OAKLAND INTERNATIONAL HOUSING PARTNERS, L.P.
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November 17, 2016

Alameda County Office of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

RE: Case #: R0003202

To Whom It May Concern:

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

Sincerely,

Colby Northridge
Authorized Representative
Oakland International Housing Partners, L.P.
Responsible Party

RPS Iris Environmental

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Via Email and GeoTracker

November 15, 2016

Mr. Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist
Local Oversight Program
Alameda County Department of Environmental Health
1131 Harbor Way Parkway, Suite 250
Alameda, California 94502

Re: Excavation Report Addendum
Response to ACDEH Comments Letter Dated October 26, 2016
Site Cleanup Program Case No. RO0003202
9400-9500 International Boulevard
Oakland, California

Dear Mr. Detterman:

On behalf of Oakland International Housing Partners, L.P. (the developer/owner), RPS Iris Environmental is pleased to submit this *Response to Comments Letter* (response letter; Excavation Report Addendum) to the Alameda County Department of Environmental Health (ACDEH) for the Site located at 9400-9500 International Boulevard in Oakland, California (Site). This letter has been prepared in response to ACDEH's October 26, 2016 *Request for Additional Actions letter (*ACDEH letter*)* following their review of RPS Iris Environmental's August 29, 2016 *Remedial Action Completion Report* (RACR). In ACDEH's letter, ACDEH provided three requests for additional information. This response letter presents each of the ACDEH requests for additional information followed by RPS Iris Environmental's response.

ACDEH Comment #1:

> *"*[…]*In the previous directive letter, ACDEH requested that a site specific arsenic 95% Upper Confidence Level (UCL) calculation be undertaken, using appropriate UCL programs (such as ProUCL) and using site specific arsenic analytical data collected at the site in uncontaminated native material, including potentially concurrent with the collection of excavation confirmation samples. This has not happened; and a TCL* [target cleanup level] *of 21.0 mg/kg for arsenic was selected.*
>
> […] *Therefore, in order to determine an appropriate site specific arsenic TCL, ACDEH requests that a 95% UCL arsenic concentration be generated using site specific analytical data from uncontaminated native soils only. The result will help determine the need or appropriateness of a Land Use Covenant (LUC) for the site."*

RPS Iris Environmental Response #1:

After initial Site investigations, the arsenic target cleanup goal at the site was based on background concentrations from across the Bay Area (Duvergé 2011). However, during excavation of lead-contaminated soil, it became apparent that the site subsurface consisted of a layer of contaminated fill material overlying unimpacted native sediments. The two units were distinct in appearance and lithology, and contamination appeared to be confined to the upper fill unit. Based upon this realization, the remedial strategy for arsenic and lead at the site was modified to remove the entire overlying fill unit and leave only the native sediments.

Accordingly, the remedial action objective for arsenic in soil was to remediate to ambient levels. To confirm that this objective was achieved for residual arsenic is soil, RPS Iris Environmental has conducted a more thorough statistical evaluation of residual arsenic concentrations in soil at the Site to assess ambient conditions (see Attachment A). Based on the findings of this evaluation, RPS Iris Environmental concludes that the residual arsenic concentrations detected in confirmation soil samples are representative of ambient levels.

Please also find the ProUCL output for the determination of the 95% UCL of arsenic as Attachment B and the entirety of Table 4 intended for the original RACR as Attachment C. Both were erroneously excluded from the original RACR.

ACDEH Comment #2:

> *"In the previous directive letter, in order to confirm that very shallow soil (essentially surficial soil in the landscaped area extending to Holly Street on the east side of the project) contains acceptable concentrations of site COCs, ACDEH requested additional soil samples be collected along the proposed landscape area concurrent with the corrective action excavation. This has not happened, and it is necessary to address the concern for the potential for direct contact or inhalation exposure to unpaved soils for a potentially sensitive population to be present after site construction. Please submit a report of the sampling, using existing approved sampling protocols, by the date identified below."*

RPS Iris Environmental Response #2:

Prior to Site remediation, three shallow samples (SB-10, SB-11, and SB-12) were collected and analyzed for lead at a depth of two feet below ground surface in the alley as described by ACDEH. These samples along with arsenic and lead concentrations observed in confirmation samples from the sidewall and floor of the nearby excavation (*e.g.*, at sampling locations A-05, A-06, A-07, A-08, Z-07, and Z-08) provide no evidence of arsenic or lead at concentrations above background levels (arsenic) and screening levels (lead).

Additionally, while original plans showed the future use of the alley as a landscaped area, the owner has indicated that the proposed use has changed. Based on updated design drawings provided by the owner, the southwestern end of the alley will be fenced, and the alley will remain paved to allow continued vehicular access to the adjacent residential properties from Holly Street. A revised site layout map provided by the owner is provided as Attachment D.

Given that it appears arsenic and lead did not extend from the excavated area and that the development plan has been revised to no longer include landscape areas with exposed surface soil, RPS Iris Environmental believes that there is de minimis potential for current or future exposure of receptors to arsenic and lead in the alley.

