HCEB

June 30, 2011

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Remediation Completion Report & Request for Case Closure
Magnolia Terrace at 4001 Adeline Street, Emeryville, California

Dear Mr. Detterman:

Attached is the above referenced subject report prepared by OTG EnviroEngineering Solutions, Inc. documenting final remedial activities conducted at the subject site and request for case closure.

Certification

"I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge".

Please contact me at (510) 828-6295 if you have questions or comments.

Sincerely,

Darin Lounds
Executive Director
Housing Consortium of the East Bay

1440 BROADWAY SUITE 700 OAKLAND, CA 94612
Telephone (510) 832-1315 Facsimile (510) 832-1743 www.hceb.org

REMEDIATION COMPLETION REPORT AND REQUEST FOR CASE CLOSURE

MAGNOLIA TERRACE AT 4001 ADELINE STREET EMERYVILLE, CALIFORNIA

Prepared for

Housing Consortium of the east Bay
1440 Broadway, Suite 700
Oakland, CA 94612

and

City of Emeryville Redevelopment Agency
1333 Park Avenue
Emeryville, CA 94608

June 30, 2011

Prepared by

oTG

Enviroengineering Solutions, Inc.

7700 Edgewater Drive, Suite 260
Oakland, CA 94621

OTG EnviroEngineering Solutions, Inc.

June 30, 2011

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Remediation Completion Report & Request for Case Closure
Magnolia Terrace at 4001 Adeline Street, Emeryville, California

Dear Mr. Detterman:

On behalf of the City of Emeryville Redevelopment Agency (the Agency) and the Housing Consortium of the East Bay (HCEB), OTG EnviroEngineering Solutions, Inc. (OTG) is pleased to submit this report documenting final remedial activities conducted at the above referenced site and request for case closure.

Certification

"I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge".

Please contact the undersigned at (510) 465-8982 if you have questions or comments.

Sincerely,
OTG EnviroEngineering Solutions, Inc.

Xinggang Tong, PhD, PE
Project Manager

cc: Mr. Markus Niebanck, City of Emeryville Redevelopment Agency
Ms. Brianne Steinhauser, Housing Consortium of the East Bay

TABLE OF CONTENTS

1 INTRODUCTION

This report was prepared on behalf of the City of Emeryville Redevelopment Agency (the Agency) and the Housing Consortium of the East Bay (HCEB) to document final soil remediation activities conducted at Magnolia Terrace (the Site), which is located at 4001 Adeline Street, Emeryville, California (Figure 1). The soil remediation was conducted in accordance with the remedial action plan presented in Section 4 – Shallow Soil Sampling and Remediation Plan in the report of *Review of Environmental Site Conditions and Work Plan for Soil Investigation and Remediation, Magnolia Terrace at 4001 Adeline Street, Emeryville, California* (OTG, July 30, 2009). The report was approved by Alameda County Environmental Health (ACEH) in a letter to the Agency dated November 16, 2009.

The Site has an area of approximately 3,000 square feet (ft^2). On the Site is a 2-story five-plex residential building (+/- 2,800 ft^2) relocated from its former location at 1077 41st Street, Emeryville, CA. HCEB acquired the property from the Agency and has since worked to renovate the building from its original four units to the current five units (two one-bedroom units and three studio units) of affordable housing for disabled households. As of June 29, 2011, the building renovation and associated site improvements (paving, landscaping, and lighting) were complete. Photos in Plates 1 and 2 show the newly renovated building and site improvements.

