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Commercial Property Development  
Consulting, Management & Investments

Donald L. Jones Company  
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2101 Williams Associates  
American Metal Properties  
American Standard Properties  
ASP/RWM Properties  
ByPass 93 Properties  
Cottonmill Properties  
Dow-Pac Properties  
Durkee Properties  
Grand/Grove Partnership  
Jones Group I  
National Court Properties  
Papermill Properties  
PlyProperties  
Prudential Properties  
Williams Properties

December 14, 2012

Alameda County Environmental Health  
Attention: Mark Detterman  
131 Harbor Bay Parkway  
Alameda, California 94502-6577

**LETTER OF TRANSMITTAL  
WORK PLAN  
DATA GAP SAMPLE COLLECTION**  
2101 Williams Street  
San Leandro, California 94577  
RWQCB SLIC Case RO0002468  
Geotracker Global ID T06019771096  
Anton Geological Project No. 012-003.01



Dear Mr. Detterman:

Please find attached a copy of the Data Gap Sample Collection Work Plan by Anton Geological dated December 14, 2012.

As an authorized representative of the existing ownership of the subject property (2101 Williams Associates LLC), 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.

Sincerely,

Carey Andre  
2101 Williams Associates LLC

Attachment

**WORK PLAN  
DATA GAP SAMPLE COLLECTION**

2101 Williams Street  
San Leandro, California  
RWQCB SLIC Case # RO0002468  
Geotracker Global ID #T06019771096

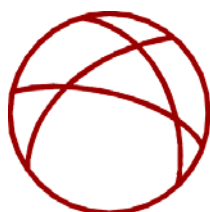
Prepared For:

2101 Williams Associates, LLC  
2228 Livingston Street  
Oakland, California 94606

Prepared By:

Anton Geological  
P. O. Box 370  
Elk, California 95432-0370  
(707) 877-3278

Project No. 012-003.01  
December 14, 2012



**ANTON  
GEOLOGICAL**



# **ANTON GEOLOGICAL**

December 14, 2012

2101 Williams Associates, LLC  
Attention: Carey Andre  
2228 Livingston Street  
Oakland, California 94606

## **WORK PLAN DATA GAP SAMPLE COLLECTION**

2101 Williams Street  
San Leandro, California 94577  
Anton Geological Reference No. 012-003.01  
RWQCB SLIC Case # RO0002468  
Geotracker Global ID #T06019771096

### **INTRODUCTION**

In accordance with your request, Anton Geological has prepared this Work Plan for a limited subsurface investigation of a portion of the subject property. The purpose of the proposed subsurface investigation generally would be to investigate soils and groundwater beneath the vicinity of a former ink room area in order to help determine whether past surface uses of the subject property may have impacted groundwater beneath the site with chlorinated hydrocarbons (HVOCs). Additionally, in light of recent groundwater monitoring data from August 2012, borings are proposed along the northeastern side of the subject building in order to help determine whether HVOCs enter the subject property from an off-site source near this location.

As you are aware, a known tetrachloroethylene (PCE) groundwater contamination condition affecting at least two aquifer zones is located at an adjacent property to the east (2075 Williams Street), and groundwater contamination from this hydrogeologically upgradient facility is known to impact the southern margin of the subject property. At issue is whether the former on-site Printpack/James River flexible packaging operations also contributed to PCE soil and groundwater contamination beneath the subject property. In their letter of January 27, 2012, Alameda County Environmental Health (ACEH) requested a number of items related to the subject property including the following: the uploading of prior reports to the State of California GEOTRACKER database; the submittal of prior reports to ACEH (which ACEH may be missing); the sampling of the existing on-site groundwater monitor wells; and the preparation of a "data gap" work plan to help define the extent of soil and groundwater contamination at the subject property with respect to a soil sample with elevated PCE concentration near a former on-site ink room area. As you know, groundwater was sampled and analyzed in August 2012, as described in our report dated October 31, 2012. This Work Plan addresses the "data gap" portion of the ACEH request, and further investigates groundwater conditions suspected based upon the recent cited groundwater data. Other components of the ACEH request are to be addressed separately.