ACDEH Comment #3:

> *"*[…] *A review of ACDEH's case file and the State's Geotracker database indicates that the site remains out of compliance with state requirements.*[…]
>
> ***At present missing data and documents include, but may not be limited to, older reports, EDF submittals, GEO_MAPS, and all bore logs****. Please see attachment 1 for limited additional details and the GeoTracker website for full details. Please upload all submittals to GeoTracker by the date identified below."*

RPS Iris Environmental Response #3:

RPS Iris Environmental has compiled the following list of items that had been uploaded to GeoTracker at the time of receipt of the aforementioned comment letter:

- Consulting Associates of California. 2015. *Phase I Environmental Site Assessment, 9400-9500 International Boulevard, Oakland, California*. June 25.
- Applied Remedial Services, Inc. (ARS) 2015. *Soil Investigation Report, 94th and International Blvd., Oakland, CA.* July 26.
- ARS. 2015. *Step-Out Soil Investigation Report, 94th and International Blvd., Oakland, CA.* September 14.
- Iris Environmental. 2015. *Report of FOIA File Review Requests and Limited Phase II Subsurface Site Investigation, 9400-9500 International Boulevard, Oakland, California*. November 2015.
- RPS Iris Environmental. 2016. *Draft Remedial Action Plan for Lead Excavation, 9400-9500 International Boulevard, Oakland, California*. March 21.
- RPS Iris Environmental. 2016. *Draft Remedial Action Plan for Lead Excavation, 9400-9500 International Boulevard, Oakland, California*. May 3.
- RPS Iris Environmental. 2016. *Remedial Action Completion Report, 9400-9500 International Boulevard, Oakland, California* (RACR). August 29.
- Three GEO_MAPS associated with confirmation sampling from the 2016 RACR.
- EDFs associated with confirmation sampling from the 2016 RACR.

RPS Iris Environmental has additionally uploaded the following data and documents:

- EDFs associated with sampling from Iris Environmental's 2015 Limited Phase II Subsurface Site Investigation.
- EDFs associated with sampling from RPS Iris Environmental's May 2016 Remedial Action Plan.

- EDFs associated with import fill material described in the 2016 RACR.
- GEO_MAP showing sampling locations from the July 2015 Soil Investigation Report by ARS, September 2015 Step-Out Soil Investigation Report by ARS, 2015 Limited Phase II by Iris Environmental, and May 2016 Remedial Action Plan by RPS Iris Environmental.
- GEO_BORE logs from the July 2015 Soil Investigation Report by ARS.

RPS Iris Environmental believes all pertinent data and documentation have been uploaded to GeoTracker with the exception of historical EDFs associated with sampling conducted by ARS. RPS Iris Environmental inquired with the owner with regards to the availability of the EDFs. Based on our discussions, the owner is not in possession of these EDFs for upload.

Summary

Based on the information presented in this response letter, RPS Iris Environmental believes that the site has met all remedial action objectives and regulatory requirements at this time and recommends the issuance of a "No Further Action" letter. Please do not hesitate to contact us should you have any questions.

Sincerely,

RPS IRIS ENVIRONMENTAL

David A. Grunat, P.G.
Manager

PROFESSIONAL GEOLOGIST
DAVID A GRUNAT
No. 9227
Exp. 4/17
STATE OF CALIFORNIA

Nicholas T. Loizeaux, P.G.
Principal

REGISTERED GEOLOGIST
Nicholas T. Loizeaux
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STATE OF CALIFORNIA

Enclosures:
Attachment A Determination of Ambient Arsenic Concentrations
Attachment B ProUCL Output for 95% UCL of Arsenic in Confirmation Samples
Attachment C Revised Table 4 from RACR
Attachment D Revised Site Layout Plan

ATTACHMENT A
DETERMINATION OF AMBIENT ARSENIC CONCENTRATIONS

A.1 Introduction

As stated in the Remedial Action Completion Report (RACR, RPS Iris Environmental 2016) for the property located at 9400 through 9500 International Boulevard in Oakland, California (the Site), arsenic is naturally present in Bay Area soils and can be present at background concentrations of arsenic as high as 21 mg/kg (Duvergé 2011). Cleanup of naturally-occurring chemicals to less than background/ambient concentrations is not generally required. This attachment summarizes the approach and conclusions of the evaluation to determine whether residual arsenic concentrations at the Site are representative of ambient concentrations. The ambient determination for arsenic was conducted following the approach put forth by the Cal/EPA (1997, 2009). The approach and conclusions of the evaluation are summarized below.

A.2 Evaluation of Arsenic

The approach set forth by Cal/EPA (1997, 2009) evaluates whether the data distributions reflect single normal or lognormal populations, or contain multiple populations that would indicate contamination in addition to ambient levels. Cal/EPA recommends a "weight-of-evidence" approach where three indicators of local background/ambient exceedance are considered. The three indicators include: (1) the degree to which the site data distributions are fit by a normal or lognormal distribution; (2) a graphical assessment (probability plot against the normal or lognormal distribution) to identify breaks or nonlinearity indicative of more than a single population; and (3) the skewness of the data as indicated by the coefficient of variation (CV = standard deviation/average) and the data range (order of magnitude difference between the maximum and minimum concentrations). The arsenic dataset used herein for the ambient determination includes arsenic confirmation data representative of residual arsenic concentration in soil at the Site as presented in Table 3 of the RACR and summarized in Table A-1.