Site Contact Information:

Site Address:
4001 Adeline Street
Emeryville, CA 94608
APN 049-1025-026-05
ACEH Case #RO0003004
GeoTracker Global ID T10000001166

Site Owner and Developer:
Housing Consortium of the East Bay
Attention: Ms. Brianne Steinhauser
1440 Broadway, Suite 700
Oakland, CA 94612
Phone (510)909-7441
Fax (510)832-1743
Email: bsteinhauser@hceb.org

Site Environmental Consultant:
OTG Enviroengineering Solutions, Inc.
Attention: Mr. Xinggang Tong, PhD, PE
7700 Edgewater Drive, Suite 260
Oakland, CA 94612
Phone (510) 465-8982

Fax (510) 868-0667
Email: xtong@otgenv.com

City of Emeryville Redevelopment Agency
Attention: Mr. Marcus Niebanck
1333 Park Avenue
Emeryville, CA 94608
Phone (510)596-4355
Fax (510)596-4389
Email: mniebanck@ci.emeryville.ca.us

2. REMEDIAL ACTION PLAN

The July 30, 2009 report prepared by OTG provided a comprehensive review and summary of regional and site-specific environmental data. Based on the review it concluded that heavy metals in the top three feet soil within the vegetation/planting area are the potential chemicals of concern for the proposed residential development and specified a shallow soil verification sampling plan. The report also presented a remedial action plan based on the verification sampling results as follows:

"Soil remediation will be conducted depending on the soil analytical results:

- *The site will be developed and no remediation will be conducted if none of the 17 metals have concentrations exceeding their respective background concentrations or shallow soil residential ESLs in any of the six soil samples.*

- *If any one of the 17 metals has concentrations that exceed its background concentration and shallow soil residential ESL in the 0-6" samples, but not in the 2.5'-3.0' samples, the entire planned vegetation area will be excavated from surface to two feet bgs, or to the depth determined safe to the existing Magnolia tree as explained below. The excavation will be filled with commercially available garden soil. The excavated soil will be transported to a landfill for disposal.*

- *If one or more of the 17 metals has concentrations that exceed its background concentration and shallow soil residential ESL in the 0-6" samples and/or the 2.5'-3.0' samples, the entire planned vegetation area will be excavated from surface to three feet bgs, or to the depth determined safe to the existing Magnolia tree as explained below. The excavation will be filled with commercially available garden soil. The excavated soil will be transported to a landfill for disposal.*

A mature Magnolia tree exists in the planned vegetation area. This Magnolia tree is the central focal point to the site landscaping and must be protected. Any soil excavation will be conducted under the supervision of the City of Emeryville's arborist and to the extent deemed safe to the Magnolia tree."

This remedial action plan was approved by ACEH in its November 16, 2009 letter to the Agency.

The verification soil sampling was conducted on January 14, 2010 in accordance with the approved sampling plan. In summary, six soil samples were collected from three locations within planned vegetation area, three from 0 to 6 inches below grade and another three from 2.5 to 3.0 feet below grade. The soil samples were analyzed for California Title 22 metals (CAM 17 metals). The verification sampling results were reported to ACEH in the document of *Results of Additional Soil Investigation, Magnolia Terrace at 4001 Adeline Street, Emeryville, California* (OTG, February 3, 2010). Only lead concentration in one surface soil sample (0 to 6

inches below grade, Sample ID OTG-SB-7-0) exceeded its Environmental Screening Level (370 mg/kg detected versus 200 mg/kg ESL). Therefore, the remedial action plan, as approved by ACEH, is as follows:

The top two feet of surface soil within the planned vegetation area will be removed to the extent deemed safe to the existing mature magnolia tree. The soil removal will be conducted under the supervision of an arborist. The removed soil will be transported to a proper waste management facility for final disposition. Commercially available garden soil and mulch will be placed in the excavation area before planting.

3. IMPLEMENTATION OF REMEDIAL ACTION PLAN

HCEB retained Urban Forestry Associates, Inc. of San Rafael, California to provide oversight of protection to the magnolia tree. In early May 2011, Mr. Ray Moritz, an experienced arborist and a certified Urban Forester from the company (Society of American Foresters [SAF] Certification #241) examined root structure of the magnolia tree and identified extensive feeder roots within surface soil in the planned vegetation area. He concluded that any removal of the surface soil would destroy the feeder roots and would likely kill the tree. As a result, no surface soil was removed in the planned vegetation area (Appendix A).