A proposed soil boring location is shown on Figure 1, *Proposed Boring Locations*. A Site Safety Plan is presented in the Appendix.

## **SITE OVERVIEW**

### **History**

The approximate 12.65-acre subject property consists of four contiguous parcels (APNs 77A-645-5-1, 5-2, 6-1 and 6-2) and is developed with three industrial office/warehouse buildings presently divided among ten tenants. The buildings are formally addressed as 2101 Williams Street (193,899 square feet), 2199 Williams Street (28,737 square feet), and 13197 Menlo Street (5,000 square feet). According to a Phase I Environmental Site Assessment prepared by EMG in 2011, the structures on the subject property were constructed in three phases during 1948, 1961 and 2000. However, according to our review of a sewer and drainage site plan prepared for Crown Zellerbach in 1986, most of the on-site buildings are indicated to have been constructed in 1953 and 1956.

According to the referenced Phase I environmental assessment, the subject property was used as a paper plant prior to its sale to the current owner and subsequent current multi-tenant use in 2000. The current owner is not aware of any existing or previous on-site use of tetrachloroethene (PCE) or other chlorinated solvents.

According to ACEH file information, the former paper facility originally had six underground storage tanks operating from the early 1950s until their removal in stages between about 1982 and 1989. The tanks had been used for the storage of ethyl alcohol, butyl and isopropyl acetate, ethyl alcohol, n-propyl alcohol, ethyl acetate, n-propyl acetate. These former tanks were indicated to have been located beneath asphalt pavements to the southeast of the larger subject building (2101 Williams Street), with a former piping system entering the southeastern corner of said structure. Acetone contamination in soils and groundwater related to this former tank system has been investigated and remediated, and the case has been closed.

Also in early 1989, excavation work commenced in the area of a former ink room outside the mid-southern margin of the larger subject building (2101 Williams Street). The purpose of the excavation work was for the installation of new underground storage tanks<sup>1</sup>, and for the installation of an approximate 20,000-gallon underground fire runoff containment tank. During the excavation work for the new equipment, stained soils were encountered at a depth of approximately three to five feet, and appeared to fill a three- to four-foot-wide east-west trending trench. The stained soils were excavated to their practical limits. It is understood that ACEH still has some concern regarding a soil sample collected from the floor of the resulting excavation that showed evidence of PCE contamination.

Additionally, some food-grade hydraulic fluid contamination in groundwater was identified beneath the floor of a deep vault inside the southeastern portion of the larger subject building during said vault's decommissioning in 1993. The hydraulic fluid investigation resulted in the installation of three additional "temporary" monitor wells (two of which remain). The actual

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<sup>1</sup> Note: the "new" underground storage tanks installed in 1989 do not appear to have been used for long (if at all). The business that installed these tanks appears to have vacated the property by 2000. During the reconnaissance of this area of the subject property in July 2012, the tanks were found to have been abandoned in-place with concrete.

hydraulic fluid condition has been investigated and remediated to the extent practical, and the case has received closure.

During the various soils and groundwater investigations of the described former tank system, ink room and vault, PCE contamination (and other related halogenated volatile organic compound contamination resulting from the natural degradation of PCE) was identified in groundwater samples. Prior consultants investigating the subject property attributed the PCE contamination to an off-site source.

This known PCE groundwater contamination condition affects at least two aquifer zones and has been studied extensively at the hydrogeologically upgradient property adjacent to the east (2075 Williams Street). The groundwater contamination from this easterly facility is known to impact at least the southern portion of the subject property. At issue is whether the former on-site Printpack/James River flexible packaging operations also contributed to PCE contamination in soil and groundwater beneath the subject property.