The USEPA's ProUCL software, version 5.1 (USEPA, 2016) was used to conduct all statistical tests and graphical assessments of the data, including testing the data for goodness-of-fit to a normal or lognormal distribution, producing probability plots, and testing the data for statistical outliers.

A.*2.1 Data Distributions*

The arsenic dataset was tested for goodness-of-fit to a single normal or lognormal distribution using the goodness-of-fit test function in ProUCL. This function invokes the Lilliefors test for normality and lognormality, as well as the Anderson-Darling test and Kolmogorov-Smirnov test for gamma data distribution (USEPA, 2015). The test function was performed on the raw dataset as recommended by Cal/EPA guidance (1997). The results of the goodness-of-fit tests are provided as ProUCL output in Exhibit A. As presented, the data distribution test results suggest the arsenic dataset is

lognormally distributed at a prescribed 95% level of confidence. Therefore, the arsenic dataset was treated as distributed lognormally for the purposes of graphical and statistical assessments discussed below.

A.*2.2 Graphical Assessment*

A visual review of the cumulative probability plot for arsenic (log-transformed datasets; presented in Exhibit B) indicates a generally smooth line for the data with no apparent inflection point on the cumulative probability plot. In addition, no potential outliers were identified on the box-plot of the log-transformed dataset (Exhibit C). Further, a statistical test designed to identify outliers at a prescribed level of confidence (the Rosner outlier test) was then conducted with the log-transformed dataset and no potential outliers were identified at 1% and 5% significance levels (Exhibit D). The visual evidence of the cumulative probability plot along with the results of the box plot and outlier test support that the arsenic dataset is comprised of one population (i.e., dataset is representative of ambient concentrations).

A.*2.3 Summary Statistics*

As indicated in Table A-2, the arsenic dataset consists of 35 samples ranging in concentration of 5.9 mg/kg up to 21 mg/kg, with a mean of 11 mg/kg.

Typically, data drawn from just one population will display a range of detected values of no more than two orders of magnitude and a coefficient of variation no greater than one (Cal/EPA, 1997). As shown in Table A-2, the detected values in the arsenic dataset span 0.55 orders of magnitude with a coefficient of variation of 0.29. Based on these criteria, both the range and coefficient of variation suggest that the arsenic dataset is comprised of one population.

A.*2.4 Conclusions of the Evaluation of Arsenic*

The arsenic dataset tested to fit a lognormal distribution. Based on the results of the graphical assessment and the summary statistics presented above, residual arsenic concentrations in soil at the Site are considered to be representative of ambient levels.

A.3 References

California Environmental Protection Agency (Cal/EPA). 1997. *Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessment at Hazardous Waste Sites and Permitted Facilities*. Department of Toxic Substances Control. February.

Cal/EPA. 2009. *Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals.* Department of Toxic Substances Control. January 16.

Duvergé, D.J. 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region.* A thesis submitted to the faculty of San Francisco State University, In partial fulfillment of The Requirements for The Degree, Master of Science in Geosciences. December.

RPS Iris Environmental. 2016. Remedial Action Completion Report, 9400-9500 International Boulevard, Oakland, California. August 29.

United States Environmental Protection Agency (USEPA). 2015. ProUCL Version 5.1.002 Technical Guide. EPA/600/R-07/041. October.

USEPA. 2016. ProUCL Version 5.1.002. Available at: https://www.epa.gov/land-research/proucl-software.

ATTACHMENT A

TABLES

TABLE A-1
SUMMARY OF ARSENIC DATASET
9400 - 9500 International Boulevard
Oakland, California

