41. During Site investigations Geoprobe<sup>®</sup> casing advancement met bedrock refusal at approximately seven (7) feet below grade in this area. It is likely that excavation efforts will be limited by the presence of shallow weathered bedrock identified Site wide, and seven (7) to ten (10) feet bgl represents a practical depth for additional excavation in this area given the depth of casing refusal.

Soil removed during the excavation of Limited Removal Area 1 will be stockpiled on six (6)-mil polyethylene sheeting pending off-Site disposal at an applicable licensed disposal facility.

Actual extents of the excavation will be limited by utilities, existing structures, existing tree species and elevation of bedrock below the surface. During the removal of TPH- and lead-impacted soil, the effectiveness of removal efforts will be evaluated using a combination of visual inspection and PID screening with an OVM 580B PID using the jar headspace technique. The PID will be equipped with a 10.2eV lamp and calibrated to an isobutylene standard. This screening method detects compounds associated with petroleum constituents and many common solvents.

When visual and/or field screening indicates that the extent of impacted soil has been removed, or additional removal is determined to be unfeasible, confirmatory grab soil

samples will be collected from the floor and walls of the excavation and submitted under chain-of-custody protocol to a State-certified laboratory for TPH analysis via EPA Method 8100M, VOCs via EPA Method 8260B and PP-13 Metals.

The excavation will be backfilled with adjacent surrounding soils from the top one (1) foot and/or clean fill. If off-Site material is to be utilized for clean fill material analytical testing will be conducted on the material as outlined in **Section 11.1** prior to its delivery and use on-Site.

#### *7.2.2 Limited Removal Area 2 - Elevated Lead Concentrations and Elevated PID Response*

An elevated concentration of lead was detected at a depth of zero (0) to two (2) feet bgl in Boring B-37. In addition, elevated PID responses were encountered during screening of soils recovered during advancement of boring B-37. Although analytical data revealed no exceedance of the RIDEM Residential Direct Exposure Criteria for TPH and VOCs, out of an abundance of caution, additional limited removal in this area is proposed to evaluate surrounding soil conditions and to confirm no shallow sources are present from prior dry cleaning operations and other Site uses which were formerly conducted in this vicinity.

As depicted in **Figure 5**, excavation limits will extend around boring B-37 approximately five (5) feet in each cardinal direction.

To ensure that lead-impacted soil has been removed, the first five feet of the excavation will be removed and stockpiled on six (6)-mil polyethylene sheeting. Soil excavation will be additionally extended to explore for potential shallow source areas potentially contributing to the elevated PID response detected in Boring B-37. During Site investigations Geoprobe<sup>®</sup> casing advancement met bedrock refusal at approximately eleven (11) feet below grade. It is likely that excavation efforts will be limited by the

presence of shallow weathered bedrock identified Site wide, and five (5) to eleven (11) feet bgl represents a practical depth for additional excavation in this area given the depth of casing refusal.

Additional Soil removed during the excavation of Limited Removal Area 2 will be stockpiled on six (6)-mil polyethylene sheeting pending off-Site disposal at an applicable licensed disposal facility.

Actual extents of the excavation will be limited by utilities, existing structures, existing tree species and elevation of bedrock below the surface. During the removal of lead-impacted soil and additional excavated material, the effectiveness of removal efforts will be evaluated using a combination of visual inspection and PID screening with an OVM 580B PID using the jar headspace technique. The PID will be equipped with a 10.2eV lamp and calibrated to an isobutylene standard. This screening method detects compounds associated with petroleum constituents and many common solvents.

When visual and/or field screening indicates that the extent of impacted soil has been removed, or additional removal is determined to be unfeasible, confirmatory grab soil samples will be collected from the floor and walls of the excavation and submitted under chain-of-custody protocol to a State-certified laboratory for TPH analysis via EPA Method 8100M, VOCs via EPA Method 8260B and PP-13 Metals.

The excavation will be backfilled with adjacent surrounding soils from the top one (1) foot and/or clean fill. If off-Site material is to be utilized for clean fill material analytical testing will be conducted on the material as outlined in **Section 11.1** prior to its delivery and use on-Site.

### 7.2.3 Limited Removal Area 3 - Area of Elevated PID response

Elevated PID responses were encountered during screening of soils recovered during advancement of boring B-6. Although analytical data revealed no exceedance of the RIDEM Residential Direct Exposure Criteria for TPH and VOCs, out of an abundance of caution additional limited removal in this area is proposed to evaluate surrounding soil conditions and to confirm no shallow sources are present from prior dry cleaning operations which were formerly conducted in this vicinity.

As depicted in **Figure 5**, excavation limits will extend around boring B-6 (MW-1) approximately five (5) feet in each cardinal direction.

During Site investigations, Geoprobe<sup>®</sup> casing advancement in this area met bedrock refusal at approximately thirteen (13) feet below grade. It is likely that excavation efforts will be limited by the presence of shallow weathered bedrock identified Site wide and thirteen (13) feet bgl likely represents a maximum depth for excavation in this area given the depth of casing refusal. Actual excavation depth may be less depending upon the conditions encountered.

Soil removed during the excavation of Limited Removal Area 3 will be stockpiled on six (6)-mil polyethylene sheeting pending off-Site disposal at an applicable licensed disposal facility.

Actual extents of the excavation will be limited by utilities, existing structures, existing tree species and elevation of bedrock below the surface. During the removal of impacted soil the effectiveness of removal efforts will be evaluated using a combination of visual inspection and PID screening with an OVM 580B PID using the jar headspace technique. The PID will be equipped with a 10.2eV lamp and calibrated to an isobutylene standard. This screening method detects compounds associated with petroleum constituents and many common solvents.

When visual and/or field screening indicates that the extent of impacted soil has been removed, or additional removal is determined to be unfeasible, confirmatory grab soil samples will be collected from the floor and walls of the excavation and submitted under chain-of-custody protocol to a State-certified laboratory for TPH analysis via EPA Method 8100M, VOCs via EPA Method 8260B and PP-13 Metals.

The excavation will be backfilled with adjacent surrounding soils from the top one (1) foot and/or clean fill. If off-Site material is to be utilized for clean fill material analytical testing will be conducted on the material as outlined in **Section 11.1** prior to its delivery and use on-Site.

#### *7.2.4 Limited Removal Area 4 - Elevated Lead Concentration*

Soil samples collected from zero (0) to two (2) feet bgl in boring B-49 revealed a lead concentration of 4,050 ppm. Soil samples collected from this area consisted of what appeared to be urban fill and buried building debris. Additional lead sampling Site wide suggests this concentration is likely an anomaly and attributed to buried lead-impacted building materials and is likely limited to this area.

The limits of excavation in Limited Removal Area 4 will extend around boring B-49 approximately five (5) feet in each cardinal direction. Depth of the excavation should range from zero (0) to five (5) feet bgl. Impacted soils removed from this depth will be stockpiled on six (6)-mil polyethylene sheeting pending off-Site disposal at an applicable licensed disposal facility.

Actual extents of the excavation will be limited by utilities, existing structures, existing tree species and elevation of bedrock below the surface. During the removal of impacted soil the effectiveness of removal efforts will be evaluated using a combination of visual inspection and PID screening with an OVM 580B PID using the jar headspace technique. The PID will be equipped with a 10.2eV lamp and calibrated to an isobutylene standard.



This screening method detects compounds associated with petroleum constituents and many common solvents.

When visual and/or field screening indicates that the extent of impacted soil has been removed, or additional removal is determined to be unfeasible, confirmatory grab soil samples will be collected from the floor and walls of the excavation and submitted under chain-of-custody protocol to a State-certified laboratory for PP-13 Metals.

The excavation will be backfilled with adjacent surrounding soils from the top one (1) foot and/or clean fill. If off-Site material is to be utilized for clean fill material analytical testing will be conducted on the material as outlined in **Section 11.1** prior to its delivery and use on-Site.

### **7.3 Soil Stockpiling**

Prior to disposal, stockpiled soil will be analyzed for hazardous waste characteristics. Based upon analytical results, appropriate facilities will be selected for off-Site disposal of soil and/or solid wastes. Contaminated soils will likely be disposed of a landfill and/or recycled at an asphalt batching facility depending on stockpiled soil laboratory results and facility acceptance thresholds. Any clean fill material brought on Site is required to meet RIDEM's Method 1 Residential Direct Exposure Criteria or be designated by an Environmental Professional as Non-Jurisdictional under the *Remediation Regulations*. Sampling of imported fill materials will be conducted as specified in **Section 11.1**.

All soils will be managed on-site prior to shipment for off-Site disposition. Soils will be loaded from stockpile(s) via excavator or loader into 20 to 30 cubic yard dump trucks or roll-offs. A rip-rap area will be constructed at the entry way to the Site that will facilitate knock-off of soil stuck to truck tires prior to leaving the Site. At the end of each work day, a street sweeper will collect any soils that have made their way onto Thames, Mill or Spring Streets. These soils will be returned to the on-Site stockpile for subsequent

disposal. Prior to the final exit of Site vehicles, each will be decontaminated via physical removal of soil (primarily their tires). Excavation and soil handling equipment will be physically swept of any soil as well.

#### **7.4 Stormwater Management**

RIDEM's Office of Water Resources has established regulations for managing stormwater discharge during construction activity. This project applies to the criteria outlined in the regulatory document entitled "General Permit Rhode Island Pollutant Discharge Elimination System Storm Water Discharge Associated with Construction Activity" issued in 2008. As outlined in the regulations, construction activities which disturb one or more acres via a point source, into a separate storm sewer system or into the waters of the State are required to seek coverage under a Rhode Island Pollutant Discharge Elimination System (RIPDES) storm water permit.

In accordance with the general permit requirements, a Notice of Intent (NOI) form with associated Storm Water Pollution Prevention Plan (SWPPP) and supporting documents have been submitted to the RIDEM Office of Water Resources, RIPDES Program. A copy of the NOI, SWPPP and RIPDES permit are attached herein as **Appendix 5**.

#### **7.5 ELUR**

An institutional control in the form of an ELUR will be implemented to ensure the continued performance of the remedy. The ELUR will encompass the entire portion of the Site as depicted on **Figure 6** and will limit the future use of the property, prohibit the extraction of groundwater, prohibit disturbance of on-Site soils, and require the performance of annual inspections to document the status of the ELUR and the condition of engineered controls. A Construction Soil Management Plan (CSMP), defining protective measures to be taken during current excavation activities at the Site, as well as

requiring characterization prior to disposal for any soils removed from the Site, is included herein as **Appendix 6**.

The ELUR, once approved by the RIDEM shall be recorded in the Land Evidence Records for the City of Newport and a recorded copy forwarded to the RIDEM within fifteen (15) days of recording. The ELUR will include a post-construction Soil Management Plan (SMP) which will address requirements should activities that disturb on-Site soils be performed at the Site and describe applicable inspection criteria to be implemented for the various cap designs at the Site. The Post-Construction SMP will include complete descriptions of all installed RIDEM-approved engineered control caps. This Post-Construction SMP will be also be approved by the RIDEM prior to inclusion in and recording with the final RIDEM-approved ELUR.

A draft ELUR is included in **Appendix 7**. A Post-Construction SMP based on actual "As Built" conditions, will be submitted within a RAWP Status Report once the entire cap installation is complete.

## **8.0 POINTS OF COMPLIANCE**

### **8.1 ELUR Inspections**

As part of the ELUR, it is the responsibility of the property owner to provide for annual inspections of the cap and other controls at the property by a qualified environmental professional and to submit a report subject to review by the RIDEM which shall certify that the property is in compliance with the terms of the ELUR. The ELUR inspection is intended to insure that the integrity of the various engineered barriers/caps is being maintained.

## **9.0 PROPOSED SCHEDULE**

Remedial activities will be initiated following approval of the RAWP by the RIDEM and after final design plans for Site improvements are complete. At present, these activities are expected to be initiated immediately following RIDEM's approval of this RAWP.

## **10.0 CONTRACTORS AND/OR CONSULTANTS**

*SAGE* will provide environmental oversight during construction activities. During post-construction Site visits, *SAGE* will evaluate the condition of the engineered barriers, and if necessary, make appropriate maintenance recommendations. *SAGE* will also provide notification to RIDEM should Site conditions change in a manner which may affect the ELUR or groundwater monitoring plan. Contact information is as follows:

*SAGE* Environmental, Inc.

172 Armistice Boulevard

Pawtucket, Rhode Island 02860

Telephone: (401) 723-9900

Contact: Rick Mandile and Bruce Clark

In accord with Rule 9.08 of the *Remediation Regulations*, the RIDEM will be notified as soon as possible of any additional consultant or contractor that has not yet been determined at the time of RAWP preparation.

## **11.0 DESIGN STANDARDS AND TECHNICAL SPECIFICATIONS**

### **11.1 Engineered Caps**

Various capping methods will be employed at the Site as detailed in **Section 7.1**. At a minimum, the installation of the engineered barrier will meet RIDEM's two (2) foot or equivalent policy for capping contaminated sites.

All clean fill and/or loam imported to the Site will be sampled prior to delivery and placement. *SAGE* will analyze the material, certify that the material meets the RIDEM's Residential Direct Exposure Criteria, as defined by the *Remediation Regulations*, for all constituents, and is suitable for use on the Site. Clean fill and loam will be sampled for arsenic at a minimum frequency of one sample per 500 cubic yards. One quarter of the total number of compliance samples of clean fill and loam will be sampled for TPH, VOCs, SVOCs and PP-13.

The Remedial Action Closure Report will include all original laboratory analytical sampling results from the fill demonstrating compliance with the Method 1 Residential Direct Exposure Criteria and either a statement from the facility that provides the clean fill attesting to the materials' origin and suitability or written certification by an Environmental Professional that the fill is not jurisdictional and is suitable for the cap. Prior to capping, grading may be required in some areas.

## **11.2 Sedimentation and Erosion Control**

The use of sedimentation and erosion control devices will be necessary during the construction of the engineered barrier to prevent soil erosion onto adjacent roadways and properties. Sedimentation and erosion controls will be necessary until construction is completed and the unpaved portions of the Site are vegetated.

Sedimentation and erosion control devices will consist of the placement of hay bales and silt fencing along the Site perimeter bordering Thames, Mill, and Church Streets and the property to the north owned by Trinity Church. Soil piles from excavated areas will be placed on and covered with six (6)-mil polyethylene sheeting and surrounded by hay

bales on the downgradient perimeter. Routine inspections of the sedimentation and erosion control devices will be conducted to confirm the effectiveness and integrity of the barrier. Maintenance and cleaning of sedimentation and erosion controls will be conducting in accordance with Section 212 of the RIDOT Standard Specifications.

Sedimentation and Erosion controls are depicted in further detail on the Sediment and Erosion Control plan included herein as **Appendix 8**.

### **11.3 Dust Monitoring and Control**

Prior to initiating excavation efforts the Site perimeter will be secured with a six (6) foot chain link fence equipped with a filter fabric material to limit the transmission of dust particles off-Site.

Dust monitoring will be performed during construction to monitor fugitive dust emissions and minimize any potential for off-Site transport of contamination through dust migration. An initial survey of ambient air with a respirable air monitor (RAM) will be performed prior to the initiation of construction activities to determine background levels of airborne particulates. Periodic monitoring with the RAM will be performed during construction activities to determine if further actions are necessary to control dust emissions. Monitoring results will be compared to background concentrations of airborne particulates identified during pre-construction monitoring. If background concentrations are exceeded, appropriate actions will be implemented to control dust emissions. Initial efforts will include a water spray for dust suppression in general accord with Section 906 of the RIDOT Standard Specifications. Should water suppression prove ineffective, other alternatives will be evaluated based on cost to implement and performance criteria. Other alternatives may include, but are not limited to, spreading calcium chloride over exposed areas at a rate of one (1) pound per square yard, the application of chemical stabilizers, the placement of a surficial layer of gravel over exposed areas or the installation of wind fencing along Site boundaries.

## **11.4 Groundwater**

As groundwater was previously encountered at fourteen (14) feet bgl and depth of excavation is proposed to maximum approximate depth of thirteen (13) feet bgl, groundwater will not likely be encountered during remedial activities. However, shall groundwater be encountered during remedial excavation, off-Site disposal and/or temporary on-Site groundwater treatment may be required should dewatering activities be necessary. If necessary, groundwater would be discharged to a fractionation tank (frac tank) stored on Site. Groundwater collected in the frac tank would be analyzed for disposal characterization and transported off-Site for recycling/disposal at a licensed and approved facility.

As part of Site redevelopment, all existing groundwater monitor wells shall be closed in accordance with RIDEM's Groundwater Regulations as groundwater sampling to date has exhibited compliance with GB groundwater Objectives.

## **12.0 CONTINGENCY PLAN**

It is recommended that an emergency response contractor be on stand-by in the event of unexpected incidents involving hazardous materials at the Site.

## **13.0 OPERATING LOGS**

Documentation of Site activities related to construction/remedial efforts will be submitted to the RIDEM in a Closure Report consistent with the requirements of Section 11.05 of the *Remediation Regulations*. Photographs will be provided to RIDEM to document these activities. *SAGE* will maintain field logs for all on-Site activities performed including a log of personnel accessing the Site during construction activities, air monitoring locations and results, fill material deliveries, fill material sampling, and Site

inspections. Copies of log sheets, which will be utilized during construction activities, are included in **Appendix 9**.

#### **14.0 DISPOSAL OF REMEDIATION WASTE**

During remedial efforts soil excavated and removed from the Site will be characterized and disposed of off-Site at a licensed disposal facility in accordance with the requirements of the disposal facility selected. The selection of the receiving disposal facility shall be dependent on the outcome of analytical characterization and facility acceptance criteria. Manifests and receipts associated with any transport and off-Site disposal of contaminated soils and/or solid waste will be included as part of the Remedial Action Closure Report.

#### **15.0 SECURITY PROCEDURES**

Site access will be restricted to the public during re-development efforts by a six (6) foot chain link fence equipped with a filter fabric material to limit the transmission of dust particles off-Site. Security fencing will be maintained throughout all phases of re-development.

#### **16.0 SHUT-DOWN, CLOSURE AND POST-CLOSURE REQUIREMENTS**

Upon completion of RAWP activities, a Closure Report, which includes all disposal documentation, laboratory analytical data and a final ELUR with Post-Construction SMP will be submitted to RIDEM for review and comment.

Post-closure activities will include the following:



### **16.1 Annual ELUR Inspections**

A comprehensive inspection of the engineered barrier/cap systems will be performed annually. Breaches in the integrity of the cap will be repaired in a timely manner following discovery. Results of the inspections and maintenance activity/response actions taken will be summarized to RIDEM in the annual inspection report.

### **17.0 COMPLIANCE DETERMINATION**

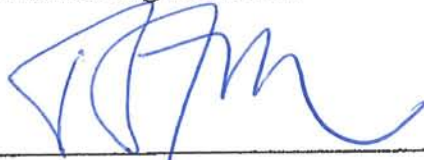
Compliance will be demonstrated by the analytical results of post-excavation confirmatory sampling performed in the limited excavation areas (described in **Section 7.2**).

In addition, assuming that the engineered barrier/cap is properly inspected, maintained, and monitored, the Site should remain in compliance with applicable RIDEM regulations.

Queen Anne Square, Plat 24 Lot 346, Newport, RI  
September 2012 (Rev. October 2012)

### 18.0 CERTIFICATION

To the best of my knowledge, this Remedial Action Work Plan is a complete and accurate representation of the contaminated Site and the release and contains all known facts surrounding the release.



10/5/12  
Date

Richard J. Mandile, Principal  
SAGE Environmental, Inc.

To the best of my knowledge, the information contained in this Remedial Action Work Plan is accurate with regard to the contaminated Site.



10/5/12  
Date

Pieter Roos, Executive Director  
Doris Duke Monument Foundation

**APPENDIX 1**



September 27, 2012

**REMEDIAL DECISION LETTER**

**Case No. 2012-010**

Pieter N. Roos  
Executive Director  
Newport Restoration Foundation  
51 Touro Street  
Newport, RI 02840

RE: Queen Anne Square  
Intersection of Mill, Thames, Spring and Church Streets, Newport, Rhode Island

Dear Mr. Roos:

On November 9, 2011, the Rhode Island Department of Environmental Management (the Department), amended the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of contaminated sites in order to eliminate and/or control threats to human health and the environment in an efficient manner. A **Remedial Decision Letter (RDL)** is a formal, written communication from the Department that approves a site investigation, identifies the preferred remedial alternative and authorizes the development of a Remedial Action Work Plan in order to achieve the objectives of the environmental clean-up.

In the matter of the above referenced "Site" (as defined in the Industrial Property Remediation and Reuse Act), the Department's Office of Waste Management (OWM) has the following documents on file pertaining to the environmental conditions at the property submitted on behalf of the City of Newport and the Doris Duke Monument Foundation (DDMF)

1. Memorandum from Sage Environmental, Inc. (Sage), on behalf of the City of Newport and the DDMF, dated February 22, 2012, containing an unsigned *Hazardous Material Release Notification Form* and an environmental sample result information packet;
2. *Hazardous Material Release Notification Form* (Release Notification), signed on February 22, 2012, submitted by the City of Newport, and received by the Department on February 27, 2012;
3. Meeting Summary, Queen Anne Square, Newport, Rhode Island, prepared by Sage, and dated February 24, 2012;

4. Response to Meeting Summary Comments, Queen Anne Square, Newport, Rhode Island, prepared by Sage, and dated March 1, 2012;
5. Summary Report, April 2, 2012 Public Meeting and 10-Day Comment Period, Queen Anne Square (Assessor's Plat 24 Lot 346), Newport, Rhode Island, RIDEM Case No. 2012-10, (Summary Report), prepared by Sage, and dated May 3, 2012;
6. Revised Proposed Scope of Work, Queen Anne Square, Newport, Rhode Island, (SOW), prepared by Sage, and dated June 25, 2012;
7. Site Investigation Report, Queen Anne Square, Plat 24 Lot 346, Newport, Rhode Island, prepared by Sage, and dated August 23, 2012;
8. Letter from Sage to the Department, RE: Queen Anne Square, Newport, Rhode Island, dated August 24, 2012;
9. Abutters Notification, Queen Anne Square, Newport, Rhode Island, prepared by Sage, and dated August 31, 2012; and
10. Letter from Sage to the Department, Re: Queen Anne Square, Newport, Rhode Island, dated September 25, 2012.

Collectively, these documents define "Existing Contamination" at the Site, and fulfill the requirements of a Site Investigation Report (SIR) as described in Rule 7.08 of the Remediation Regulations. In addition, according to our records, public notice was conducted to all abutting property owners, tenants, the City of Newport and all utilities with easements on the property regarding the substantive findings of the completed investigation in accordance with Rules 7.07 and 7.09 of the Remediation Regulations. The opportunity for public review and comment on the technical feasibility of the proposed remedial alternatives commenced on August 31, 2012, and the period closed on September 14, 2012. One comment was received and was responded to by Sage on September 25, 2012, and approved by the Department on September 26, 2012.

The preferred remedial alternative, as stated in the SIR, consists of **limited removal and proper off-site disposal of four locations of impacted regulated soil, grading and encapsulation of remaining contaminated soils, and the implementation of an Environmental Land Usage Restriction (ELUR) on the entire property. A Department approved permeable engineered cap, providing a level of protection equivalent to a minimum of two feet of clean soil, shall be constructed directly on top of existing Site materials. Currently existing or installed Department approved caps (including existing concrete or cobble side walks, asphalt paved driveways or parking areas), which shall not be disturbed through remedial activities or redevelopment of the Site, must be properly maintained and/or repaired as applicable. It is the Department's understanding that Site remedy will be implemented by the Performing Party during a proposed redevelopment of the property. The ELUR to be recorded on the property will restrict certain activities on the entire site and will also ensure that the engineered cap is not disturbed. The ELUR will include a post-construction Soil**

**Management Plan (SMP), which will outline the procedures for managing the soils on site should disturbances below the cap be required.**

The Department hereby approves the SIR, with the above identified preferred remedial alternative, and requires a Remedial Action Work Plan (RAWP) be submitted for review and approval, and implemented, to achieve the objectives of the environmental clean-up, in accordance with the following conditions:

1. In accordance with Sections 8.0 and 9.0 of the Remediation Regulations, a RAWP, a draft ELUR, and an SMP shall be submitted for Department review and approval within ninety (90) days (**December 26, 2012**). The RAWP shall describe all of the technical details, engineer design elements, and schedules associated with the implementation of the proposed remedy. All of the subsections outlined in Section 9.0 of the Remediation Regulations must be included in order to facilitate the review and approval of the RAWP. If an item is not applicable to this Site, simply state that it is not applicable and provide an explanation in the RAWP.
2. Pursuant to Rule 10.02 of the Remediation Regulations, an application fee for Remedial Action Approvals in the amount of one thousand (\$1,000) dollars shall be made payable to the State of Rhode Island General Treasurer and remitted to this Office with submission of the RAWP.
3. Once the Department reviews the RAWP for consistency with Sections 8.0 and 9.0 of the Remediation Regulations, any written comments generated and forwarded as a result of the review(s) shall be incorporated forthwith into a revised RAWP, to be re-submitted for final approval.
4. Upon finalization of the RAWP, the Department will issue a **Remedial Approval Letter (RAL)**, signifying Department approval. All remedial measures required by the Department shall be implemented, in accordance with the approved schedule, to ensure all applicable exposure pathways at the site are appropriately addressed.

**Please be advised that the Department reserves the right to require additional actions under the aforementioned Remediation Regulations at the Property should any of the following occur:**

- A. Conditions at the Site previously unknown to the Department are discovered;
- B. Information previously unknown to the Department becomes available;
- C. Policy and/or regulatory requirements change; and/or
- D. Failure by the DDMF, the City of Newport, or any future holder of any interest in the Property to adhere to the terms and conditions of the Department approved RAWP, schedule, Order, ELUR and/or SMP for the Property.

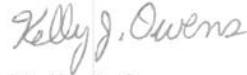
If you have any questions or are in need of any clarification regarding this document, please contact me by telephone at (401) 222-2797, extension 7109 or by e-mail at joseph.martella@dem.ri.gov.

Sincerely,



Joseph T. Martella II  
Senior Engineer  
Rhode Island DEM  
Office of Waste Management

Authorized by,



Kelly J. Owens  
Supervising Engineer  
Rhode Island DEM  
Office of Waste Management

Cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C  
Leo Hellested, P.E., Chief, RIDEM/OWM  
Richard M. Bianculli Jr., Esq., RIDEM/OLS  
Nicole Poepping, RIDEM/Legislative Liaison  
Eric Beck, RIDEM/OWR/RIPDES  
Ronald Gagnon, RIDEM/OCTA  
Christopher Walusiak, RIDEM/OCTA  
Hon. Henry F. Winthrop, Newport City Council Chairman/Mayor  
Ms. Jane Howington, Newport City Manager  
Scott D. Wheeler, Newport Department of Public Services  
Joseph J. Nicholson, Jr., Esquire, Newport City Solicitor  
Jeff Moniz, Farrar Associates  
Representative Peter F. Martin, District 75  
Senator M. Teresa Paiva Weed, District 13  
Bruce Clark, Sage

## FIGURES





**SAGE** Environmental, Inc

Figure 1

**USGS Quadrangle Site Location Map**

Queen Anne Square  
Newport, Rhode Island

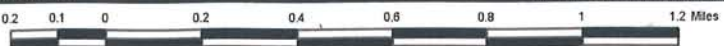


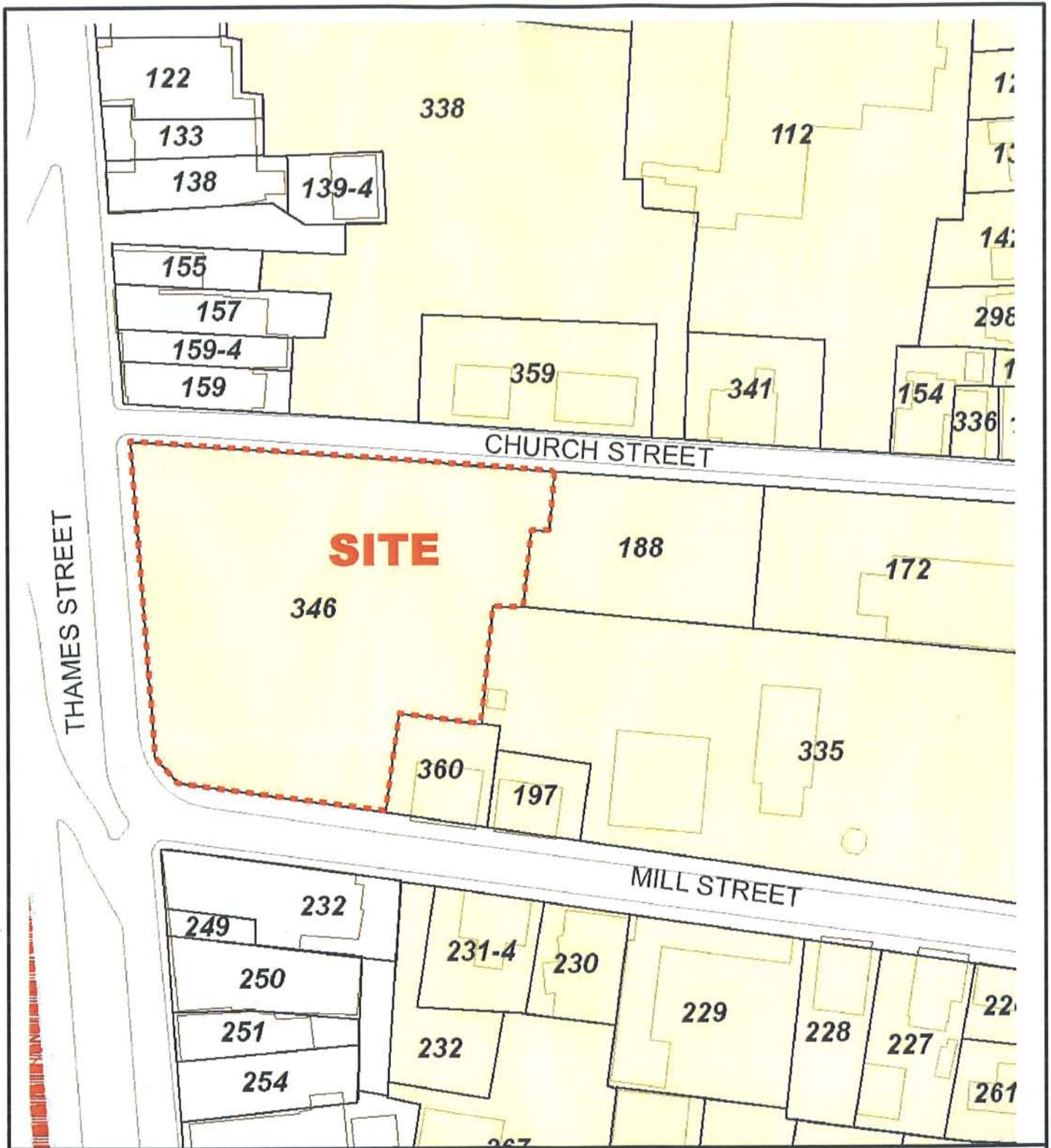
★ Site Location

DATE: 12/22/11  
CREATED BY: DAK

JOB #: S2244  
DRAWING: usgs.mxd

NEWPORT, RHODE ISLAND  
USGS QUADRANGLE





SAGE Environmental, Inc

Figure 2

Plat Map

Queen Anne Square  
Newport, Rhode Island

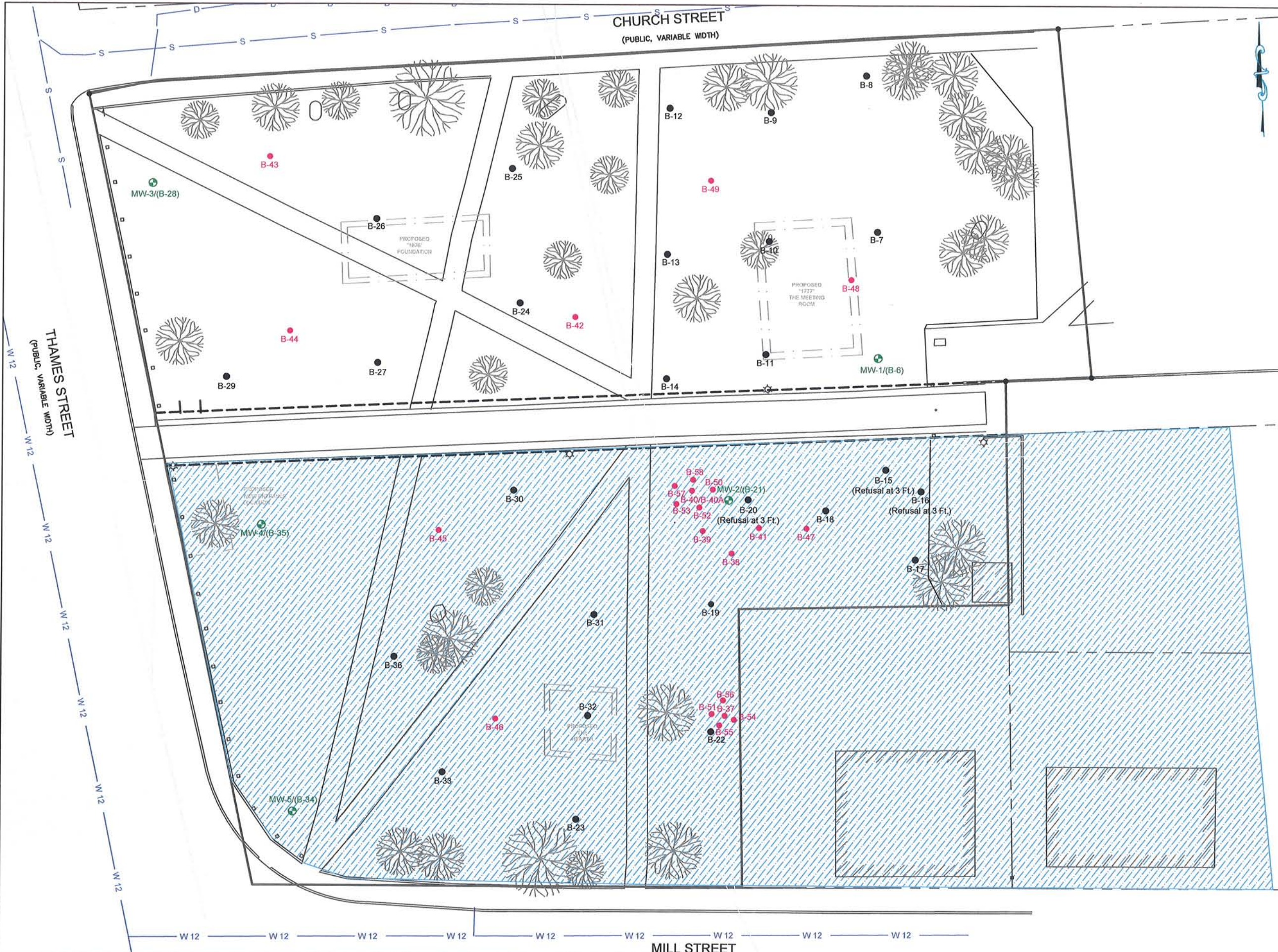


★ Site Location

DATE: 5/2/12  
CREATED BY: JD

JOB #: S2244  
DRAWING: platmap.mxd

Courtesy of the City of Newport



**LEGEND**

- ◆ MW : MONITORING WELL
- B : SOIL BORING INSTALLED (JANUARY 2012)
- B : SOIL BORING INSTALLED (JULY 2012)
- ▨ : APPROXIMATE LIMITS OF FORMER EGAN'S LAUNDRY

Note: Baseplan provided by Northeast Engineers & Consultants, Inc. Plan depicts soil boring and monitor well locations with respect to existing conditions and proposed historic foundations.



PREPARED BY:



172 ARMISTICE BLVD  
PAWTUCKET, RI 02860  
401-723-9900  
FAX: 401-723-9973

DRAWING DESCRIPTION:

**BORING/MONITOR WELL LOCATIONS  
QUEEN ANN SQUARE  
NEWPORT, RI**

PROJECT:

**S2244**

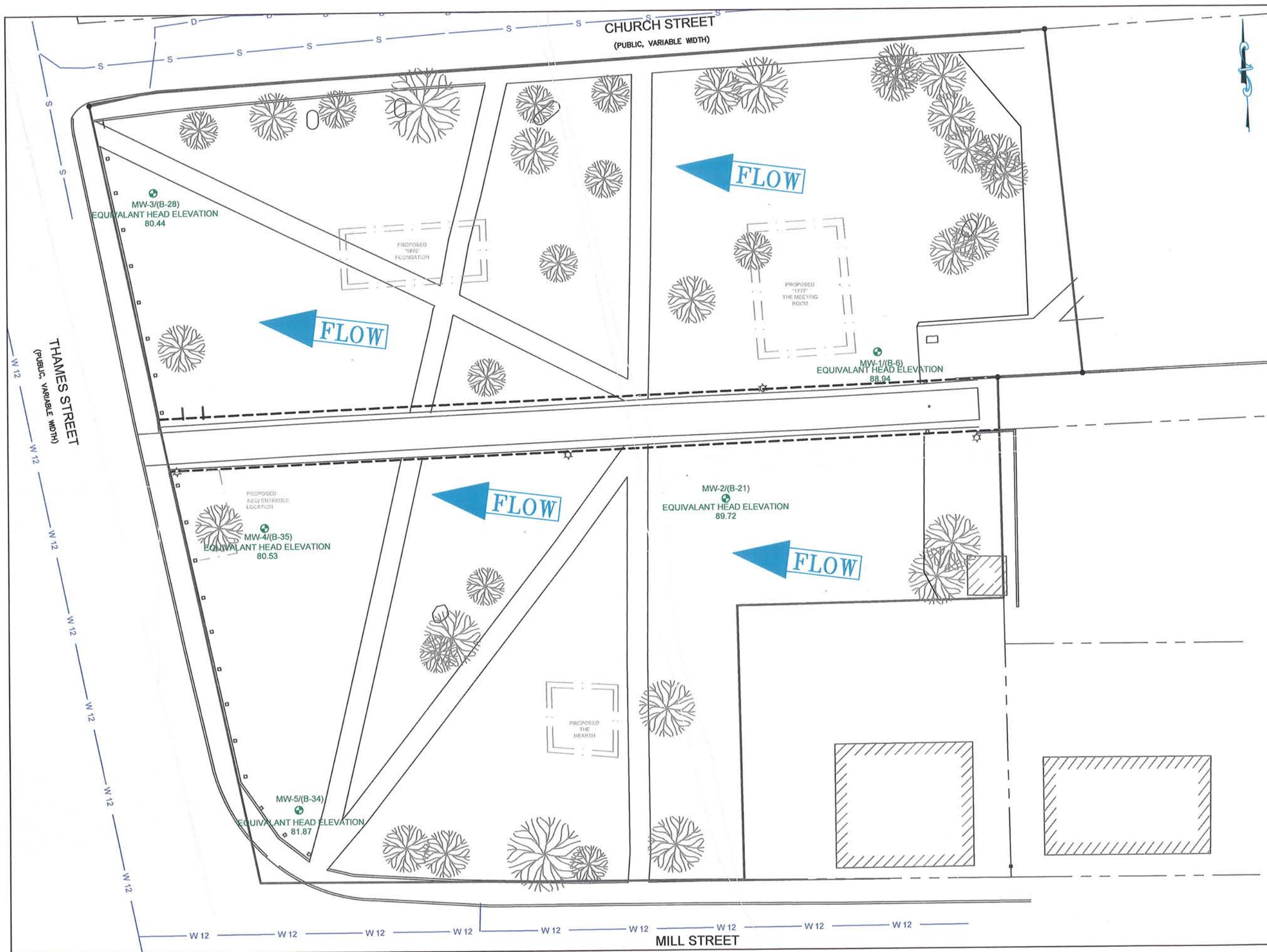
LOCATION: QUEEN ANNE SQUARE  
PLAT 24 LOT 346  
NEWPORT, RI

DRAWN BY: JD	CHECKED BY: BTC	APPROVED BY: BWC
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DRAWING DATE: 8/23/12	SHEET NUMBER: SHEET 1 OF 1
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PROJECT NUMBER: S2244	DRAWING NAME: PROPLIMREAREAS
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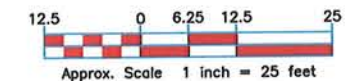
**FIGURE 3**



**LEGEND**

-  MW : MONITORING WELL
-  FLOW: GROUNDWATER FLOW

Note: Baseplan provided by Northeast Engineers & Consultants, Inc. Plan depicts soil boring and monitor well locations with respect to existing conditions and proposed historic foundations.