To accommodate the need of covering existing surface soil and minimize compaction to the tree's feeder roots, a six-inch thick top soil was placed in the vegetation area and followed by another approximately three inches of mulch. This was done in early May 2011 under the arborist's supervision (see photos in Plate 2).

4. DISCUSSSIONS AND REQUEST FOR CASE CLOSURE

The approved remedial action plan specified the removal of top two feet surface soil in the vegetation area to the extent deemed safe to the existing mature magnolia tree by an arborist. The vegetation area circles the tree. The conclusion by the experienced arborist and certified Urban Forester that removal of the surface soil would likely kill the tree prevented the soil removal action. This approach met the goal of the approved remedial action plan as the plan recognized the importance of protecting the mature magnolia tree. Protecting the tree was also a requirement of the City of Emeryville Planning Department and a City mandate when the City awarded the project to HCEB.

Only one soil sample out of the six collected in the January 2010 verification sampling reported lead concentration (370 mg/kg) above its residential ESL (200 mg/kg). The average lead concentration of the six samples is 107 mg/kg, which is lower than the lead residential ESL. In addition, the entire vegetation area, which is less than 500 square feet, has been covered with six-inch top soil (commercial garden soil) and another approximately 3-inch mulch for a total of 9-inch thickness. Therefore, the human risk to exposure of on-site surface soil containing elevated lead levels is considered insignificant.

Since the remedial action taken meets the goal of the approved remedial action plan and there is no other unresolved environmental concerns, the City of Emeryville Redevelopment Agency and the Housing Consortium of the East Bay respectfully request the closure of this case.

5. REFERENCES

Alameda County Environmental Health (November 16, 2009), letter to City of Emeryville Redevelopment Agency.

California Regional Water Quality Control Board – San Francisco Bay Region (May 2008), *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Final.

Lawrence Berkeley National Laboratory (June 2005), *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory*, Environmental Restoration Program.

The San Joaquin Company, Inc. (July 2009), *Remediation Report, Oak Walk Redevelopment Site, Emeryville, CA.*

The San Joaquin Company, Inc. (April 2005), *Environmental Site Characterization, Oak Walk Redevelopment Site, Emeryville, CA.*

OTG EnviroEngineering Solutions, Inc. (July 30, 2009), *Review of Environmental Site Conditions and work Plan for Soil Investigation and Remediation, Magnolia Terrace at 4001 Adeline Street, Emeryville, CA.*

OTG EnviroEngineering Solutions, Inc. (February 3, 2010), *Results of Additional Soil Investigation, Magnolia Terrace at 4001 Adeline Street, Emeryville, CA.*

URS Corporation (May 17, 2006), *House Relocation, Phase II, Emeryville, CA – Soil and Soil Gas Sample Report*.

Table 1. Current and Historic Soil Heavy Metal Data
Magnolia Terrace at 4001 Adeline St., Emeryville, CA