Sample ID	Sample Date	Sample Depth (feet bgs)	Raw Arsenic (mg/kg)	Log-Transformed Arsenic (mg/kg)
A-01-SO1-2.75	6/14/2016	2.75	7.2	0.86
A-03-2.5	6/6/2016	2.5	12.0	1.08
A-04-2.5	6/7/2016	2.5	11.0	1.04
A-05-2.5	6/7/2016	2.5	12.0	1.08
A-07-2.5	6/6/2016	2.5	14.0	1.15
A1-09-2.5	6/6/2016	2.5	11.0	1.04
A1-11-2.5	6/1/2016	2.5	8.3	0.92
B-01-2.5	6/8/2016	2.5	10.0	1.00
B-04-2.5	5/24/2016	2.5	10.0	1.00
B-06-2.5	5/16/2016	2.5	10.0	1.00
B-08-2.5	5/16/2016	2.5	8.8	0.94
B-10-2.0	5/19/2016	2.0	9.4	0.97
B-12-2.5	6/1/2016	2.5	5.9	0.77
C-03-SO1-2.75	5/24/2016	2.75	9.7	0.99
C-07-2.5	5/23/2016	2.5	13.0	1.11
C-08-2.5	5/20/2016	2.5	9.4	0.97
C-09-2.5	6/3/2016	2.5	20.0	1.30
C-11-2.5	6/3/2016	2.5	9.2	0.96
D-02-2.5	6/7/2016	2.5	10.0	1.00
D-04-6.5	6/7/2016	6.5	9.5	0.98
D-06-2.5	6/6/2016	2.5	11.0	1.04
D-08-2.5	6/3/2016	2.5	21.0	1.32
D-10-2.5	6/1/2016	2.5	9.1	0.96
D-12-2.5	6/1/2016	2.5	9.9	1.00
E-01-2.5	6/6/2016	2.5	12.0	1.08
E-03-2.5	5/23/2016	2.5	9.5	0.98
E-05-2.5	6/6/2016	2.5	8.8	0.94
E-07-2.5	6/2/2016	2.5	14.0	1.15
E1-08-SO1-2.75	6/8/2016	2.75	16.0	1.20
E-09-2.5	5/17/2016	2.5	14.0	1.15
E-11-2.5	5/17/2016	2.5	13.0	1.11
F-03-2.5	6/8/2016	2.5	9.0	0.95
Z-02-2.5	6/6/2016	2.5	7.4	0.87
Z-04-2.5	6/6/2016	2.5	15.0	1.18
Z-08-2.5	6/6/2016	2.5	9.4	0.97

Notes:
bgs = below ground surface
mg/kg = milligrams per kilogram

TABLE A-2
DESCRIPTIVE STATISTICS OF RAW AND LOG-TRANSFORMED ARSENIC DATASETS
9400 - 9500 International Boulevard
Oakland, California

Descriptive Statistic	Raw Dataset	Log-Transformed Dataset
Sample Size (n)	35	35
Minimum Concentration	5.9	0.771
Maximum Concentration	21.0	1.32
Mean (μ)	11.1	1.03
Median	10.0	1.00
Standard Deviation	3.3	0.12
Standard Error of the Mean [1]	0.55	0.020
Lower Quartile (Q1)	9.3	0.97
Upper Quartile (Q3)	12.5	1.10
Fourth Spread (f_s)	3.2	0.13
Lower Quartile Limit (LQL)	4.50	0.78
Upper Quartile Limit (UQL)	17.3	1.29
Range - Order of Magnitude Difference	0.55	Not Calculated
Coefficient of Variation	0.29	Not Calculated

Notes:
Concentration in units of milligrams per kilogram (mg/kg).
[1] The standard error of the mean = standard deviation /$\sqrt{n}$.

ATTACHMENT A

EXHIBITS

Exhibit A
DESCRIPTIVE STATISTICS OF RAW AND LOG-TRANSFORMED ARSENIC DATA SETS
9400 - 9500 International Boulevard
Oakland, California

Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.111/7/2016 1:08:40 PM
From File	Arsenic_conf_samples_ProUCL.xls
Full Precision	OFF
Confidence Coefficient	0.95

Arsenic (mg/kg)

Raw Statistics

Number of Valid Observations	35
Number of Distinct Observations	21
Minimum	5.9
Maximum	21
Mean of Raw Data	11.13
Standard Deviation of Raw Data	3.253
Khat	13.88
Theta hat	0.802
Kstar	12.71
Theta star	0.876
Mean of Log Transformed Data	2.373
Standard Deviation of Log Transformed Data	0.268

Normal GOF Test Results

Correlation Coefficient R	0.933
Shapiro Wilk Test Statistic	0.878
Shapiro Wilk Critical (0.05) Value	0.934
Approximate Shapiro Wilk P Value	7.8413E-4
Lilliefors Test Statistic	0.207
Lilliefors Critical (0.05) Value	0.148

Data not Normal at (0.05) Significance Level

Gamma GOF Test Results

Correlation Coefficient R	0.963
A-D Test Statistic	0.923
A-D Critical (0.05) Value	0.748
K-S Test Statistic	0.19
K-S Critical(0.05) Value	0.149

Data not Gamma Distributed at (0.05) Significance Level

Lognormal GOF Test Results

Correlation Coefficient R	0.974
Shapiro Wilk Test Statistic	0.955
Shapiro Wilk Critical (0.05) Value	0.934
Approximate Shapiro Wilk P Value	0.209
Lilliefors Test Statistic	0.175
Lilliefors Critical (0.05) Value	0.148

Data appear Approximate_Lognormal at (0.05) Significance Level

Exhibit B
CUMULATIVE PROBABILITY PLOT OF LOG-TRANSFORMED ARSENIC DATA SET
9400 - 9500 International Boulevard
Oakland, California

Exhibit C
BOX PLOT OF LOG-TRANSFORMED ARSENIC DATA SET
9400 - 9500 International Boulevard
Oakland, California