PREPARED BY:



172 ARMISTICE BLVD  
PAWTUCKET, RI 02860  
401-723-9900  
FAX: 401-723-9973

DRAWING DESCRIPTION:

**GROUNDWATER FLOW MAP  
QUEEN ANN SQUARE  
NEWPORT, RI**

PROJECT:

**S2244**

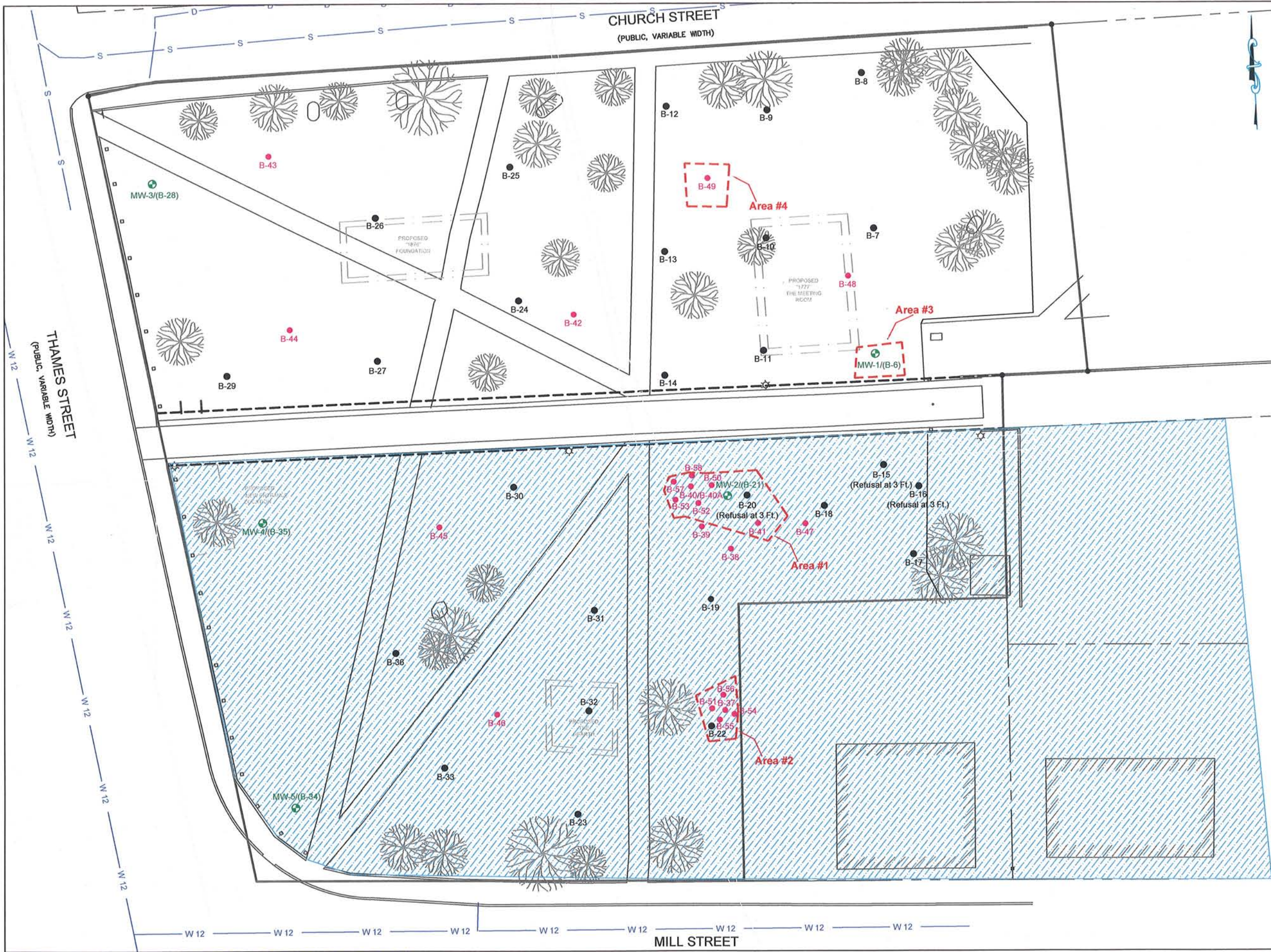
LOCATION: QUEEN ANNE SQUARE  
PLAT 24 LOT 346  
NEWPORT, RI

DRAWN BY: JD	CHECKED BY: BTC	APPROVED BY: BWC
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DRAWING DATE: 8/23/12	SHEET NUMBER: SHEET 1 OF 1
--------------------------	-------------------------------

PROJECT NUMBER: S2244	DRAWING NAME: PROPLIMREMAREAS
--------------------------	----------------------------------

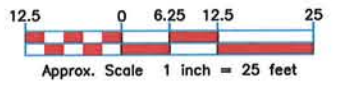
**FIGURE 4**



**LEGEND**

- MW : MONITORING WELL
- B : SOIL BORING INSTALLED (JANUARY 2012)
- B : SOIL BORING INSTALLED (JULY 2012)
- : APPROXIMATE LIMITS OF FORMER EGAN'S LAUNDRY
- : APPROXIMATE EXTENTS OF PROPOSED LIMITED REMOVAL AREAS

Note: Baseplan provided by Northeast Engineers & Consultants, Inc. Plan depicts soil boring and monitor well locations with respect to existing conditions and proposed historic foundations.



PREPARED BY:



172 ARMISTICE BLVD  
PAWTUCKET, RI 02860  
401-723-9900  
FAX: 401-723-9973

DRAWING DESCRIPTION:

**PROPOSED LIMITED REMOVAL AREAS  
QUEEN ANN SQUARE  
NEWPORT, RI**

PROJECT:

**S2244**

LOCATION: QUEEN ANNE SQUARE  
PLAT 24 LOT 346  
NEWPORT, RI

DRAWN BY:  
JD

CHECKED BY:  
BTC

APPROVED BY:  
BWC

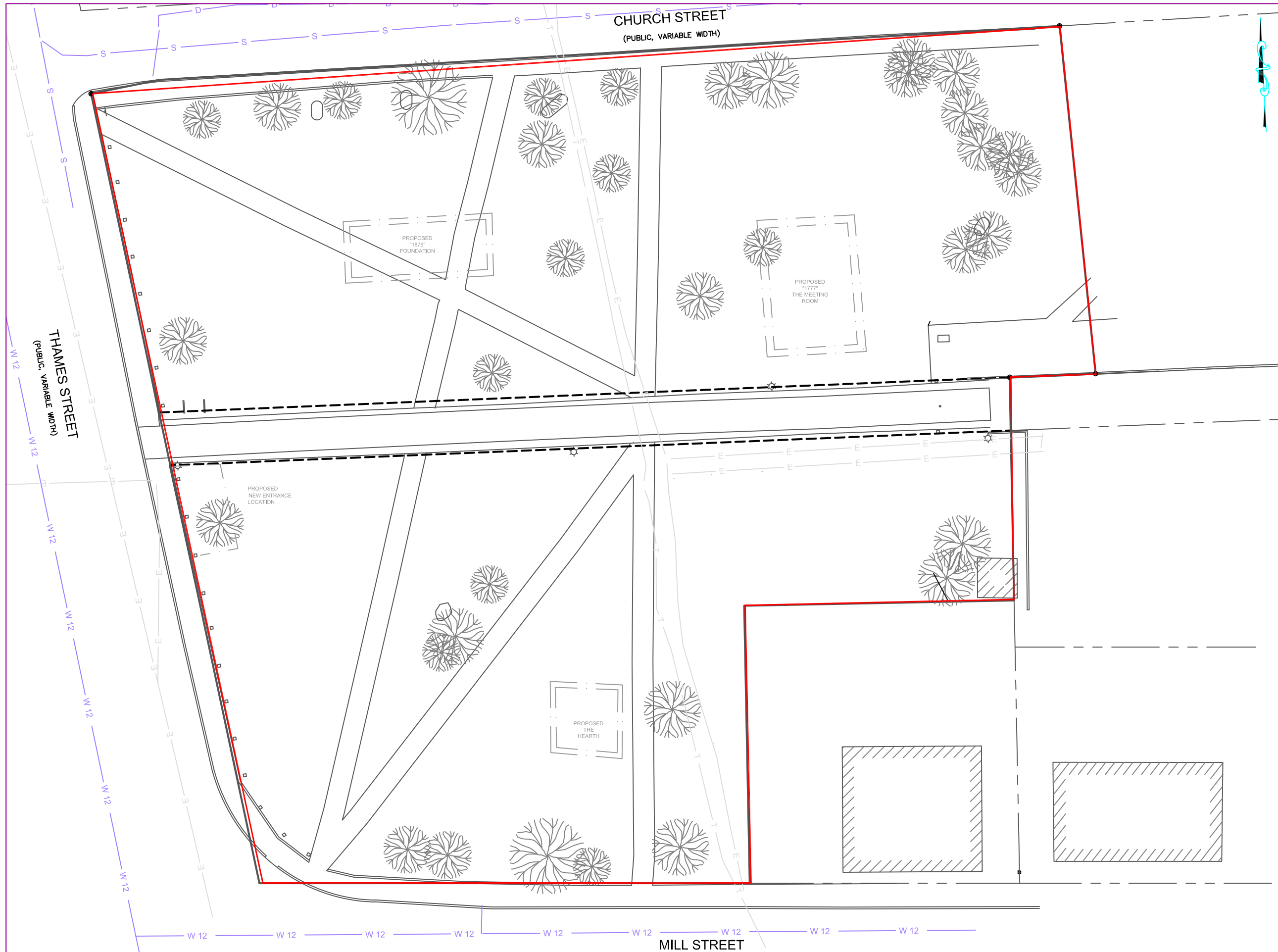
DRAWING DATE:  
8/23/12

SHEET NUMBER:  
SHEET 1 OF 1

PROJECT NUMBER:  
S2244

DRAWING NAME:  
PROPLIMREAREAS

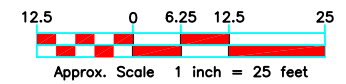
**FIGURE 5**



**LEGEND**

 : APPROXIMATE LIMITS ELUR

Note: Baseplan provided by Northeast Engineers & Consultants, Inc. Plan depicts soil boring and monitor well locations with respect to existing conditions and proposed historic foundations.



PREPARED BY:



172 ARMISTICE BLVD  
PAWTUCKET, RI 02860  
401-723-9900  
FAX: 401-723-9973

DRAWING DESCRIPTION:

**APPROXIMATE EXTENTS OF ELUR  
QUEEN ANNE SQUARE  
NEWPORT, RI**

PROJECT:

**S2244**

LOCATION: QUEEN ANNE SQUARE  
PLAT 24 LOT 346  
NEWPORT, RI

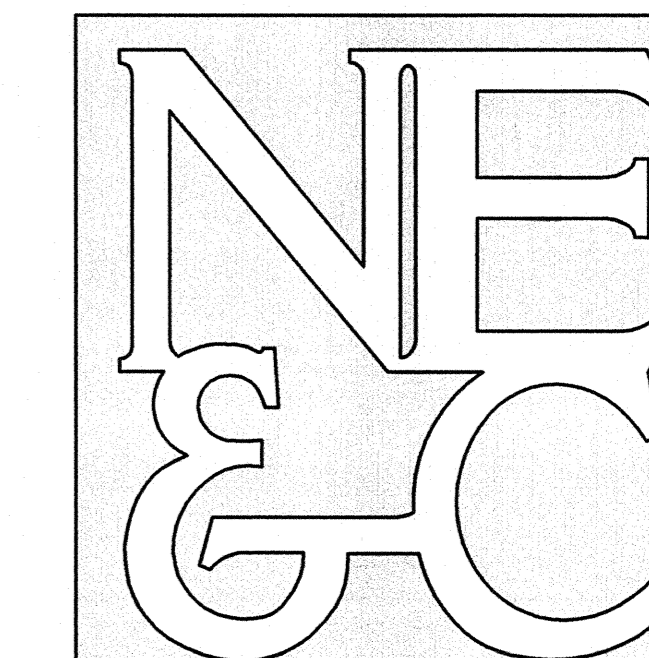
DRAWN BY: JD	CHECKED BY: BTC	APPROVED BY: BWC
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DRAWING DATE: 9/26/12	SHEET NUMBER: SHEET 1 OF 1
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PROJECT NUMBER: S2244	DRAWING NAME: ELUR EXTENTS
--------------------------	-------------------------------

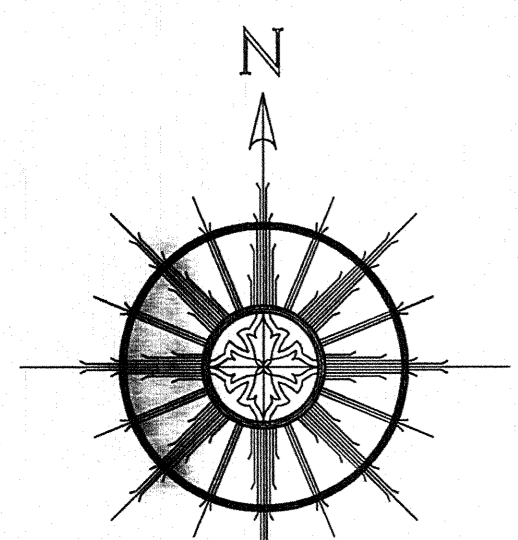
**FIGURE 6**





A KNOWLEDGE CORPORATION

55 JOHN CLARKE ROAD MIDDLETOWN RHODE ISLAND 02842  
PHONE (401) 849-0810 FAX (401) 846-4169  
WWW.NORTHEASTENGINEERS.COM



NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



**LEGEND:**

---	CONTOURS
---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
---	ELECTRICAL LINE
---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	6"X6" STONE POST (TR)
---	GAS LIGHT
---	MONITORING WELL
---	TEST PIT
---	PROPOSED DRAIN COVER
---	PROPOSED DRAIN INLET
---	PROPOSED DRAIN LINE
---	PROPOSED WATER LINE
---	PROPOSED ELECTRICAL CONDUIT
---	PROPOSED COMMUNICATION CONDUIT
---	PROPOSED CONTOUR
---	PROPOSED SPOT ELEVATION

**NOTES:**

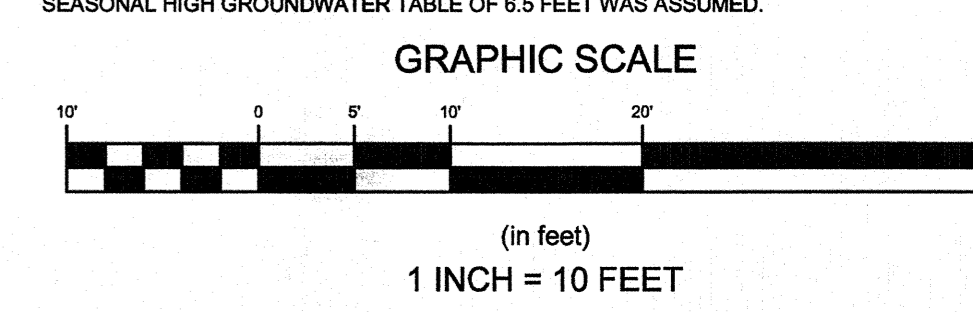
- EXISTING CONDITIONS AND TOPOGRAPHIC INFORMATION ARE A RESULT OF A FIELD SURVEY BY NORTHEAST ENGINEERS & CONSULTANTS, INC. ON JANUARY 31, 2012.
- PROPOSED LAYOUT TAKEN FROM PLAN "QUEEN ANNE SQUARE, NEWPORT RI, PLANNING PLAN," DATED JUNE 27, 2011, BY LAGUNA LANDSCAPE ARCHITECTS AND PLANNERS.
- EXISTING SOILS ON SITE ARE CLASSIFIED AS TYPE "N" NEWPORT URBAN COMPLEX.

**GRADING NOTES:**

- EARLYWORK INVOLVING SOIL REMEDIATION ACTIVITIES SHALL BE COMPLETED IN CONFORMANCE WITH THE REEBA APPROVED "REEDS" ACTION WORK PLAN, AUGUST 2012, PREPARED BY SAGE ENVIRONMENTAL.
- ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION. PROVISIONS OF A FILL, FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT RUNOFF FROM LEAVING THE SITE.
- ALL FILL MATERIALS PLACED SHALL BE IMPORTED CLEAN FILL. MATERIAL PLACED SHALL BE IN 6" LIFTS COMPACTED TO 90%.
- ALL GRADED AREAS SHALL BE SOCCED OR PLANTED IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE GRADING WORK IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE REGULATORY REQUIREMENTS.
- NONCOMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIATION WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBMITTED TO ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES.

**DRAINAGE NOTES:**

- ALL DRAIN PIPE SHALL BE ADR N-12 ST. (SOLITIGHT) OR APPROVED EQUIVALENT.
- CATCH BASINS IN FRANK STREET SHOULDERS SHALL BE ROOT SPEC PRECAST CONCRETE STRUCTURES ACCORDING TO THE DETAILS PROVIDED. ALL SUMPS SHALL BE A MINIMUM OF 3 FEET IN DEPTH.
- DRAIN INLETS IN DEPRESSION BEHIND THAMES STREET GRANITE RETAINING WALL SHALL BE 8" DIAMETER ASBESTOS DRAIN PIPES WITH 8" DRAIN GRATES.
- BASIN GRATES SHALL BE LIGHT DUTY PEDESTAL SAFE GRATES OF THE DIMENSIONS INDICATED, OR APPROVED EQUIVALENTS.
- DRAINAGE LINES ARE TO BE CONSTRUCTED STARTING FROM THE FURTHEST POINT DOWNSTREAM AND WORKING UPSTREAM.
- DRAIN CONNECTION TO THE CITY OF NEWPORT STORM SEWERS REQUIRE APPROVAL FROM THE CITY ENGINEER AND PUBLIC WORKS.
- SOIL BORINGS COMPLETED IN JANUARY 2012 BY SAGE ENVIRONMENTAL REVEALED A MINIMUM DEPTH TO WATER OF 11 FEET FROM EXISTING GRADE. THE REGION GROUNDWATER CORRECTION FACTOR OF 83 INCHES WAS APPLIED, AND A DEPTH TO REGIONAL HIGH GROUNDWATER TABLE OF 6.5 FEET WAS ASSUMED.



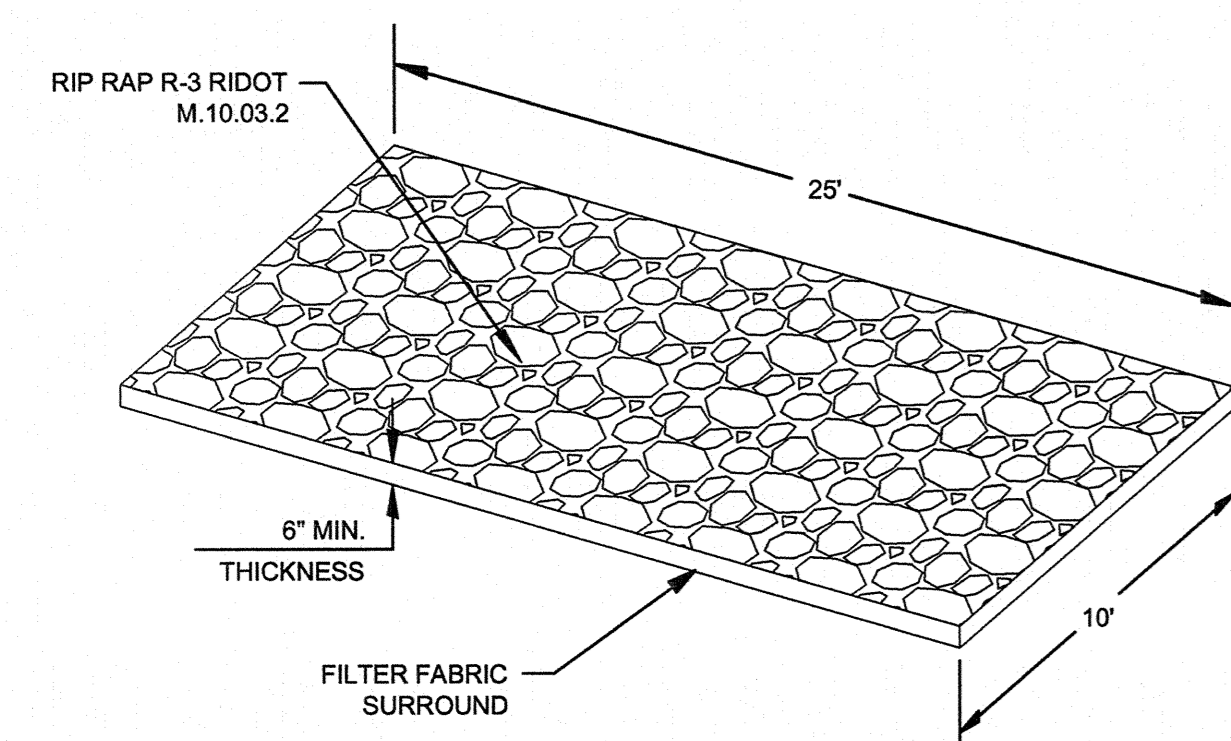
**STORMWATER MAINTENANCE NOTES:**

- TEMPORARY GRASSES SHALL BE PLANTED IN AND AROUND DRAINAGE DEPRESSIONS IMMEDIATELY FOLLOWING CONSTRUCTION TO STABILIZE SLOPES AND PREVENT EROSION. THESE AREAS SHALL BE SOCCED WITH THE RESPONSIBILITY OF THE SITE.
- ALL INLET/OUTLET PIPES ARE TO BE INSPECTED AT LEAST THREE TIMES IN THE FIRST SIX MONTHS OF OPERATION. EVIDENCE OF CLOGGING, OR HAZARD RELEASE OF FLOW SHALL BE REPORTED TO THE PROJECT ENGINEER AND REMEDIATED IMMEDIATELY.
- GENERAL INSPECTION OF THE DRAINAGE DEPRESSIONS SHOULD BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR, TYPE II PRECIPITATION EVENT (2.7). THE MAINTENANCE OBJECTIVES FOR THESE PRACTICES INCLUDE PRESERVING THE HYDRAULIC AND REMOVAL EFFICIENCY OF THE DEPRESSIONS AND MAINTAINING THE STRUCTURAL INTEGRITY.
- THE SIDE SLOPES OF THE DEPRESSION SHOULD BE INSPECTED FOR EROSION AND GULLING. ALL STRUCTURAL COMPONENTS SHOULD BE INSPECTED AND ANY DEFICIENCIES SHOULD BE REPORTED. THIS INCLUDES A VISUAL INSPECTION OF ALL STORMWATER CONTROL STRUCTURES FOR DAMAGE AND/OR ACCUMULATION OF SEDIMENT. SEDIMENT SHOULD BE REMOVED INfiltration AREAS, WHEN DESIGN DEPTH HAS BEEN REDUCED BY 10%. ALL MATERIAL INCLUDING ANY TRASH AND/OR DEBRIS FROM ALL AREAS WITHIN THE EXTENTS OF THE INFILTRATION AREAS, SHOULD BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND LOCAL REGULATIONS.
- ANY AREAS WITHIN THE EXTENTS OF THE INFILTRATION AREAS THAT ARE SUBJECT TO EROSION OR GULLING SHOULD BE REPAIRING WITH THE ORIGINAL DESIGN MATERIAL, AND REVEGETATED ACCORDING TO DESIGN DRAWINGS. SLOPE PROTECTION MATERIAL SHOULD BE PLACED IN AREAS PRONE TO EROSION. EMBANKMENT STABILITY SHOULD BE INSPECTED FOR SETBACK AND HARBORING ANIMALS.
- MOW THE GRASS AROUND THE PERIMETER OF AND WITHIN THE INFILTRATION AREAS AT LEAST 1 TIME ANNUALLY. REMOVE ANY INVASIVE SPECIES WITHIN THE EXTENTS OF THE BASIN. ANY INVASIVE SPECIES ENCROACHING UPON THE PERIMETER OF THESE AREAS SHOULD BE REMOVED OR MANAGED IF IT PREVENTS ACCESS TO THE FACILITY, COMPROMISING SIGHT VISIBILITY AND/OR COMPROMISING ORIGINAL DESIGN.
- INFILTRATION AREAS SHOULD BE INSPECTED ANNUALLY TO ENSURE THAT DESIGN INFILTRATION RATES ARE BEING MET. IF SEDIMENT OR ORGANIC DEBRIS BUILDUP HAS LIMITED THE INFILTRATION CAPABILITY TO BELOW THE DESIGN RATE, THE TOP 4 INCHES SHOULD BE REMOVED AND THE SURFACE RETOOLLED TO A DEPTH OF 12 INCHES. DEPRESSION BOTTOMS SHOULD BE RESTORED ACCORDING TO ORIGINAL DESIGN SPECIFICATIONS. ANY OIL OR GREASE FOUND AT THE TIME OF THE INSPECTION SHOULD BE CLEANED WITH OIL ABSORPTION PADS AND DISPOSED OF IN AN APPROVED LOCATION. INSPECT INFILTRATION AREAS FOR SIGNS OF WETNESS OR DAMAGE TO STRUCTURES AND NOTE ANY ERODED AREAS. A DEAD OR DYING GRASS ON THE BOTTOM IS OBSERVED, CHECK TO ENSURE THAT WATER PERCOLATES WITHIN 48 HOURS FOLLOWING STORMS. MOW AND REMOVE LITTER AND DEBRIS. STABILIZE ERODED BANKS AND REPAIR UNDERCUT AND PROTECT AREAS AT FLOW STRUCTURES.
- SUBSURFACE STONE TRENCH BELOW INLETS AT THAMES STREET WALL SHALL BE INSPECTED VIA DRAIN BASIN SAMPLER ANNUALLY FOR THE LEVEL OF SEDIMENT. ON EVERY THREE (3) MONTHS FOR THE FIRST YEAR OF OPERATION. SHOULD THE SEDIMENT DEPTH WITHIN AN INSPECTION POINT EXCEED ONE (1) INCH, THE TRENCH SHOULD BE EXCAVATED. FILTER FABRIC SHALL BE REPLACED AND ALL SEDIMENTS REMOVED AND DISPOSED OF PROPERLY. THE GROUND STONE MAY BE WASHED AND REUSED OR REPLACED.
- QUALIFYING PERVIOUS AREAS (OPAS) SHALL NOT BE DRIVEN OVER DURING CONSTRUCTION. IF THE AREA BECOMES COMPACTED, SOIL MUST BE BUTENLY AMENDED, TILLED AND REBODDED ONCE CONSTRUCTION IS COMPLETE TO RESTORE INFILTRATION CAPACITY.
- GENERAL INSPECTION OF THE OPAS SHOULD BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR, TYPE II PRECIPITATION EVENT (2.7). SHOULD STANDING WATER BE FOUND AFTER 48 HOURS AFTER SUCH A STORM, THE AREA WILL BE DRENED AS COMPACTED, AND WILL BE REMEDIATED AS INDICATED ABOVE.
- THE STRUCTURAL INTEGRITY OF ALL CONCRETE SHALL BE CHECKED AT LEAST TWICE A YEAR. REPAIRS SHALL BE REMEDIATED IMMEDIATELY.
- MAINTENANCE OF THE STORMWATER SYSTEM DURING CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- UPON COMPLETION OF THE CONSTRUCTION, MAINTENANCE OF THE STORMWATER SYSTEM SHALL BECOME THE RESPONSIBILITY OF THE OWNER.

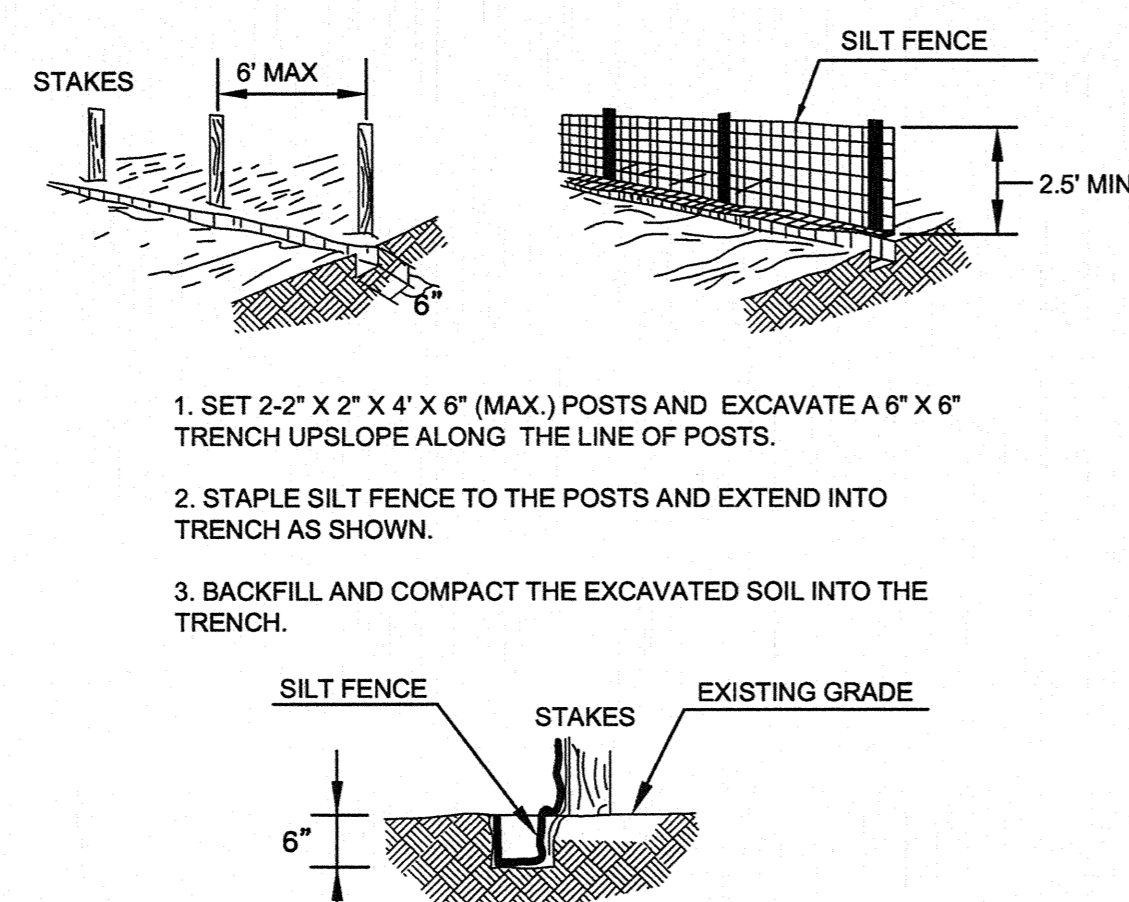
No.	Revision	Date	App.
1	JUR	JUR	JUR
Designed by: JUR Drawn by: JUR Checked by: JUR			
Scale: 1" = 10' Date: SEPTEMBER 17, 2012			
Project Title: <b>QUEEN ANNE PARK AP 24, LOT 346 THAMES STREET NEWPORT, RHODE ISLAND</b>			
Client/Owner:			
Issued for: <b>PERMITTING</b>			
Drawing Title: <b>PROPOSED GRADING PLAN</b>			
Drawing Number: <b>C-2</b>		Sheet <b>3</b> of <b>7</b>	
Project Number: <b>12014.0</b>		Survey Index: <b>14 - 24 - 346</b>	
<p>OWNERSHIP AND USE OF DOCUMENTS, DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF PROFESSIONAL SERVICE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THESE DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT OR PURPOSE, OR BY ANY OTHER PARTY, THAN THOSE PROPERLY AUTHORIZED BY CONTRACT, WITHOUT THE EXPRESS AUTHORIZATION OF THE ENGINEER.</p>			



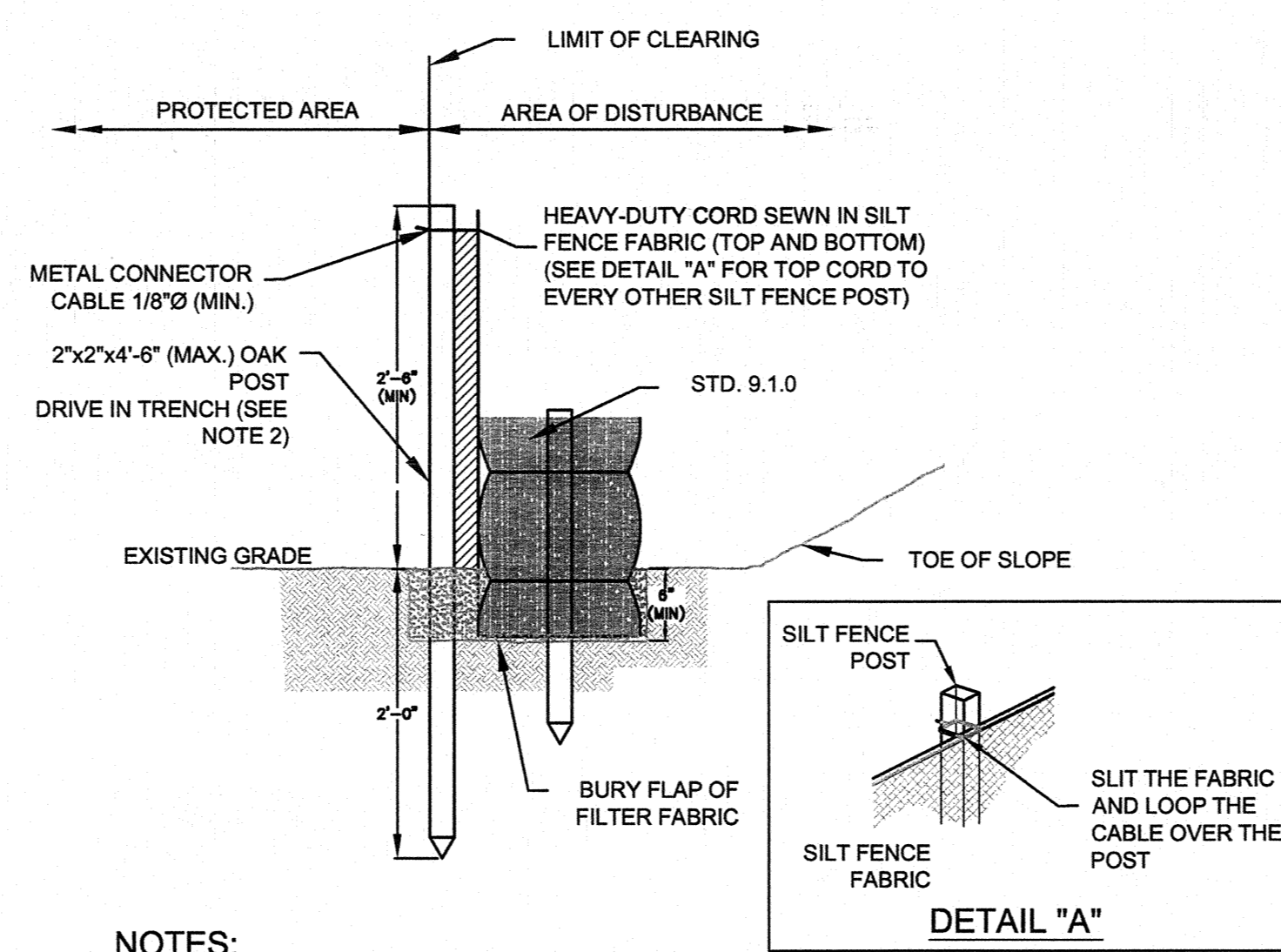




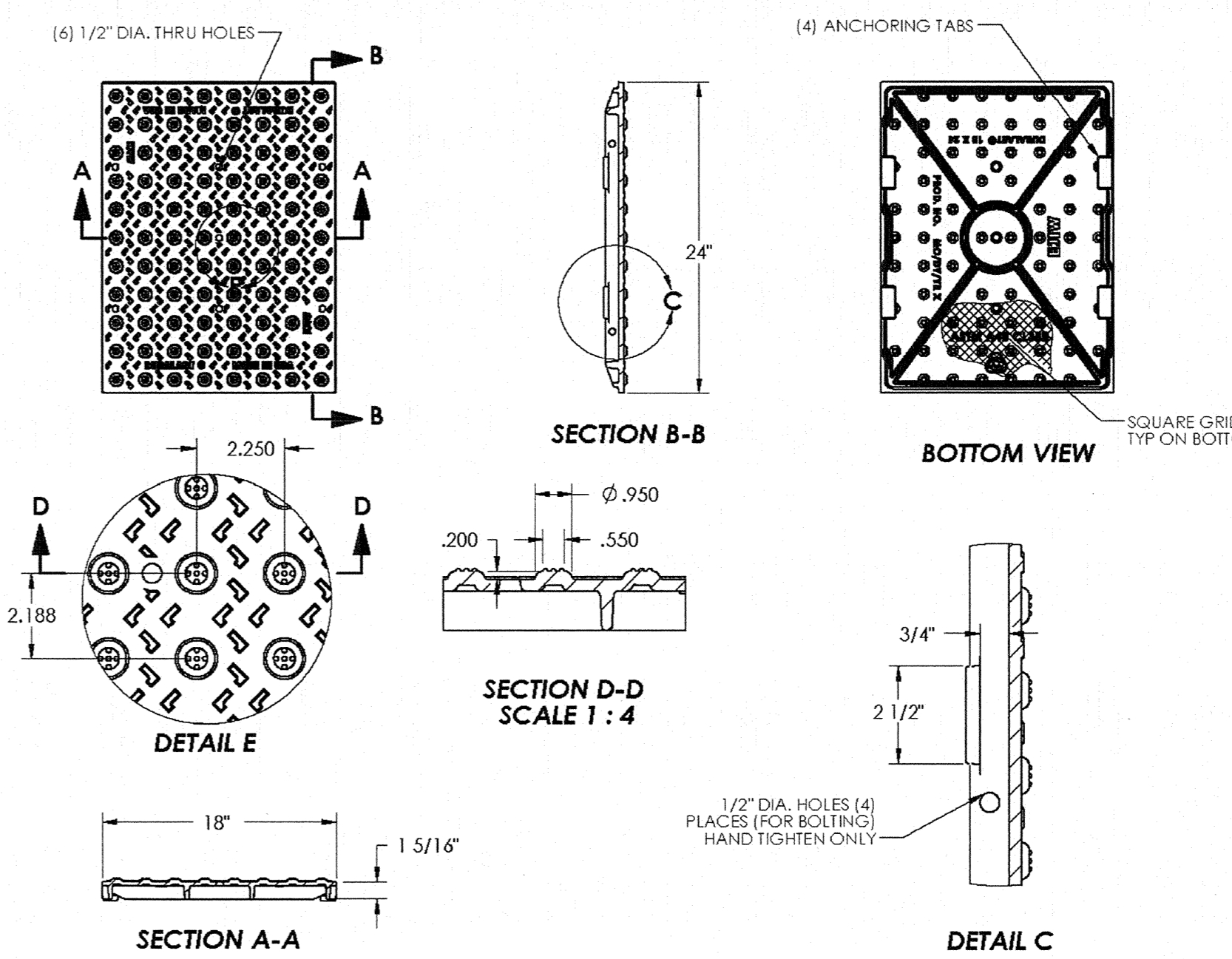
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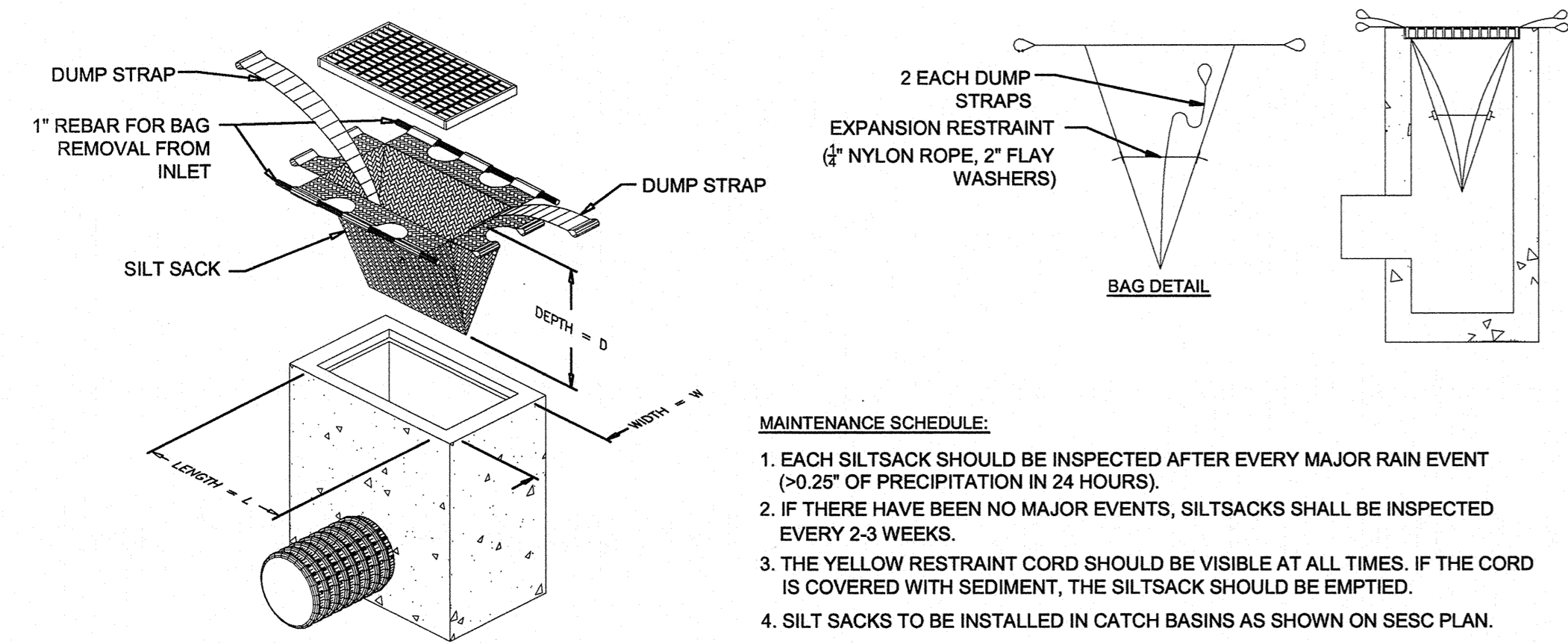
SILT FENCE DETAIL  
SCALE: NOT TO SCALE