		ESLs (Table B)	ESLs(Table B-1)	Background Conc	OTG-SB-5-0	OTG-SB-5-2.5	OTG-SB-6-0	OTG-SB-6-0-d	OTG-SB-6-2.5	OTG-SB-7-0
Metals	Unit	residential	human direct exposure	99th percentile conc	(0"-6" bgs)	(2.5'-3' bgs)	(0"-6" bgs)	(0"-6" bgs)	(2.5'-3' bgs)	(0"-6" bgs)
		shallow soil	residential shallow soil	& range of detection	1/14/2010	1/14/2010	1/14/2010	1/14/2010	1/14/2010	1/14/2010
Antimony	mg/kg	6.3	6.3	6.0 (0.7 to 22)	ND (6.6)	ND (6.6)	ND (6.6)	ND (16)	ND (6.6)	ND (6.6)
Arsenic	**mg/kg**	**0.39**	**0.39**	28 (0.3 to 42)	5.8	3.1	6.3	2.4	2	15
Barium	mg/kg	750 (note 1)	3000	410 (1.7 to 490)	160	130	160	130	160	180
Beryllium	mg/kg	4 (note 1)	31	1.0 (0.06 to 1.2)	0.54	0.54	0.5	0.51	0.6	0.62
Cadmium	mg/kg	**1.7**	**1.7**	5.6 (0.05 to 7.5)	1.8	1.0	2	2	1.2	2
Chromium, total	mg/kg			120 (1.7 to 144)	49	46	32	31	52	40
Chromium III	mg/kg	750 (note 1)	23000				30.7		44.9	
Chromium VI	mg/kg	8 (note 1)	9.4				1.3		7.1	
Cobalt	mg/kg	41 (note 1)	280	25 (0.92 to 29)	16	6.7	11	9.9	15	11
Copper	mg/kg	230 (note 1)	6300	63 (2.2 to 69)	32	21	49	48	21	51
Lead	**mg/kg**	**200 (note 1)**	**260**	**43 (0.66 to 84)**	74	18	110	160	9.5	**370**
Mercury	mg/kg	1.3	1.3	0.42 (0.023 to 0.82)	0.14	0.11	0.52	0.27	0.067	0.22
Molybdenum	mg/kg	40 (note 1)	78	4.8 (0.26 to 14)	0.49	0.29	0.88	0.67	0.48	0.68
Nickel	mg/kg	150 (note 1)	300	272 (6.0 to 380)	60	45	36	38	60	50
Selenium	mg/kg	10 (note 1)	78	4.9 (0.25 to 9.1)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)	ND (16)
Silver	mg/kg	20 (note 1)	78	2.9 (0.2 to 7.7)	0.32	ND (0.16)	0.2	ND (0.16)	ND (0.16)	ND (0.82)
Thallium	mg/kg	1.3	1.3	10 (0.16 to 20)	ND (0.4)	ND (2.0)	ND (0.4)	ND (2.0)	ND (2.0)	ND (2.0)
Vanadium	mg/kg	**16**	**16**	90 (0.79 to 120)	47	43	56	43	48	42
Zinc	mg/kg	600 (note 1)	4700	140 (3.8 to 190)	140	60	150	200	50	340
Source of Data:		RWQCB (may 08)	RWQCB (may 08)	LBNL (April 09)	This report	This report	This report	This report	This report	This report

Notes:

bgs = below ground surface

OTG-SB-4-1 is a field duplicate of OTG-SB-1-1

ESL = Environmental Screening Level by RWQCB (May 2008 Interim Final).

Note 1 - the ESL is based on urban area ecotoxicity criteria.

Background metal concentrations are from "Analysis of Background Distribution of Metals in the Soil at Lawrence Berkeley National Laboratory (April 2009).

The first number is the 99th percentile concentration, followed by the range of back ground concentrations in parenthesis.

Table 1. Current and Historic Soil Heavy Metal Data
Magnolia Terrace at 4001 Adeline St., Emeryville, CA