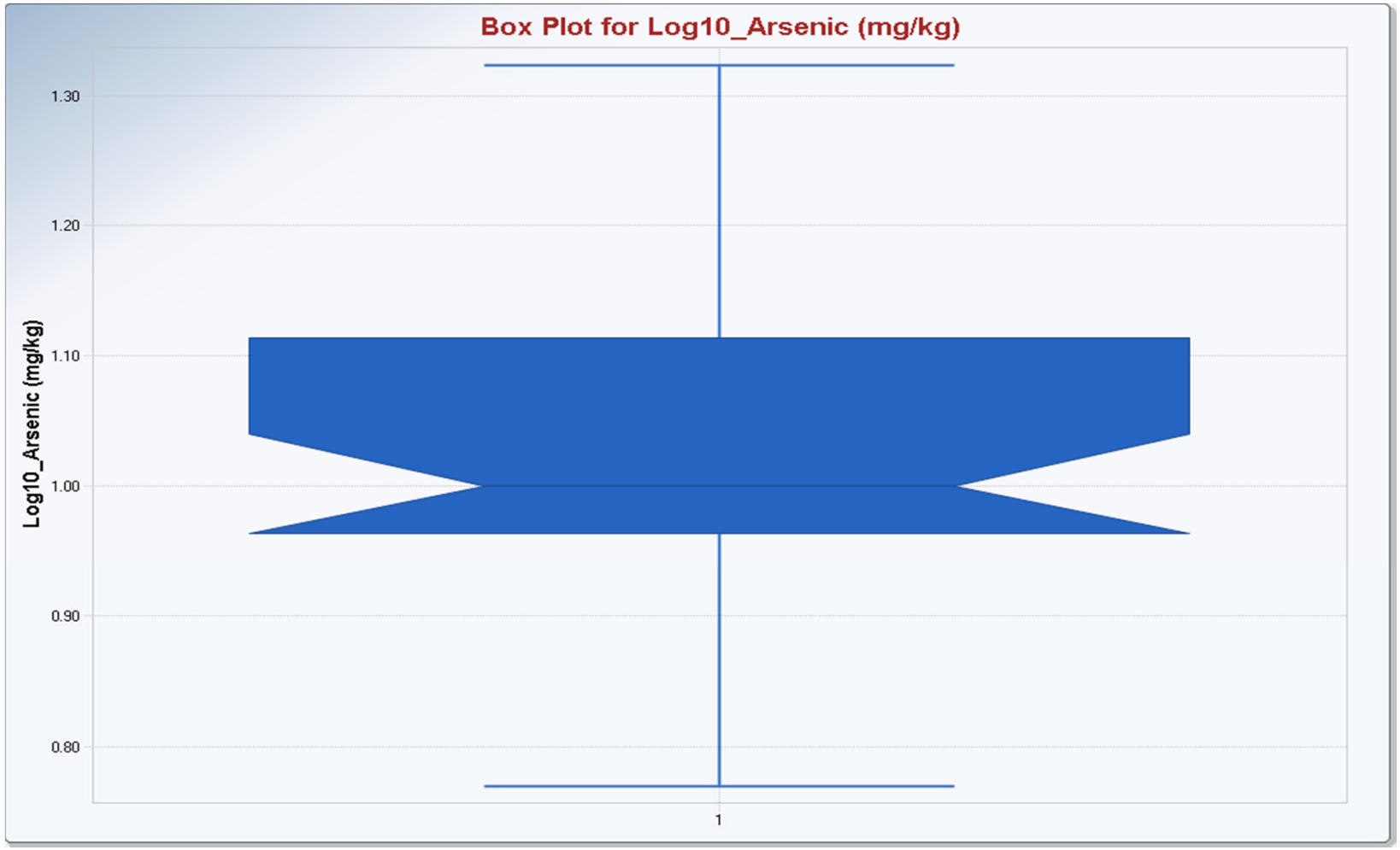


Exhibit D
OUTLIER TEST OF LOG-TRANSFORMED ARSENIC DATA SET
9400 - 9500 International Boulevard
Oakland, California

Outlier Tests for Selected Uncensored Variables

User Selected Options

Date/Time of Computation ProUCL 5.111/7/2016 1:01:12 PM

From File Arsenic_conf_samples_ProUCL.xls

Full Precision OFF

Rosner's Outlier Test for Log10_Arsenic (mg/kg)

Mean	**1.031**
Standard Deviation	**0.116**
Number of data	**35**
Number of suspected outliers	**10**

#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)
1	1.031	0.115	1.322	35	2.545	2.98	3.32
2	1.022	0.106	1.301	34	2.628	2.97	3.3
3	1.014	0.0955	0.771	1	2.542	2.95	3.29
4	1.021	0.0863	1.204	33	2.12	2.94	3.27
5	1.015	0.0809	1.176	32	1.988	2.92	3.25
6	1.01	0.0765	0.857	2	1.995	2.904	3.232
7	1.015	0.0721	0.869	3	2.024	2.888	3.214
8	1.02	0.0676	1.146	29	1.859	2.872	3.196
9	1.016	0.0642	1.146	30	2.032	2.856	3.178
10	1.011	0.0598	1.146	31	2.264	2.84	3.16