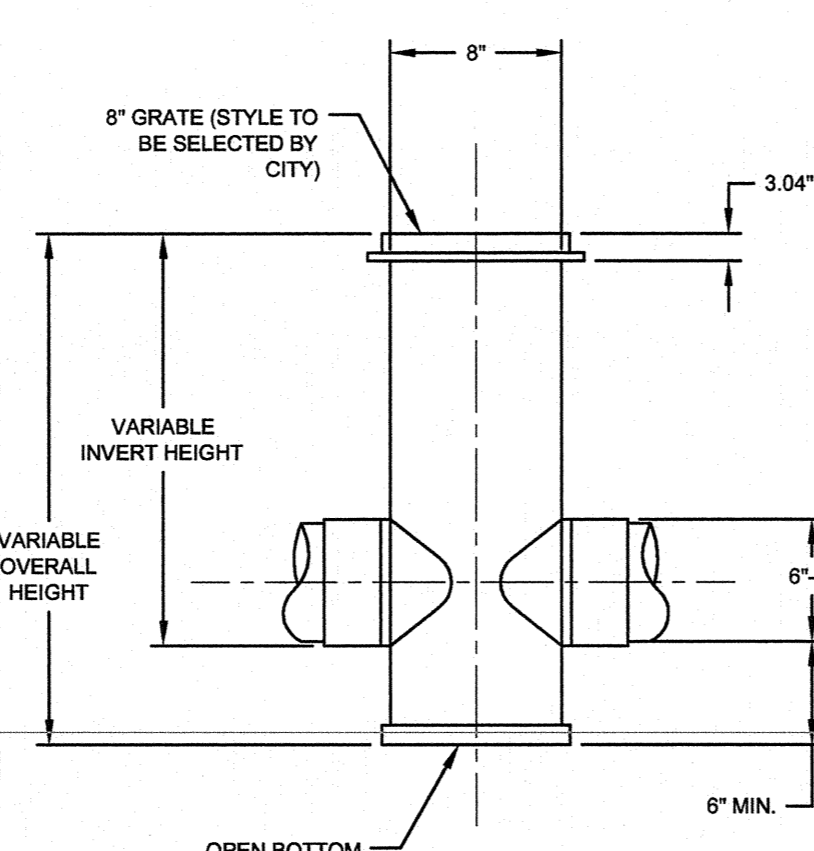
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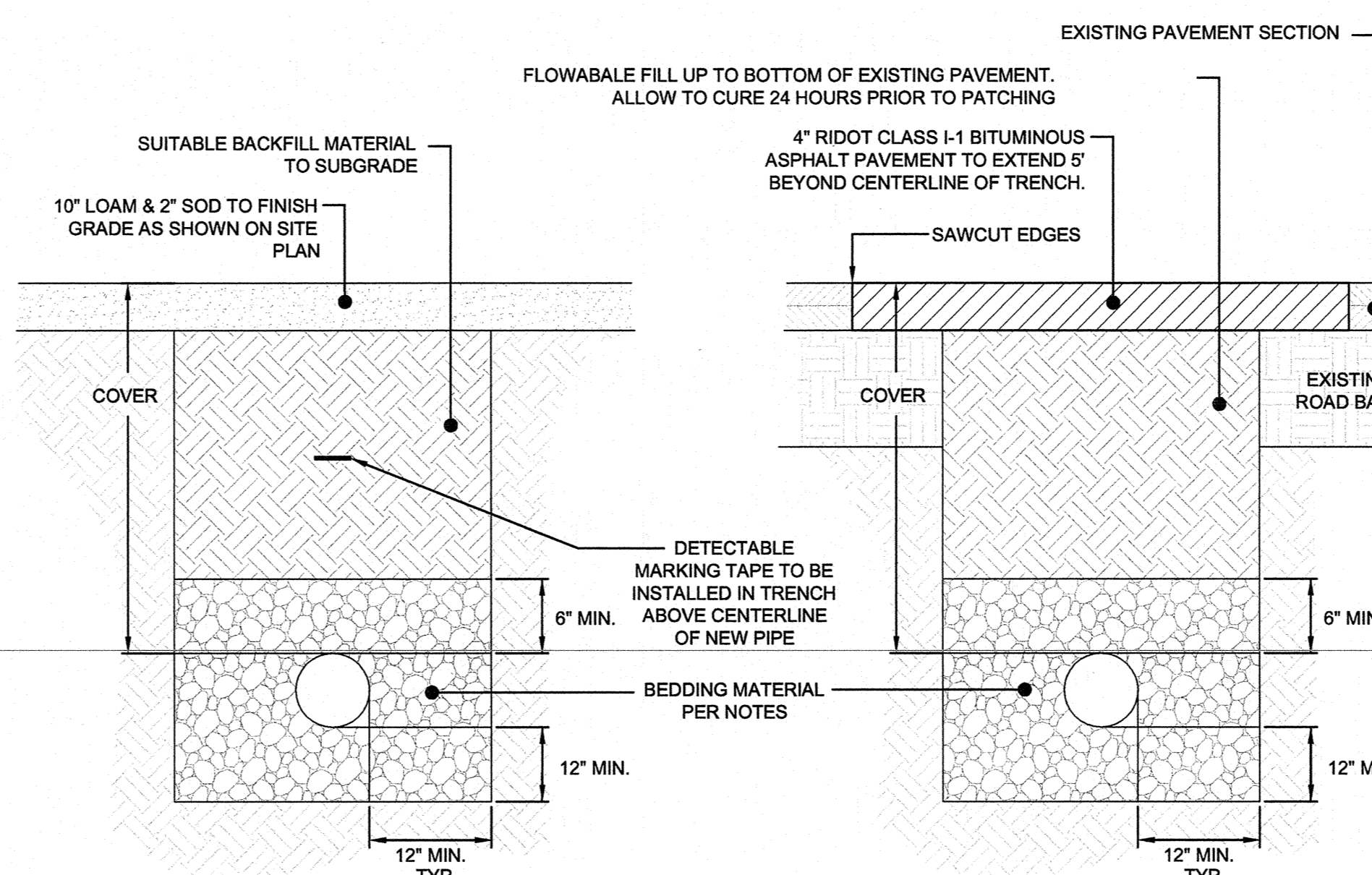
DURALAST 18" X 24" DETECTABLE WARNING SYSTEM  
SCALE: NOT TO SCALE



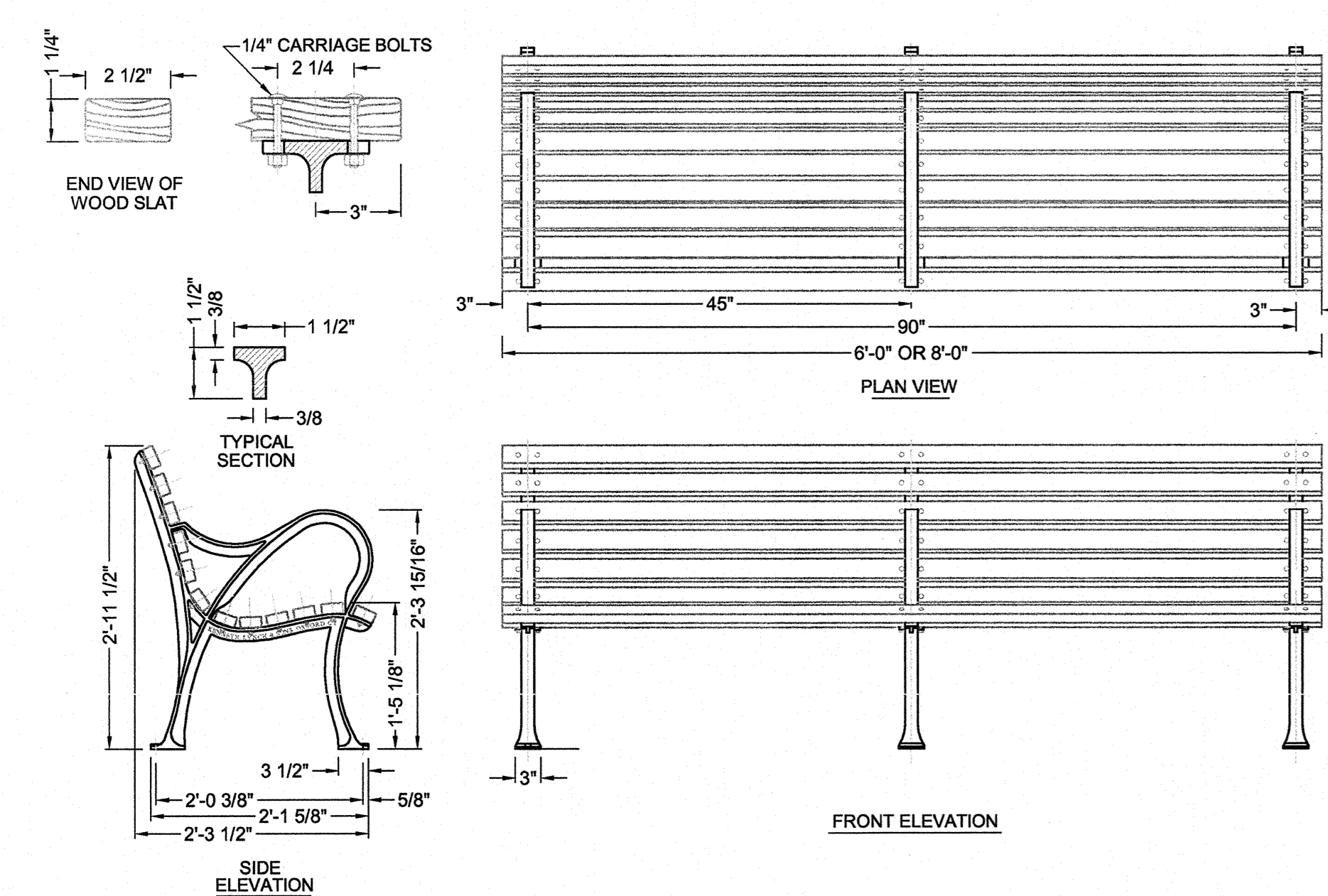
SILT SACK DETAIL  
SCALE: NOT TO SCALE



TYPICAL ADS DRAIN BASIN  
CORRESPONDS TO ADS NYLOPLAST 8" CUSTOM BASIN.  
DRAIN BASINS TO BE ORDERED BASED ON ELEVATIONS SHOWN ON SITE PLANS. NOT TO SCALE.

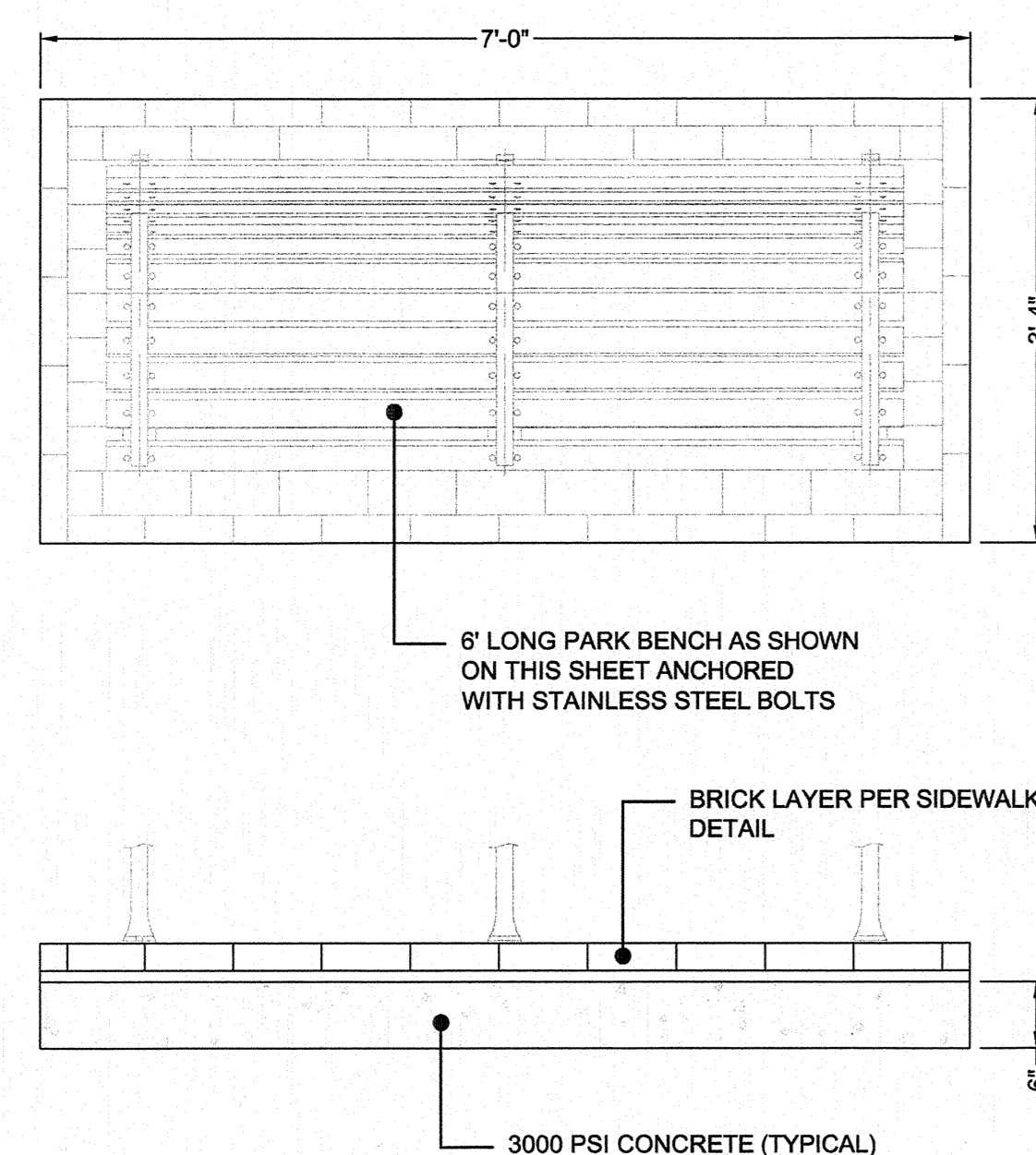


METER PIT DETAIL  
SCALE: NOT TO SCALE

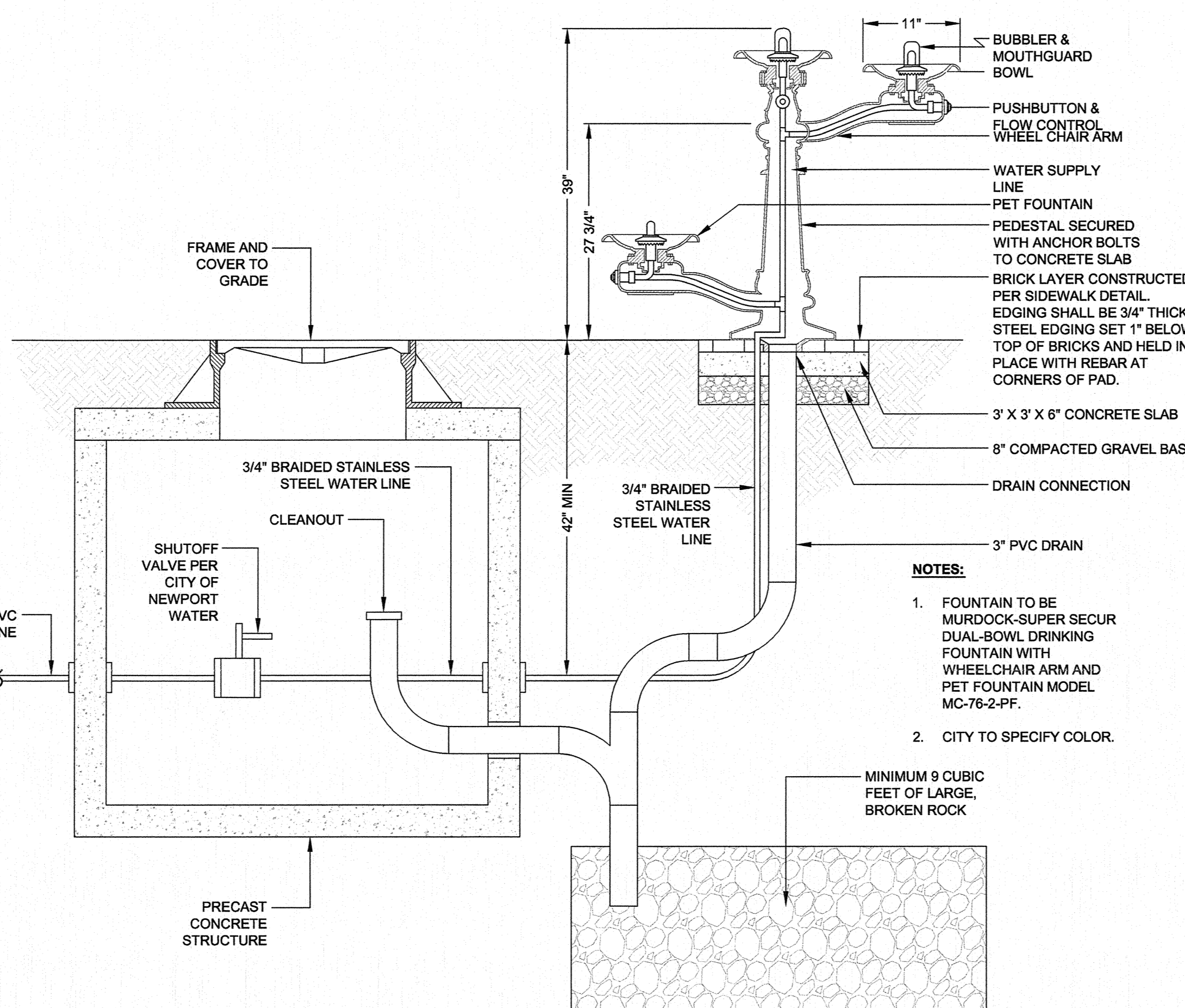


- NOTES:**
1. BENCH SHALL BE MODEL 6740 HERMANN (HOUSTON) BENCH BY KENNETH LYNCH & SONS OF OXFORD CT.
  2. COLORS: LEGS - BLACK NATURAL POWDER COAT, SLATS - NATURAL LPE
  3. MATERIALS: LEGS - CAST DUCTILE IRON, WOOD SLATS - LPE (BEEHABARAT/ABEJUA), SMALL FASTENERS - STAINLESS STEEL.
  4. BENCHES ALONG THAMES STREET SHALL BE 8 FEET LONG. ALL BENCHES WITHIN PARK SHALL BE 8 FEET.
  5. BENCH DIVIDER ON 8 FOOT LONG BENCHES ONLY.

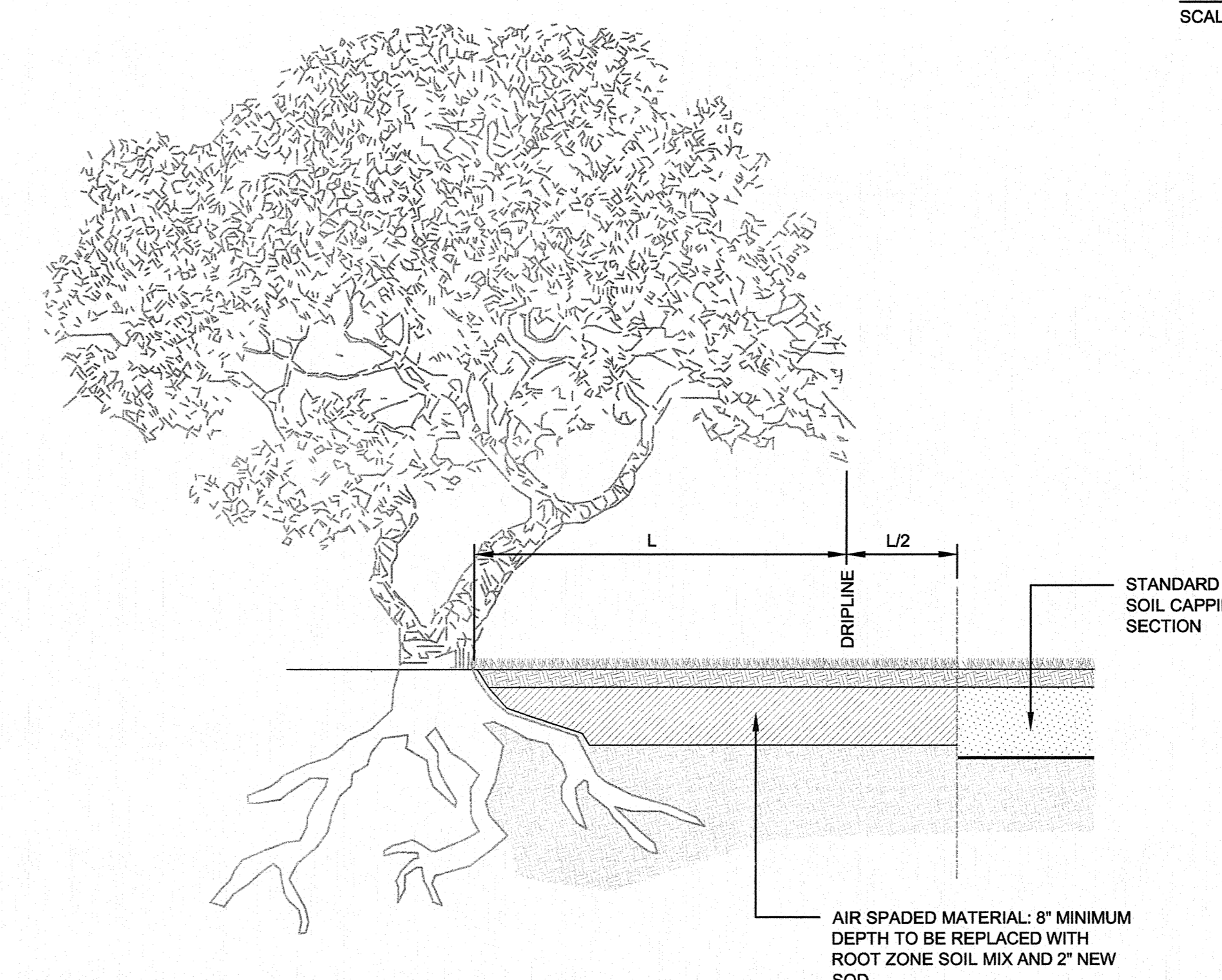
PARK BENCH DETAIL  
SCALE: 3/4" = 1'-0"



PARK BENCH SLAB DETAIL  
SCALE: 3/4" = 1'-0"



PROPOSED WATER FOUNTAIN  
SCALE: NOT TO SCALE



TYPICAL TREE CAPPING DETAIL  
SCALE: NOT TO SCALE

No.	Revision	Date	App.

Designed by: JJR Drawn by: JJR Checked by: JJR  
Scale: AS SHOWN Date: SEPTEMBER 17, 2012

Project Title:  
**QUEEN ANNE PARK  
AP 24, LOT 346  
THAMES STREET  
NEWPORT, RHODE ISLAND**

Client/Owner:  
PERMITTING

Issued for:  
PERMITTING

Drawing Title:  
**DETAIL SHEET 2**

Drawing Number:  
**D-2**

Sheet: **6 of 7**

Project Number:  
**12014.0**

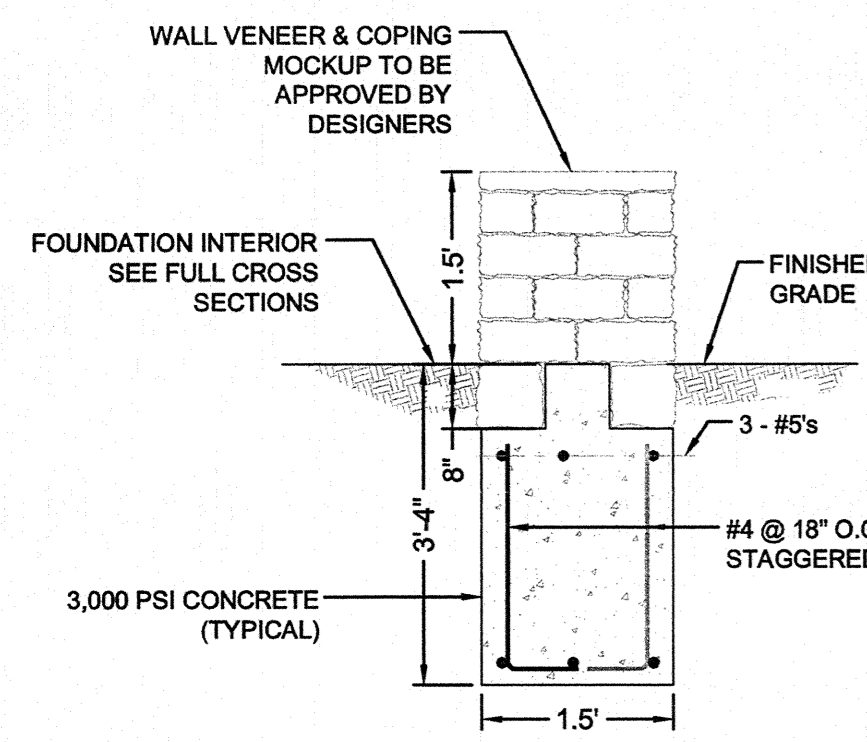
Survey Index:  
**14 - 24 - 346**

Drawn by: **JEREMY J. ROSA**

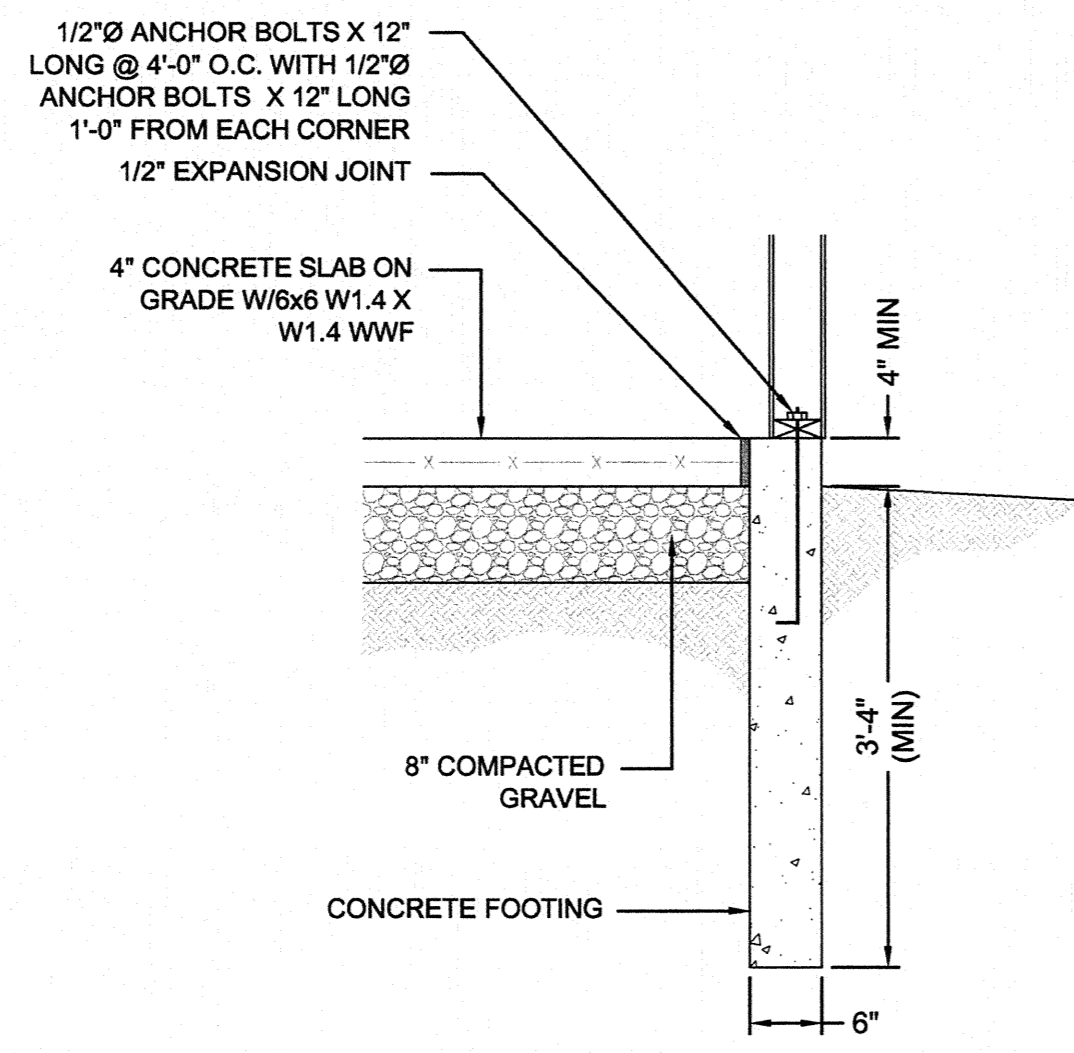
Professional Engineer  
No. **9826**  
REG. PROFESSIONAL ENGINEER  
CIVIL

OWNERSHIP AND USE OF DOCUMENTS: DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF PROFESSIONAL SERVICE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THESE DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECTS OR PURPOSES, OR BY ANY OTHER PARTIES, THAN THOSE PROPERLY AUTHORIZED BY CONTRACT, WITHOUT THE EXPRESS AUTHORIZATION OF THE ENGINEER.





TYPICAL SEATING WALL SECTION  
SCALE: 1/2" = 1'-0"



TYPICAL SHED FOUNDATION WALL SECTION  
SCALE: 3/4" = 1'-0"

**GENERAL NOTES**

1. ALL STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF RHODE ISLAND BUILDING CODE AND O.S.H.A. CODE.
2. CONDITIONS ENCOUNTERED IN THE FIELD NOT COVERED BY THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
4. ALL SECTIONS, DETAILS, NOTES, METHODS, OR MATERIALS SHOWN AND/OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS OTHERWISE NOTED.
5. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH SITE AND LANDSCAPE ARCHITECTURE, ELECTRICAL, AND MECHANICAL DRAWINGS AND SPECIFICATIONS, AND THESE DRAWINGS SHALL BE REFERRED TO FOR SIZE AND LOCATION OF OPENINGS, VENTS, PIPES, INSERTS, HANGERS, ETC.

**CONCRETE NOTES:**

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI STANDARD 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ACI 301-05 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS. ACI 301-05 SHALL GOVERN.
2. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH AT 28 DAYS OF AT LEAST 3000 PSI EXCEPT FLOOR SLABS, EXTERIOR SLABS AND PAVING SHALL BE 4000 PSI. USE OF FLY ASH OR SLAG IS PROHIBITED. PROVIDE 5% AIR ENTRAINMENT. CONCRETE. SUBMIT CONCRETE DESIGN MIX FOR APPROVAL.
3. ALL REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60, AND SHALL BE DEFORMED. LAP ALL CONTINUOUS BARS 40 DIAMETERS. PROVIDE MATCHING CORNER AND INTERSECTION BARS.
4. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. LAP TWO SQUARES AT ALL JOINTS AND TIE AT 3'-0" O.C.
5. MINIMUM PROTECTIVE COVER FOR REINFORCEMENTS UNLESS OTHERWISE PROVIDED FOR:
  - A. CONCRETE PLACED AGAINST EARTH, 3".
  - B. FORMED CONCRETE EXPOSED TO EARTH, WEATHER, OR WATER, 2".
  - C. SLABS ON SAND, GRAVEL OR STONE FILL, 1-1/2".
6. STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE MECHANICAL, ELECTRICAL, AND LANDSCAPE ARCHITECTURE DRAWINGS. THESE DRAWINGS SHALL BE REFERRED TO FOR SIZE AND LOCATION OF OPENINGS.
7. WHERE OPENINGS OCCUR IN WALLS OR SLABS, PROVIDE TWO (2) - #6 EACH FACE, EACH SIDE OF THE OPENINGS AND EXTEND 2'-0" BEYOND OPENING.
8. PROVIDE BAR SUPPORTS, SPACERS AND ACCESSORIES RECOMMENDED BY THE ACI DETAILING MANUAL. ALL DETAILING NOT COVERED BY THESE NOTES SHALL BE IN ACCORDANCE WITH THE SAME MANUAL.
9. PROVIDE VERTICAL JOINTS IN THE SEATING WALLS AT 6' O.C. PROVIDE HORIZONTAL JOINTS ONLY AS NOTED.
10. ADD EXTRA STEEL AT CONSTRUCTION JOINTS OF WALLS: #4 x 4'-0" LONG @ 12" O.C. EACH FACE PLUS 5" x 4" TREATED BEVELED KEYS.

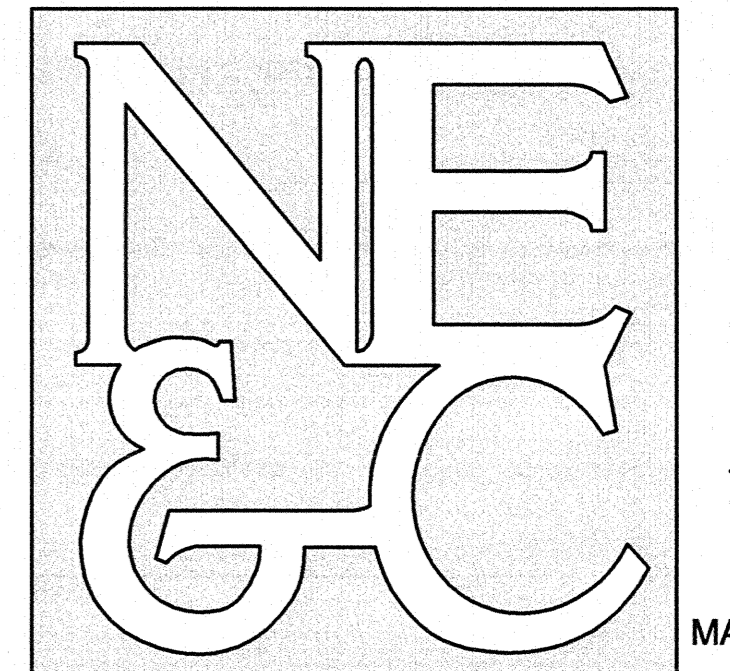
**FOUNDATION NOTES:**

1. THE BOTTOM SURFACE OF ALL FOOTINGS SHALL REST UPON UNDISTURBED INORGANIC GRANULAR SOIL WITH AN ALLOWABLE BEARING PRESSURE OF 1.5 TONS PER SQUARE FOOT.
2. BOTTOM OF EACH EXTERIOR FOOTING SHALL BE A MINIMUM OF 3'-4" BELOW FINISH GRADE.
3. NO FOOTING SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
4. NO BACK FILL SHALL BE PLACED AGAINST FOUNDATION WALLS RETAINING EARTH UNLESS WALLS ARE SUFFICIENTLY BRACED TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE.
5. BACK FILL MATERIAL SHALL BE COMPACTED IN 12" LAYERS COMPACTED TO 95% OF ASTM D1557, METHOD D, PROCTOR TEST.
6. ALL FOUNDATION WORK SHALL BE INSPECTED AND APPROVED FOR REQUIRED SOIL BEARING CAPACITY BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

**STRUCTURAL MASONRY**

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", (ACI 530-08/ASCE 5-08/TMS 402-05) AND "SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530.1-05/ASCE 5-05/TMS 602-05).
2. MASONRY STRENGTH,  $f_m$ , FOR MASONRY CONSTRUCTION SHALL NOT BE LESS THAN 1500 PSI WITH THE INSPECTION AND PRISM TESTS.
3. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1 AND NORMAL WEIGHT. STRENGTH SHALL BE AS REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT SHALL NOT BE LESS THAN 2500 ON THE NET AREA OF THE BLOCK.
4. HORIZONTAL WALL REINFORCING SHALL BE 220 LADDER (H & B) WITH W17, RDDS SPACED 18" O.C.
5. ALL GROUT SHALL CONFORM TO ASTM C476, TYPE FINE, AND SHALL BE OF STRENGTH REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT NOT LESS THAN 2500 PSI. AGGREGATES FOR GROUT SHALL MEET ASTM C404.
6. ALL MORTAR FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C270 TYPE S AND SHALL BE OF STRENGTH REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT NOT LESS THAN 1800 PSI. MASONRY CEMENT SHALL NOT BE USED.
7. ALL REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60 DEFORMED BARS. UNLESS NOTED OTHERWISE, LAP ALL CONTINUOUS BARS 48 DIAMETERS.
8. ALL JOINT REINFORCEMENTS SHALL CONFORM TO ASTM A82.
9. ADMIXTURES ARE PROHIBITED FROM USE IN MORTAR AND SUBJECT TO REVIEW IN GROUT.

NORTHEAST ENGINEERS & CONSULTANTS, INC.