		ESLs (Table B)	ESLs(Table B-1)	Background Conc	OTG-SB-7-2.5	OTG-SB-1-1	OTG-SB-2-1	OTG-SB-3-1	OTG-SB-4-1	BE-3-19.5
Metals	Unit	residential	human direct exposure	99th percentile conc	(2.5'-3' bgs)	(0"-6" bgs)	(0"-6" bgs)	(0"-6" bgs)	(0"-6" bgs)	19.5 ft bgs
		shallow soil	residential shallow soil	& range of detection	1/14/2010	10/19/2005	10/19/2005	10/19/2005	10/19/2005	4/2/2004
Antimony	mg/kg	6.3	6.3	6.0 (0.7 to 22)	ND (3.3)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND
Arsenic	**mg/kg**	**0.39**	**0.39**	28 (0.3 to 42)	0.68	8.4	4.6	26	12	2.1
Barium	mg/kg	750 (note 1)	3000	410 (1.7 to 490)	140	140	140	120	270	150
Beryllium	mg/kg	4 (note 1)	31	1.0 (0.06 to 1.2)	0.67	ND (2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND
Cadmium	mg/kg	**1.7**	**1.7**	5.6 (0.05 to 7.5)	0.91	1.2	ND(1.0)	2.5	1.5	ND
Chromium, total	mg/kg			120 (1.7 to 144)	58	58	38	37	35	
Chromium III	mg/kg	750 (note 1)	23000							30
Chromium VI	mg/kg	8 (note 1)	9.4							n/a
Cobalt	mg/kg	41 (note 1)	280	25 (0.92 to 29)	6.3	8.3	9.4	11	9.4	6.9
Copper	mg/kg	230 (note 1)	6300	63 (2.2 to 69)	23	30	15	56	40	19