### Hydrogeologic Setting

#### *Site Vicinity*

According to the 1991 California Geological Survey's *Geologic Map of California – San Francisco-San Jose Sheet*, the subject property is situated on the East Bay Plain of the Coast Range geomorphic province of California. The general site vicinity is situated on the San Leandro Cone, one of three coalescing alluvial fans which form the broad lowlands and the bay and tidal marshes between the bedrock of the Diablo Range to the east and the San Francisco Bay to the west. The Holocene alluvium beneath the subject property and general vicinity includes several hundred feet of sediment deposited from San Leandro Creek and other nearby modern stream systems; the Holocene deposits slope gently toward the west. The described alluvium is underlain by the Mesozoic volcanic, metamorphic and marine sedimentary rocks of the San Leandro Mountains to the east; these rock formations typically include outcrops of serpentinite and rhyolite, as well as marine sandstones and shale.

According to a July 5, 2012 report for the easterly and adjacent property (2075 Williams Street) by P&D Environmental, Inc. (P&D) entitled ““*Groundwater and Indoor Air Investigation Report (B25 Through B27, IA1 Through IA3), RWQCB Case #01S0426, Bluewater Environmental Services, Inc. (Former Watkins Terminal) Site, 2075 Williams Street, San Leandro, California*”, reports by other consultants working on other contaminated sites in the general vicinity were researched for a better understanding of area geology. In particular, P&D referenced a November 3, 2010 report by ARCADIS for a site at 1964 Williams Street (about 850 feet to the north) entitled “Combined Third Quarter 2010 Groundwater Monitoring Report and 2010 Annual Status Report”, which was based in part on data compiled by Woodward-Clyde Consultants (WC) in 1995 from WC's other research and field activities within central San Leandro.

The referenced ARCADIS report cited by P&D indicates that shallow groundwater in the site vicinity occurs in hydraulically distinct units, which have been assigned as the “A-Zone” and “B-Zone” by ARCADIS (and other area consultants). ARCADIS indicates that both units are comprised of fine- to coarse-grained sands and gravels separated by continuous aquitards of silt and clay.

ARCADIS recognizes that the A-Zone extends from 10 to 38 feet below ground surfaces, and further identifies two subunits within the A-Zone: “Shallow A-Zone” and “Deeper A-Zone”.

ARCADIS describes the Shallow A-Zone as approximately two feet thick, and occurring somewhere below depths of ten to 15 feet. The “Deeper A-Zone” varies in thickness from two to eight feet, which is underlain by a continuous aquitard that provides separation between the A-Zone and B-Zone. The B-Zone extends from approximately 50 to 60 feet (at the ARCADIS site), and consists of sands and gravels. ARCADIS indicates that groundwater flows to the southwest within each zone, and that the vertical gradients between the Shallow and Deeper A-Zones range from zero to 0.4 feet in the upward direction.

The cited P&D report indicates that on the easterly and adjacent parcel (2075 Williams Street), the described Shallow A-Zone is approximately two-feet thick and encountered at a depth of approximately 15 to 17 feet below ground surfaces. The Deeper A-Zone is described as being typically eight to 12 feet thick and as being encountered at depths between about 27 to 40 feet below ground surfaces. The B-Zone is identified by P&D between depths of 48 to 60 feet below ground surfaces. The groundwater gradient is indicated to be predominantly southwesterly at this adjacent site.

#### *Past On-Site Classification of Water-Bearing Zones*

According to Harding Lawson Associates’ (HLA) “*Hydrogeologic Investigation, Flexible Packaging Division Facility, San Leandro, California*”, dated April 10, 1986, interbedded silts and clays are predominantly encountered at the subject property from the surface to depths of 22 to 25 feet, with apparently discontinuous silty sand layers also encountered at some locations. HLA made no differentiation between a Shallow A-Zone and a Deeper A-Zone at that time. The cited HLA report states that the “shallow aquifer” or “A-aquifer” was encountered in the oldest on-site monitor wells from the base of the described silts and clays to approximate depths of 33 to 38 feet. HLA indicates that the “A-aquifer” materials consist of coarse-grained, clean and well-sorted sands as well as sandy gravels. The average thickness of this water-bearing zone defined by HLA was reported to be 14 feet. HLA noted that the shallow water-bearing zone appears to dip gently toward San Francisco Bay, but that the data are insufficient to quantify a direction or degree of dip.