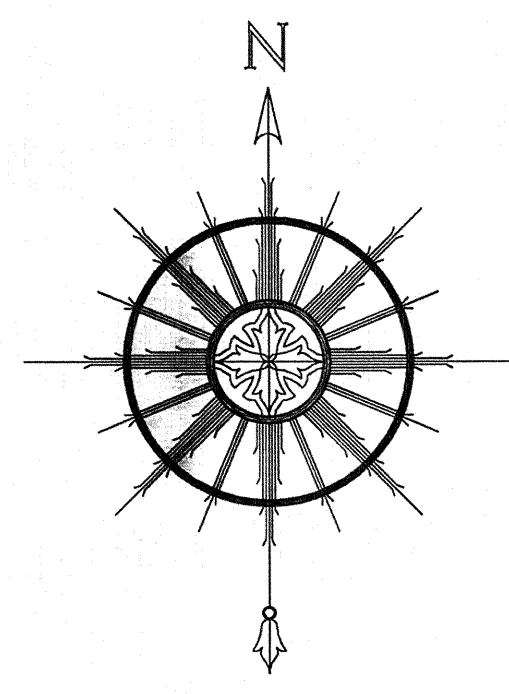


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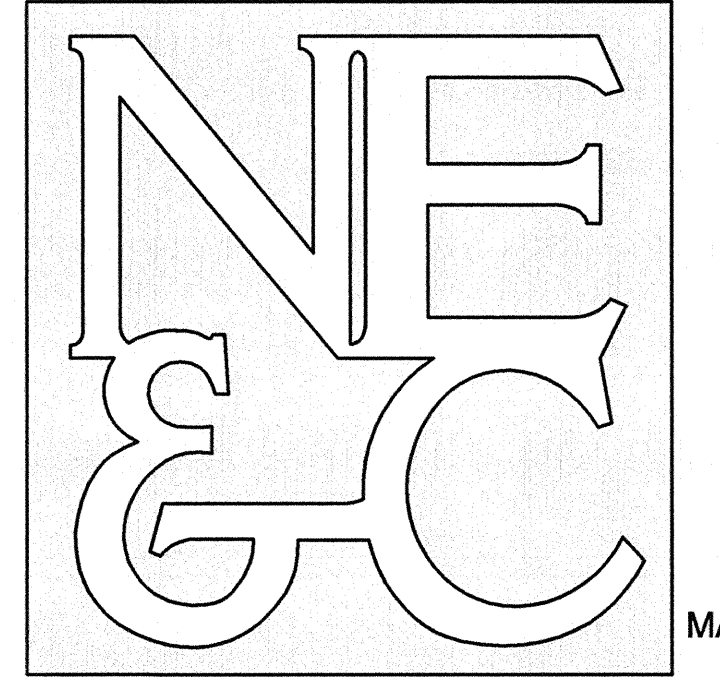
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PHONE (401) 849-0810 FAX (401) 848-4189  
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SITE/CIVIL  
LAND PLANNING  
WATERFRONT  
SURVEYING  
GEOTECHNICAL  
ENVIRONMENTAL  
TRANSPORTATION  
STRUCTURAL  
MATERIALS TESTING

No.	Revision	Date	App.
Designed by: JJR	Drawn by: JJR	Checked by:	
Scale: AS SHOWN Date: SEPTEMBER 17, 2012			
Project Title: <b>QUEEN ANNE PARK</b> AP 24, LOT 346 THAMES STREET NEWPORT, RHODE ISLAND			
Client/Owner:			
Issued for: PERMITTING			
Drawing Title: <b>DETAIL SHEET 3</b> STRUCTURAL DETAILS			
Drawing Number: D-3			
Sheet 7 of 7			
Project Number: 12014.0			
Survey Index: 14 - 24 - 346			
<small>OWNERSHIP AND USE OF DOCUMENTS, DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THESE DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECTS OR PURPOSES, OR BY ANY OTHER PARTIES, THAN THOSE PROPERLY AUTHORIZED BY CONTRACT, WITHOUT THE EXPRESS AUTHORIZATION OF THE ENGINEER.</small>			

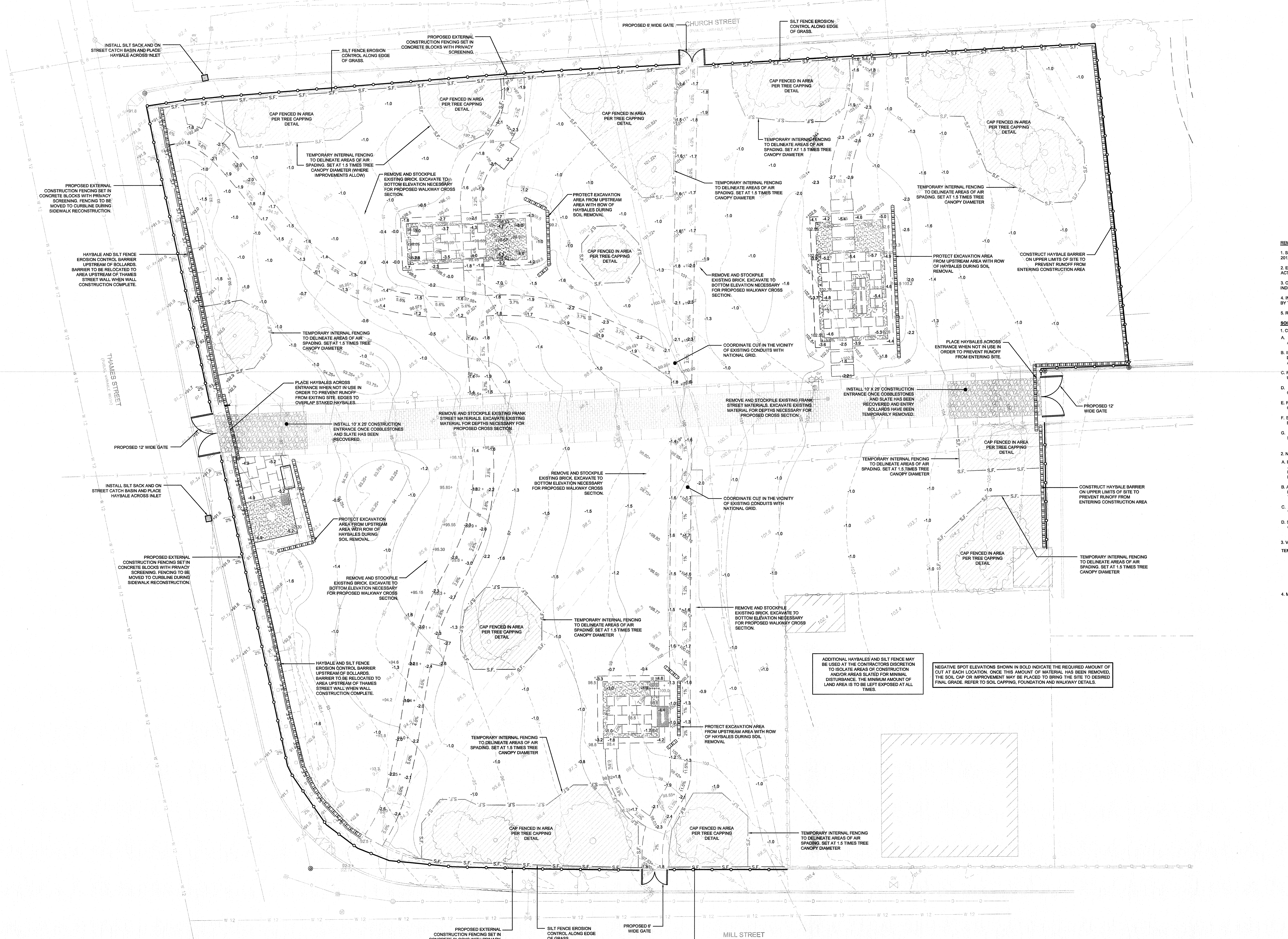


NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



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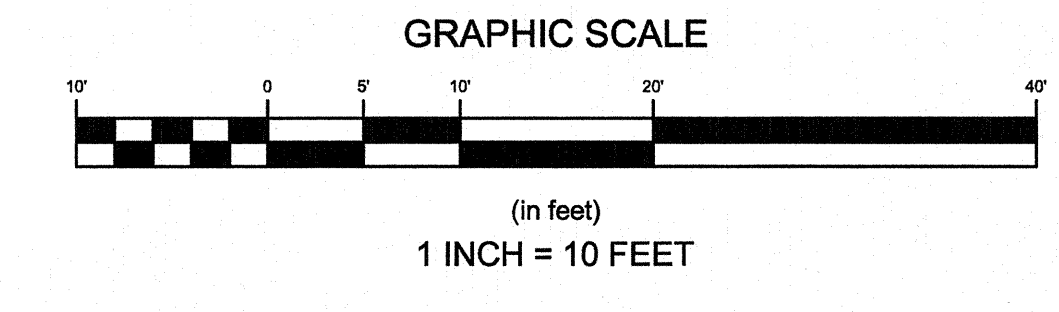


**LEGEND:**

- CONTOURS
- WOOD FENCE
- GAS LINE
- SEWER LINE
- WATER LINE
- DRAIN LINE
- ELECTRIC LINE
- EDGE OF CURB
- WATER GATE VALVE
- GAS GATE VALVE
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- 5/8" STONE POST (TYP)
- GAS LIGHT
- PROPOSED CONTOUR
- PROPOSED EXTERNAL SILT FENCING
- PROPOSED EXTERNAL SILT FENCE
- PROPOSED HAYBALES
- PROPOSED INTERNAL SILT FENCE
- APPROXIMATE SPOT CUT REQUIRED

- REMEDIAL ACTION NOTES:**
- SOIL TO BE MANAGED IN ACCORDANCE WITH RIDEM APPROVED "SOIL MANAGEMENT PLAN", AUGUST 2015, PREPARED BY SAGE ENVIRONMENTAL, INC.
  - ENGINEERED CAP TO BE CONSTRUCTED IN ACCORDANCE WITH THE RIDEM APPROVED "REMEDIAL ACTION WORK PLAN", AUGUST 2012, PREPARED BY SAGE ENVIRONMENTAL, INC.
  - OVERCUT AS NEEDED TO ACCOMMODATE MINIMUM 12" CLEAN FILL. CUT ELEVATIONS SHOWN INDICATE APPROXIMATE CUT DEPTHS TO ENSURE FINAL SEEDING.
  - INTERNAL SITE FENCING DELINEATING THE AREAS OF FREE CAPPING MAY ADDITIONALLY DELINEATED BY TEMPORARY CHAIN LINK FENCE SEGMENTS.
  - REFER TO SOIL EROSION AND SOIL CAPPING DETAILS ON SHEET D-2.
- SOIL EROSION AND SEDIMENT CONTROL NOTES:**
- CONSTRUCTION SEQUENCES FOR EROSION CONTROL ACTIVITIES:
  - DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
  - INSTALL FENCING SILT FENCES, SILT SACKS, CHECK DAMS AND/OR HAY BALES AS INDICATED ON THE DRAWINGS TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWNSTREAM AREAS PRIOR TO ANY EARTH MOVING ACTIVITIES.
  - REMOVE AND STOCKPILE EXISTING BRICK WALKS, FRANK STREET MATERIALS AND GRANITE CURBING UPSTREAM OF THAMES STREET SIDEWALK.
  - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES LOCATED AS SHOWN ON PLANS. CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THIS ENTRANCE.
  - REMOVE TREES WHERE SHOWN ON LANDSCAPING PLANS. ALL STUMPS TO BE GROUND OR DISPOSED OF OFF SITE.
  - STRIP SITE OF AND EXCAVATE TO THE INDICATED DEPTHS. ALL SOIL HANDLING AND REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH THE RIDEM APPROVED REMEDIAL ACTION WORKPLAN.
  - CONTRACTOR SHALL CONSTRUCT ADDITIONAL SOIL EROSION CONTROLS AROUND TEMPORARY STOCKPILES AS NECESSARY TO AVOID SEGMENTATION OF DOWNSTREAM AREAS.

- 2. NOTES:**
- DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
  - ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
  - AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
  - DEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
- 3. VEGETATIVE PRACTICE:**
- TEMPORARY MEASURES FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
- LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:  
LIMESTONE  
FERTILIZER: (10-10-10) 500 LBS/ACRE
  - SEEDS SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 112 LBS/ACRE
  - HAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.
- 4. MAINTENANCE:**
- SILT FENCES AND HAY BALES SHALL BE INSPECTED AS INDICATED IN THE DETAILS. AT A MINIMUM THE SILT FENCING AND HAY BALES SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND IMMEDIATELY FOLLOWING A SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REGRADED ON THE SITE.
  - THE STABILIZED ENTRANCES SHALL BE INSPECTED WEEKLY, AND REESTABLISHED AS NECESSARY.



ADDITIONAL HAYBALES AND SILT FENCE MAY BE USED AT THE CONTRACTOR'S DISCRETION TO ISOLATE AREAS OF CONSTRUCTION AND/OR AREAS SLATED FOR MINIMAL DISTURBANCE. THE MINIMUM AMOUNT OF LAND AREA IS TO BE LEFT EXPOSED AT ALL TIMES.

NEGATIVE SPOT ELEVATIONS SHOWN IN BOLD INDICATE THE REQUIRED AMOUNT OF CUT AT EACH LOCATION. ONCE THIS AMOUNT OF MATERIAL HAS BEEN REMOVED, THE SOIL CAP OR IMPROVEMENT MAY BE PLACED TO BRING THE SITE TO DESIRED FINAL GRADE. REFER TO SOIL CAPPING, FOUNDATION AND WALKWAY DETAILS.

No.	Revision	Date	App.

Designed By: **JJR** Drawn by: **JJR** Checked by: **JJR**  
Scale: **1" = 10'** Date: **SEPTEMBER 17, 2012**

Project Title:  
**QUEEN ANNE PARK  
AP 24, LOT 346  
THAMES STREET  
NEWPORT, RHODE ISLAND**

Client/Owner:  
**PERMITTING**

Issued for:  
**PERMITTING**

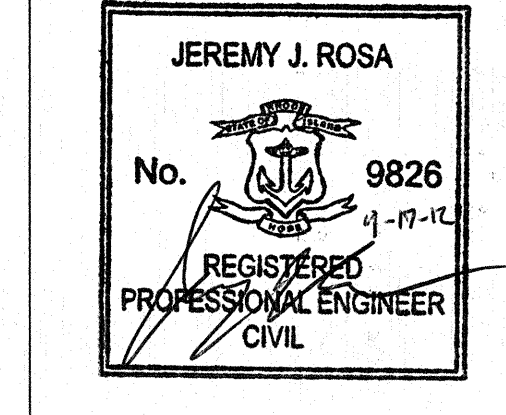
Drawing Title:  
**SOIL REMEDIATION PLAN**

Drawing Number:  
**SOIL-1**

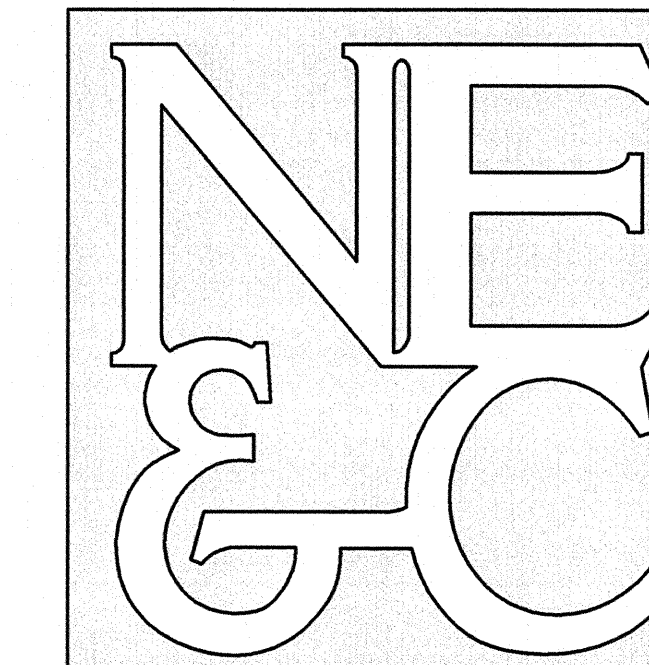
Sheet **1** of **7**

Project Number:  
**12014.0**

Survey Index:  
**14 - 24 - 346**

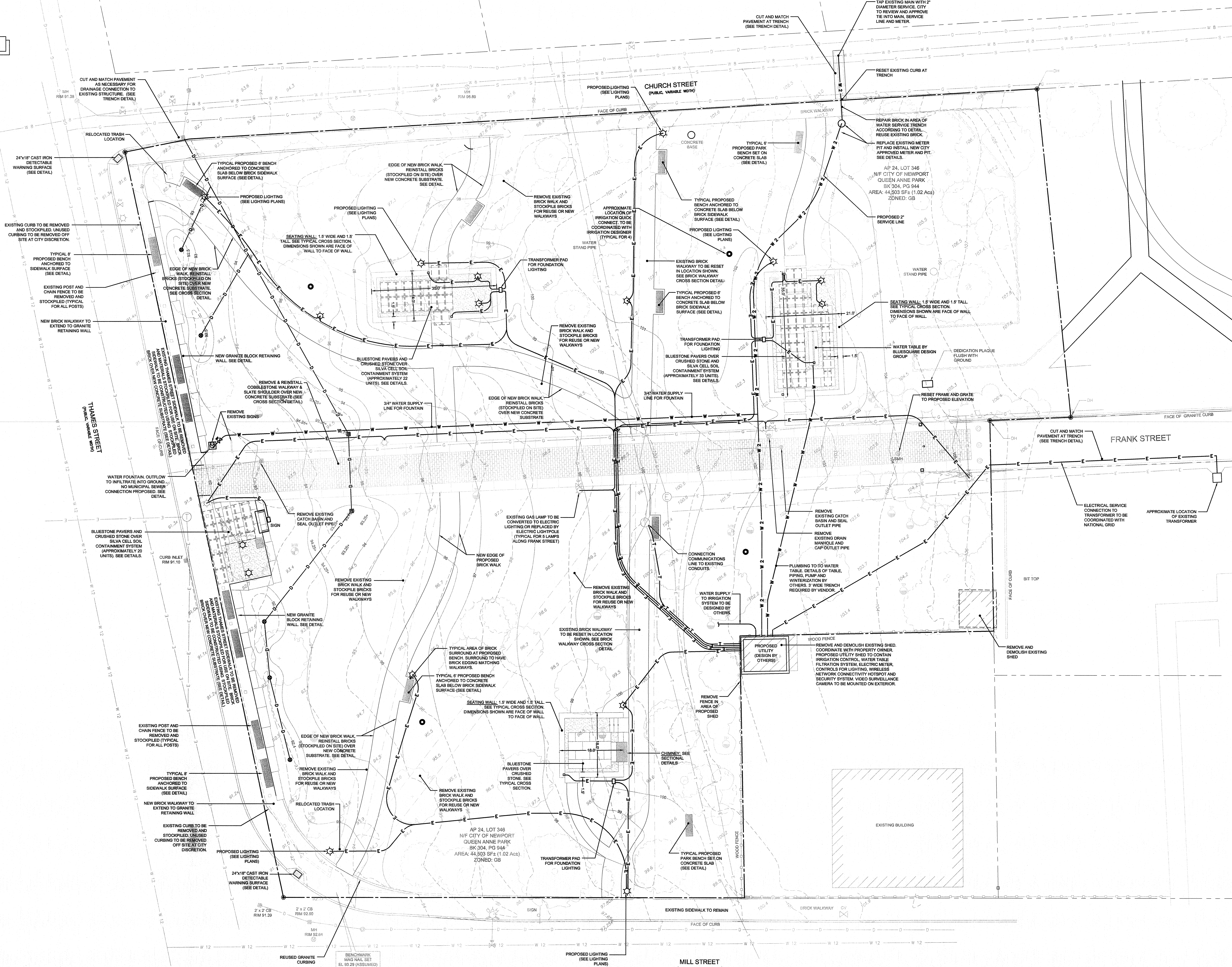
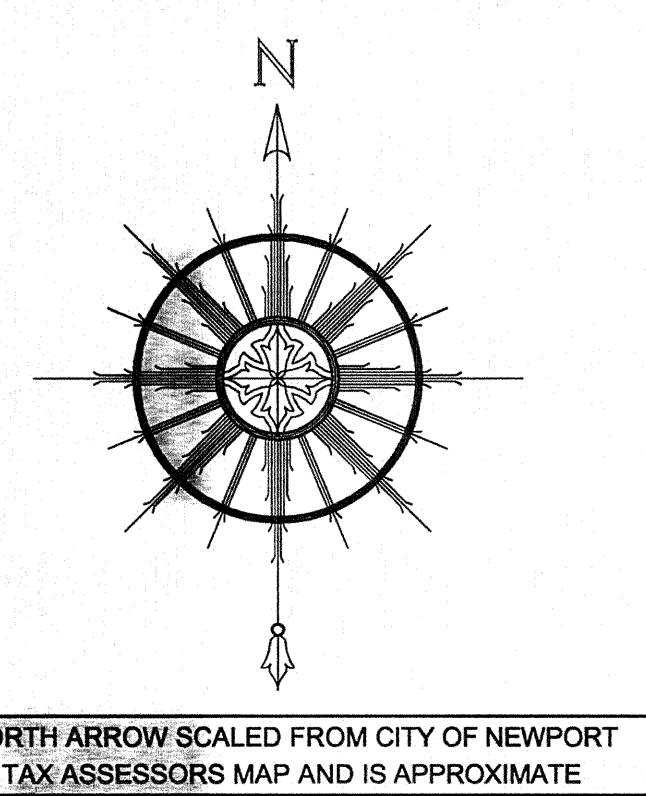


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**LEGEND:**

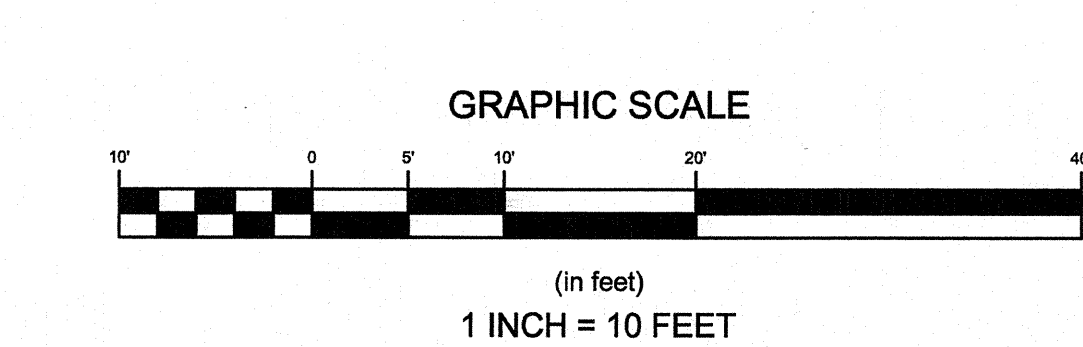
---	CONTOURS
---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
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---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	1/2" STONE POST (TRK)
---	GAS LIGHT
---	MONITORING WELL
---	TEST PIT
---	PROPOSED DRAIN INLET
---	PROPOSED DRAIN COVER
---	PROPOSED DRAIN LINE
---	PROPOSED WATER LINE
---	PROPOSED ELECTRICAL CONDUIT
---	PROPOSED COMMUNICATION CONDUIT
---	PROPOSED CONTOUR
---	PROPOSED SPOT ELEVATION

- PLAN REFERENCES:**
- DISPOSITION MAP #4, HISTORIC HILL PROJECT R-23, BY ROBERT E. LYNCH P.E. PLAN DATED AUGUST 1977, INDEX 10-10-20.
  - COPY OF PLAN WITH ADDITIONS IN RED MADE FOR SCHOOL COMM. MARCH 20 1901. LAND EVIDENCE BK 61, PG 474 & BK 62, PG 2107. ON FILE AT CITY ENGINEERS OFFICE, INDEX # 2-243.
  - PLAN FILED AT CITY ENGINEERS OFFICE SHOWING THE RIGHT OF WAY AND INTERSECTION OF FRANK STREET. NO DATE ON PLAN. INDEX 10-10-20.
  - UNRECORDED "PLAN OF LAND" BY NORTHEAST ENGINEERS AND CONSULTANTS, INC. FOR QUEEN ANNE PARK; AP 24, LOT 346. PLAN DATED JUNE 2010. SCALE 1" = 20'.

- NOTES:**
- EXISTING CONDITIONS AND TOPOGRAPHIC INFORMATION ARE A RESULT OF A FIELD SURVEY BY NORTHEAST ENGINEERS & CONSULTANTS, INC. ON JUNE 5, 2012 AND JANUARY 31, 2012.
  - PROPOSED LAYOUT TAKEN FROM PLAN "QUEEN ANNE SQUARE, NEWPORT RI. PLANTING PLAN, DATED JUNE 27, 2012, BY LAURENDA LANGSHAW ARCHITECTS AND PLANNERS.

- UTILITY NOTES:**
- ELECTRICAL, WATER, AND COMMUNICATION SERVICE CONNECTIONS SHOWN ARE SCHEMATIC ONLY, AND REQUIRE REVIEW AND APPROVAL BY THEIR RESPECTIVE ENTITIES.
  - UTILITY TRENCHES ARE TO BE CONSTRUCTED ACCORDING TO THE DETAILS PROVIDED.
  - ELECTRICAL CONDUIT LOCATIONS TO BE APPROVED BY PROJECT ELECTRICAL ENGINEER.

- LAYOUT NOTES:**
- CITY TO APPROVE ALL PARK BENCH LOCATIONS. BENCHES TO BE SET BACK 18" FROM WALKWAYS.
  - CITY TO APPROVE ALL LIGHT FIXTURES AND LOCATIONS.
  - ALL BRICKS USED SHALL BE RECLAIMED BRICKS FROM SITE.



No.	Revision	Date	App.

Designed by: JJR      Drawn by: JJR      Checked by: JJR  
Scale: 1" = 10'      Date: SEPTEMBER 17, 2012

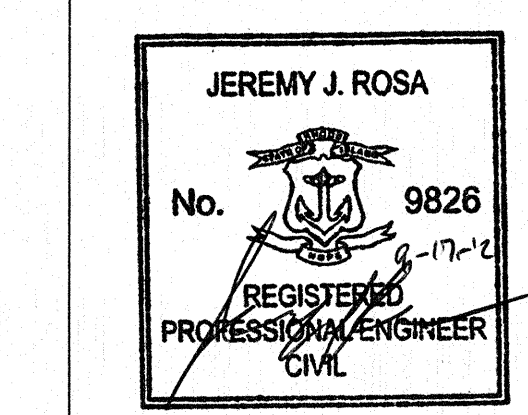
Project Title:  
**QUEEN ANNE PARK  
AP 24, LOT 346  
THAMES STREET  
NEWPORT, RHODE ISLAND**

Client/Owner:  
**PERMITTING**

Issued for:  
**PERMITTING**

Drawing Title:  
**UTILITY AND LAYOUT PLAN**

Drawing Number: <b>C-1</b>
Sheet <b>2</b> of <b>7</b>
Project Number: <b>12014.0</b>
Survey Index: <b>14 - 24 - 346</b>



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**APPENDIX 4**



THE CITY OF NEWPORT, RHODE ISLAND - AMERICA'S FIRST RESORT  
DEPARTMENT OF PUBLIC SERVICES

William R. Riccio, Jr., PE  
Director

Rick Mandile  
SAGE Environmental, Inc.  
172 Armistice Blvd.

August 28, 2012

Dear Mr. Mandile

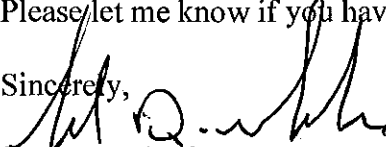
The following are my technical recommendations as an ISA Certified Arborist and Newport's Tree Warden regarding steps to be taken to preserve the existing specimen trees in Queen Anne Square while completing the needed soil remediation work. As discussed with RIDEM during our initial meeting, it is not possible to excavate the full soil profile to a depth of 12" and retain any existing specimen trees. Tree roots require oxygen and are therefore close to the soil surface with 90% occurring in the top 18" of soil. Removal of all roots in the top 12" would kill the trees and put the public at risk from full structural failure due to loss of anchorage. An alternative method has been developed to safely remove soil under trees while retaining woody roots using air tools such as the product marketed under the name "Air Spade". As confirmed by RIDEM this method was approved and recently used to remove contaminated soils under trees at the Wellington Resort property at 551 Thames St. in Newport.

It is my recommendation that technicians use air tools to remove the existing soil to a minimum depth of 8" within the fenced tree protection zone, defined as 1 ½ times the diameter of the trees canopy. Based on experience using an air spade and from consulting with a number of colleagues it is my opinion that a minimum 8" excavation depth is the limit of what is possible over a very large area in heavily compacted park soils. Note that although an air spade does not kill woody roots, it does destroy the fine white "hair roots" and will stress the trees. It is essential that the work is completed under the direct supervision of a qualified Arborist experienced in this process, that the exposed tree roots are kept moist and that the work is done when the trees are dormant.

The removed soil should be replaced with 8" of an approved soil mix that includes additional organic matter to be installed utilizing low ground weight equipment to minimize compaction. Finally a 2" layer of sod should be installed for a total cap of 10". To insure the effectiveness of the soil and sod cap within the tree protection zone the grass will be maintained with an automatic sprinkler system with zones designed specifically zoned for the existing tree beds. This will allow for the sufficient water to be applied to maintain the grass while not overwatering the established trees. A long term fertility, aeration and over seeding program will be implemented to insure the health of the turf and to introduce shade and wear tolerant rye and fescue grasses into the blue grass sod.

Please let me know if you have any questions regarding my recommendations,

Sincerely,

  
Scott D. Wheeler

Buildings & Grounds Supervisor / Tree Warden

280 Spring Street, Newport, RI 02840-6815  
Telephone 401-845-5840 • Fax 401-842-6919  
www.cityofnewport.com







RHODE ISLAND POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (RIPDES)  
**NOTICE OF INTENT (NOI)**  
STORM WATER GENERAL PERMIT FOR  
CONSTRUCTION ACTIVITY  
(Revised 8/03)

**DEM USE ONLY**

Date NOI Received \_\_\_\_\_

Date Fee Received \_\_\_\_\_

RIPDES#      RIR \_\_\_\_\_

<b>MARK ONLY ONE ITEM</b>	<input type="checkbox"/> Existing Construction RIPDES Authorization No. RIR _____	<input checked="" type="checkbox"/> New Construction	<input type="checkbox"/> Change of Information
---------------------------	--	--	--

**I. OWNER**

Name: City of Newport			
Mailing Address: Office of the City Manager, City Hall-2nd Floor, 43 Broadway			
City: Newport	State: RI	Zip: 02840	Phone: (401) 845-5430
Contact Person: Jane Howington	Title: City Manager		
Billing Address (if different than above):			
City:	State:	Zip:	
Ownership (please circle one): PRI - Private <u>PUB - Public</u> BPP - Public/Private      STA - State      FED - Federal Other (please specify):			

**II. OPERATOR (if different from Owner)**

Name:			
Local Mailing Address:			
City:	State:	Zip:	Phone: (   )
Contact Person:	Title:		

**III. CONSTRUCTION SITE INFORMATION**

Site's Official or Legal Name: Queen Anne Square		
Street Address: Thames Street		
City: Newport	State: RI	Zip: 02842
Phone: None	Nearest Utility Pole Number: n/a	
Assessors Plat: 24		Lot: 346
Is the construction site part of a larger common plan of development or sale? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
If yes, name of development:		
Projected or Actual Construction Commencement <u>10/1/2012</u>		
Projected Construction Completion <u>1/1/2013</u> MO/DY/YR		
MO/DY/YR		
Area of Site: Total <u>1.03</u> +/- Acres Disturbed <u>1.03</u> +/- Acres	Total area of Impervious Surface: Pre-Construction <u>0.21</u> Acres Post-Construction <u>0.21</u> Acres	Runoff Coefficient or Curve Number: Pre-Construction <u>79</u> Post-Construction <u>79</u>



**VIII. OWNER/OPERATOR CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that if review of the Storm Water Pollution Prevention Plan is performed by the Permitting Program, Wetlands Section, Coastal Resources Management Council, or by a city/town which has adopted a DEM approved Soil Erosion and Sediment Control Ordinance, then a Storm Water Permit from this office is contingent upon approval from the reviewing agency. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I am aware that it is the responsibility of the owner/operator to implement and amend the SWPPP as appropriate in accordance with the requirements of the General Permit.

Print Owner Name Jane Howington  
Print Owner Title City Manager  
Signature Jane Howington Date 9/12/12  
Print Operator Name\* \_\_\_\_\_  
Print Operator Title \_\_\_\_\_  
Signature \_\_\_\_\_ Date \_\_\_\_\_

\*This part needs to be filled out by the entity or the individuals that will have an ongoing role in the management and operation of the system during construction.

**IX. PROFESSIONAL CERTIFICATION - NATURAL HERITAGE AREAS**

I certify under penalty of law that the Natural Heritage Area Information under Section V of this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete at the time this application is made. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name of Professional Jeremy Rosa, PE  
Print Professionals Title\* Civil Engineer  
Registration or License Number CE#9826  
Signature Jeremy Rosa Date 9/17/12

\*Must be signed by a Registered Professional Engineer, a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ), or a Registered Landscape Architect.

**X. PROFESSIONAL CERTIFICATION - SWPPP DEVELOPMENT**

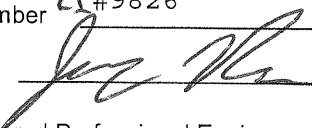
Note: This section needs to be filled out for construction activities that are not required to submit a SWPPP to the RIPDES Program (refer to Part III.A.9 of the General Permit). The purpose of this certification is to document that a site specific SWPPP was prepared consistent with the requirements of the General Permit prior to filing the NOI. This certification by a professional does not alleviate or in any way limit the liability and sole responsibility of the Owner/Operator to properly implement the SWPPP and to amend the SWPPP as site conditions may require, so as to effectively control storm water discharges leaving the site during the construction period.

I certify under penalty of law that a site specific SWPPP was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for developing the SWPPP, the SWPPP is, to the best of my knowledge and belief, true, accurate, and complete at the time this certification is made and has been developed in accordance to the requirements of the Permit as well as all applicable guidelines of the Soil Erosion and Sediment Control Handbook and the Storm Water Design and Installation Standards Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name of Professional Jeremy Rosa, PE

Print Professionals Title\* Civil Engineer

Registration or License Number RT #9826

Signature  Date 9/17/12

\*Must be signed by a Registered Professional Engineer, a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ), or a Registered Landscape Architect. If the SWPPP requires the practice of engineering, this must be signed by a Registered Professional Engineer.

Note: Upon completion of the permitted project, the DEM must be notified via a Notice of Termination (NOT) form. In accordance with Construction Activity General Permit Part V.L., this permit is not transferable to any person or group except after due notice to the Director. If no such notice is given, the named owner will be held liable for all fees and expenses levied to this permit.



**RHODE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
Office of Water Resources



**APPLICATION FEE FORM**

Please complete the information below and **submit this completed form and your check (payable to "R.I. General Treasurer") for the appropriate fee directly to:**

R.I. Department of Environmental Management  
Office of Management Services  
235 Promenade Street  
Providence, RI 02908

**\*\*\* FEES ARE NOT REFUNDABLE \*\*\***

APPLICANT'S NAME: City of Newport c/o Jane Howington

OWNER'S NAME: City of Newport

SITE LOCATION: Thames Street, Newport, RI

APPLICATION TYPE (Permit, Order of Approval): **RIPDES General Permit**

**NOTE:** The application and all accompanying documents should be submitted to the appropriate section of the Office of Water Resources, 235 Promenade Street, Providence, RI 02908-5767. Application review will be initiated only upon receipt of the complete application fee.

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**FOR OFFICE USE ONLY**

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OMS Receipt Date: \_\_\_\_\_

Fee Amount Received: \_\_\_\_\_

Processor Initials: \_\_\_\_\_

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# STORM WATER POLLUTION PREVENTION PLAN

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Queen Anne Square  
Assessor's Plat 24 Lot 346  
Thames Street  
Newport, RI 02840

Prepared For  
Farrar & Associates, Inc.  
31 A Bridge Street  
Newport, RI 02840

September 2012



**Northeast Engineers & Consultants, Inc.**  
"A Knowledge Corporation"®





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## 1.0 EXECUTIVE SUMMARY

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to meet the standards of the "General Permit, Rhode Island Pollutant Discharge Elimination System, Storm Water Discharge Associated with Construction Activity" (General Permit). The objective of the SWPPP is to address pollution caused by soil erosion and sedimentation during and after construction and storm water pollution caused by use of the site after construction is completed.

The proposed development at the existing site of the Queen Anne Square (the Site) in Newport, Rhode Island includes soil remediation and the construction of new improvements designed to enhance the aesthetics and usability of this historic public park. The site abuts Thames, Church and Mill Streets and is located just downhill from Trinity Church. Soil remediation activities include removal of contaminated material and soil capping. This cap includes a minimum of 12 inches of clean material over the majority of the site. The engineered soil caps are to be constructed in accordance with the RIDEM approved "Remedial Action Work Plan", dated August 2012, and prepared by SAGE Environmental, Inc. This document is not intended to supersede any direction proposed in the aforementioned document. The existing brick sidewalks which will be removed during the remediation will be reconstructed. The existing cobblestone and slate Frank Street surface which bisects the Site will likewise be removed during remediation and will be reset and reconstructed in its original location on a new concrete substrate. Three new "foundations" will be constructed across the Site. These foundations will offer pedestrian seating walls surrounding small areas of bluestone slabs set in a permeable base. New benches will be located along Thames Street and throughout the park. A new granite retaining wall will delineate the edge of the park at Thames Street. A host of new trees will be located throughout the park to supplement the trees which are to remain. New lighting and irrigation is proposed. An existing shed located adjacent to the site will be removed and replaced with a new shed which will house all controls. All catch basins located on the Site, which presently connect to a combined sewer and drain line will be disconnected. Several new inlets are proposed, which will connect to a storm drain in Mill Street.

The project will encompass the entirety of the Site, and the sidewalk abutting Thames Street, for a total site disturbance of just over one acre. Approximately 9,781 square feet of impervious surface will be present on the completed site. This does not represent a net increase when compared to the existing site coverage.

Implementation and management of the applicable aspects of this project under the SWPPP are the responsibility of the General Contractor. Communication between all parties performing work on the site is essential for proper implementation of the SWPPP. The General Contractor and all operating subcontractors should all be familiar with the SWPPP and their responsibilities under the plan.

*This Executive Summary briefly summarizes some of the information presented in the report. Please refer to the complete report for information not presented in the Executive Summary.*



## **2.0 INTRODUCTION**

### **2.1 PURPOSE**

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to meet the standards of the "General Permit, Rhode Island Pollutant Discharge Elimination System, Storm Water Discharge Associated with Construction Activity" (General Permit). The objective of the SWPPP is to address pollution caused by soil erosion and sedimentation during and after construction and storm water pollution caused by use of the site after construction is completed.

### **2.2 BACKGROUND**

The proposed development at the existing site of the Queen Anne Square (the Site) in Newport, Rhode Island includes soil remediation and the construction of new improvements designed to enhance the aesthetics and usability of this historic public park. The site abuts Thames, Church and Mill Streets and is located just downhill from Trinity Church. Soil remediation activities include removal of contaminated material and soil capping. This cap includes a minimum of 12 inches of clean material over the majority of the site. The engineered soil caps are to be constructed in accordance with the RIDEM approved "Remedial Action Work Plan", dated August 2012, and prepared by SAGE Environmental, Inc. This document is not intended to supersede any direction proposed in the aforementioned document. The existing brick sidewalks which will be removed during the remediation will be reconstructed. The existing cobblestone and slate Frank Street surface which bisects the Site will likewise be removed during remediation and will be reset and reconstructed in its original location on a new concrete substrate. Three new "foundations" will be constructed across the Site. These foundations will offer pedestrian seating walls surrounding small areas of bluestone slabs set in a permeable base. New benches will be located along Thames Street and throughout the park. A new granite retaining wall will delineate the edge of the park at Thames Street. A host of new trees will be located throughout the park to supplement the trees which are to remain. New lighting and irrigation is proposed. An existing shed located adjacent to the site will be removed and replaced with a new shed which will house all controls. All catch basins located on the Site, which presently connect to a combined sewer and drain line will be disconnected. Several new inlets are proposed, which will connect to a storm drain in Mill Street.

The project will encompass the entirety of the Site, and the sidewalk abutting Thames Street, for a total site disturbance of just over one acre. Approximately 9,781 square feet of impervious surface will be present on the completed site. This does not represent a net increase when compared to the existing site coverage.

In order to treat stormwater runoff from new impervious areas in accordance with the RI Stormwater Design and Installation Standards Manual (RISDISM), several drainage Best Management Practices (BMPs) are proposed. A series of small inlets located upstream of the proposed wall along Thames Street will discharge into a crushed stone infiltration trench. These inlets will intercept upstream sheet flow from grassed areas and brick walkways. This subsurface trench will overflow into a small diameter ADS pipe and into the City storm drains. Two full size precast concrete catch basin are proposed in the grassed areas adjacent the reconstructed Frank Street. These catch basins will be set in small depressions located so as to intercept the majority of the runoff from Frank Street. These depressions will be constructed in such a way so as to promote some degree of infiltration prior to allowing stormwater to enter the inlets. These catch basins will likewise be connected to the City storm drains.



### **3.0 RESPONSIBILITIES**

Implementation and management of the applicable aspects of this project under the SWPPP are the responsibility of the General Contractor. Communication between all parties performing work on the site is essential for proper implementation of the SWPPP. The General Contractor and all operating subcontractors should all be familiar with the SWPPP and their responsibilities under the plan. To help delegate these responsibilities the following outline is suggested:

#### **3.1 SWPPP AND GENERAL PERMIT COMPLIANCE**

The General Contractor should ensure that construction activities comply with the General Permit and this SWPPP.

#### **3.2 SITE PERSONNEL TRAINING**

The General Contractor should provide onsite training to key personnel responsible for compliance with the SWPPP. The contractor's superintendent and project manager should be familiarized with the major elements of the plan. Construction workers and others at the site should be given appropriate training information at the conclusion of site safety meetings or on an as-needed basis.