Lead	**mg/kg**	**200 (note 1)**	**260**	**43 (0.66 to 84)**	9.8	220	15	**340**	**320**	5.4
Mercury	mg/kg	1.3	1.3	0.42 (0.023 to 0.82)	0.07	0.37	0.12	0.27	0.45	ND
Molybdenum	mg/kg	40 (note 1)	78	4.8 (0.26 to 14)	0.23	ND (5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND
Nickel	mg/kg	150 (note 1)	300	272 (6.0 to 380)	59	33	40	36	31	26
Selenium	mg/kg	10 (note 1)	78	4.9 (0.25 to 9.1)	ND (16)	ND (1.0)	ND(1.0)	1.2	ND(1.0)	ND
Silver	mg/kg	20 (note 1)	78	2.9 (0.2 to 7.7)	ND (0.16)	ND (1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND
Thallium	mg/kg	1.3	1.3	10 (0.16 to 20)	ND (4.0)	ND (5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND
Vanadium	mg/kg	**16**	**16**	90 (0.79 to 120)	51	30	38	37	39	25
Zinc	mg/kg	600 (note 1)	4700	140 (3.8 to 190)	55	240	43	280	300	32
Source of Data:		RWQCB (may 08)	RWQCB (may 08)	LBNL (April 09)	This report	URS (5/17/06)	URS (5/17/06)	URS (5/17/06)	URS (5/17/06)	SJC (4/05)

Notes:

bgs = below ground surface

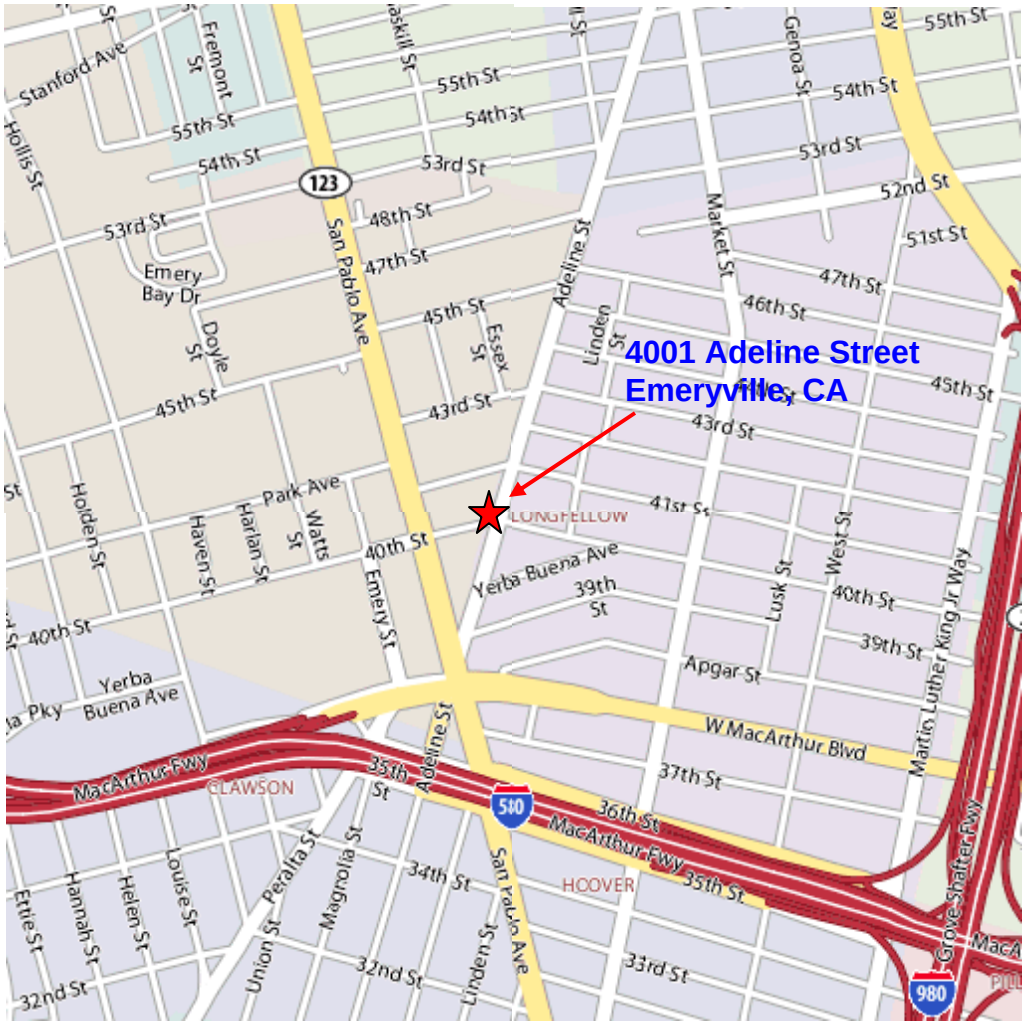
OTG-SB-4-1 is a field duplicate of OTG-SB-1-1