For 5% Significance Level, there is no Potential Outlier

For 1% Significance Level, there is no Potential Outlier

1	**UCL Statistics for Uncensored Full Data Sets**											
2												
3				User Selected Options								
4				Date/Time of Computation	ProUCL 5.111/3/2016 2:24:54 PM							
5				From File	Arsenic_conf_samples_input.xls							
6				Full Precision	OFF							
7				Confidence Coefficient	95%							
8				Number of Bootstrap Operations	2000							
9												
10												
11	**Arsenic (mg/kg)**											
12												
13	**General Statistics**											
14					Total Number of Observations	35			Number of Distinct Observations	21		
15									Number of Missing Observations	0		
16					Minimum	5.9			Mean	11.13		
17					Maximum	21			Median	10		
18					SD	3.253			Std. Error of Mean	0.55		
19					Coefficient of Variation	0.292			Skewness	1.411		
20												
21	**Normal GOF Test**											
22					Shapiro Wilk Test Statistic	0.878			**Shapiro Wilk GOF Test**			
23					5% Shapiro Wilk Critical Value	0.934			Data Not Normal at 5% Significance Level			
24					Lilliefors Test Statistic	0.207			**Lilliefors GOF Test**			
25					5% Lilliefors Critical Value	0.148			Data Not Normal at 5% Significance Level			
26	**Data Not Normal at 5% Significance Level**											
27												
28	**Assuming Normal Distribution**											
29					**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**			
30					95% Student's-t UCL	12.06			95% Adjusted-CLT UCL (Chen-1995)	12.17		
31									95% Modified-t UCL (Johnson-1978)	12.08		
32												
33	**Gamma GOF Test**											
34					A-D Test Statistic	0.923			**Anderson-Darling Gamma GOF Test**			
35					5% A-D Critical Value	0.748			Data Not Gamma Distributed at 5% Significance Level			
36					K-S Test Statistic	0.19			**Kolmogorov-Smirnov Gamma GOF Test**			
37					5% K-S Critical Value	0.149			Data Not Gamma Distributed at 5% Significance Level			
38	**Data Not Gamma Distributed at 5% Significance Level**											
39												
40	**Gamma Statistics**											
41					k hat (MLE)	13.88			k star (bias corrected MLE)	12.71		
42					Theta hat (MLE)	0.802			Theta star (bias corrected MLE)	0.876		
43					nu hat (MLE)	971.6			nu star (bias corrected)	889.6		
44					MLE Mean (bias corrected)	11.13			MLE Sd (bias corrected)	3.122		
45									Approximate Chi Square Value (0.05)	821.4		
46					Adjusted Level of Significance	0.0425			Adjusted Chi Square Value	818.3		
47												
48	**Assuming Gamma Distribution**											
49					95% Approximate Gamma UCL (use when n>=50))	12.05			95% Adjusted Gamma UCL (use when n<50)	12.1		
50												
51	**Lognormal GOF Test**											
52					Shapiro Wilk Test Statistic	0.955			**Shapiro Wilk Lognormal GOF Test**			

53	5% Shapiro Wilk Critical Value					0.934	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.175	**Lilliefors Lognormal GOF Test**					
55	5% Lilliefors Critical Value					0.148	Data Not Lognormal at 5% Significance Level					
56	**Data appear Approximate Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					1.775	Mean of logged Data					2.373
60	Maximum of Logged Data					3.045	SD of logged Data					0.268
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					12.07	90% Chebyshev (MVUE) UCL					12.64
64	95% Chebyshev (MVUE) UCL					13.33	97.5% Chebyshev (MVUE) UCL					14.29
65	99% Chebyshev (MVUE) UCL					16.18						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					12.03	95% Jackknife UCL					12.06
72	95% Standard Bootstrap UCL					12.04	95% Bootstrap-t UCL					12.27
73	95% Hall's Bootstrap UCL					12.27	95% Percentile Bootstrap UCL					12.08
74	95% BCA Bootstrap UCL					12.11						
75	90% Chebyshev(Mean, Sd) UCL					12.78	95% Chebyshev(Mean, Sd) UCL					13.53
76	97.5% Chebyshev(Mean, Sd) UCL					14.56	99% Chebyshev(Mean, Sd) UCL					16.6
77												
78	**Suggested UCL to Use**											
79	95% Student's-t UCL					12.06	or 95% Modified-t UCL					12.08
80	or 95% H-UCL					12.07						
81												
82	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
83	Recommendations are based upon data size, data distribution, and skewness.											
84	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
85	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
86												
87	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
88	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
89	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
90	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
91												

Table 4. East Bay Holocene Alluvium - Background Arsenic Summary Statistics

Site Name	City	County	No. of Samples	Mean	Std. Dev.	Minimum	Quartile, 25%	Median	Quartile, 75%	Maximum
Arcadia Park	Oakland	Alameda	139	5.4	1.6	0.6	4.2	5.5	6.4	9.4
California Linen Supply Co	Oakland	Alameda	81	6.8	1.7	3.5	5.6	6.7	7.9	12.0
Chevron No. 1570	Union City	Alameda	5	11.6	5.8	5.5	7.1	11.0	16.5	21.0
Chrisp Company	Fremont	Alameda	11	3.9	0.4	3.1	3.5	3.9	4.2	4.7
Milpitas Senior Housing Project	Milpitas	Alameda	61	5.5	1.6	<RL	4.9	5.7	6.2	9.6
Pacific Coast Transportation Services	Newark	Alameda	8	5.3	1.1	3.4	4.3	5.5	6.2	6.7
UNOCAL 7499	Fremont	Alameda	9	3.6	0.5	2.4	3.4	3.7	4.0	4.0

Notes:

(1) Concentrations expressed in milligrams per kilogram (mg/kg).