The cited HLA report also indicates that the “A-aquifer” is underlain by interbedded clays (“aquitard material”) and sands/gravels (“aquifer material”) to a total exploration depth of 80 feet below ground surfaces. HLA reports that clays were present in zones between 37 to 43 feet, 50 to 52 feet, 54 to 62 feet, and 74 to 80 feet, with sands in between.

#### *Description and Discussion of Existing On-Site Monitor Well Construction*

Since the subject property appears impacted by the easterly and upgradient contaminated property, it is important to compare the water-bearing zone classifications used for the adjacent investigation and the reporting of their data. As mentioned above, the adjacent property data is reported as three distinct water-bearing zones, whereas past on-site investigations have recognized only two (past on-site investigations have essentially combined the Shallow and Deeper A-Zones that have since been defined by P&D).

Using the water-bearing zone depth classifications used by P&D for the contamination condition on the upgradient and adjacent site, the existing 12 on-site monitor wells appear to have been completed in one or more of the three P&D water-bearing zones (Shallow A-Zone, Deeper A-

Zone, and B-Zone). The shallowest well (W-10) is completed to a depth of 16.88 feet and therefore would appear to be consistent with a strictly Shallow A-Zone well, as defined by P&D.

The next most-shallow wells (TW-2 and TW-3) were completed to depths of 19.5 feet. According to boring logs appended in Environmental Science and Engineering, Inc.'s (ESE)'s "*Report of Preliminary Site Assessment, James River Flexible Packaging Facility, San Leandro, California*" dated February 19, 1996, a sandy clay (approximately 20 percent sand and high plasticity clay) was encountered between depths of about 14 feet and the maximum 19.5-foot depths of exploration in the TW locations. The sandy clay was found to be saturated starting at depths between 15 and 18 feet below ground surfaces. No underlying "aquitard" or significant change in stratigraphy is indicated within or beneath the water-bearing sandy clay. As such, it is considered possible that the Shallow and Deeper A-Zones are connected at the TW locations on the subject property. Both wells are screened from a depth of five feet to the bottom of the wells.

Similar cross-connections between the Shallow A-Zone and Deeper A-Zone may also exist in many of the other on-site Deeper A-Zone wells. These wells are generally completed to depths between 32 and 39 feet. The screened intervals of W-1, W-3, W-4, W-5 and W-6 are unknown at the time; these wells were constructed between 1984 and 1985, and the original reports with the associated boring logs and well construction diagrams were not identified during this current evaluation effort of on-site conditions. According to the referenced HLA report from 1986, the screened intervals of W-7, W-8 and W-9 start at depths of 17 to 22 feet, and extend to their bottom depths, ranging between 32 to 37.5 feet. As such, it would appear that wells W-7 through W-9 may be screened in both the Shallow and Deeper A-Zone depths, and that if said wells were designed to be similar to the older wells, then by reason W-1 through W-6 possibly could have similar screened depths combining the A zones.

The only B-Zone monitor well on the subject property is B-1, which is screened from a depth of 44 feet to its maximum 52.5-foot depth of completion.

Based upon the described available information, Anton Geological proposes that all wells on the subject property (except W-10 and B-1) be considered as "combined" A-Zone wells.

During the background research for this evaluation, Anton Geological noted one additional feature concerning cross-connections between the Shallow and Deeper A-Zones. The earlier-mentioned deep bailer vault that was decommissioned inside the southeastern portion of the subject building (2101 Williams Street) in 1993 had once extended into groundwater to a depth of 20 feet, with an additional 2.5-foot diameter hydraulic ram extending an additional 14 feet below the floor of the vault (for a total depth of 34 feet). As such, the vault may have once presented a means of communication between the two A-Zones, and may still do, depending upon the nature of the construction backfill materials used to decommission the vault. (The former vault's location and dimensions are described in the earlier cited ESE report from February 1996.) It is noted that wells TW-2 and TW-3 (as well as former well TW-1) are located downgradient from the former vault.