ESL = Environmental Screening Level by RWQCB (May 2008 Interim Final).

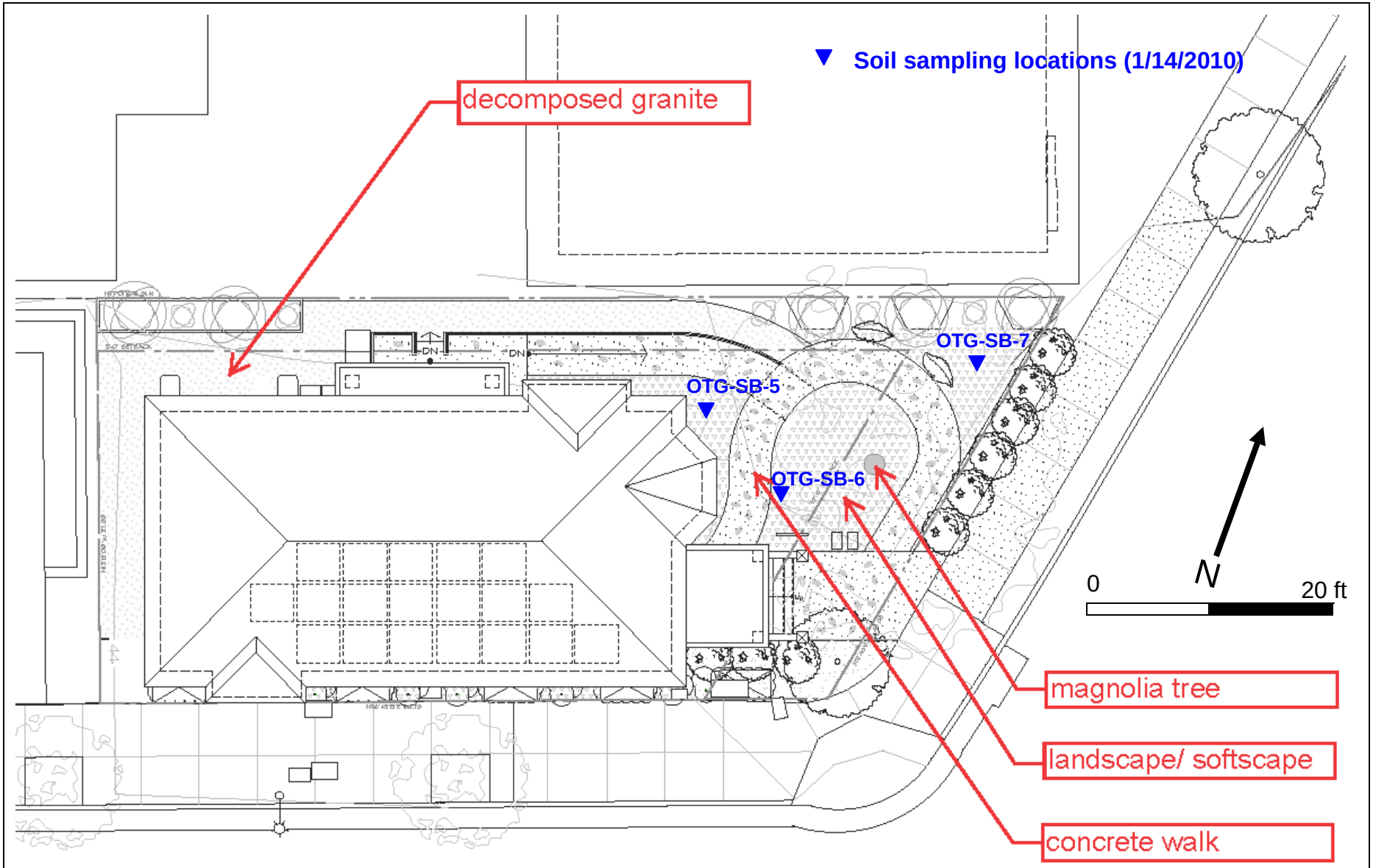
Note 1 - the ESL is based on urban area ecotoxicity criteria.