(2) "<RL" indicates a value that was below the reporting limit of the laboratory

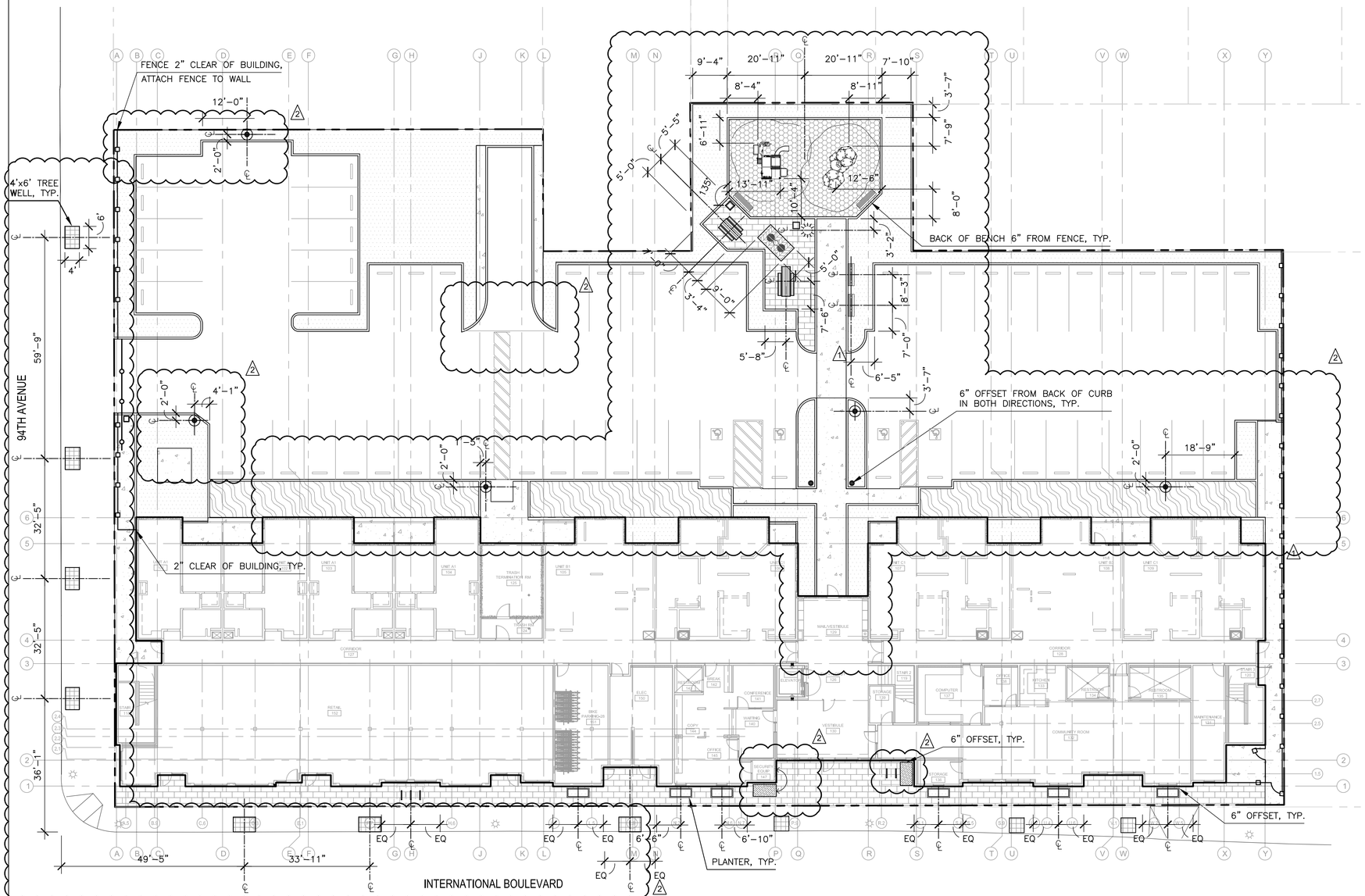
(3) All data are drawn from Duvergé (2011).