#### **3.3 PRE-CONSTRUCTION MEETING**

One or more pre-construction meetings should be held with an explicit agenda item addressing the SWPPP.

#### **3.4 COORDINATION WITH OTHER CONTRACTORS**

All contractors providing services on the project which may cause storm water pollution shall be given a copy of the SWPPP. Appropriate training regarding storm water pollution prevention should be provided by the General Contractor.

Subcontractor oversight should be provided by the General Contractor to ensure compliance with the SWPPP.

#### **3.5 INSPECTIONS**

Regularly scheduled inspections and associated reporting requirements required by the General Permit should be conducted by representatives of the City of Newport.

### **4.0 INSPECTION AND REPORTING REQUIREMENTS**

#### **4.1 INSPECTIONS**

Inspections shall be conducted in general accordance with Part II.B. of the General Permit which states that "All storm water control measures, disturbed areas, areas used for the storage of materials that are exposed to precipitation (including unstabilized soil stockpiles), discharge locations, and locations where vehicles enter or exit the site, as outlined in Part IV of this permit, must be inspected by or under the supervision of the permittee at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event which generates at least 0.25 inches of rainfall per twenty four (24) hour period and/or after a significant amount of runoff. Such



areas shall be inspected for evidence of, or the potential for, pollutants entering the waters of the State or a separate storm sewer system. All BMPs shall be maintained to prevent uncontrolled releases of measurable amounts of sediment or sediment laden water from traveling beyond the limits of disturbance." If an inspection reveals a discharge of sediments to the downstream areas, the permittee must notify the City of the nature of the discharge, the measures taken to clean up the discharge, and the measures taken to prevent future releases.

Maintenance and stormwater quality inspections should be completed by a representative of the City of Newport.

#### **4.2 REPORTING**

Reports shall be prepared in general accordance with Part II.D of the General Permit which states: "A report summarizing the scope of the inspection, name(s), and titles of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken in accordance with paragraph B. and C. above must be made and retained as part of the SWPPP..." and "... such reports must identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report must contain a certification that the site is in compliance with the SWPPP and this permit."

The report must be signed by a principal executive officer or ranking elected official (permittee) or a duly authorized representative and include the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under the direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

Each inspection should be documented on a SWPPP inspection form and contain the following minimum information. See Appendix B for a copy of the inspection form.

1. Inspection Date
2. Inspector's name and title
3. Weather and rainfall information from the date of the last inspection
4. Locations of discharge of sediment or other pollutants (photo documented if problems exist)
5. Locations of BMPs that need to be maintained
6. Locations of BMPs that failed or are inadequate
7. Locations where additional BMPs are required
8. List any corrective actions
9. Any water quality monitoring results as they are made available

All relevant documentation relating to the SWPPP should be recorded in the SWPPP as soon as practicable.



Spill reports should be completed and submitted to the City of Newport by the General Contractor within 48 hours of the spill and recorded in the SWPPP.

#### **4.3 SWPPP UPDATES**

In accordance with Part II.C of the General Permit this SWPPP "must be revised as appropriate, but in no case later than seven (7) calendar days following the inspection. Such modifications must provide for implementation of any changes to the SWPPP within seven (7) calendar days following the inspection."

The SWPPP should be amended in accordance with Part IV.D of the General Permit "whenever there is a change in the design, construction, operation, maintenance or other procedures that have a significant effect on the potential for the discharge of pollutants, or if the SWPPP proves to be ineffective in achieving its objectives. In addition, the SWPPP shall be amended to identify any new operator that will implement a component of the SWPPP."

#### **4.4 PROJECT COMPLETION**

The General Contractor shall notify Northeast Engineers & Consultants, Inc. (NE&C) when the construction activities addressed by this SWPPP are complete. Upon notification, the Engineer will evaluate compliance with the SWPPP and design specification. Upon completion of the Engineer's review, and a determination of satisfactory compliance, a final copy of the SWPPP and all associated relevant documentation will be provided to the City of Newport.

The City shall be notified in writing upon completion of the construction activities addressed by this SWPPP.

#### **4.5 RECORD KEEPING**

An updated copy of the SWPPP shall be kept on site at all times during the extent of construction and shall be made available to the City upon request.

Copies of all reports and associated documentation relevant to this SWPPP shall be retained by the City of Newport for at least five years.

### **5.0 SITE DESCRIPTION**

#### **5.1 SITE PLAN**

Reduced scale Site Plans are included in Appendix A.

#### **5.2 PROPOSED CONSTRUCTION ACTIVITIES**

The proposed development is located at the existing site of Queen Anne Square, in the City of Newport. The proposed construction includes remedial activities to cap the site in accordance with the Remedial Action Workplan (RAWP) prepared by SAGE Environmental, Inc. and approved by RIDEM. The proposed construction also includes new and refreshed site improvements designed to increase site aesthetics and site usability by pedestrian traffic. The anticipated construction sequence is as follows:



1. Install Soil Erosion & Sediment Control Measures
  - a. Construct stone construction entrances where shown on site plan. Portions of Frank Street must first be removed and the materials stockpiled for later reuse. All construction traffic will enter and exit the site via these points. Large trucks leaving the site shall coordinate with City personnel.
  - b. Install site fencing and silt fences and/or hay bales as indicated on the soil remediation drawing to control erosion and prevent sediment contamination of downstream areas prior to any earth moving activities.
2. Remove existing trees where indicated by the project Landscape Architect. Remaining trees shall be protected according to the landscape details. All stumps to be ground or disposed of offsite.
3. All internal brick walkways and the remainder of Frank Street shall be removed and the materials stockpiled for later replacement.
4. Strip site and excavate to the depths indicated on the soil remediation plan. All soil handling and removal shall be performed in accordance with the approved RAWP.
5. Air spading around existing trees shall be performed according to the approved details and under the supervision of a licensed arborist.
6. The contractor shall construct other additional erosion controls around temporary stockpiles and isolated areas as necessary to avoid soil runoff from site. The minimal amount of land area shall be exposed at one time.
7. Clean fill conforming to the requirements of the RAWP and approved by the Landscape Architect shall be imported and placed on site according to the necessary final grades. Material shall be compacted per the specifications in non-infiltration areas.
8. Foundation seating walls shall be constructed per the plans. Interior areas with structural soil containment shall also be constructed.
9. Drainage areas and proposed walkways shall be rough graded according to the final plan, compacted as indicated on details.
10. Exterior fencing and interior soil erosion controls shall be revised per the Soil Erosion and Sediment Control Plan.
11. Brick walkways and the majority of Frank Street shall be reconstructed according to the approved details using stockpiled materials.
12. New plantings shall be installed per the approved Landscape Plan and under the supervision of the City Tree Warden.
13. Final grading shall be completed and 2" of sod shall be placed across the site.
14. Maintain all landscaped areas in accordance with the landscape maintenance requirements.
15. Maintain drainage features in accordance with the stormwater maintenance notes.

The project is estimated to be complete within roughly 4-6 months after commencement.

### 5.3 HYDROLOGIC CHARACTERISTICS

The total area of the limits of construction is roughly 1.03 acres±, the entirety of which will be disturbed during the construction of this project.

The following table lists the soil at the Site according to the RIDEM Environmental Resource Map.

**Table 1: Soil Type**

Symbol	Name
NP	Newport Urban land complex





## 6.0 DISCHARGES

### 6.1 POTENTIAL STORMWATER POLLUTION SOURCES

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the Site are described below. The General Contractor shall be responsible for implementing and maintaining the respective Preventative Measures described below as well as any other measures that may be necessary to mitigate potential or actual storm water pollution.

**Table 2: Potential Sources of Pollution**

<b>Potential Source of Pollution</b>	<b>Risk</b>	<b>Preventative Measures</b>
Areas of exposed soil	Exposed soils washed into downstream areas during storm events	<p>A Soil Erosion and Sediment Control Plan has been developed for the project. Details of the soil erosion measures to be taken during construction are given on the accompanying plan sheets, and in this report.</p> <p>The measures outlined will minimize the potential for soil erosion and protect downstream areas from the detrimental impacts of sediment-laden runoff.</p>
Temporary Soil Stockpiles	Unstabilized soils washing into the receiving waters during storm events.	<p>The careful management of site grading tasks will minimize soil stockpiling. Sediment control barriers, constructed around soil stockpiles, will provide effective containment of sediments during rainfall events. In addition, stockpiles of contaminated soil shall be covered and underlain with plastic sheeting.</p> <p>The potential for slumping, or destabilization shall be minimized by stockpiling soil in a manner which is stable under all moisture conditions.</p>
Temporary Soil Stockpiles	Wind erosion of unstabilized soils	Temporary mulching, vegetative cover, and water dousing shall be employed to minimize the potential for airborne dust from construction activities.
Concrete Construction	Excess concrete washings entering the drainage system	<p>All excess concrete from construction activities will be collected and disposed of off-site.</p> <p>Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on site.</p>



<b>Potential Source of Pollution</b>	<b>Risk</b>	<b>Preventative Measures</b>
Construction Vehicle Fuel	Leakage of stored fuel into the receiving waters during storm events.	Diesel, or other fuel stored on site shall be stored in approved containers, with containment areas where required.
Asphalt Construction (roadway patching)	Runoff from excess piles of asphalt entering the drainage system.  Spills of tar and asphalt contaminated materials	All excess asphalt materials from construction activities will be collected and disposed of off-site.  Asphalt will not be stored or left in locations exposed to the weather.  Any asphalt substances used on site will be applied according to the manufactures recommendations.  The General Contractor will employ suitable methods of work to minimize the potential for spills of asphalt-contaminated materials.  Spill response procedures will be in place before construction is started.
Painting (Shed)	Paint spills and washings entering the drainage system and downstream receiving waters.	Contaminated water from the washing of painting equipment and containers will be collected and disposed of off-site.  Suitable protection (i.e. covers) will be provided where appropriate, to protect surrounding areas from painting activities.  All paint materials and solvents will be stored in covered, weatherproof facilities.  Spray guns will be cleaned on a removable tarp.
Construction waste	Contamination of site areas, or surrounding areas with construction waste.	All waste from construction activities will be collected and disposed of off-site.  The General Contractor will be responsible for maintaining the site in an orderly condition, and disposing of waste in a timely manner.



<b>Potential Source of Pollution</b>	<b>Risk</b>	<b>Preventative Measures</b>
Oil, gasoline, or hydraulic fluid leaks from construction equipment	Oil or fluid leaks entering the drainage system.	<p>The potential for fuel or fluid leaks from site construction activities will be minimized by the formation of and adherence to a Schedule of Maintenance for all construction equipment.</p> <p>The General Contractor will be responsible for the production of and adherence to a Schedule of Maintenance for construction equipment.</p> <p>All vehicles on site will be monitored for leaks.</p> <p>Any petroleum products will be stored in tightly sealed containers which will be clearly labeled.</p> <p>Form release oil used for decorative stone work will be applied over a pallet covered with absorbent material to collect excess fluid. The absorbent material will be replaced of and disposed of properly when saturated</p>
Site Toilet facilities	Leaks and or overflows from temporary site toilets.	The General Contractor will ensure that temporary site toilets are maintained in good working order.
Stored Construction Materials	Leakage of stored materials entering the drainage system and hence downstream receiving waters	<p>The General Contractor will ensure that all materials stored on site are placed in suitable leak-proof containers.</p> <p>Materials such as cement and asphalt will be stored in covered, weatherproof facilities only. Diesel, or other fuel stored on site will be stored in approved containers, with containment areas where required.</p> <p>All site materials storage facilities will be clearly labeled and adequate measures will be taken to ensure that spills can be isolated within the storage area.</p>

## **6.2 ALLOWABLE NON-STORM WATER DISCHARGES**

Potential non-stormwater discharges allowed include, but are not limited to:

1. Washdown of construction vehicles where no detergent is used,
2. Uncontaminated groundwater,
3. The use of water to control dust, and
4. Sod watering.

## **6.3 EXISTING WATER QUALITY DATA**

No known storm water quality data for the Site exists.

## **7.0 CONTROLS**

### **7.1 EROSION AND SEDIMENTATION CONTROLS**

An array of soil erosion and sediment control measures are proposed across the Site to minimize the potential for soil loss during the construction phases of the project. The measures include non-structural stormwater and sediment controls and a series of best management practices and construction techniques that will provide protection against erosion. The proposed soil erosion and sediment control measures are detailed in the accompanying plan set.

The proposed temporary stormwater BMPs are described in detail below. The soil erosion and sediment control inspection schedule will require weekly inspections of all temporary erosion control measures and additional inspections after significant rainfall events.

#### **7.1.1 NON-STRUCTURAL MEASURES**

##### *7.1.1.1 MULCH STABILIZATION*

Hay or straw mulch shall be applied to exposed soil areas to provide temporary stabilization. This will minimize the potential for soil loss due to wind or runoff erosion, and aid in the growth of vegetation by conserving soil moisture and moderating temperatures. The mulch shall be applied at a minimum rate of 1.5 tons per acre, as stated in the Erosion Control Notes in the accompanying plan set. The areas between the plantings shall be mulched to stabilize the soil until the plantings take hold and under story seed germinates. Mulch will also be applied to all areas of soil exposed in the winter, or non-growing season to provide temporary erosion control until permanent measures are available. Mulch shall be free of weeds and coarse matter and spread uniformly by hand or machine. The mulch shall be anchored to the soil by tracking, or mechanical mulch anchoring. At locations where mulch stabilization is ineffective due to excessive slopes or runoff volumes, biodegradable erosion control blanket shall be used to provide temporary stabilization.

##### *7.1.1.2 TEMPORARY SEEDING*

Areas of disturbed soil and soil stockpiles shall be seeded temporarily with winter rye at a rate of 100 lbs per acre to protect against soil erosion during the construction period. All areas that will



remain exposed for fourteen days or more shall be seeded and stabilized with mulch, unless construction activity in the area will resume within twenty-one days or a sod layer is to be placed.

#### *7.1.1.3 DUST CONTROL*

Water dousing to areas of exposed soil during periods of dry weather shall be used to minimize the potential for airborne dust from construction areas. The water dousing shall be undertaken periodically at intervals to be recommended by the Site Engineer to provide adequate protection against blowing and transport of dust from exposed areas. Site construction and delivery traffic shall be restricted to main site access routes, and all paved roadways shall be swept at regular intervals to assist in dust control.

### **7.1.2 STRUCTURAL MEASURES**

#### *7.1.2.1 HAY BALE CHECK DAMS*

Hay bale check dams shall be provided in the shoulders of Frank Street to reduce the velocity of concentrated stormwater flow, thereby reducing erosion of the swale. The hay bales should be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale. These barriers are temporary in nature and are expected to have a design life of 30-60 days. While the primary use is not for sediment trapping, some sediment will accumulate behind the check dam and should be removed when it has accumulated to one-half the original height of the dam. Trapping efficiencies at check dams are significantly reduced if accumulated sediment is not removed. When the temporary check dam's useful life has been completed, the hay bales should be replaced. The General Contractor shall maintain the check dams in proper working condition as long as the structure is in place.

#### *7.1.2.2 FILTER SOCKS BARRIERS AND /OR HAYBALES*

Perimeter sediment barriers shall be installed along the downstream limits of disturbance for construction activities, around temporary soil stockpiles, and around drain basin inlets. The barriers shall be comprised of staked hay bales or filter socks. These barriers are temporary in nature and are expected to have a design life of 30-60 days. Frequent inspection of these temporary measures shall be undertaken to ensure that they continue to serve their primary function of removing sediments from sheet flow runoff from upstream areas.

Hay bale barriers shall be string tied and staked securely with two stakes through each bale. The bales shall be entrenched to a minimum depth of six inches and the gaps between the bales shall be chinked to prevent water from escaping through the barrier.

Filter sock material shall be only photodegradeable or biodegradable netting materials. Materials chosen shall conform to manufacturer specifications. Socks shall be constructed with wood posts or stakes, at a maximum spacing of ten feet. All silt fence barriers shall be embedded in the soil to a minimum depth of twelve inches.

### **7.2 POST-CONSTRUCTION STORM WATER MANAGEMENT**

Maintenance activities are described in Section 7.4.



## **7.3 OTHER CONTROLS**

### **7.3.1 CONSTRUCTION ENTRANCES**

Stabilized construction entrances shall be necessary once the existing Frank Street surface has been removed and stockpiled. The entrances shall be constructed at either end of Frank Street within the construction limits using a minimum four-inch thickness of clean stone, minimum RIDOT 2 inch. The entrance shall be constructed with a filter fabric underlay to prevent sediment up flow. In addition, if deemed necessary by the Site Engineer, the tires of construction vehicles shall be washed down before entering the public streets surrounding the site. The adjacent streets shall be swept and/or washed on a daily basis, or as required to maintain the road in adequate condition.

### **7.3.2 MINIMIZATION OF EXPOSED AREAS**

The smallest practical area of land shall be exposed at any one time during construction. It is acknowledged that due to the nature of the earthworks required on this site, relatively large areas may have to be exposed to ensure construction can proceed in a timely manner. Construction phasing and planning techniques shall be employed to ensure that the minimum practical area of soil is exposed during construction. Stabilization techniques shall be employed in a timely manner to minimize the potential for erosion of exposed areas, and final grading and stabilization shall be undertaken on all areas as soon as practicable.

### **7.3.3 WASTE DISPOSAL**

All waste material shall be collected and stored in a securely lidded metal dumpster. The dumpster shall be emptied at an appropriate schedule to avoid overfilling and shall be disposed of in a manner consistent with applicable laws and/or regulations. No construction material or other waste shall be buried on site. All on-site construction personnel shall be instructed regarding correct procedures for waste disposal.

Any fertilizers used on site shall be stored in a suitable covered storage area and partially used bags shall be transferred to sealable bins to avoid spills. Any fertilizer used shall be applied according to the manufactures recommended minimum application rates and shall be worked into the soil to limit exposure to storm water.

### **7.3.4 SPILL PREVENTION AND RESPONSE PROCEDURES**

Good housekeeping and spill control practices shall be followed during construction to minimize storm water contamination from construction materials such as petroleum products, fertilizers, etc. To prevent stormwater contamination, the following BMPs shall be implemented on-site during the construction activities:

- Spill kits shall be included with any fueling sources and maintenance activities.
- Materials and equipment necessary for spill cleanup shall be kept in the temporary material storage trailer or other suitable enclosed storage area onsite and be made readily available to all construction personnel.

- All spills shall be cleaned up immediately upon discovery. Spills large enough to reach the storm water system shall be reported to the National Response Center at 1-800-424-8802 and the City of Newport at 401-845-5600.

### **7.3.5 ALLOWABLE NON-STORM WATER DISCHARGES**

Allowable Non-storm water discharges that are occurring at the site should be visually observed and recorded. Inspections should be conducted in conjunction with the Maintenance inspections described in Section 7.4. Anticipated allowable non-storm water discharges are listed in Section 6.2.

### **7.4 MAINTENANCE OF SEDIMENT CONTROL AND STORMWATER BMPs**

Best Management Practices must be employed to maintain the stormwater system and reduce the sediment loads. During construction, this maintenance will be the responsibility of the contractor. Once construction has been concluded, the maintenance associated with these structures will be the responsibility of the owner

A schedule of general maintenance activities is included on the enclosed plan set. All erosion control devices on the site are to be inspected by the design engineer at least once every seven (7) calendar days and within twenty four (24) hours after a storm event, which generates 0.25 inches of rain in a twenty four (24) hour period. Refer to Section 4.1. The following Stormwater Maintenance Schedule is designed to outline minimum maintenance requirements for these systems **during** construction.

1. Filter socks, hay bales and berms shall be inspected as indicated in the approved plan details. At a minimum, the filter socks, hay bales and berms shall be inspected and repaired once a week and/or immediately following a rainfall or snowmelt greater than or equal to a 1-year, 24-hour Type III precipitation event (2.7"). Sediment trapped behind the barriers shall be excavated when it reaches a depth of 6" and regraded on the site.
2. Erosion control blankets shall be inspected.
3. Any stabilized construction entrances shall be removed prior to any future resurfacing operations. During construction, the entrances shall be re-established as necessary.
4. Sodded areas shall be maintained according to the landscaping notes to ensure establishment of a vegetative growth that meets the approval of the City Tree Warden.

The following Stormwater Maintenance Schedule is designed to outline minimum maintenance requirements for these systems **after** construction.

1. Temporary grasses shall be planted in and around drainage depressions immediately following construction to stabilize slopes and prevent erosion. These areas will be sodded with the remainder of the site.
2. All inlet / outflow pipes are to be inspected at least three times in the first six months of operation. Evidence of clogging, or rapid release of flow shall be reported to the project engineer and remedied immediately.



3. General inspection of the drainage depressions should be conducted on an annual basis and after storm events greater than or equal to the 1-year, 24-hour Type III precipitation event (2.7"). The maintenance objectives for these practices include preserving the hydraulic and removal efficiency of the depressions and maintaining the structural integrity.
4. The side slopes of the depression should be inspected for erosion and gulying during the inspections noted in note 3. All structural components should be inspected and any deficiencies should be reported. This includes a visual inspection of all stormwater control structures for damage and/or accumulation of sediment. Sediment should be removed from infiltration areas when design depth has been reduced by 50%. All material, including any trash and/or debris from all areas within the extents of the infiltration areas, should be disposed of in accordance with all federal, state and local regulations.
5. Any areas within the extents of the infiltration areas that are subject to erosion or gulying should be replenished with the original design material and re-vegetated according to design drawings. Slope protection material should be placed in areas prone to erosion. Embankment stability should be inspected for seepage and burrowing animals.
6. Mow the grass around the perimeter of and within the infiltration areas at least 4 times annually. Remove any invasive vegetation within the extents of the depressions. Any invasive vegetation encroaching upon the perimeter of these areas should be pruned or removed if it is prohibiting access to the facility, compromising sight visibility and/or compromising original design.
7. Infiltration areas should be inspected annually to ensure that design infiltration rates are being met. If sediment or organic debris build-up has limited the infiltration capabilities to below the design rate, the top 6 inches should be removed and the surface roto-tilled to a depth of 12 inches. The depression bottoms should be restored according to original design specifications. Any oil or grease found at the time of the inspection should be cleaned with oil absorption pads and disposed of appropriately. Inspect infiltration areas for signs of wetness or damage to structures and note any eroded areas. If dead or dying grass on the bottom is observed, check to ensure that water percolates within 48 hours following storms. Mow and remove litter and debris. Stabilize eroded banks and repair undercut and eroded areas at inflow structures.
8. Subsurface stone trench below inlets at the Thames Street wall shall be inspected via drain basin sumps for the level of sediments annually, or every three (3) months for the first year of operation. Should the sediment depth within an inspection port exceed 50% of the trench height, the trench should be excavated. Filter fabric shall be replaced and all sediments removed and disposed of properly. The crushed stone may be washed and reused or replaced.
9. Qualifying Pervious Areas (QPAs) shall not be driven over during construction. If the area becomes compacted, soil must be suitably amended, tilled and resodded once construction is complete to restore infiltration capacity.
10. General inspection of the QPAs should be conducted on an annual basis and after storm events greater than or equal to the 1-year, 24-hour Type III precipitation event (2.7"). Should standing water be found after 48 hours after such a storm, the areas will be deemed as compacted, and will be remedied as indicated above.





11. The structural integrity of all culverts shall be checked at least twice a year. Faults shall be repaired immediately.
12. Maintenance of the stormwater system during construction of the project shall be the responsibility of the contractor.
13. Upon completion of the construction, maintenance of the stormwater system shall become the responsibility of the owner.



## 8.0 CERTIFICATION

Prepared by:

Jeremy Rosa, PE  
Staff Engineer

  
\_\_\_\_\_  
Signature 9/19/12

Approved by:

Jason Gold, P.E.  
Senior Environmental Engineer

  
\_\_\_\_\_  
Signature 9/19/12



## **9.0 LIMITATIONS AND SPECIAL TERMS AND CONDITIONS**

1. NE&C's evaluation was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and NE&C observed the degree of care and skill generally exercised by other consultants under similar circumstances and conditions. No warrantee expressed or implied is made.
2. This report was prepared within the budgetary constraints imposed in the contract between NE&C and the Client.



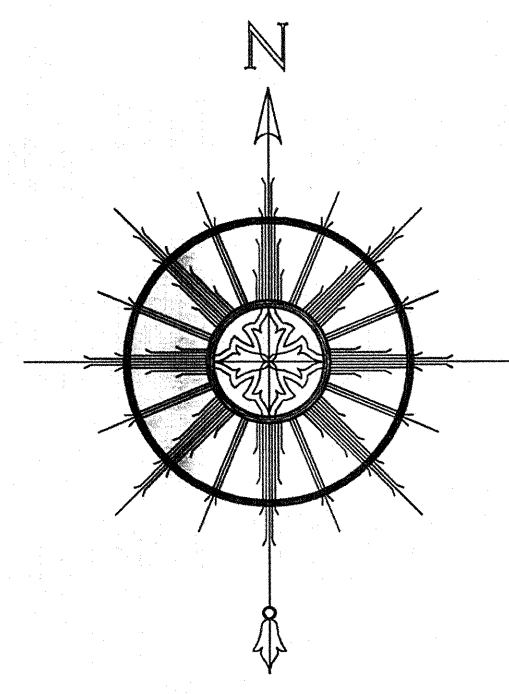
## **10.0 APPENDICES**



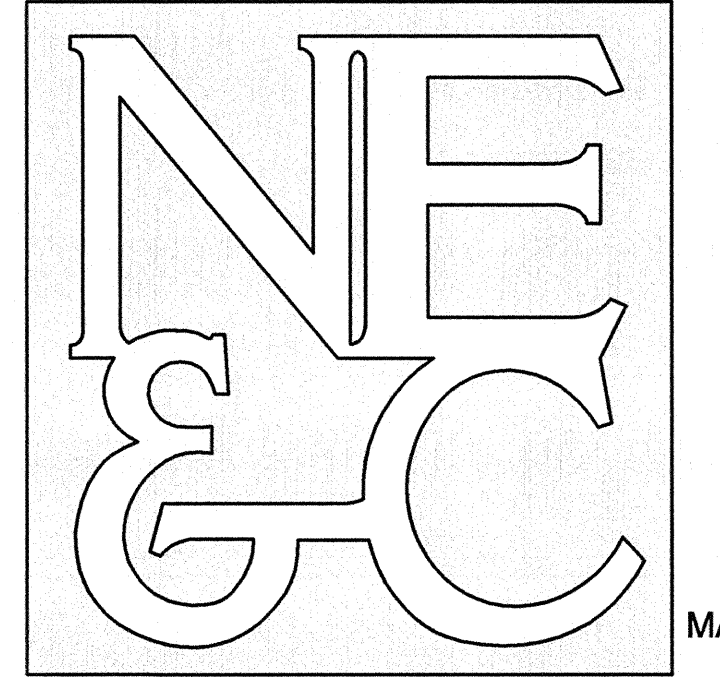
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**APPENDIX A    SITE PLANS**

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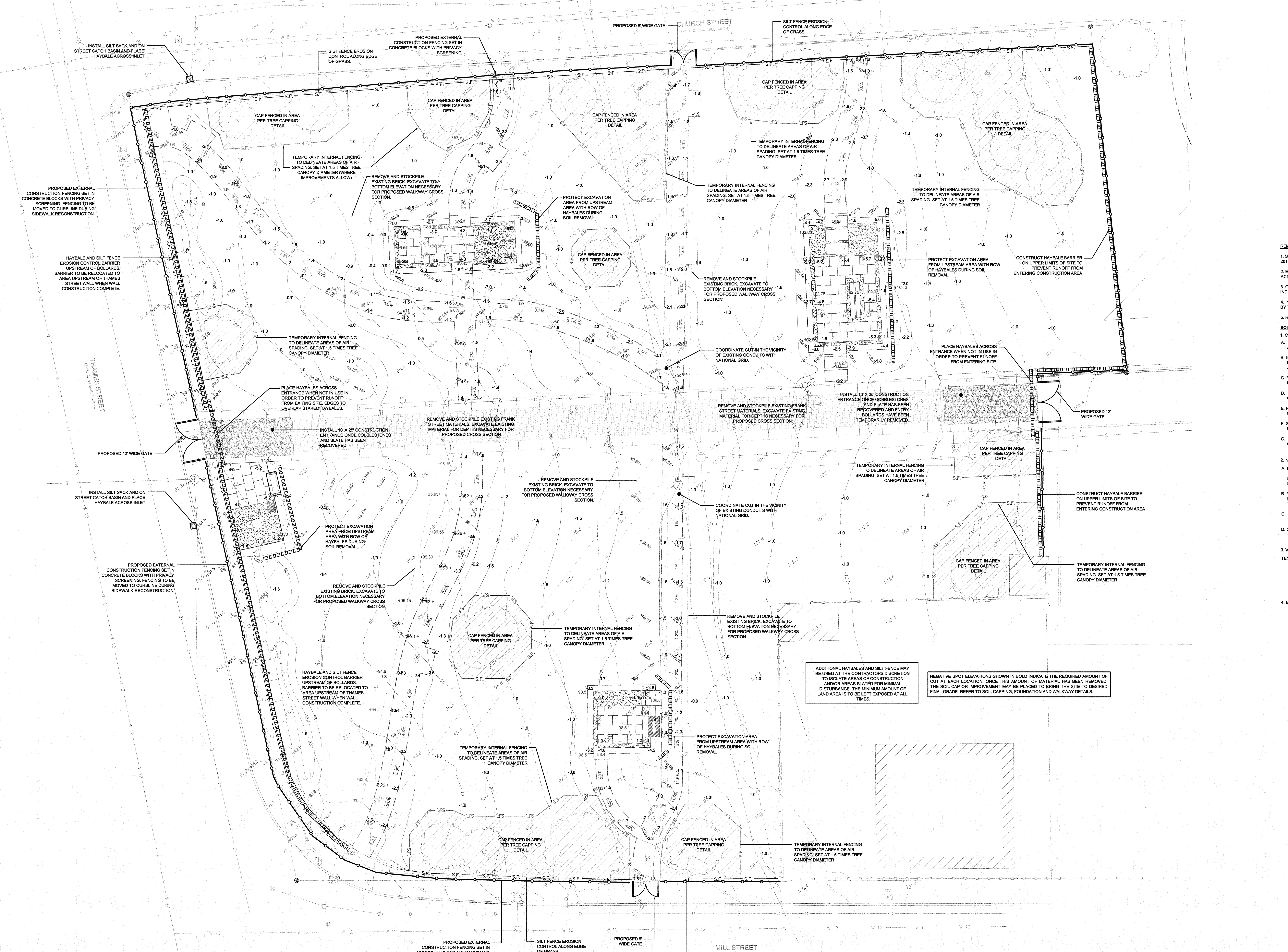


NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



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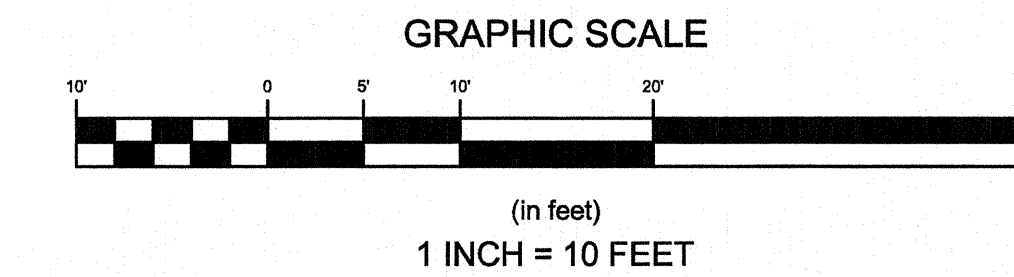


**LEGEND:**

---○---	CONTOURS
---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
---	ELECTRIC LINE
---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	5/8" STONE POST (TYP)
---	GAS LIGHT
---	PROPOSED CONTOUR
---	PROPOSED EXTERNAL SILT FENCING
---	PROPOSED EXTERNAL SILT FENCE
---	PROPOSED HAYBALES
---	PROPOSED INTERNAL SILT FENCE
---	APPROXIMATE SPOT CUT REQUIRED

- REMEDIAL ACTION NOTES:**
- SOIL TO BE MANAGED IN ACCORDANCE WITH RIDEM APPROVED "SOIL MANAGEMENT PLAN", AUGUST 2015, PREPARED BY SAGE ENVIRONMENTAL, INC.
  - ENGINEERED CAP TO BE CONSTRUCTED IN ACCORDANCE WITH THE RIDEM APPROVED "REMEDIAL ACTION WORK PLAN", AUGUST 2012, PREPARED BY SAGE ENVIRONMENTAL, INC.
  - OVERCUT AS NEEDED TO ACCOMMODATE MINIMUM 12" CLEAN FILL. CUT ELEVATIONS SHOWN INDICATE APPROXIMATE CUT DEPTHS TO ENSURE FINAL USEABLE DEPTH.
  - INTERNAL SITE FENCING DELINEATING THE AREAS OF FREE CAPPING MAY ADDITIONALLY DELINEATED BY TEMPORARY CHAIN LINK FENCE SEGMENTS.
  - REFER TO SOIL EROSION AND SOIL CAPPING DETAILS ON SHEET D-2.
- SOIL EROSION AND SEDIMENT CONTROL NOTES:**
- CONSTRUCTION SEQUENCES FOR EROSION CONTROL ACTIVITIES:
  - DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
  - INSTALL FENCING SILT FENCES, SILT SACKS, CHECK DAMS AND/OR HAY BALES AS INDICATED ON THE DRAWINGS TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWNSTREAM AREAS PRIOR TO ANY EARTH MOVING ACTIVITIES.
  - REMOVE AND STOCKPILE EXISTING BRICK WALKS, FRANK STREET MATERIALS AND GRANITE CURBING UPSTREAM OF THAMES STREET SIDEWALK.
  - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES LOCATED AS SHOWN ON PLANS. CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THIS ENTRANCE.
  - REMOVE TREES WHERE SHOWN ON LANDSCAPING PLANS. ALL STUMPS TO BE GROUND OR DISPOSED OF OFF SITE.
  - STRIP SITE OF AND EXCAVATE TO THE INDICATED DEPTHS. ALL SOIL HANDLING AND REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH THE RIDEM APPROVED REMEDIAL ACTION WORKPLAN.
  - CONTRACTOR SHALL CONSTRUCT ADDITIONAL SOIL EROSION CONTROLS AROUND TEMPORARY STOCKPILES AS NECESSARY TO AVOID SEGMENTATION OF DOWNSTREAM AREAS.

- 2. NOTES:**
- DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
  - ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
  - AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
  - DEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
- 3. VEGETATIVE PRACTICE:**
- TEMPORARY MEASURES FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
- LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:  
LIMESTONE  
FERTILIZER: (10-10-10) 500 LBS/ACRE
  - SEEDS SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 112 LBS/ACRE
  - HAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.
- 4. MAINTENANCE:**
- SILT FENCES AND HAY BALES SHALL BE INSPECTED AS INDICATED IN THE DETAILS. AT A MINIMUM THE SILT FENCING AND HAY BALES SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND IMMEDIATELY FOLLOWING A SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REGRADED ON THE SITE.
  - THE STABILIZED ENTRANCES SHALL BE INSPECTED WEEKLY, AND REESTABLISHED AS NECESSARY.



ADDITIONAL HAYBALES AND SILT FENCE MAY BE USED AT THE CONTRACTOR'S DISCRETION TO ISOLATE AREAS OF CONSTRUCTION AND/OR AREAS SLATED FOR MINIMAL DISTURBANCE. THE MINIMUM AMOUNT OF LAND AREA IS TO BE LEFT EXPOSED AT ALL TIMES.

NEGATIVE SPOT ELEVATIONS SHOWN IN BOLD INDICATE THE REQUIRED AMOUNT OF CUT AT EACH LOCATION. ONCE THIS AMOUNT OF MATERIAL HAS BEEN REMOVED, THE SOIL CAP OR IMPROVEMENT MAY BE PLACED TO BRING THE SITE TO DESIRED FINAL GRADE. REFER TO SOIL CAPPING, FOUNDATION AND WALKWAY DETAILS.

No.	Revision	Date	App.