Background metal concentrations are from "Analysis of Background Distribution of Met

The first number is the 99th percentile concentration, followed by the range of back gı



oTG EnviroEngineering Solutions, Inc.	09EMV03.1000	**Figure 1**. Site Location Map
	May 21, 2009	4001 Adeline Street, Emeryville, California



Base map from Gonzales Architects (February 20, 2009)

OTG EnviroEngineering Solutions, Inc.	11EBH01.1000	**Figure 2**. Site Plan with Identification of Soil Sampling Locations
	June 29, 2011	4001 Adeline Street, Emeryville, California (Parcel APN 049-1025-26-05)

Photo showing the close proximity of the mature Magnolia tree to the building

Photo showing the main entrance to the newly renovated building

OTG EnviroEngineering Solutions, Inc.	11EBH01.1000	**Plate 1**. Two Property Photos
	June 29, 2011	4001 Adeline Street, Emeryville, California

Photo identifying landscape area surrounding the tree

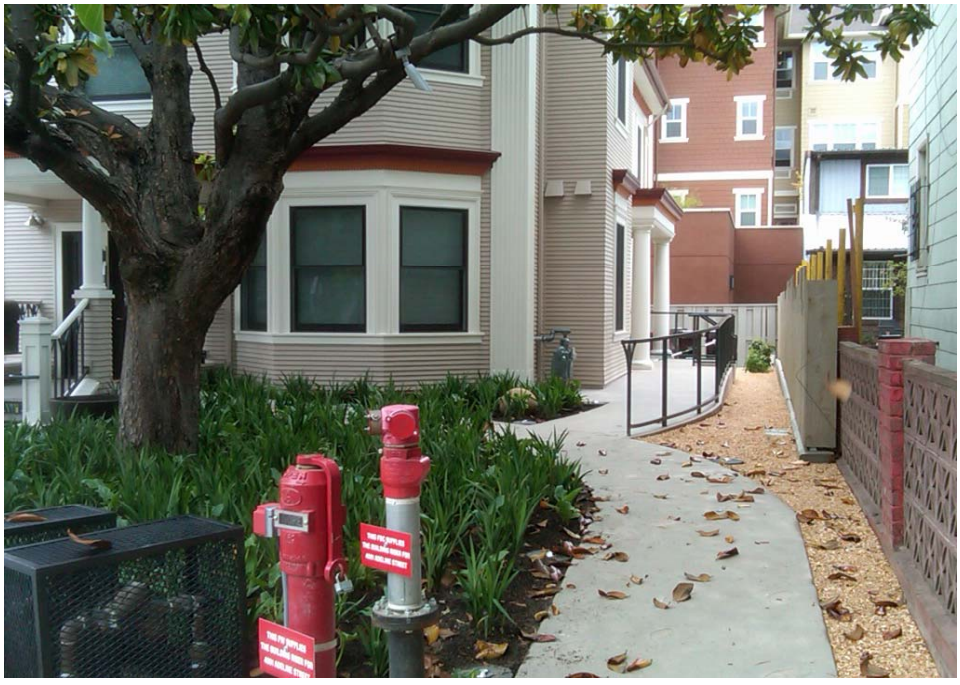


Photo showing landscape area and the wheelchair access path

OTG EnviroEngineering Solutions, Inc.	11EBH01.1000	**Plate 2**. Identification of Landscape Area
	June 29, 2011	4001 Adeline Street, Emeryville, California

APPENDIX A

Communications from Mr. Ray Moritz,
Urban Forestry Associates, Inc.

From: "Brianne Steinhauser" <bsteinhauser@hceb.org>
Subject: FW: Magnolia Terrace: Environmental and Arborist site meeting
Date: Wed, June 15, 2011 9:45 am
To: "'Xinggang Tong'" <xtong@otgenv.com>,"'Markus Niebanck'" <mniebanck@ci.emeryville.ca.us>

Xinggang-

Please see Ray Moritz's email below. Ray clarified for me that adding 12"-24" of soil is just a damaging to the tree as removing soil, as it would compact the roots. He worked closely with T.Delaney, the Project Landscape Design-Builder, to specify the correct soil type, depth and placement as to not damage the tree. This is the information he is providing in the last two sentences.

Brianne

_____
Brianne Steinhauser, Project Manager, LEED AP & CGBP
Housing Consortium of the East Bay
1440 Broadway, Suite 700
Oakland, CA 94612
<mailto:bsteinhauser@hceb.org> bsteinhauser@hceb.org
ph 510.909.7441; fax 510.832.1743

<http://www.facebook.com/HousingConsortiumoftheEastBa>
www.facebook.com/HousingConsortiumoftheEastBay

P Please consider the environment before printing this e-mail

From: Urban Forestry Associates, Inc. [mailto:arborforestry@sbcglobal.net]
Sent: Wednesday, June 15, 2011 9:10 AM
To: 'Urban Forestry Associates, Inc.'; 'Brianne Steinhauser'; 'Irving A. Gonzales'
Subject: RE: Magnolia Terrace: Environmental and Arborist site meeting

Brianne and Irving,

Please be advised that with the exception of the utility trenches along the north boundary and the disability access which was moved to a position over those trenches, and the utility trench on the south side of the yard where the magnolia tree stands, most of the 12-inch layer of topsoil originally scheduled to be removed (Per RFI 04 and shown on SK-02) has not been removed. The site scarification originally planned was not done because of the potential impacts on the tree. Removal of 10 to 12 inches of soil throughout the root zone would have most likely killed the tree, even if it were done pneumatically. Except for the utility lines, infiltration trench, and front sidewalk access which were pneumatically trenched to preserve most of the roots and backfilled with root-compatible "delta sand" or other compactable, porous material approved by the consulting arborist, no additional deep soil removal was conducted. A six inch top soil was added to

the root zone surface in accordance with the project arborist's specifications and a mulch layer was added. Both the high aeration top soil and mulch were retained back from the tree base.

Ray Moritz Urban Forester, SAF Cert. #241

Consulting Arborist

Urban Forestry Associates, Inc.

8 Willow Street

San Rafael, CA. 94901

(415) 454 4212 Phone

(415) 454 4218 Fax

arborforestry@sbcglobal.net