GENERAL NOTES

1. EXISTING SITE INFORMATION PROVIDED ON SURVEY PLAN. LANDSCAPE ARCHITECT ASSUMES NO RESPONSIBILITY OR LIABILITY FOR COMPLETENESS OR ACCURACY OF PLANS PROVIDED BY OTHERS.
2. VERIFY PROPERTY BOUNDARIES AND LOT LINES PRIOR TO COMMENCEMENT OF WORK.
3. 'TYP' OR TYPICAL MEANS THAT THE CONDITION IS REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT, UNLESS OTHERWISE NOTED. DETAILS ARE USUALLY NOTED 'TYP' ONLY ONCE WHEN THEY FIRST OCCUR.
4. NOTES AND SYMBOLS ON ONE DRAWING APPLY TO OTHER SIMILAR DETAILS AND CONDITIONS.
5. BECOME ACQUAINTED WITH SUBGRADE UTILITIES, PIPES AND STRUCTURES. SHOULD UTILITIES OR OTHER WORK NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, PROMPTLY NOTIFY OWNER'S REPRESENTATIVE. FAILURE TO DO SO WILL MAKE CONTRACTOR LIABLE FOR DAMAGE ARISING FROM HIS OPERATIONS SUBSEQUENT TO DISCOVERY OF SUCH UTILITIES NOT SHOWN ON PLANS.
6. COORDINATE WITH SUBCONTRACTORS AS REQUIRED.
7. REPLACE EXISTING MATERIALS DAMAGED DURING CONSTRUCTION.

LAYOUT NOTES

1. DIMENSIONS ARE FROM GRID LINES, OUTSIDE FACE OF BUILDING, WALLS, OR CURB UNLESS OTHERWISE NOTED, AND ARE TO BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION AND MAJOR EXCAVATION. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALING.
2. UNLESS OTHERWISE NOTED, ANGLES TO BE RIGHT ANGLES, ARCS WHICH APPEAR TANGENT AND UNIFORM ARE TO BE TANGENT AND UNIFORM, LINES WHICH APPEAR PARALLEL ARE TO BE PARALLEL, AND ITEMS WHICH APPEAR CENTERED TO BE CENTERED, MAINTAIN LINES TRUE, LEVEL, PLUMB, AND SQUARE.
3. REFER TO GRADING PLANS FOR GRADING AND DRAINAGE STRUCTURES PRIOR TO INSTALLATION OF WALKS, WALLS, FOOTINGS, AND OTHER STRUCTURES.
4. LANDSCAPE ARCHITECT TO APPROVE LAYOUT IN THE FIELD PRIOR TO CONSTRUCTION. AT TIME OF FIRST SITE VISIT AND BEFORE ANY MAJOR EXCAVATION, THE GENERAL LAYOUT OF SITE ELEMENTS SHOULD BE CONFIRMED. IN A SEPARATE SITE VISIT, LANDSCAPE ARCHITECT TO CONFIRM LAYOUT OF FORMS.
5. VERIFY THAT CONDUITS AND SLEEVES ARE PLACED PRIOR TO POURING PAVING.
6. LOCATE ELECTRICAL JUNCTION BOXES FOR LIGHTS IN PLANTING AREAS UNLESS SHOWN OTHERWISE. LAYOUT TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO TRENCHING.
7. CAREFULLY REVIEW LANDSCAPE IRRIGATION PLANS AND NOTES TO IDENTIFY LOCATIONS WHERE PIPE, SLEEVES, SANDBED OR CONDUIT MUST BE PLACED PRIOR TO PLACEMENT OF FORMWORK FOR INSTALLATION OF CONCRETE, OTHER PAVING, OR WALLS. COORDINATE WITH OTHER TRADES TO INSTALL IRRIGATION PIPE, SLEEVE, SANDBEDDING, OR CONDUIT. SHOULD CONFLICTS ARISE REVIEW WITH OWNER'S REPRESENTATIVE FOR RESOLUTION.
8. QUANTITIES PROVIDED ARE FOR INFORMATION ONLY, VERIFY QUANTITIES AND NOTIFY OWNER OF DISCREPANCIES.
9. SEE CIVIL DRAWINGS FOR LAYOUT OF VEHICULAR ELEMENTS.



SYMBOLS & ABBREVIATIONS

—·—·—℄—·—·— CENTERLINE

——— – ——— PROPERTY LINE

EQ EQUAL

TYP. TYPICAL

LEGEND FOR SITE FURNISHING SEE SHEET L2.0

(PROJECT) N
(TRUE) N

0' 8' 16' 32'
SCALE IN FEET
1/16"=1'-0"

PGA design
LANDSCAPE ARCHITECTS
444 17th Street, Oakland, CA 94612
T 510 465 1284
F 510 465 1256

LICENSED LANDSCAPE ARCHITECT
CHRISTOPHER W. KENT #6369
Expiration
MAY 31, 2016
Renewal Date
MAR 17, 2016
Date
STATE OF CALIFORNIA

revisions

number	date
PLAN CHECK	08-27-15
BID SET	09-24-15
1 PLAN CHECK RE-SUBMITTAL	11-20-15
2 VE SET/ CONSTRUCTION SET	03-31-16

94th AND INTERNATIONAL
9400 INTERNATIONAL BLVD
OAKLAND, CA 94603

issue date 03/31/2016

scale 1/16"=1'-0"

If this drawing is not 22"x34", then it has been modified from its original size, and the scale noted on drawing/details is no longer applicable.

drawn KO, JH

checked CK

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sheet number L1.0

X of XX sheets