Designed By: **JJR** Drawn by: **JJR** Checked by: **JJR**  
Scale: **1" = 10'** Date: **SEPTEMBER 17, 2012**

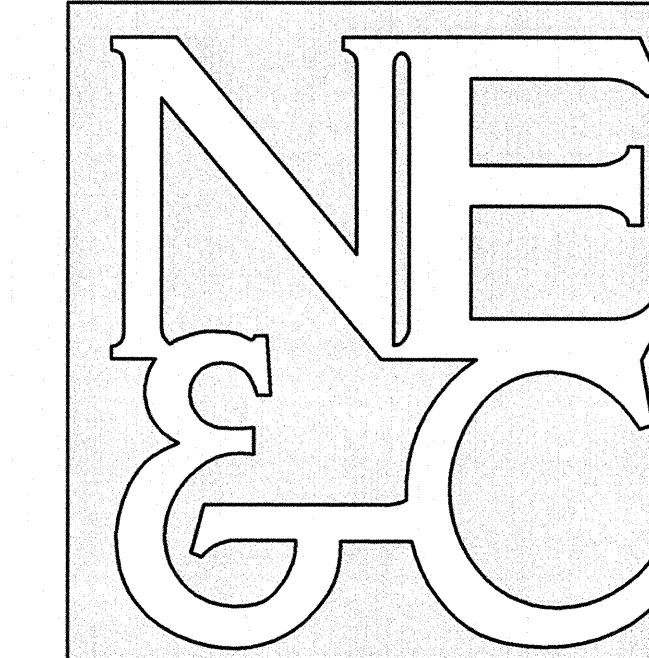
Project Title:  
**QUEEN ANNE PARK  
AP 24, LOT 346  
THAMES STREET  
NEWPORT, RHODE ISLAND**

Client/Owner:  
**PERMITTING**

Drawing Title:  
**SOIL REMEDIATION PLAN**

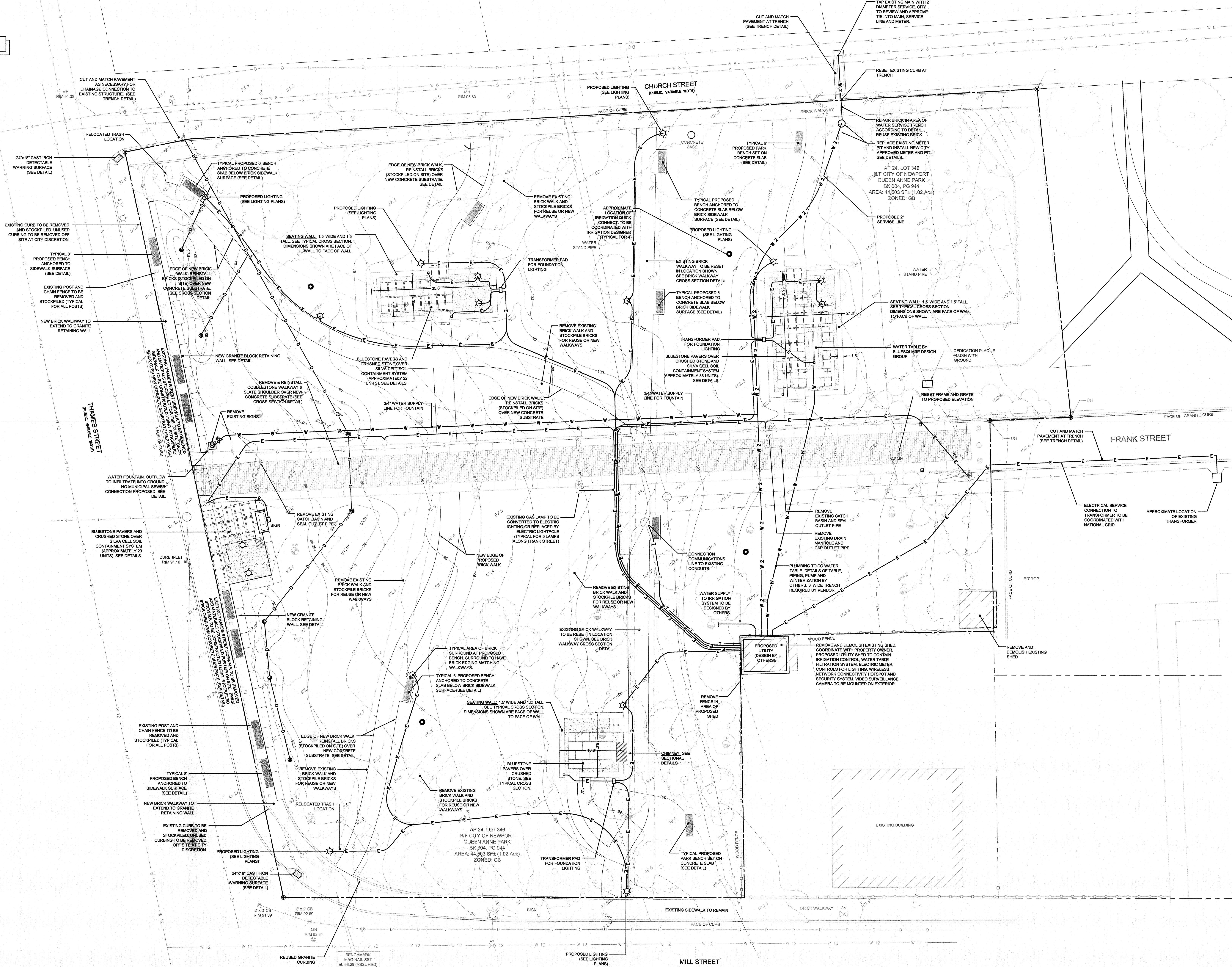
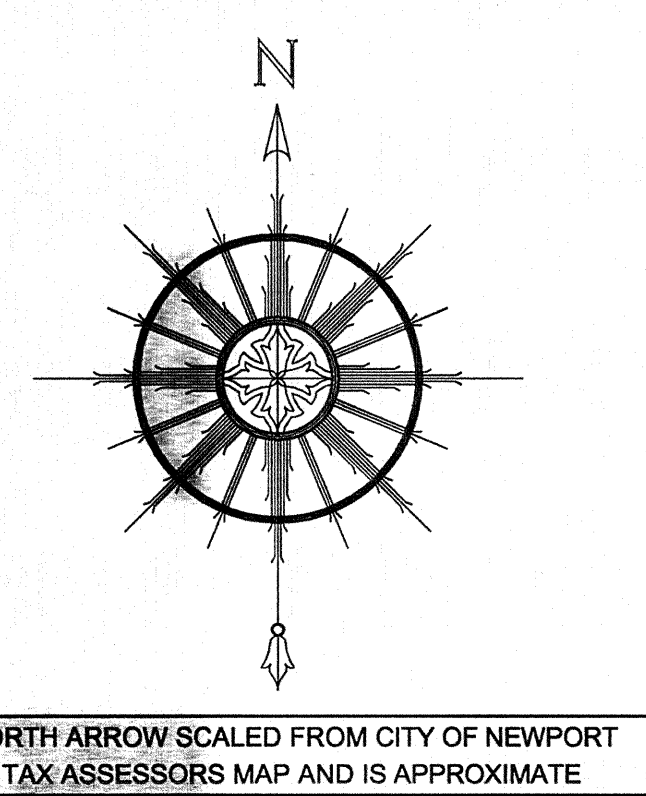
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	Sheet <b>1</b> of <b>7</b>
	Project Number: <b>12014.0</b>
	Survey Index: <b>14 - 24 - 346</b>

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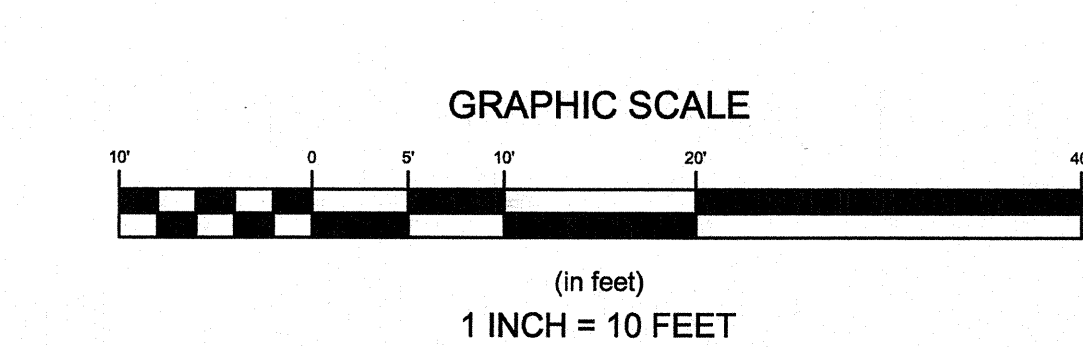
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---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
---	ELECTRIC LINE
---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	1/2" STONE POST (TRK)
---	GAS LIGHT
---	MONITORING WELL
---	TEST PIT
---	PROPOSED DRAIN INLET
---	PROPOSED DRAIN COVER
---	PROPOSED DRAIN LINE
---	PROPOSED WATER LINE
---	PROPOSED ELECTRICAL CONDUIT
---	PROPOSED COMMUNICATION CONDUIT
---	PROPOSED CONTOUR
---	PROPOSED SPOT ELEVATION

- PLAN REFERENCES:**
- DISPOSITION MAP #4, HISTORIC HILL PROJECT R-23, BY ROBERT E. LYNCH P.E. PLAN DATED AUGUST 1977, INDEX 10-10-20.
  - COPY OF PLAN WITH ADDITIONS IN RED MADE FOR SCHOOL COMM. MARCH 20 1901. LAND EVIDENCE BK 61, PG 47 & BK 62, PG 107. ON FILE AT CITY ENGINEERS OFFICE, INDEX # 2-243.
  - PLAN FILED AT CITY ENGINEERS OFFICE SHOWING THE RIGHT OF WAY AND INTERSECTION OF FRANK STREET. NO DATE ON PLAN. INDEX 10-10-20.
  - UNRECORDED "PLAN OF LAND" BY NORTHEAST ENGINEERS AND CONSULTANTS, INC. FOR QUEEN ANNE PARK, AP 24, LOT 346. PLAN DATED JUNE 2010. SCALE 1" = 20'.

- NOTES:**
- EXISTING CONDITIONS AND TOPOGRAPHIC INFORMATION ARE A RESULT OF A FIELD SURVEY BY NORTHEAST ENGINEERS & CONSULTANTS, INC. ON JUNE 5, 2012 AND JANUARY 31, 2012.
  - PROPOSED LAYOUT TAKEN FROM "PLAN OF LAND" QUEEN ANNE SQUARE, NEWPORT RI. PLANNING PLAN, DATED JUNE 27, 2012, BY LAURENDA LANGSHAW ARCHITECTS AND PLANNERS.

- UTILITY NOTES:**
- ELECTRICAL, WATER, AND COMMUNICATION SERVICE CONNECTIONS SHOWN ARE SCHEMATIC ONLY, AND REQUIRE REVIEW AND APPROVAL BY THEIR RESPECTIVE ENTITIES.
  - UTILITY TRENCHES ARE TO BE CONSTRUCTED ACCORDING TO THE DETAILS PROVIDED.
  - ELECTRICAL CONDUIT LOCATIONS TO BE APPROVED BY PROJECT ELECTRICAL ENGINEER.

- LAYOUT NOTES:**
- CITY TO APPROVE ALL PARK BENCH LOCATIONS. BENCHES TO BE SET BACK 18" FROM WALKWAYS.
  - CITY TO APPROVE ALL LIGHT FIXTURES AND LOCATIONS.
  - ALL BRICKS USED SHALL BE RECLAIMED BRICKS FROM SITE.



No.	Revision	Date	App.

Designed By: JJR      Drawn by: JJR      Checked by: JJR  
Scale: 1" = 10'      Date: SEPTEMBER 17, 2012

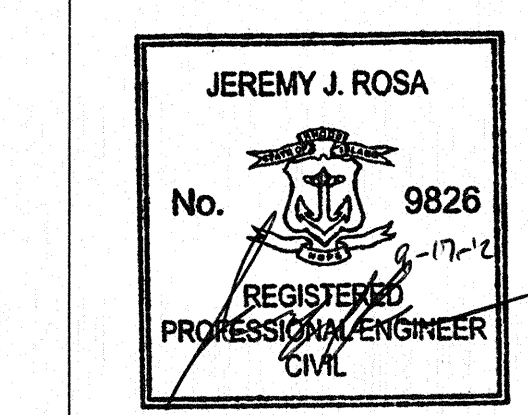
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AP 24, LOT 346  
THAMES STREET  
NEWPORT, RHODE ISLAND**

Client/Owner:  
**PERMITTING**

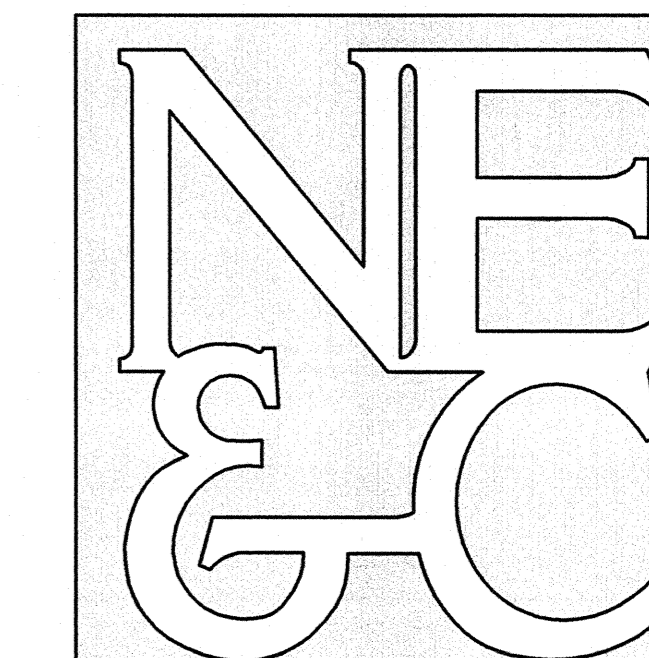
Issued for:  
**PERMITTING**

Drawing Title:  
**UTILITY AND LAYOUT PLAN**

Drawing Number: <b>C-1</b>
Sheet <b>2 of 7</b>
Project Number: <b>12014.0</b>
Survey Index: <b>14 - 24 - 346</b>

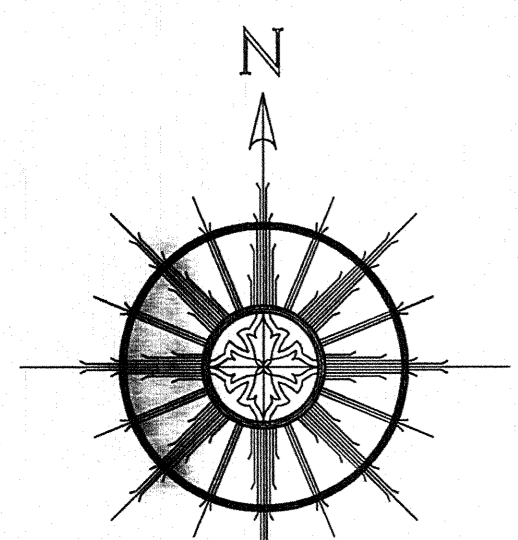


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NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



**LEGEND:**

---	CONTOURS
---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
---	ELECTRICAL LINE
---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	6"X6" STONE POST (TR)
---	GAS LIGHT
---	MONITORING WELL
---	TEST PIT
---	PROPOSED DRAIN INLET
---	PROPOSED DRAIN COVER
---	PROPOSED DRAIN LINE
---	PROPOSED WATER LINE
---	PROPOSED ELECTRICAL CONDUIT
---	PROPOSED COMMUNICATION CONDUIT
---	PROPOSED CONTOUR
---	PROPOSED SPOT ELEVATION

**NOTES:**

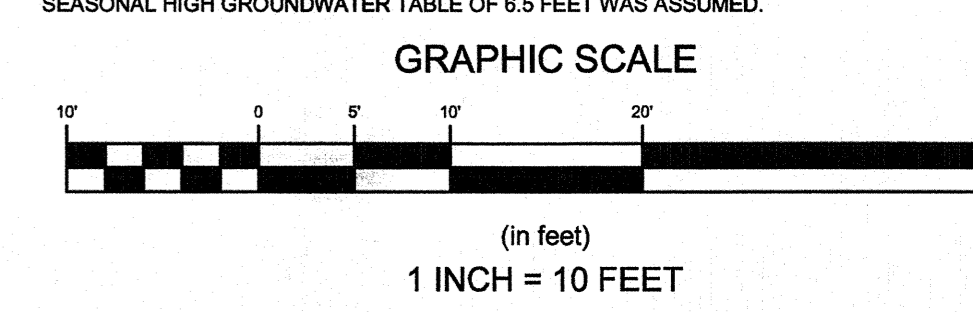
- EXISTING CONDITIONS AND TOPOGRAPHIC INFORMATION ARE A RESULT OF A FIELD SURVEY BY NORTHEAST ENGINEERS & CONSULTANTS, INC. ON JANUARY 31, 2012.
- PROPOSED LAYOUT TAKEN FROM PLAN "QUEEN ANNE SQUARE, NEWPORT RI PLANNING PLAN," DATED JUNE 27, 2011, BY LAGUNA LANDSCAPE ARCHITECTS AND PLANNERS.
- EXISTING SOILS ON SITE ARE CLASSIFIED AS TYPE "N" NEWPORT URBAN COMPLEX.

**GRADING NOTES:**

- EARLYWORK INVOLVING SOIL REMEDIATION ACTIVITIES SHALL BE COMPLETED IN CONFORMANCE WITH THE REEBA APPROVED "REEDS" ACTION WORK PLAN, AUGUST 2012, PREPARED BY SAGE ENVIRONMENTAL.
- ADAPTED PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS FROM DAMAGING THE CUT FACE OF AN EXCAVATION. SURFACES OF A TILL, FURTHERMORE, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SEDIMENT RUNOFF FROM LEAVING THE SITE.
- ALL FILL MATERIALS PLACED SHALL BE IMPORTED CLEAN FILL. MATERIAL PLACED SHALL BE IN 6" LIFTS COMPACTED TO 90%.
- ALL GRADED AREAS SHALL BE SOCCED OR PLANTED IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
- ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
- WHERE APPLICABLE AND FEASIBLE THE MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE GRADING WORK IS INITIATED.
- TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.
- IF THE GRADING WORK INVOLVES CONTAMINATED SOIL, THEN ALL GRADING WORK SHALL BE DONE IN CONFORMANCE WITH APPLICABLE STATE, FEDERAL, AND REQUIREMENTS.
- NONCOMPLIANCE TO ANY OF THE ABOVE REQUIREMENTS SHALL MEAN IMMEDIATE SUSPENSION OF ALL WORK, AND REMEDIATION WORK SHALL COMMENCE IMMEDIATELY. ALL COSTS INCURRED SHALL BE BILLED TO THE VIOLATOR. FURTHERMORE, VIOLATORS SHALL BE SUBMITTED TO ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES.

**DRAINAGE NOTES:**

- ALL DRAIN PIPES SHALL BE 8" (SOLITIGHT) OR APPROVED EQUIVALENT.
- CATCH BASINS IN FRANK STREET SHOULDERS SHALL BE ROOT SPEC PRECAST CONCRETE STRUCTURES ACCORDING TO THE DETAILS PROVIDED. ALL SUMPS SHALL BE A MINIMUM OF 3 FEET IN DEPTH.
- DRAIN INLETS IN DEPRESSION BEHIND THAMES STREET GRANITE RETAINING WALL SHALL BE 8" DIAMETER ASBESTOS DRAIN PIPES WITH 8" DIAMETER INLETS.
- BASIN GRATES SHALL BE LIGHT DUTY PEDESTRIAN SAFE GRATES OF THE DIMENSIONS INDICATED, OR APPROVED EQUIVALENTS.
- DRAINAGE LINES ARE TO BE CONSTRUCTED STARTING FROM THE FURTHEST POINT DOWNSTREAM AND WORKING UPSTREAM.
- DRAIN CONNECTION TO THE CITY OF NEWPORT STORM SEWERS REQUIRE APPROVAL FROM THE CITY ENGINEER AND PUBLIC WORKS.
- SOIL BORINGS COMPLETED IN JANUARY 2012 BY SAGE ENVIRONMENTAL REVEALED A MINIMUM DEPTH TO WATER OF 11 FEET FROM EXISTING GRADE. THE REGION GROUNDWATER CORRECTION FACTOR OF 83 INCHES WAS APPLIED, AND A DEPTH TO REGIONAL HIGH GROUNDWATER TABLE OF 6.5 FEET WAS ASSUMED.

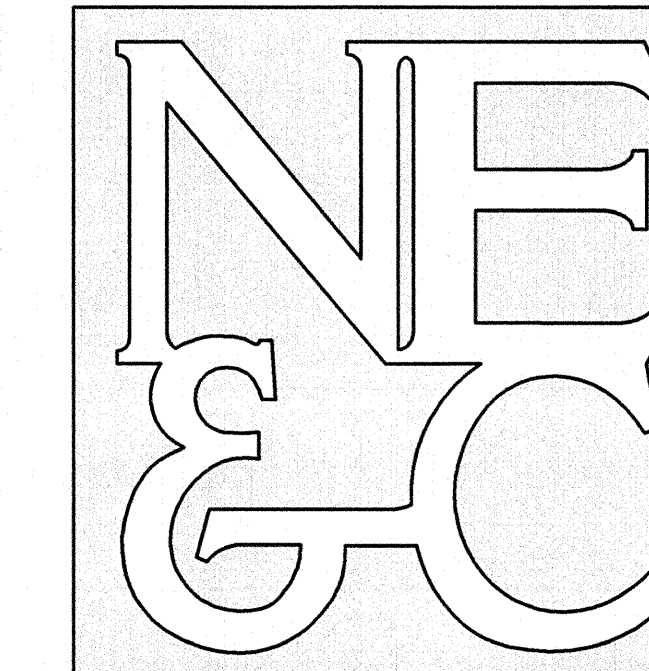


**STORMWATER MAINTENANCE NOTES:**

- TEMPORARY GRASSES SHALL BE PLANTED IN AND AROUND DRAINAGE DEPRESSIONS IMMEDIATELY FOLLOWING CONSTRUCTION TO STABILIZE SLOPES AND PREVENT EROSION. THESE AREAS SHALL BE SOCCED WITH THE RESPONSIBILITY OF THE SITE.
- ALL INLET/OUTLET PIPES ARE TO BE INSPECTED AT LEAST THREE TIMES IN THE FIRST SIX MONTHS OF OPERATION. EVIDENCE OF CLOGGING, OR HAZARD RELEASE OF FLOW SHALL BE REPORTED TO THE PROJECT ENGINEER AND REMEDIATED IMMEDIATELY.
- GENERAL INSPECTION OF THE DRAINAGE DEPRESSIONS SHOULD BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1 YEAR, 24 HOUR, TYPE II PRECIPITATION EVENT (2.7). THE MAINTENANCE OBJECTIVES FOR THESE PRACTICES INCLUDE PRESERVING THE HYDRAULIC AND REMOVAL EFFICIENCY OF THE DEPRESSIONS AND MAINTAINING THE STRUCTURAL INTEGRITY.
- THE SIDE SLOPES OF THE DEPRESSION SHOULD BE INSPECTED FOR EROSION AND GULLING. ALL STRUCTURAL COMPONENTS SHOULD BE INSPECTED AND ANY DEFICIENCIES SHOULD BE REPORTED. THIS INCLUDES A VISUAL INSPECTION OF ALL STORMWATER CONTROL STRUCTURES FOR DAMAGE AND/OR ACCUMULATION OF SEDIMENT. SEDIMENT SHOULD BE REMOVED INfiltration AREAS, WHEN DESIGN DEPTH HAS BEEN REDUCED BY 10%. ALL MATERIAL INCLUDING ANY TRASH AND/OR DEBRIS FROM ALL AREAS WITHIN THE EXTENTS OF THE INFILTRATION AREAS, SHOULD BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND LOCAL REGULATIONS.
- ANY AREAS WITHIN THE EXTENTS OF THE INFILTRATION AREAS THAT ARE SUBJECT TO EROSION OR GULLING SHOULD BE REPAIRING WITH THE ORIGINAL DESIGN MATERIAL, AND REVEGETATED ACCORDING TO DESIGN DRAWINGS. SLOPE PROTECTION MATERIAL SHOULD BE PLACED IN AREAS PRONE TO EROSION. EMBANKMENT STABILITY SHOULD BE INSPECTED FOR SETBACK AND BARRING ANNUALLY.
- MOW THE GRASS AROUND THE PERIMETER OF AND WITHIN THE INFILTRATION AREAS AT LEAST 1 TIME ANNUALLY. REMOVE ANY INVASIVE VEGETATION WITHIN THE EXTENTS OF THE BASIN. ANY INVASIVE VEGETATION ENCROACHING UPON THE PERIMETER OF THESE AREAS SHOULD BE REMOVED OR TRIMMED IF IT PREVENTS ACCESS TO THE FACILITY, COMPROMISING SIGHT VISIBILITY AND/OR COMPROMISING ORIGINAL DESIGN.
- INFILTRATION AREAS SHOULD BE INSPECTED ANNUALLY TO ENSURE THAT DESIGN INFILTRATION RATES ARE BEING MET. IF SEDIMENT OR ORGANIC DEBRIS BUILDUP HAS LIMITED THE INFILTRATION CAPABILITY TO BELOW THE DESIGN RATE, THE TOP 4 INCHES SHOULD BE REMOVED AND THE SURFACE RETOILED TO A DEPTH OF 12 INCHES. THE DEPRESSION BOTTOMS SHOULD BE RESTORED ACCORDING TO ORIGINAL DESIGN SPECIFICATIONS. ANY OIL OR GREASE FOUND AT THE TIME OF THE INSPECTION SHOULD BE CLEANED WITH OIL ABSORPTION PADS AND DISPOSED OF IN AN APPROVED LOCATION. INSPECT INFILTRATION AREAS FOR SIGNS OF WEEDS OR DAMAGE TO STRUCTURES AND NOTE ANY ERODED AREAS. DEAD OR DYING GRASS ON THE BOTTOM IS OBSERVED, CHECK TO ENSURE THAT WATER PERCOLATES WITHIN 48 HOURS FOLLOWING STORMS. MOW AND REMOVE LITTER AND DEBRIS. STABILIZE ERODED BANKS AND REPAIR UNDERCUT AND PROTECT AREAS AT FLOW STRUCTURES.
- SUBSURFACE STONE TRENCH BELOW INLETS AT THAMES STREET WALL SHALL BE INSPECTED VIA DRAIN BASIN SAMPLER ANNUALLY FOR THE LEVEL OF SEDIMENT. ON EVERY THREE (3) MONTHS FOR THE FIRST YEAR OF OPERATION. SHOULD THE SEDIMENT DEPTH WITHIN AN INSPECTION POINT EXCEED ONE (1) INCH, THE TRENCH SHOULD BE EXCAVATED. FILTER FABRIC SHALL BE REPLACED AND ALL SEDIMENTS REMOVED AND DISPOSED OF PROPERLY. THE CRUSHED STONE MAY BE WASHED AND REUSED OR REPLACED.
- QUALIFYING PERVIOUS AREAS (OPAS) SHALL NOT BE DRIVEN OVER DURING CONSTRUCTION. IF THE AREA BECOMES COMPACTED, SOIL MUST BE BUTNALLY AMENDED, TILLED AND REBODDED ONCE CONSTRUCTION IS COMPLETE TO RESTORE INFILTRATION CAPACITY.
- GENERAL INSPECTION OF THE OPAS SHOULD BE CONDUCTED ON AN ANNUAL BASIS AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO THE 1 YEAR, 24 HOUR, TYPE II PRECIPITATION EVENT (2.7). SHOULD STANDING WATER BE FOUND AFTER 48 HOURS AFTER SUCH A STORM, THE AREA WILL BE DRENCH AS COMPACTED, AND WILL BE REMEDIATED AS INDICATED ABOVE.
- THE STRUCTURAL INTEGRITY OF ALL CONCRETE SHALL BE CHECKED AT LEAST TWICE A YEAR. REPAIRS SHALL BE REMEDIATED IMMEDIATELY.
- MAINTENANCE OF THE STORMWATER SYSTEM DURING CONSTRUCTION OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- UPON COMPLETION OF THE CONSTRUCTION, MAINTENANCE OF THE STORMWATER SYSTEM SHALL BECOME THE RESPONSIBILITY OF THE OWNER.

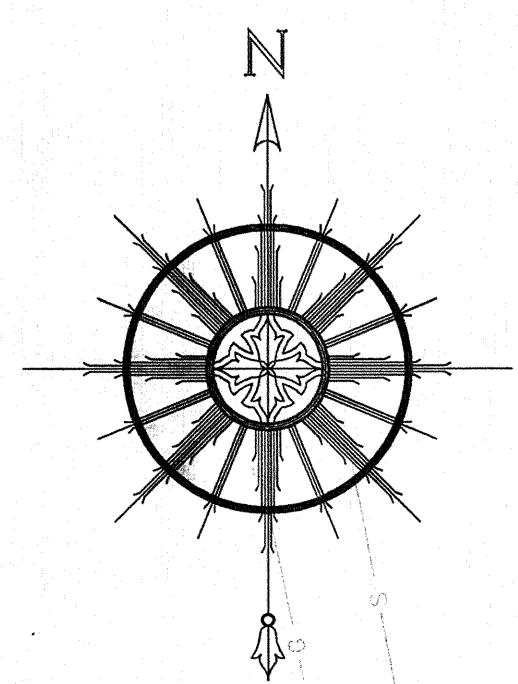
No.	Revision	Date	App.
1			
Designed by:	JUR	Drawn by:	JUR
Checked by:		Scale:	1" = 10'
Date:	SEPTEMBER 17, 2012		
<b>PROJECT TITLE:</b>			
<b>QUEEN ANNE PARK</b>			
<b>AP 24, LOT 346</b>			
<b>THAMES STREET</b>			
<b>NEWPORT, RHODE ISLAND</b>			
Client/Owner:			
Issued for:			
<b>PERMITTING</b>			
Drawing Title:			
<b>PROPOSED GRADING PLAN</b>			
Drawing Number:		C-2	
Sheet:		3 of 7	
Project Number:		12014.0	
Survey Index:		14 - 24 - 346	
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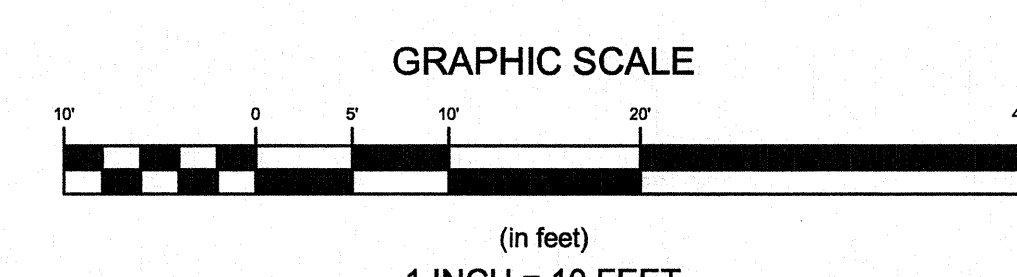
NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



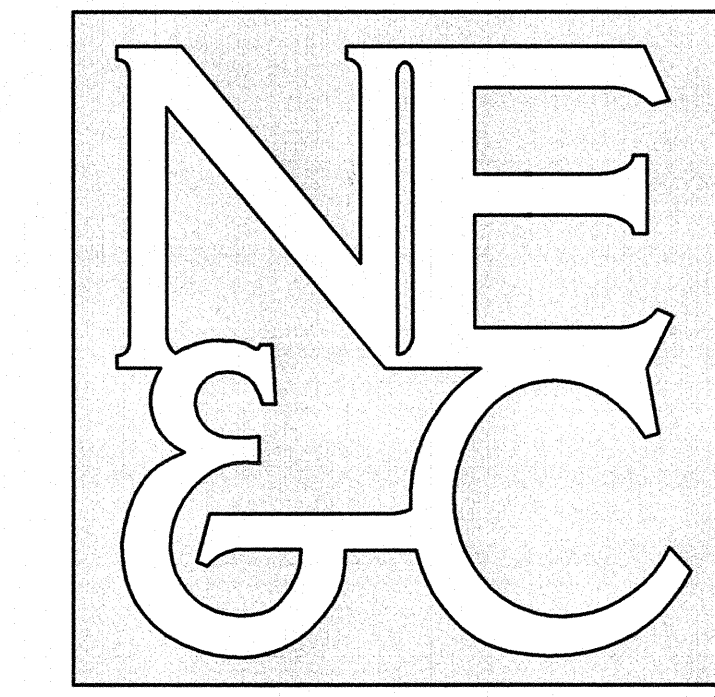
- SOIL EROSION AND SEDIMENT CONTROL NOTES:**
- CONSTRUCTION SEQUENCE FOR EROSION CONTROL ACTIVITIES:
    - DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
    - IF NOT ALREADY IN PLACE FOR REMEDIATION ACTIVITIES, CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES LOCATED AS SHOWN ON PLANS. CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THESE ENTRANCES.
    - IF NOT ALREADY IN PLACE AND IN GOOD WORKING ORDER, INSTALL SILT FENCES, SILT SOCKS, CHECK DAMS AND/OR HAY BALES AS INDICATED ON THE DRAWINGS TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWNSTREAM AREAS PRIOR TO ANY EARTH MOVING ACTIVITIES.
    - CONSTRUCT THAMES STREET RETAINING WALL AND SIDEWALK AREA.
    - CONSTRUCT THE REQUIRED DRAINAGE AND UTILITIES.
    - CONSTRUCT FOUNDATIONS, IMPROVEMENTS AND WALKWAYS.
    - PLANT TREES AND LANDSCAPING PER LANDSCAPING PLANS.
  - NOTES:
    - DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
    - ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
    - AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
    - ALL FILL SHALL BE COMPACTED TO 90% MAX. DENSITY TO REDUCE EROSION, SLUMPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL SHALL BE PLACED IN 12" LIFTS.
    - FILL INTENDED TO FOUNDATIONS OR STRUCTURES SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES AND SPECIFICATIONS.
    - FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBER, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FILL MATERIAL SHALL NOT BE MATERIAL NATIVE TO SITE, AND SHALL CONFORM TO ALL REQUIREMENTS OF THE REDEMPTION REMEDIAL ACTION WORKPLAN.
    - FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.
    - FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION SUBGRADE.
    - SHOES OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
    - ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF FINISH GRADING IN ACCORDANCE WITH THE VEGETATIVE NOTES.
    - REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE UPLAND AREAS HAVE BEEN PERMANENTLY STABILIZED AND VEGETATED AREAS HAVE RECEIVED TWO CUTINGS.
  - VEGETATIVE PRACTICE:
    - SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL UNLESS OTHERWISE SPECIFIED.
    - ALL AREAS OF THE SITE TO RECEIVE 2" OF SOIL PER THE LANDSCAPING NOTES.
  - TEMPORARY MEASURES FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
    - LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:  
LIMESTONE: 3 TONS/ACRE  
FERTILIZER: (10-10-10) 50 LBS/ACRE
    - SEED SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 12 LBS/ACRE
    - HAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.
  - MAINTENANCE:
    - DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED, THE EROSION CONTROL MEASURES SHALL BE INSPECTED:
      - SILT FENCES AND HAY BALES SHALL BE INSPECTED AS INDICATED IN THE DETAILS. AT A MINIMUM THE SILT FENCES AND HAY BALES SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND/OR IMMEDIATELY FOLLOWING A SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 8" AND REPAIRED ON THE SPOT.
      - EROSION CONTROL BLANKETS SHALL BE INSPECTED ON A WEEKLY BASIS.
      - STONE APRONS SHALL BE INSPECTED MONTHLY FOR EXCESSIVE ACCUMULATION OF SEDIMENT. IT MAY BE NECESSARY TO REMOVE STONES, EXCAVATE SEDIMENT, AND REPLACE STONES.
      - THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE REMOVED PRIOR TO RECONSTRUCTION OF FRANK STREET. DURING CONSTRUCTION THE ENTRANCES SHALL BE INSPECTED WEEKLY, AND REESTABLISHED AS NECESSARY.

**LEGEND:**

---	CONTOURS
---	WOOD FENCE
---	GAS LINE
---	SEWER LINE
---	WATER LINE
---	DRAIN LINE
---	ELECTRIC LINE
---	EDGE OF CURB
---	WATER GATE VALVE
---	GAS GATE VALVE
---	SEWER MANHOLE
---	DRAIN MANHOLE
---	CATCH BASIN
---	6"x6" STONE POST (TBR)
---	GAS LIGHT
---	MONITORING WELL
---	TEST PIT
---	PROPOSED DRAIN LINE
---	PROPOSED DRAIN COVER
---	PROPOSED DRAIN LINE
---	PROPOSED WATER LINE
---	PROPOSED ELECTRICAL CONDUIT
---	PROPOSED COMMUNICATION CONDUIT
---	PROPOSED EXTERNAL SITE FENCING
---	PROPOSED EXTERNAL SILT FENCE
---	PROPOSED HAYBALES



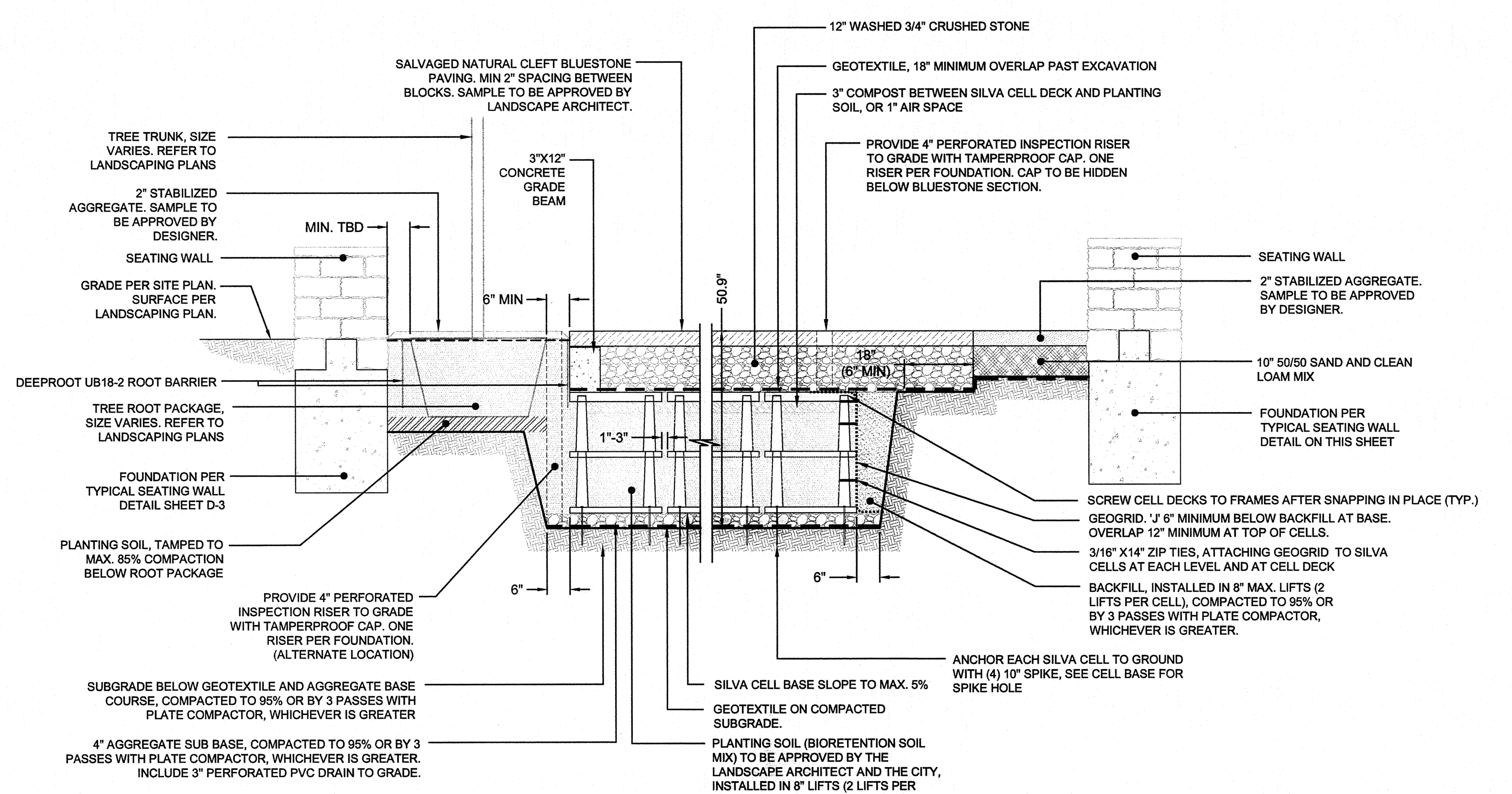
No.	Revision	Date	App.
Designed by: JJR	Drawn by: JJR	Checked by:	
Scale: 1" = 10' Date: SEPTEMBER 17, 2012			
Project Title: <b>QUEEN ANNE PARK AP 24, LOT 346 THAMES STREET NEWPORT, RHODE ISLAND</b>			
Client/Owner:			
Issued for: <b>PERMITTING</b>			
Drawing Title: <b>SOIL EROSION AND SEDIMENT CONTROL PLAN</b>			
Drawing Number: <b>SESC-1</b>		Sheet <b>4</b> of <b>7</b>	
Project Number: <b>12014.0</b>		Survey Index: <b>14 - 24 - 346</b>	
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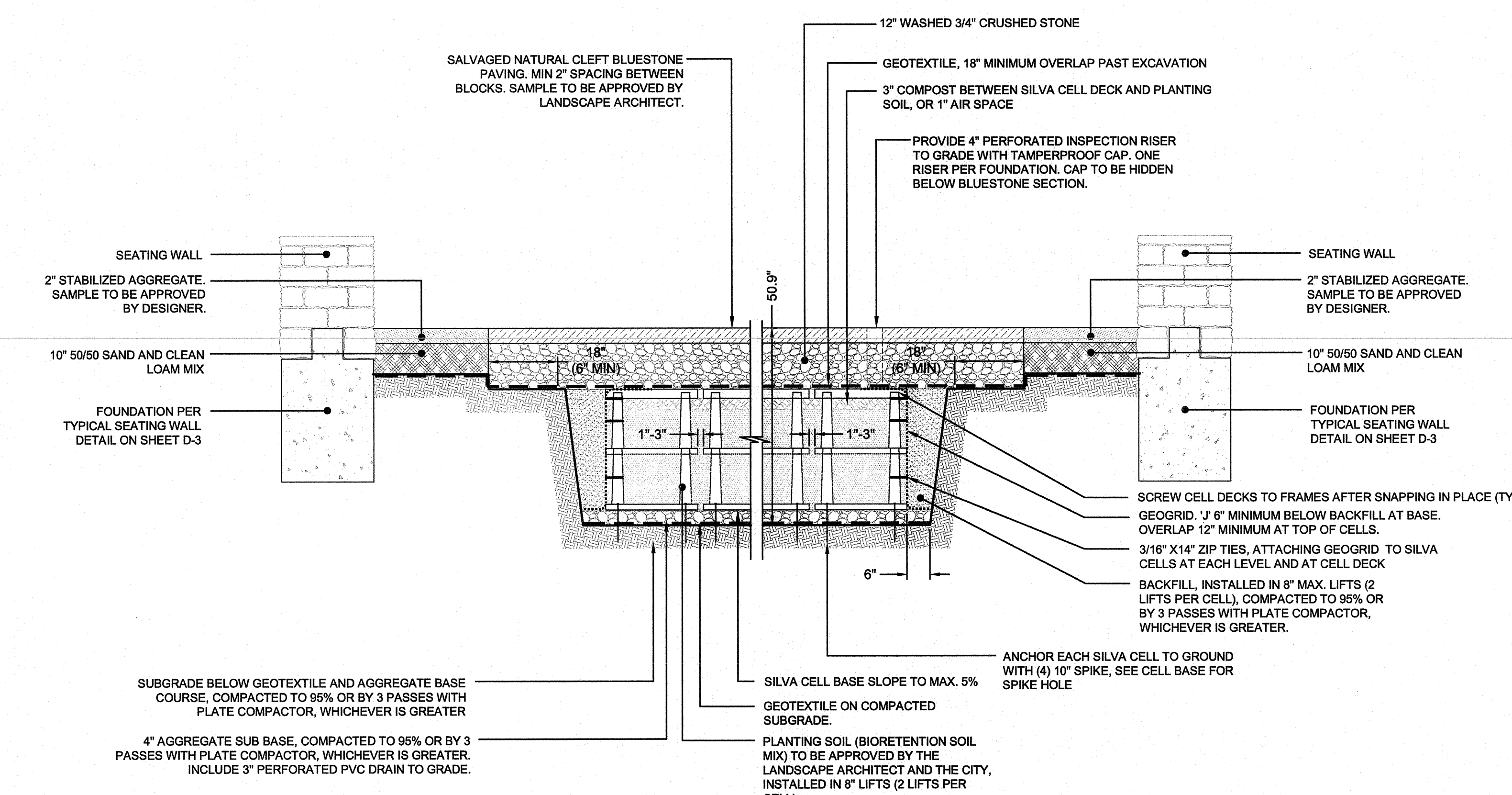
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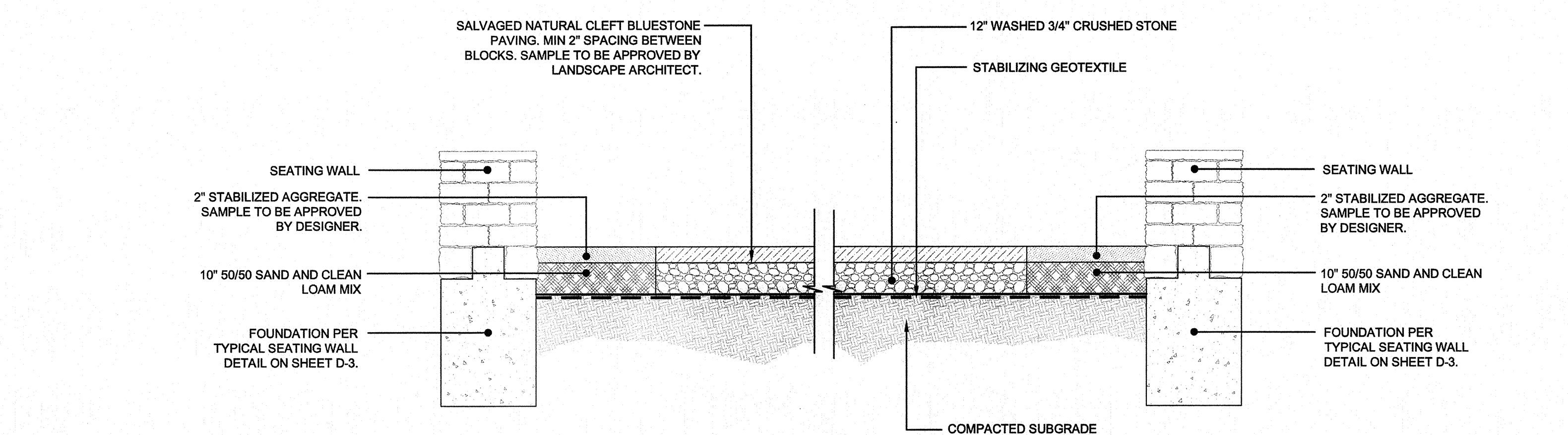
SITE/CIVIL  
LAND PLANNING  
WATERFRONT  
SURVEYING  
GEOTECHNICAL  
ENVIRONMENTAL  
TRANSPORTATION  
STRUCTURAL  
MATERIALS TESTING



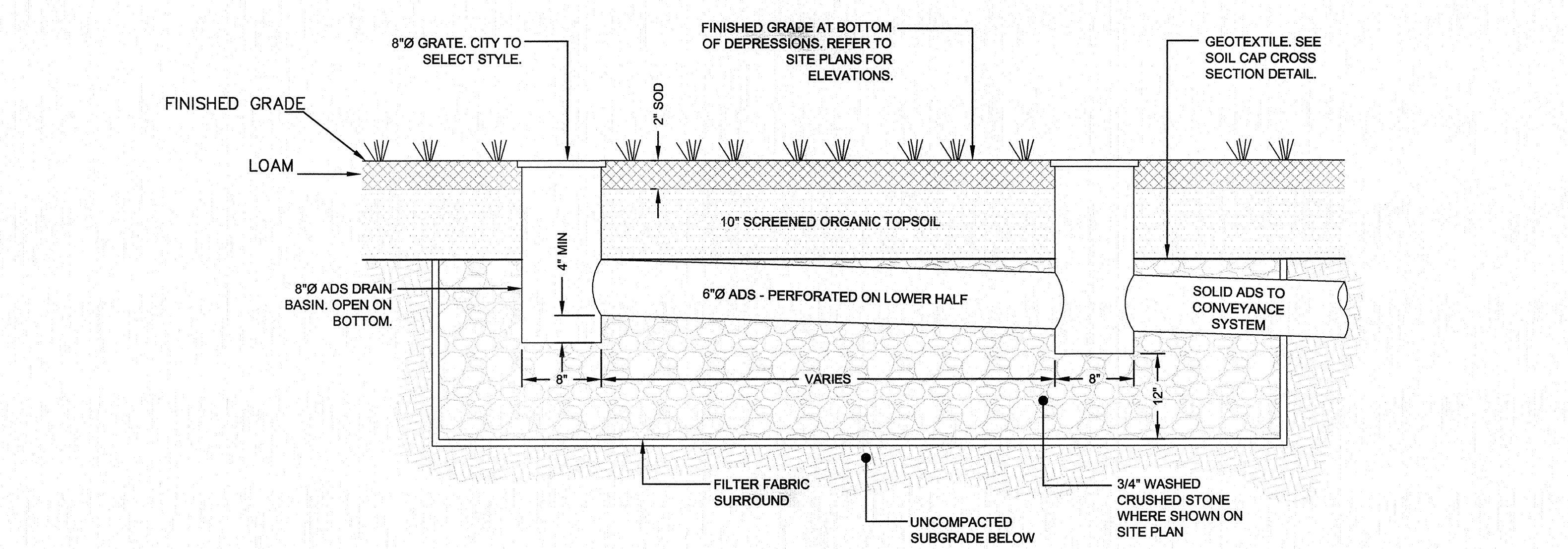
TYPICAL FOUNDATION SEATING AREA SECTION (WITH PLANTING BED AND SILVA CELL)  
SCALE: 1/2" = 1'-0"



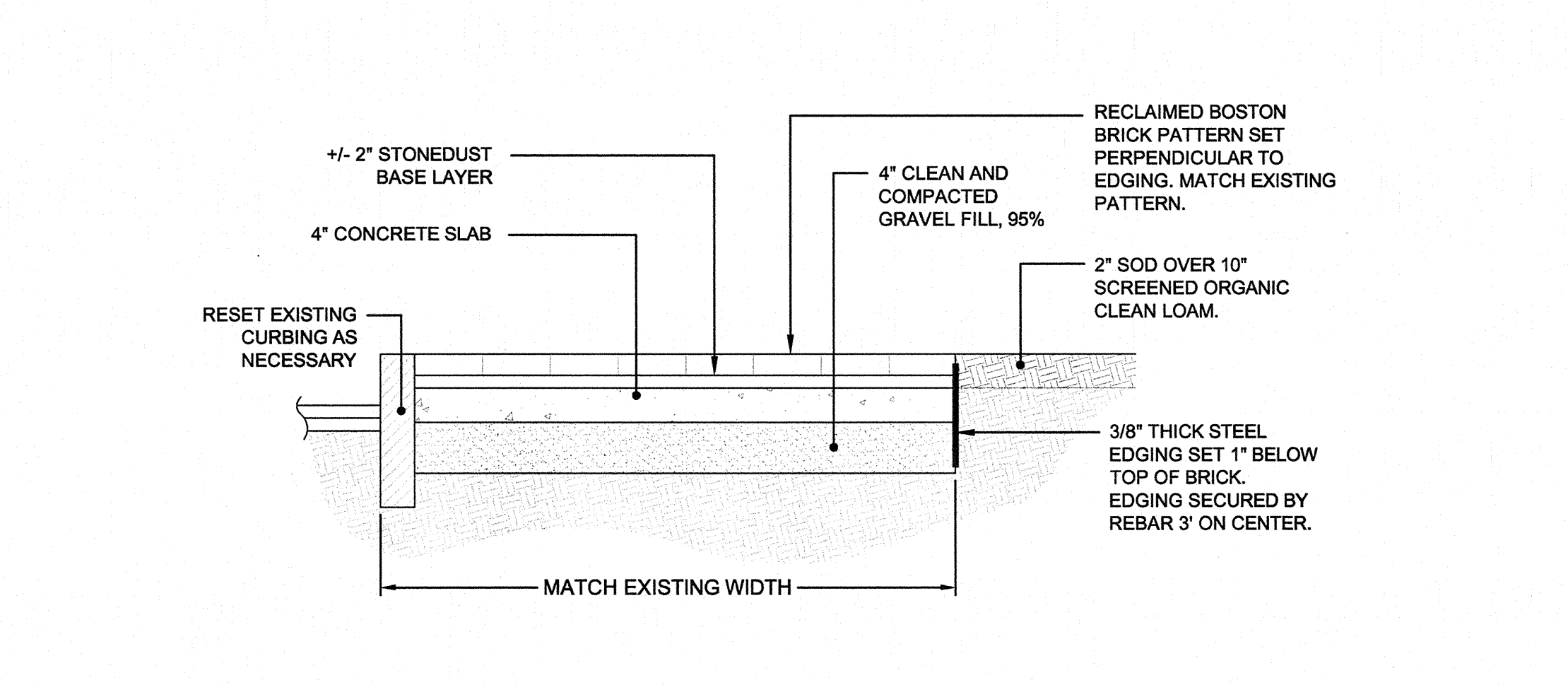
TYPICAL FOUNDATION SEATING AREA SECTION (SILVA CELL AND NO PLANTING BED)  
SCALE: 1/2" = 1'-0"



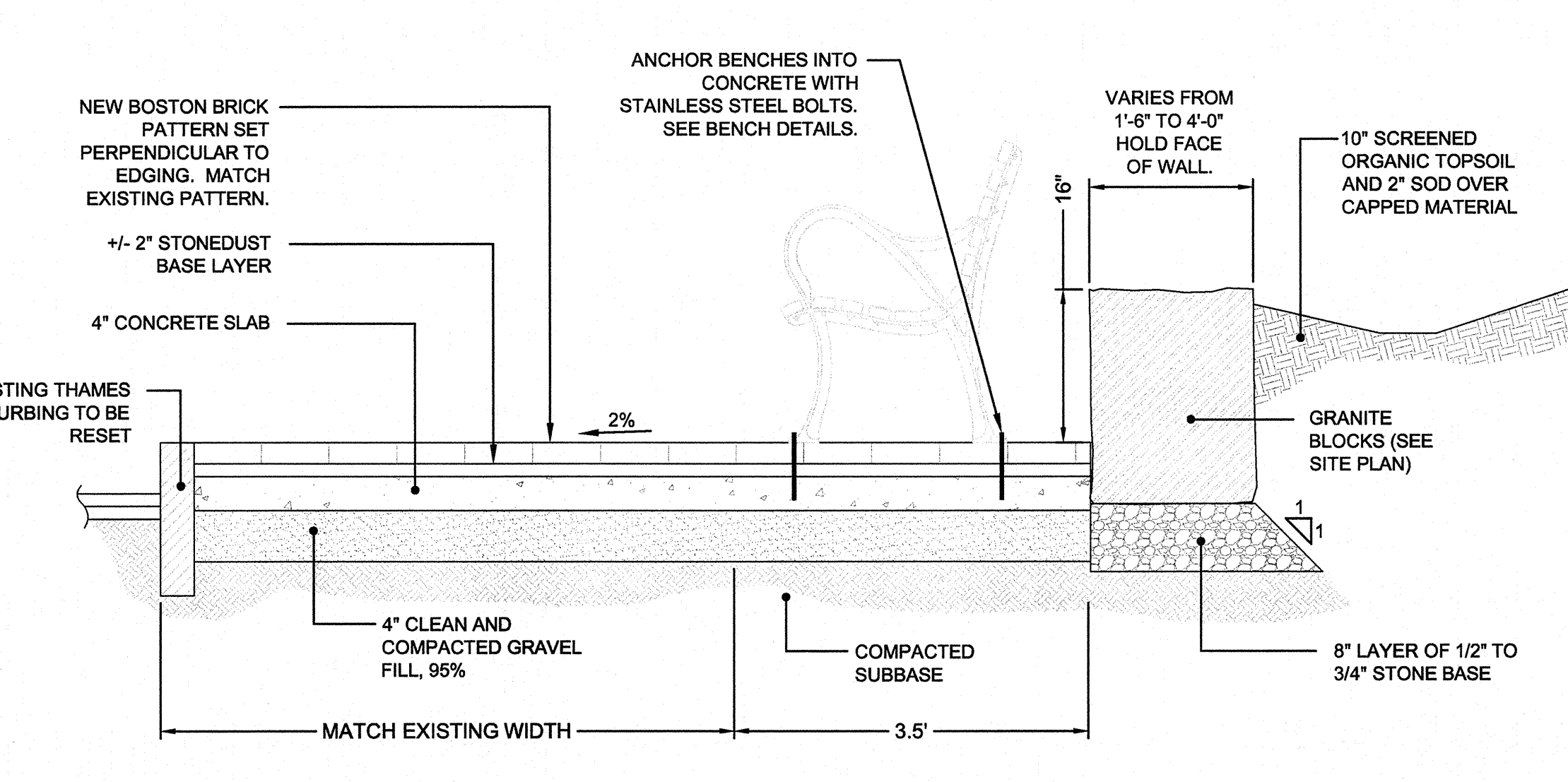
TYPICAL FOUNDATION SEATING AREA SECTION (NO SILVA CELL OR PLANTING BED)  
SCALE: 1/2" = 1'-0"



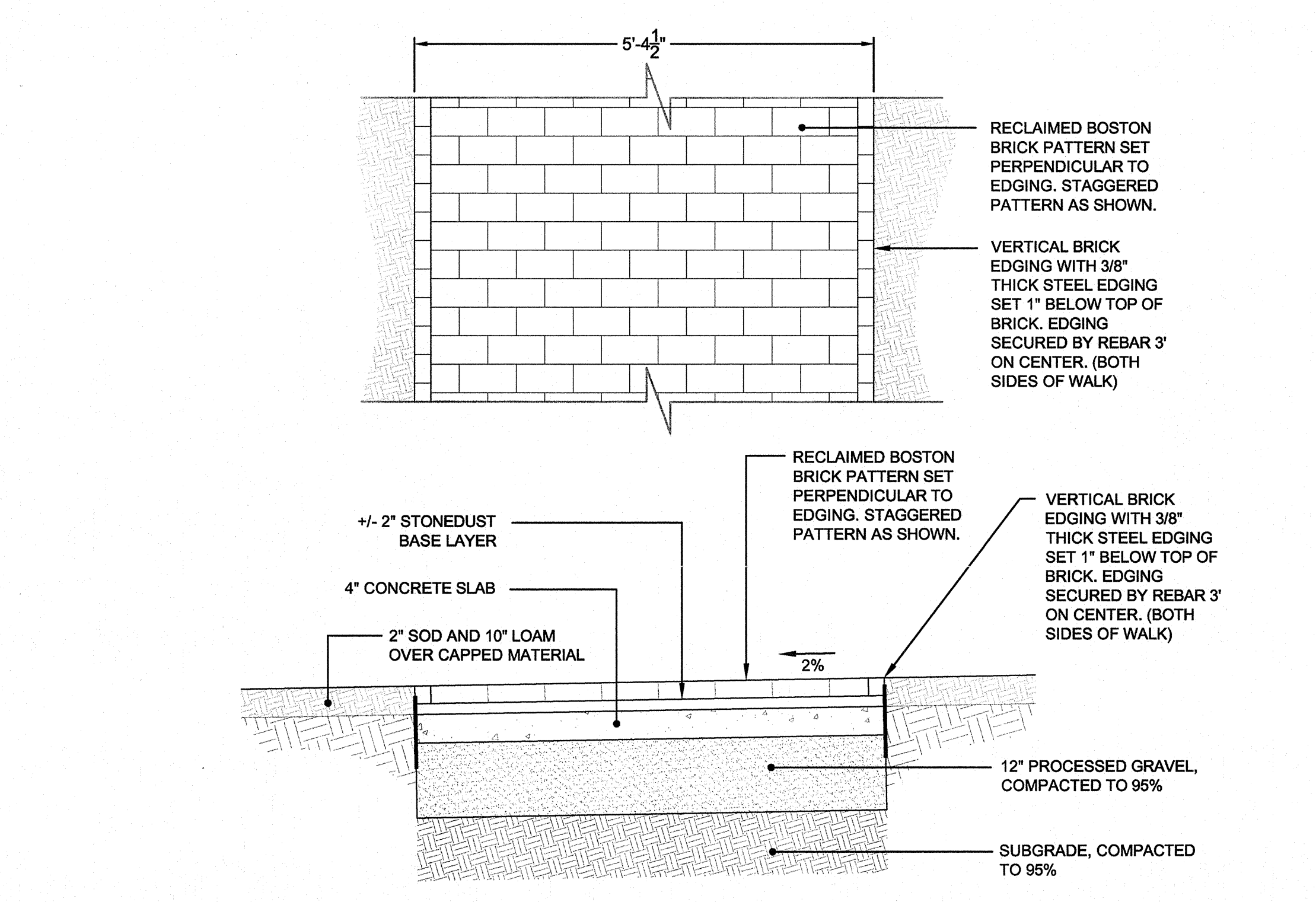
TYPICAL PROFILE OF INFILTRATION AREA @ THAMES STREET WALL DRAIN INLETS  
SCALE: NTS



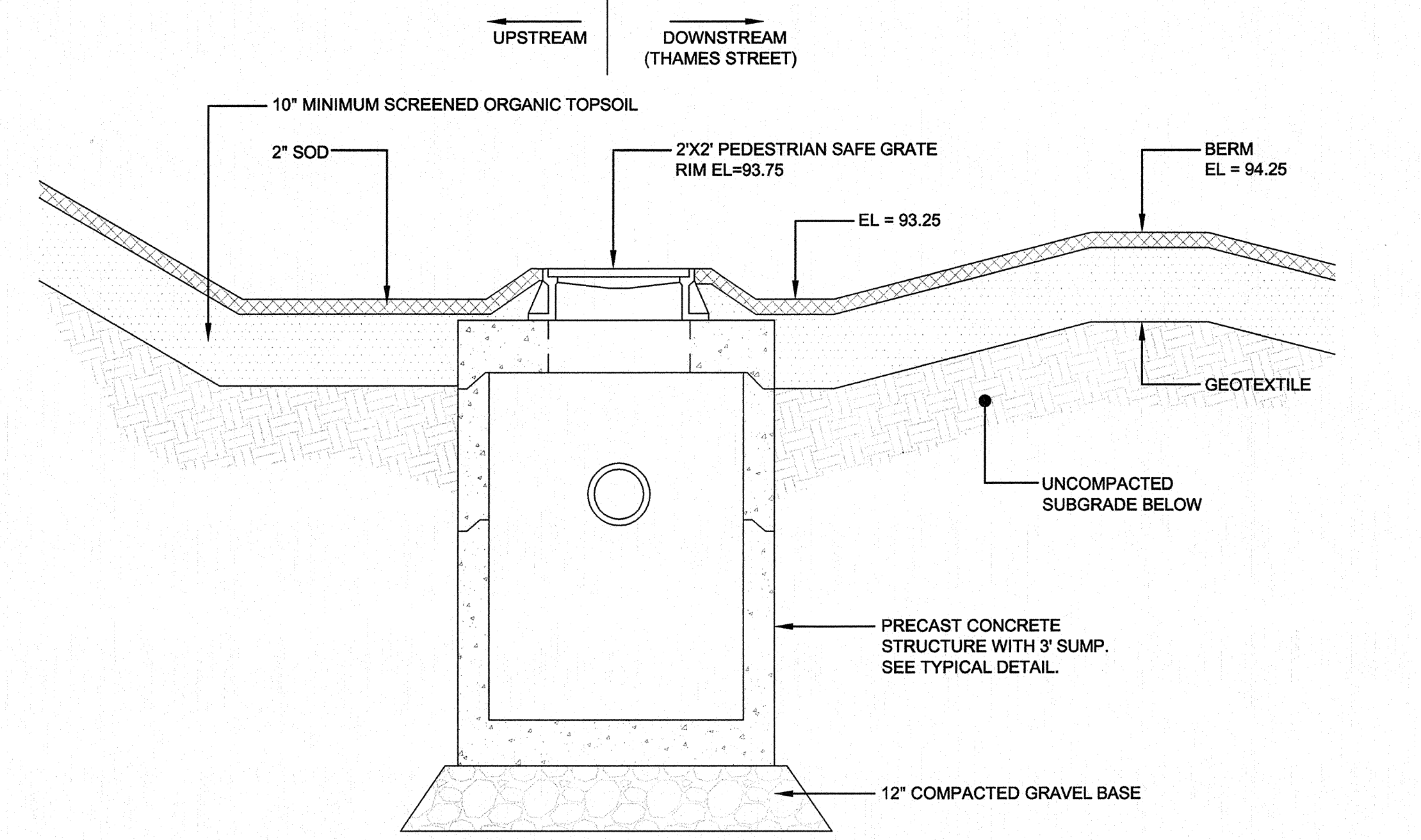
TYPICAL EXTERNAL BRICK WALKWAY REPAIR SECTION  
SCALE: 3/4" = 1'-0"



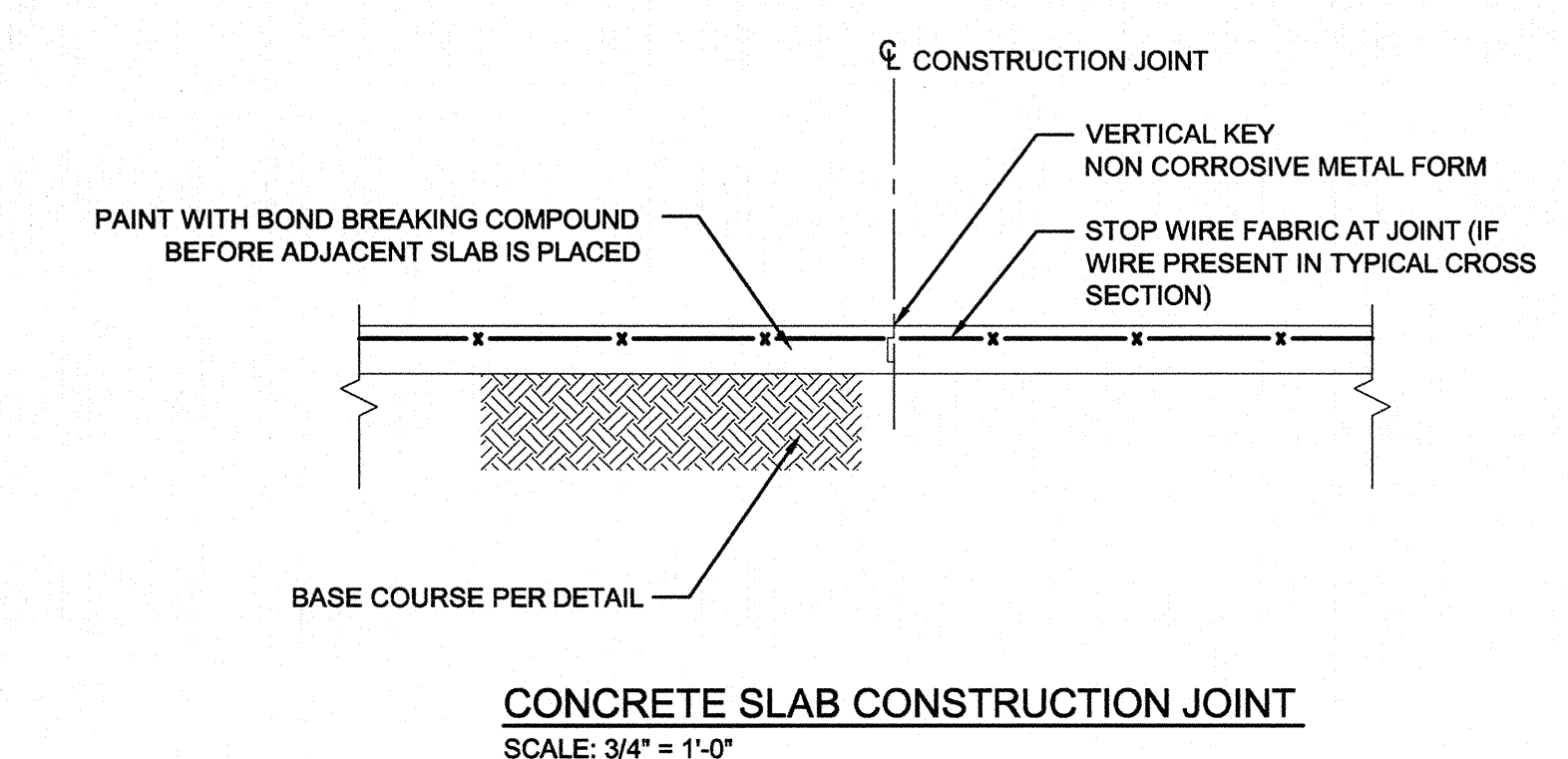
TYPICAL EXTERNAL BRICK WALKWAY REPAIR SECTION @ THAMES  
SCALE: 3/4" = 1'-0"



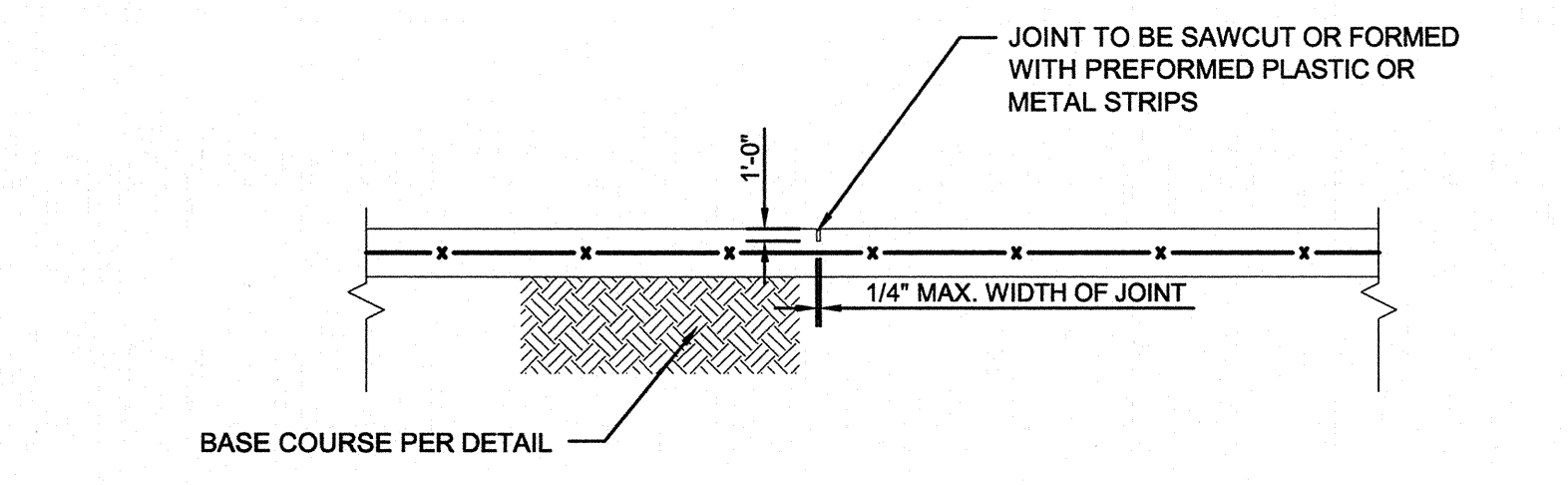
TYPICAL INTERNAL BRICK WALKWAY SECTION  
SCALE: 3/4" = 1'-0"



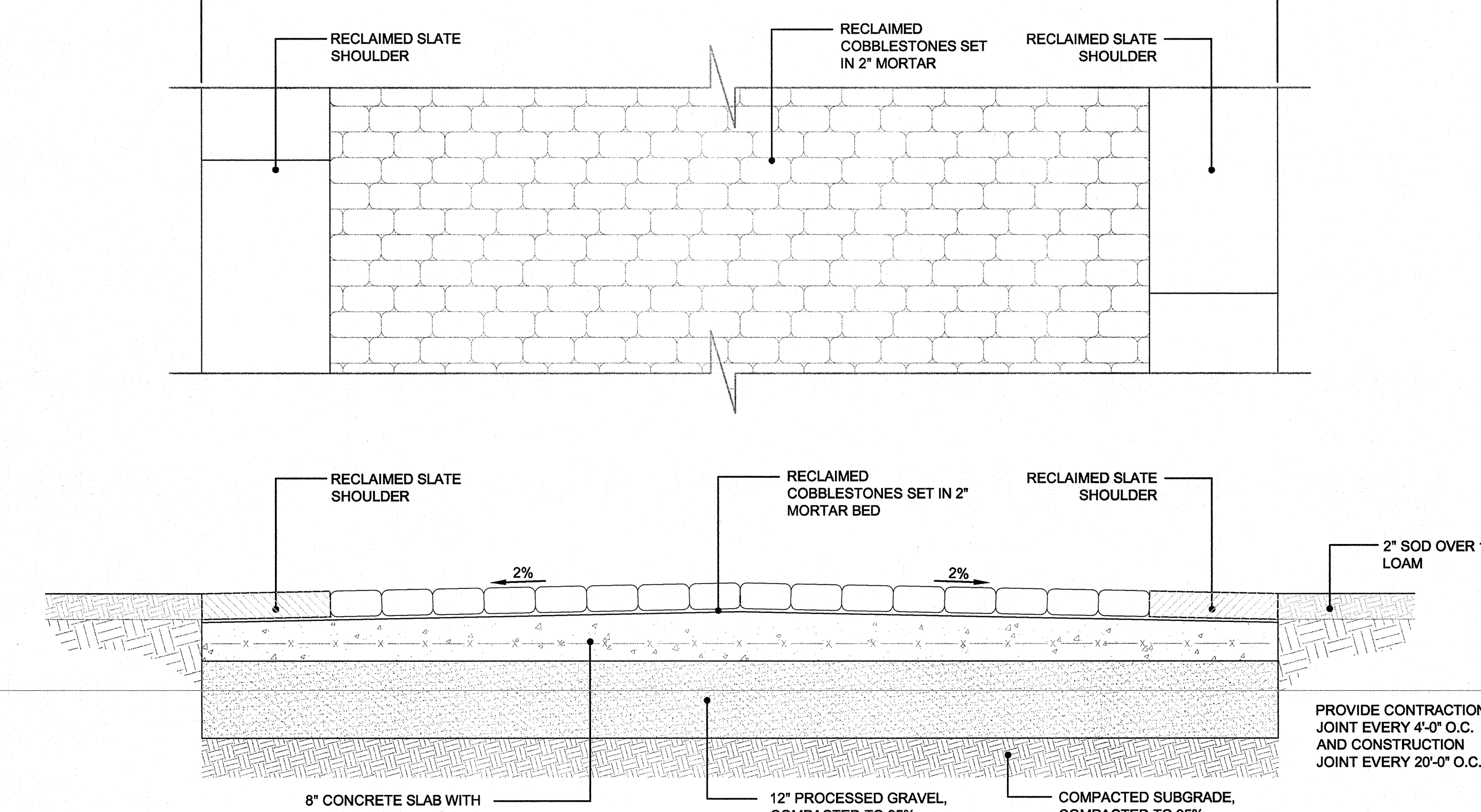
TYPICAL SECTION OF DEPRESSIONS @ CATCH BASIN INLETS  
SCALE: NTS



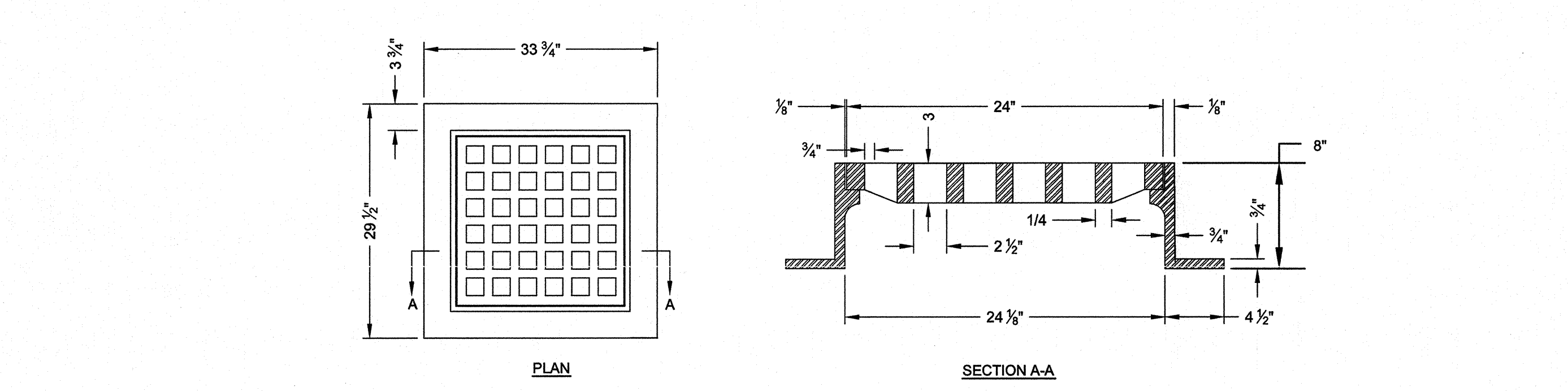
CONCRETE SLAB CONSTRUCTION JOINT  
SCALE: 3/4" = 1'-0"



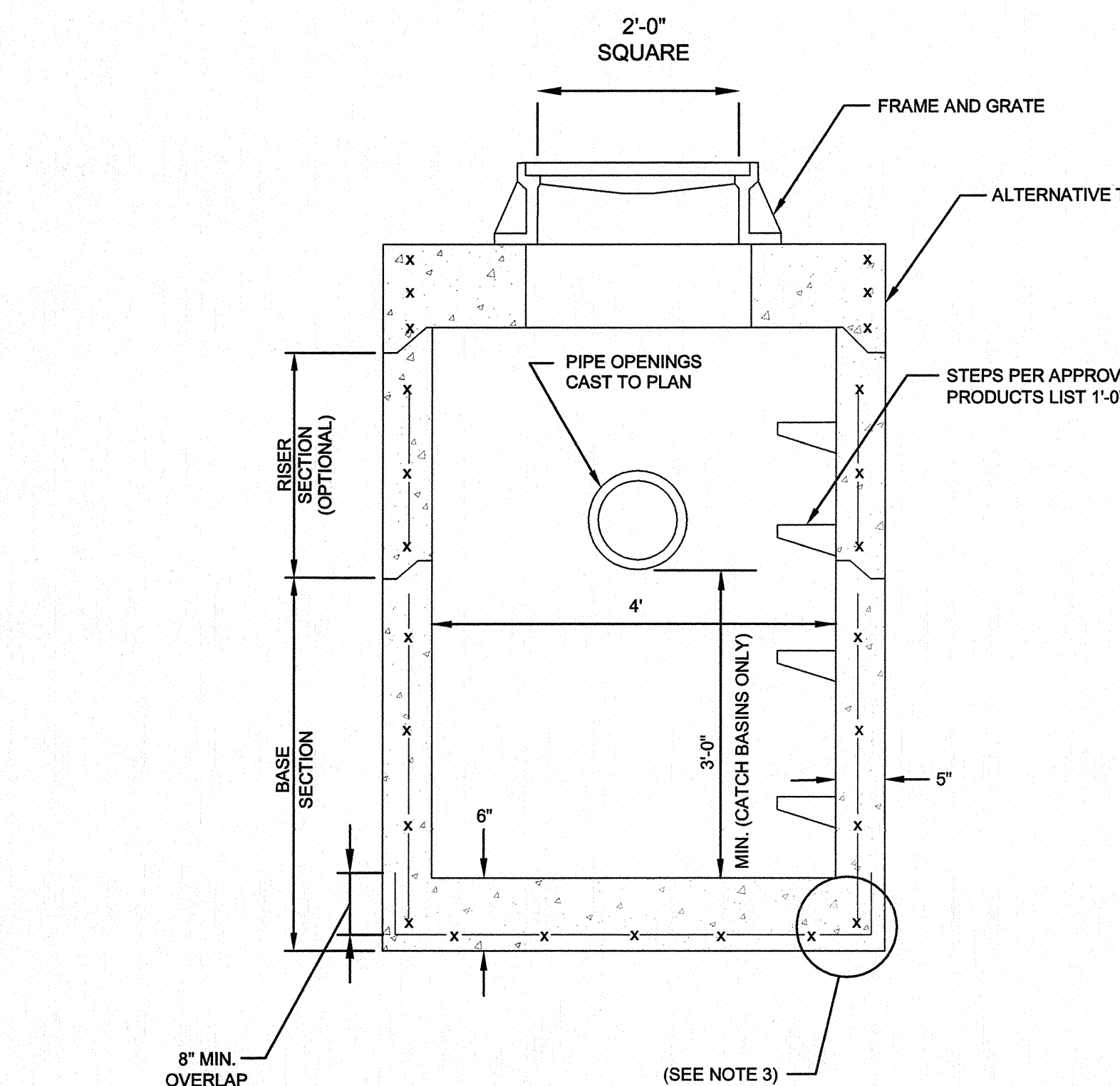
CONCRETE SLAB CONTRACTION JOINT  
SCALE: 3/4" = 1'-0"



TYPICAL FRANK STREET SECTION  
SCALE: 3/4" = 1'-0"



SQUARE FRAME AND GRATE (RIDOT 5.12)  
SCALE: NOT TO SCALE



PRECAST ROUND CATCH BASIN & DRAIN MANHOLE (RIDOT 4.4.0)  
SCALE: NOT TO SCALE

No.	Revision	Date	App.
1	AS SHOWN	SEPTEMBER 17, 2012	JJR

Designed by: JJR  
 Drawn by: JJR  
 Checked by: JJR  
 Scale: AS SHOWN  
 Date: SEPTEMBER 17, 2012

**QUEEN ANNE PARK**  
**AP 24, LOT 346**  
 THAMES STREET  
 NEWPORT, RHODE ISLAND

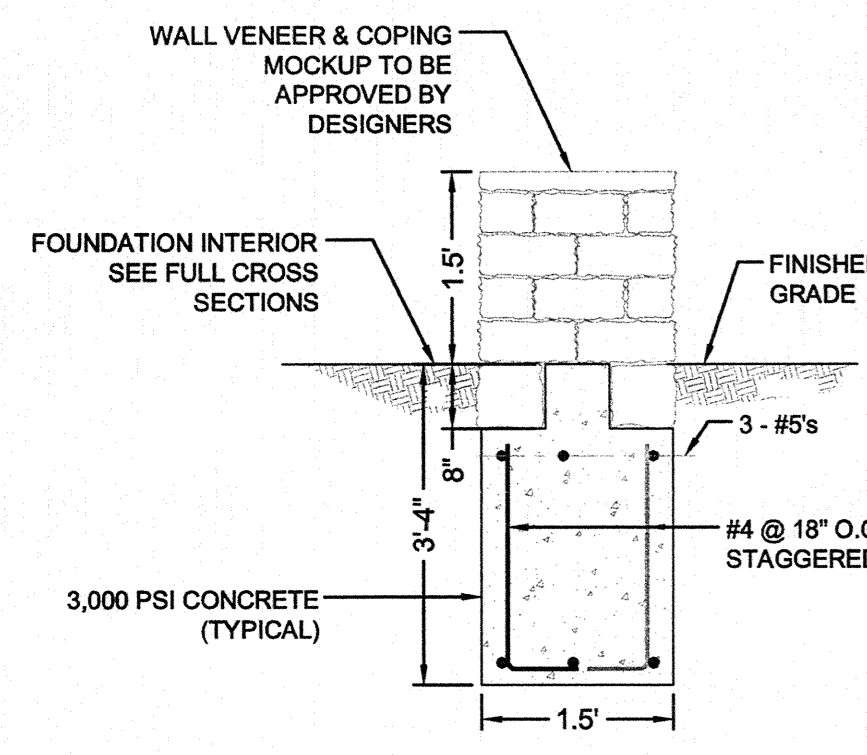
Client/Owner: PERMITTING  
 Drawing Title: DETAIL SHEET 1

Drawing Number: D-1  
 Sheet: 5 of 7  
 Project Number: 12014.0  
 Survey Index: 14 - 24 - 346

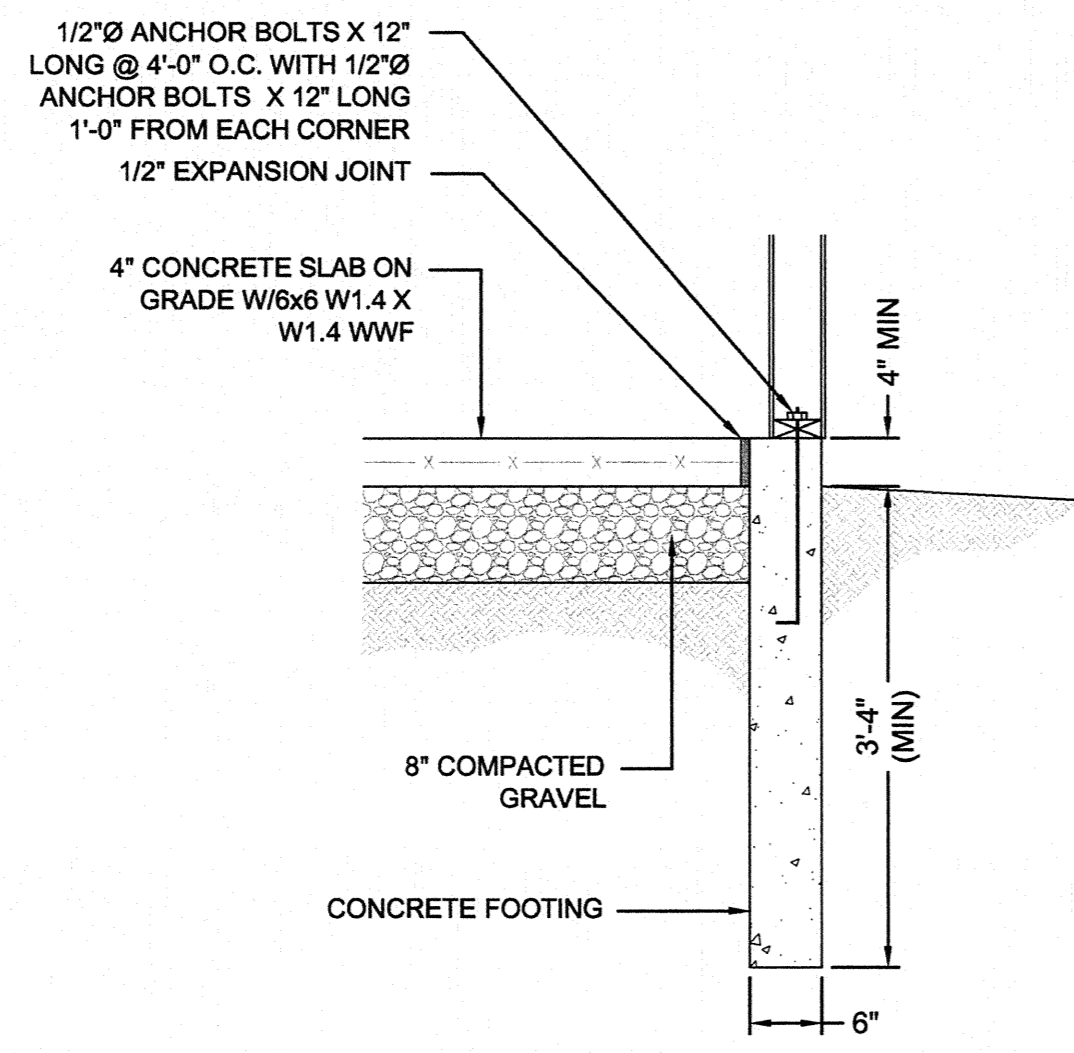
**JEREMY J. ROSA**  
 No. 9826  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

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TYPICAL SEATING WALL SECTION  
SCALE: 1/2" = 1'-0"



TYPICAL SHED FOUNDATION WALL SECTION  
SCALE: 3/4" = 1'-0"

**GENERAL NOTES**

1. ALL STRUCTURAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF RHODE ISLAND BUILDING CODE AND O.S.H.A. CODE.
2. CONDITIONS ENCOUNTERED IN THE FIELD NOT COVERED BY THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
4. ALL SECTIONS, DETAILS, NOTES, METHODS, OR MATERIALS SHOWN AND/OR NOTED ON ANY PLAN, SECTION OR ELEVATION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS OTHERWISE NOTED.
5. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH SITE AND LANDSCAPE ARCHITECTURE, ELECTRICAL, AND MECHANICAL DRAWINGS AND SPECIFICATIONS, AND THESE DRAWINGS SHALL BE REFERRED TO FOR SIZE AND LOCATION OF OPENINGS, VENTS, PIPES, INSERTS, HANGERS, ETC.

**CONCRETE NOTES:**

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI STANDARD 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ACI 301-05 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS. ACI 301-05 SHALL GOVERN.
2. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH AT 28 DAYS OF AT LEAST 3000 PSI EXCEPT FLOOR SLABS, EXTERIOR SLABS AND PAVING SHALL BE 4000 PSI. USE OF FLY ASH OR SLAG IS PROHIBITED. PROVIDE 5% AIR ENTRAINED CONCRETE. SUBMIT CONCRETE DESIGN MIX FOR APPROVAL.
3. ALL REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60, AND SHALL BE DEFORMED. LAP ALL CONTINUOUS BARS 40 DIAMETERS. PROVIDE MATCHING CORNER AND INTERSECTION BARS.
4. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. LAP TWO SQUARES AT ALL JOINTS AND TIE AT 3'-0" O.C.
5. MINIMUM PROTECTIVE COVER FOR REINFORCEMENTS UNLESS OTHERWISE PROVIDED FOR:
  - A. CONCRETE PLACED AGAINST EARTH, 3".
  - B. FORMED CONCRETE EXPOSED TO EARTH, WEATHER, OR WATER, 2".
  - C. SLABS ON SAND, GRAVEL OR STONE FILL, 1-1/2".
6. STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE MECHANICAL, ELECTRICAL, AND LANDSCAPE ARCHITECTURE DRAWINGS. THESE DRAWINGS SHALL BE REFERRED TO FOR SIZE AND LOCATION OF OPENINGS.
7. WHERE OPENINGS OCCUR IN WALLS OR SLABS, PROVIDE TWO (2) - #6 EACH FACE, EACH SIDE OF THE OPENINGS AND EXTEND 2'-0" BEYOND OPENING.
8. PROVIDE BAR SUPPORTS, SPACERS AND ACCESSORIES RECOMMENDED BY THE ACI DETAILING MANUAL. ALL DETAILING NOT COVERED BY THESE NOTES SHALL BE IN ACCORDANCE WITH THE SAME MANUAL.
9. PROVIDE VERTICAL JOINTS IN THE SEATING WALLS AT 6'-0" O.C. PROVIDE HORIZONTAL JOINTS ONLY AS NOTED.
10. ADD EXTRA STEEL AT CONSTRUCTION JOINTS OF WALLS: #4 x 4'-0" LONG @ 12" O.C. EACH FACE PLUS 3" x 4" TREATED BEVELED KEYS.

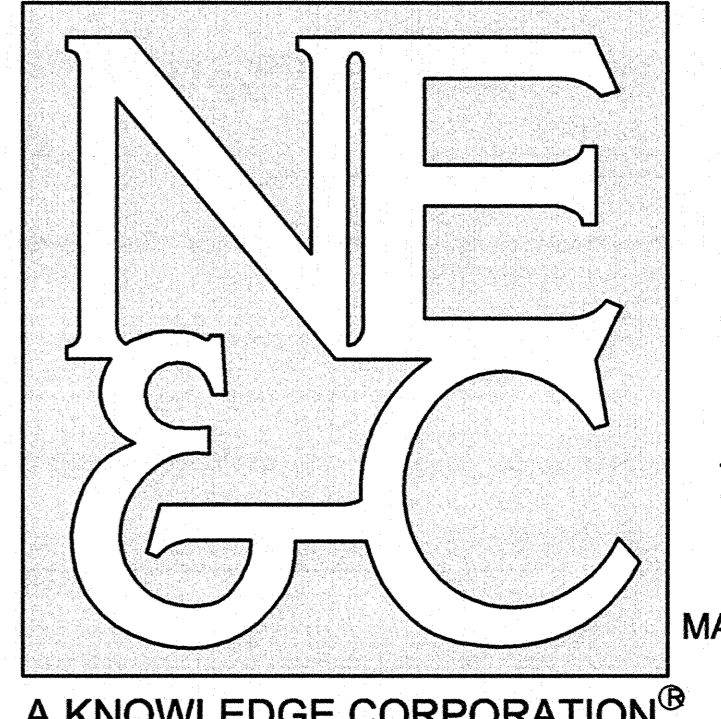
**FOUNDATION NOTES:**

1. THE BOTTOM SURFACE OF ALL FOOTINGS SHALL REST UPON UNDISTURBED INORGANIC GRANULAR SOIL WITH AN ALLOWABLE BEARING PRESSURE OF 1.5 TONS PER SQUARE FOOT.
2. BOTTOM OF EACH EXTERIOR FOOTING SHALL BE A MINIMUM OF 3'-4" BELOW FINISH GRADE.
3. NO FOOTING SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
4. NO BACK FILL SHALL BE PLACED AGAINST FOUNDATION WALLS RETAINING EARTH UNLESS WALLS ARE SUFFICIENTLY BRACED TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE.
5. BACK FILL MATERIAL SHALL BE COMPACTED IN 12" LAYERS COMPACTED TO 95% OF ASTM D1557, METHOD D, PROCTOR TEST.
6. ALL FOUNDATION WORK SHALL BE INSPECTED AND APPROVED FOR REQUIRED SOIL BEARING CAPACITY BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

**STRUCTURAL MASONRY**

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", (ACI 530-08/ASCE 5-08/TMS 402-05) AND "SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530.1-05/ASCE 5-05/TMS 602-05).
2. MASONRY STRENGTH,  $f_m$ , FOR MASONRY CONSTRUCTION SHALL NOT BE LESS THAN 1500 PSI WITH THE INSPECTION AND PRISM TESTS.
3. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE 1 AND NORMAL WEIGHT. STRENGTH SHALL BE AS REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT SHALL NOT BE LESS THAN 2500 ON THE NET AREA OF THE BLOCK.
4. HORIZONTAL WALL REINFORCING SHALL BE 220 LADDER (H & B) WITH W17, RDDS SPACED 18" O.C.
5. ALL GROUT SHALL CONFORM TO ASTM C476, TYPE FINE, AND SHALL BE OF STRENGTH REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT NOT LESS THAN 2500 PSI. AGGREGATES FOR GROUT SHALL MEET ASTM C404.
6. ALL MORTAR FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C277 TYPE S AND SHALL BE OF STRENGTH REQUIRED FOR SPECIFIED MASONRY STRENGTH ( $f_m$ ) BUT NOT LESS THAN 1800 PSI. MASONRY CEMENT SHALL NOT BE USED.
7. ALL REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60 DEFORMED BARS. UNLESS NOTED OTHERWISE, LAP ALL CONTINUOUS BARS 48 DIAMETERS.
8. ALL JOINT REINFORCEMENTS SHALL CONFORM TO ASTM A82.
9. ADMIXTURES ARE PROHIBITED FROM USE IN MORTAR AND SUBJECT TO REVIEW IN GROUT.

NORTHEAST ENGINEERS & CONSULTANTS, INC.



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55 JOHN CLARKE ROAD MIDDLETOWN, RHODE ISLAND 02842  
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LAND PLANNING  
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GEOTECHNICAL  
ENVIRONMENTAL  
TRANSPORTATION  
STRUCTURAL  
MATERIALS TESTING

No.	Revision	Date	App.
Designed by: JJR	Drawn by: JJR	Checked by:	
Scale: AS SHOWN Date: SEPTEMBER 17, 2012			
Project Title: <b>QUEEN ANNE PARK AP 24, LOT 346 THAMES STREET NEWPORT, RHODE ISLAND</b>			
Client/Owner:			
Issued for: PERMITTING			
Drawing Title: <b>DETAIL SHEET 3 STRUCTURAL DETAILS</b>			
Drawing Number: <b>D-3</b>			
Sheet <b>7</b> of <b>7</b>			
Project Number: <b>12014.0</b>			
Survey Index: <b>14 - 24 - 346</b>			
<small>OWNERSHIP AND USE OF DOCUMENTS, DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THESE DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECTS OR PURPOSES, OR BY ANY OTHER PARTIES, THAN THOSE PROPERLY AUTHORIZED BY CONTRACT, WITHOUT THE EXPRESS AUTHORIZATION OF THE ENGINEER.</small>			



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**APPENDIX B    INSPECTION REPORTS**

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**APPENDIX C    MEMORANDUMS AND MEETING MINUTES**

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# **MEMO/MEETING MINUTES**

**To:**

**From:**

**CC:**

**Date:**

**Re:**

---





---

**APPENDIX D    SPILL/POLLUTION INCIDENT REPORTS**

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## Spill Report Form

LOCATION: _____	
_____	Date: _____ Time: _____
Regulatory agencies notified (date, time, person, agency, and how): _____ _____	
Material spilled: _____	
Quantity spilled: _____	
Source: _____	
Cause: _____ _____	
Extent of injuries (if any): _____ _____	
Adverse environmental impact (if any): _____ _____	
Immediate remedial actions taken at time of spill: _____ _____	
Measures taken or planned to prevent recurrence: _____ _____	
Additional comments: _____ _____ _____	
This report prepared by: _____	_____ (Signature)
_____	_____

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RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

September 26, 2012

Jane Howington  
City Manager  
City of Newport  
43 Broadway  
Newport, RI 02840

RE: **Queen Anne Square, Assessor's Plat 24, Lot 346, Thames Street, Newport, RI, RIPDES application No. 100972**

Dear Ms. Howington:

Enclosed is your final authorization to discharge storm water associated with construction activity under the Rhode Island Pollutant Discharge Elimination System (RIPDES) Program. The Authorization to Discharge should be attached to your copy of the 2008 RIPDES General Permit for Storm Water Discharge Associated with Construction Activity (2008 Construction General Permit, which you already have on file), and be kept on-site as verification of authorization to discharge. All terms and conditions outlined in the 2008 Construction General Permit must be met. Any permit non-compliance constitutes a violation of Chapter 46-12 of the Rhode Island General Laws of 1956, as amended, and is grounds for enforcement. For future references and inquiry, your permit authorization number is RIPDES No. 100972.

RIDEM strongly recommends that you obtain written assurances from contractors or subcontractors retained to undertake construction activity that they will comply with all applicable requirements.

If you have any questions regarding the General Permit, you may contact James Wilusz of the OCTA Program staff at (401) 222-4700, Extension 7421.

Sincerely,

A handwritten signature in black ink that reads "Ronald N. Gagnon".

Ronald N. Gagnon, P.E.  
Chief  
Office of Customer and Technical Assistance

Enclosure

AUTHORIZATION TO DISCHARGE UNDER THE  
RHODE ISLAND POLLUTANT DISCHARGE ELIMINATION SYSTEM  
2008 General Permit for Storm Water Discharge Associated with Construction Activity

In compliance with the provisions of Chapter 46-12 of the Rhode Island General Laws, as amended,

**The City of Newport  
43 Broadway  
Newport, Rhode Island**

is authorized to discharge Storm Water Associated with Construction Activity from a facility located at

**Queen Anne Square  
Assessor's Plat 24, Lot 346  
Thames Street  
Newport, Rhode Island**

to receiving waters named

**Newport Harbor**

in accordance with the conditions and requirements set forth in the 2008 General Permit for Storm Water Discharge Associated with Construction Activity:

In accordance with Part I.C.2.d of the 2008 General Permit for Storm Water Discharge Associated with Construction Activity, coverage shall become effective upon departmental receipt of the complete and certified NOI (in accordance with Part III.A.11). Therefore, coverage under the 2008 General Permit for Storm Water Discharge Associated with Construction Activity became effective on June 26, 2012.

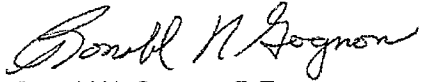
Coverage under the General Permit for Storm Water Discharge Associated with Construction Activity and the authorization to discharge should expire at midnight, on September 25, 2013.

**Special Condition for the General Permit for Storm Water Discharge Associated with Construction Activity** - Construction Activities which disturb one (1) or more acres of land and where storm water runoff is directed, via a point source, into a separate storm sewer system or into the waters of the State, are required to seek coverage under the Rhode Island Pollutant Discharge Elimination System (RIPDES) storm water permit. In accordance with Part I.C.2.b. of the *General Permit RIPDES Stormwater Discharge Associated with Construction Activity ("RIPDES CGP") (effective September 2008)*, point source discharges of storm water associated with construction activity that disturb > 1 acre are automatically authorized upon the applicant's receipt of a Freshwater Wetlands Permit. Please be aware that not all aspects of the proposed project have been reviewed by the Office of Customer and Technical Assistance for conformance with the requirements of the RIPDES CGP. The owner/operator is required to comply with all terms and conditions of the RIPDES CGP to maintain authorization. This includes but is not limited to developing and maintaining a Storm Water Pollution Prevention Plan (SWPPP), performing the required inspections and maintenance of the selected Best Management Practices (BMPs), and complying with all applicable record keeping and retention requirements. The DEM RIPDES permitting program in cooperation with the DEM Office of Customer and Technical Assistance has developed a Construction and Development Activity Storm Water Compliance Checklist ("Checklist") as a compliance assistance tool. In the future, the use of this tool will be mandatory. Despite the fact that the use of the Checklist is not mandatory at this time, owners and operators may begin using this tool to satisfy the inspection requirements of the 2008 RIPDES CGP. Please be advised that if your site is the subject of a DEM inspection, the Checklist will also be used by DEM Inspector(s) to determine whether or not your site is in compliance with the 2008 RIPDES CGP.

Permit No. 100972

The issuance of this authorization does not relieve the permittee from compliance with any other applicable laws or regulations administered by the Department of Environmental Management or any other governmental entity.

Signed this 26<sup>th</sup> day of September, 2012.



Ronald N. Gagnon, P.E.

Chief

Office of Customer and Technical Assistance

Rhode Island Department of Environmental Management

Providence, Rhode Island



**Construction Soil Management Plan  
Queen Anne Square  
Plat 24 Lot 346  
Newport, Rhode Island**

This Construction Soil Management Plan (CSMP) has been prepared to establish procedures that will be followed during construction activities at Queen Anne Square (Plat 24 Lot 346) in Newport, Rhode Island (the "Site"). The goal of this SMP is to manage soil exposures which could occur over time as a result of construction activities associated with park redevelopment.

*Background*

Site investigations identified contaminants of concern above Rhode Island Department of Environmental Management (RIDEM) Method 1 Residential Direct Exposure Criteria include polynuclear aromatic hydrocarbons (PAHs), metals (predominantly lead) more or less Site-wide, and total petroleum hydrocarbons (TPH) at a single location where the TPH concentration also exceeds the Method 1 GB Leachability Criteria. A review of soil data further indicates that in addition to the TPH impact, there are three locations where concentrations of lead in soil appear anomalously elevated and/or elevated headspace responses were detected. These areas are depicted on the attached Figure.

*Soil Management*

The risk of direct exposure of humans to contaminated soils is the primary concern at the Site. Individuals engaged in construction activities at the Site may be exposed through incidental inhalation, dermal contact, or inhalation of vapors or entrained soil particles if proper precautions are not taken. The following procedures will be followed during construction activities to minimize or eliminate the potential of exposure.

1. Prior to any soil disturbance at the Site, a perimeter fence surrounding the entire property will be installed. A layer of geotextile material will be installed on the fencing to limiting transmission of dust and potential contaminants that may be contained in dusts created by disturbing Site soils. During Site work, appropriate precautions will be taken to restrict unauthorized access to the property.
2. During Site/earth work, dust suppression (i.e. watering, etc.) techniques must be employed at all times. If it is anticipated due to the nature of the contaminants of concern that odors may be generated during Site activities, air monitoring and means to control odors will be utilized, as appropriate (i.e., odor-suppressing foam, etc.). Best Management practices also include managing and minimizing the migration and/or surface runoff of hazardous materials at the Site during remedial and/or future site surface disturbances. This will be achieved via the installation of state-approved erosion and sedimentation controls.



3. All excavated soils must remain on Site for analytical testing, to be performed by an environmental professional, in order to determine the appropriate management/disposal options. If excavated soils are stockpiled, the soils shall be stockpiled on and covered with a minimum of 6-mil polyethylene/plastic sheeting during the entire duration of stockpiling with appropriate controls to limit the loss of the cover through storm-water and/or wind erosion (i.e., hay bales, silt fencing). Stockpiled soil will be staged and temporarily stored in a designated area of the property. Within reason, the storage location will be selected as to limit the unauthorized access to the materials. If needed during construction activities, multiple staging locations may be selected. Soil stockpiles will be inspected daily upon the completion of the day's Site work to ensure that piles are properly secured and covered.
4. No regulated soil will be stock piled on Site for more then 60 days without RIDEM approval. In the event that stockpiled soils pose a risk or threat of leaching hazardous material, a proper leak-proof container (i.e., drum or lined roll-off) or secondary containment will be utilized.
5. Any soil excavated that cannot be re-used on Site must be disposed of at an appropriate disposal facility permitted to accept the impacted soil.
6. Site soils which are determined to be disposed of off Site must be done so at a licensed facility in accordance with local, state, and federal laws. Copies of the material shipping records associated with the disposal of the material shall be maintained by the Site owner and included in the annual inspection report for the site.
7. All non-disposable equipment used during soil disturbance activities will be properly decontaminated as appropriate prior to removal from the site. All disposable equipment used during soil disturbance activities will be properly containerized and disposed of following completion of work.
8. In the event that an unexpected observation or situation arises during Site work, such activities will immediately stop. Workers will not attempt to handle the situation themselves but will contact the appropriate authority for further direction.
9. If the water table is encountered during excavation, dewatering will take place. Water generated during dewatering is to be pumped into a frac tank or other appropriate storage container and remain on Site for analytical testing to be performed by an environmental professional, in order to determine appropriate management/disposal options.
10. At the completion of Site work, all exposed soils are required to be re-capped with RIDEM-approved engineered controls including two (2) feet of clean fill or a combo of eighteen (18) inches of soil and four (4) inches of pavement or one

(1) foot of clean fill over a geotextile fabric in applicable areas. These measures must be consistent with the RIDEM-approved ELUR recorded on the property.

11. Any clean fill material brought on Site is required to meet the RIDEM's Method 1 Residential Direct Exposure Criteria or be designated by an Environmental Professional as non-jurisdictional under the *Remediation Regulations*. All clean fill, including sub-grade material and loam, imported to the Site must be sampled prior to delivery and placement. Clean fill and loam must be sampled for arsenic at a frequency of one sample per 500 cubic yards. One-quarter of the total number of compliance samples of clean fill and loam will be sampled for volatile organic compounds (VOCs), Total Metals (RCRA 8), semivolatile organic compounds (SVOCs), and TPH. All soil that is utilized on Site must meet the Residential Direct Exposure Criteria or be certified to be non-jurisdictional. The annual inspection report for the site, or closure report if applicable, should include either analytical sampling results from the fill demonstrating compliance or alternatively include written certification by an Environmental Professional that the fill is not jurisdictional.

#### *Department Approval*

Notification of construction activities must be made to RIDEM no later than 60 days prior to the initiation of the start of work. The notification shall include an estimate of the volume of soil to be excavated, a list of known and anticipated constituents of concern, a Site figure clearly identifying the proposed areas to be excavated/disturbed, and the duration of the project. No soil disturbance activities may take place without prior written permission from the RIDEM Office of Waste Management.



# DRAFT

## ENVIRONMENTAL LAND USAGE RESTRICTION

This Declaration of Environmental Land Usage Restriction (.Restriction.) is made on this \_\_\_\_\_ day of \_\_\_\_\_, 2012 by **City of Newport**, and its successors and/or assigns (hereinafter, the "Grantor").

### WITNESSETH:

WHEREAS, the Grantor is the owner in fee simple of certain real property identified as **Plat 24 Lot 346 in Newport**, Rhode Island (the "Property"), more particularly described in **Exhibit A** (Legal Description) which is attached hereto and made a part hereof;

WHEREAS, the Property has been determined to contain soil which is contaminated with certain **hazardous materials and/or petroleum** in excess of applicable **residential and/or industrial/commercial direct exposure criteria** pursuant to the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases ("Remediation Regulations");

WHEREAS, the Grantor and the Department have determined that the environmental land use restrictions set forth below are consistent with the regulations adopted by the Rhode Island Department of Environmental Management ("Department") pursuant to R.I.G.L. § 23-19.14-1 and that this restriction shall be a Conservation Restriction pursuant to R.I.G.L. § 34-39-1 et. seq. and shall not be subject to the 30 year limitation provided in R.I.G.L. § 34-4-21;

WHEREAS, the Department's written approval of this Restriction is contained in the document entitled: **Remedial Decision Letter** issued pursuant to the Remediation Regulations;

WHEREAS, to prevent exposure to or migration of **hazardous materials and/or petroleum** and to abate hazards to human health and/or the environment, and in accordance with the **Remedial Decision Letter**, the Grantor desires to impose certain restrictions upon the use, occupancy, and activities of and at the **Property**;

WHEREAS, the Grantor believes that this Restriction will effectively protect public health and the environment from such contamination; and

WHEREAS, the Grantor intends that such restrictions shall run with the land and be binding upon and enforceable against the Grantor and the Grantor's successors and assigns.

NOW, THEREFORE, Grantor agrees as follows:

**A. Restrictions Applicable to the Property:** In accordance with the **Remedial Decision Letter**, the use, occupancy and activity of and at the **Property** is restricted as follows:

- i No residential use of the **Property** shall be permitted that is contrary to Department approvals and restrictions contained herein;
- ii No groundwater at the **Property** shall be used as potable water;

## DRAFT

- iii No soil at the **Property** shall be disturbed in any manner without written permission of the Department's Office of Waste Management, except as permitted in the Remedial Action Work Plan (RAWP) or Soil Management Plan (SMP) approved by the Department in a written approval letter dated \_\_\_\_\_ (date) **Exhibit B** and attached hereto;
- iv Humans engaged in activities at the **Property** shall not be exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department approved direct exposure criteria set forth in the Remediation Regulations;
- v The engineered controls at the **Property** described in the **SMP** contained in **Exhibit C** attached hereto shall not be disturbed and shall be properly maintained to prevent humans engaged in **residential (recreational)** activity from being exposed to soils containing hazardous materials and/or petroleum in concentrations exceeding the applicable Department-approved **residential** direct exposure criteria in accordance with the Remediation Regulations.

**B. No action shall be taken, allowed, suffered, or omitted at the Property if such action or omission is reasonably likely to:**

- i Create a risk of migration of hazardous materials and/or petroleum;
- ii Create a potential hazard to human health or the environment; or
- iii Result in the disturbance of any engineered controls utilized at the **Property**, except as permitted in the Department-approved **SMP** contained in **Exhibit C**.

**C. Emergencies:** In the event of any emergency which presents a significant risk to human health or to the environment, including but not limited to, maintenance and repair of utility lines or a response to emergencies such as fire or flood, the application of Paragraphs A (iii.-viii.) and B above may be suspended, provided such risk cannot be abated without suspending such Paragraphs and the Grantor complies with the following:

- i Grantor shall notify the Department's Office of Waste Management in writing of the emergency as soon as possible but no more than three (3) business days after Grantor's having learned of the emergency. (This does not remove Grantor's obligation to notify any other necessary state, local or federal agencies.);
- ii Grantor shall limit both the extent and duration of the suspension to the minimum period reasonable and necessary to adequately respond to the emergency;
- iii Grantor shall implement reasonable measures necessary to prevent actual, potential, present and future risk to human health and the environment resulting from such suspension;

## DRAFT

- iv Grantor shall communicate at the time of written notification to the Department its intention to conduct the emergency response actions and provide a schedule to complete the emergency response actions;
- v Grantor shall continue to implement the emergency response actions, on the schedule submitted to the Department, to ensure that the **Property** is remediated in accordance with the Remediation Regulations (or applicable variance) or restored to its condition prior to such emergency. Based upon information submitted to the Department at the time the ELUR was recorded pertaining to known environmental conditions at the **Property**, emergency maintenance and repair of utility lines shall only require restoration of the **Property** to its condition prior to the maintenance and repair of the utility lines; and
- vi Grantor shall submit to the Department, within ten (10) days after the completion of the emergency response action, a status report describing the emergency activities that have been completed.

**D. Release of Restriction; Alterations of Subject Area:** The Grantor shall not make, or allow or suffer to be made, any alteration of any kind in, to, or about any portion of the **Property** inconsistent with this Restriction unless the Grantor has received the Department's prior written approval for such alteration. If the Department determines that the proposed alteration is significant, the Department may require the amendment of this Restriction. Alterations deemed insignificant by the Department will be approved via a letter from the Department. The Department shall not approve any such alteration and shall not release the **Property** from the provisions of this Restriction unless the Grantor demonstrates to the Department's satisfaction that Grantor has managed the **Property** in accordance with applicable regulations.

**E. Notice of Lessees and Other Holders of Interests in the Property:** The Grantor, or any future holder of any interest in the **Property**, shall cause any lease, grant, or other transfer of any interest in the **Property** to include a provision expressly requiring the lessee, grantee, or transferee to comply with this Restriction. The failure to include such provision shall not affect the validity or applicability of this Restriction to the **Property**.

**F. Enforceability:** If any court of competent jurisdiction determines that any provision of this Restriction is invalid or unenforceable, the Grantor shall notify the Department in writing within fourteen (14) days of such determination.

**G. Binding Effect:** All of the terms, covenants, and conditions of this Restriction shall run with the land and shall be binding on the Grantor, its successors and assigns, and each owner and any other party entitled to control, possession or use of the **Property** during such period of ownership or possession.

**H. Inspection & Non-Compliance:** It shall be the obligation of the Grantor, or any future holder of any interest in the, to provide for annual inspections of the for compliance with the ELUR in accordance with Department requirements.

**DRAFT**

A qualified environmental professional will, on behalf of the Grantor or future holder of any interest in the **Property**, evaluate the compliance status of the **Property** on an annual basis. Upon completion of the evaluation, the environmental professional will prepare and simultaneously submit to the Department and to the Grantor or future holder of any interest in the **Property** an evaluation report detailing the findings of the inspection, and noting any compliance violations at the **Property**. If the **Property** is determined to be out of compliance with the terms of the ELUR, the Grantor or future holder of any interest in the **Property** shall submit a corrective action plan in writing to the Department within ten (10) days of receipt of the evaluation report, indicating the plans to bring the **Property** into compliance with the ELUR, including, at a minimum, a schedule for implementation of the plan.

In the event of any violation of the terms of this Restriction, which remains uncured more than ninety (90) days after written notice of violation, all Department approvals and agreements relating to the **Property** may be voided at the sole discretion of the Department.

**I. Terms Used Herein:** The definitions of terms used herein shall be the same as the definitions contained in Section 3 (DEFINITIONS) of the Remediation Regulations.

IN WITNESS WHEREOF, the Grantor has hereunto set (his/her) hand and seal on the day and year set forth above.

Jane Howington City Manager  
City of Newport, Rhode Island

By: \_\_\_\_\_  
Grantor (signature) Grantor (typed name)

STATE OF RHODE ISLAND

COUNTY OF \_\_\_\_\_

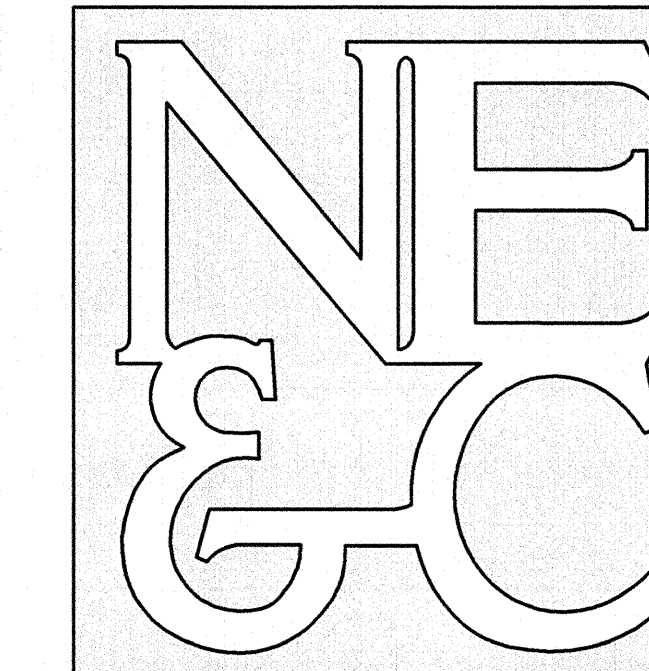
In (CITY/TOWN), in said County and State, on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_, to me known and known by me to be the party executing the foregoing instrument and (he/she) acknowledged said instrument by (him/her) executed to be (his/her) free act and deed.

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

My Comm. Expires: \_\_\_\_\_

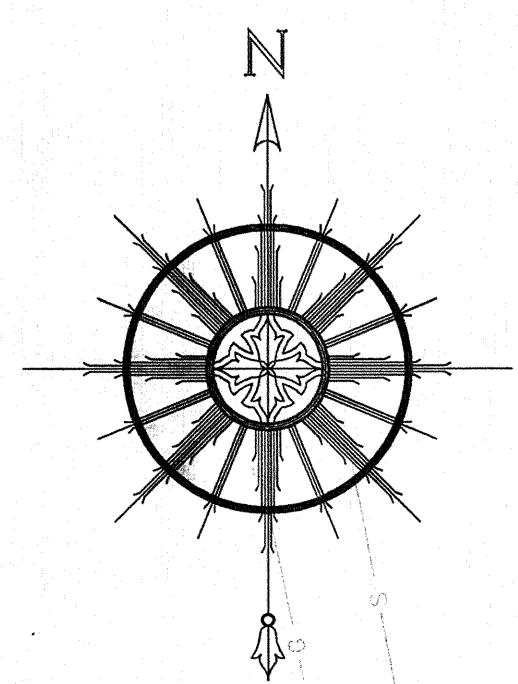






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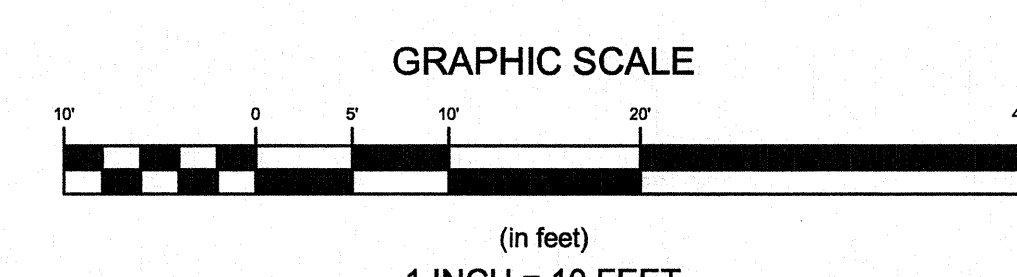
NORTH ARROW SCALED FROM CITY OF NEWPORT TAX ASSESSORS MAP AND IS APPROXIMATE



- SOIL EROSION AND SEDIMENT CONTROL NOTES:**
- CONSTRUCTION SEQUENCE FOR EROSION CONTROL ACTIVITIES:
    - DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
    - IF NOT ALREADY IN PLACE FOR REMEDIATION ACTIVITIES, CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES LOCATED AS SHOWN ON PLANS. CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THESE ENTRANCES.
    - IF NOT ALREADY IN PLACE AND IN GOOD WORKING ORDER, INSTALL SILT FENCES, SILT SOCKS, CHECK DAMS AND/OR HAY BALES AS INDICATED ON THE DRAWINGS TO CONTROL EROSION AND PREVENT SEDIMENT CONTAMINATION OF DOWNSTREAM AREAS PRIOR TO ANY EARTH MOVING ACTIVITIES.
    - CONSTRUCT THAMES STREET RETAINING WALL AND SIDEWALK AREA.
    - CONSTRUCT THE REQUIRED DRAINAGE AND UTILITIES.
    - CONSTRUCT FOUNDATIONS, IMPROVEMENTS AND WALKWAYS.
    - PLANT TREES AND LANDSCAPING PER LANDSCAPING PLANS.
  - NOTES:
    - DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. ONLY THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.
    - ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE STABILIZED WITHIN FOURTEEN DAYS IN ACCORDANCE WITH TEMPORARY MEASURES IN THE VEGETATIVE PRACTICE NOTES.
    - AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOP SOIL TO REMOVE VEGETATION, ROOTS, AND ANY OTHER OBJECTIONABLE MATERIAL.
    - ALL FILL SHALL BE COMPACTED TO 90% MAX DENSITY TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL SHALL BE PLACED IN 12" LIFTS.
    - FILL INTENDED TO FOUNDATIONS OR STRUCTURES SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL CODES AND SPECIFICATIONS.
    - FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBER, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FILL MATERIAL SHALL NOT BE MATERIAL NATIVE TO SITE, AND SHALL CONFORM TO ALL REQUIREMENTS OF THE NEWMARKET REMEDIAL ACTION WORKPLAN.
    - FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIAL SHALL NOT BE INCORPORATED INTO FILLS.
    - FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION SUBGRADE.
    - SHOES OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
    - ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF FINISH GRADING IN ACCORDANCE WITH THE VEGETATIVE NOTES.
    - REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE UPLAND AREAS HAVE BEEN PERMANENTLY STABILIZED AND VEGETATED AREAS HAVE RECEIVED TWO CUTINGS.
  - VEGETATIVE PRACTICE:
    - SLOPES SHALL NOT BE STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL UNLESS OTHERWISE SPECIFIED.
    - ALL AREAS OF THE SITE TO RECEIVE 2" OF SOIL PER THE LANDSCAPING NOTES.
  - TEMPORARY MEASURES FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
    - LIMESTONE AND FERTILIZER SHALL BE APPLIED AT THE FOLLOWING RATE:  
LIMESTONE: 3 TONS/ACRE  
FERTILIZER: (10-10-10) 50 LBS/ACRE
    - SEED SHALL BE APPLIED AT THE FOLLOWING RATE:  
WINTER RYE: 12 LBS/ACRE
    - FAY MULCH SHALL BE APPLIED AT THE RATE OF 1.5 TONS/ACRE.
  - MAINTENANCE:
    - DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED, THE EROSION CONTROL MEASURES SHALL BE INSPECTED:
      - SILT FENCES AND HAY BALES SHALL BE INSPECTED AS INDICATED IN THE DETAILS. AT A MINIMUM THE SILT FENCES AND HAY BALES SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND/OR IMMEDIATELY FOLLOWING A SIGNIFICANT RAINFALL OR SNOWMELT. SEDIMENT TRAPPED BEHIND THE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 8" AND REPAIRED ON THE SPOT.
      - EROSION CONTROL BLANKETS SHALL BE INSPECTED ON A WEEKLY BASIS.
      - STONE APRONS SHALL BE INSPECTED MONTHLY FOR EXCESSIVE ACCUMULATION OF SEDIMENT. IT MAY BE NECESSARY TO REMOVE STONES, EXCAVATE SEDIMENT, AND REPLACE STONES.
      - THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE REMOVED PRIOR TO RECONSTRUCTION OF FRANK STREET. DURING CONSTRUCTION THE ENTRANCES SHALL BE INSPECTED WEEKLY, AND REESTABLISHED AS NECESSARY.

**LEGEND:**

	CONTOURS
	WOOD FENCE
	GAS LINE
	SEWER LINE
	WATER LINE
	DRAIN LINE
	ELECTRIC LINE
	EDGE OF CURB
	WATER GATE VALVE
	GAS GATE VALVE
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASIN
	6"x6" STONE POST (TBR)
	GAS LIGHT
	MONITORING WELL
	TEST PIT
	PROPOSED DRAIN INLET
	PROPOSED DRAIN COVER
	PROPOSED DRAIN LINE
	PROPOSED WATER LINE
	PROPOSED ELECTRICAL CONDUIT
	PROPOSED COMMUNICATION CONDUIT
	PROPOSED CONTOUR
	PROPOSED EXTERNAL SITE FENCING
	PROPOSED EXTERNAL SILT FENCE
	PROPOSED HAYBALES



No.	Revision	Date	App.
Designed by: JJR	Drawn by: JJR	Checked by:	
Scale: 1" = 10' Date: SEPTEMBER 17, 2012			
Project Title: <b>QUEEN ANNE PARK AP 24, LOT 346 THAMES STREET NEWPORT, RHODE ISLAND</b>			
Client/Owner:			
Issued for: <b>PERMITTING</b>			
Drawing Title: <b>SOIL EROSION AND SEDIMENT CONTROL PLAN</b>			
Drawing Number: <b>SESC-1</b>		Sheet <b>4</b> of <b>7</b>	
Project Number: <b>12014.0</b>		Survey Index: <b>14 - 24 - 346</b>	
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