## **PROPOSED SCOPE OF WORK**

### **Discussion and Rationale**

Anton Geological proposes to investigate the following two areas of the property:

#### *Former Ink Room Area*

The referenced ACEH letter refers to a past soil sample collected from the former Ink Room site at a depth of 13 feet (near the groundwater interface) that had a TCE concentration of 160 mg/L (ppm). Available documentation indicates that the area of the Ink Room was overexcavated in 1989, and that the sample at issue was collected from the bottom of the excavation. As such, sampling of newly imported fill soils above this former sample location would not produce information relevant to the TCE investigation. However, Anton Geological proposes sampling at a location in native soils downgradient of the former Ink Room area to determine impact to groundwater, if any. The proposed boring location is shown on the attached Plate 1. This boring would extend into the Upper A Zone only (maximum depth of 20 feet, similar to nearby Monitor Well MW-10, and more distant Monitor Wells TW-2 and TW-3).

#### *Northeastern Side of Subject Building*

Modeled plume maps of the August 2012 A-Zone VOCs are shown on Plates 2C through 2F. The maps indicate that the majority of the plume impacts the three northern-most wells (W-5, TW-2 and TW-3). Historically, these three wells have also shown the greatest concentrations of contaminants in A-Zone groundwater on the subject property. The plume was modeled based on equal lines of concentration and the groundwater gradient. The modeling indicates that the majority of the plume is located beneath the largest subject building (2101 Williams Street) and may be originating from an off-site source. Plate 2G is an overview map of the subject property with the approximate location of the PCE plume; this map also shows several off-site wells on the adjacent easterly parcel (2075 Williams Street) which have demonstrated similar concentrations of PCE in A-Zone groundwater in the past. There are no known monitor wells between these off-site wells and the subject building.

According to a Brown and Caldwell report entitled “*Results of Off-site Groundwater Survey, James River Corporation, Flexible Packaging Plant, San Leandro, California*”, dated September 11, 1990, an attempt was made to assess groundwater along the northeastern property boundary further to the north of the existing on-site monitor wells. A total of 11 sampling locations were located along the adjacent Southern Pacific railroad right-of-way located immediately northeasterly of the James River building (extending from about the mid-point of the building northward). The sampling consisted of hydraulically driving one-inch-diameter rods to depths of 20 feet below ground surfaces. Groundwater was sampled from within the rods at each location. However, the report notes that the sample preparation and analytical procedure was not an EPA-approved method for laboratory analysis of chlorinated hydrocarbons. Brown and Caldwell further warned that the results reported are not indicative of actual concentrations that may be present. The cited report indicated that the groundwater samples were screened with a portable PID/FID chromatograph operated by Western Geo-Engineers. The results indicate that TCE, PCE and DCE were detected at non-official concentrations of up to 176 ug/L, simply



suggesting the presence of an upgradient off-site source. No other reports by prior consultants were identified to indicate that follow-up groundwater sampling work was performed in this area.

It is further noted that since the Brown and Caldwell borings reached a maximum depth of approximately 20 feet near the easterly and adjacent parcel, they would be considered to be within the Shallow A-Zone by the easterly and adjacent parcel owner's consultant.

In order to address whether contamination extends beneath the property to the north of the current on-site monitor well network, three soil borings are proposed to along the northeastern side of the subject building as indicated on the attached Plate 1. These borings would extend into the Deeper A Zone at each location.

#### Underground Service Alert

At least 72 hours prior to sampling work, Anton Geological will mark the portions of the property slated for subsurface investigation with survey paint, and will initiate an Underground Service Alert (USA) check for buried utilities.

#### Work Plan and Permitting

This Work Plan/Site Safety Plan will be present during all on-site activities. A drilling permit will be obtained from Alameda County Public Works Agency-Water Resources prior to scheduling drilling work with the Agency, as well as Alameda County Environmental Health, at least five working days in advance.

#### Subsurface Exploration

##### *Drilling and Soil Sampling*

A total of four soil borings will be drilled with direct-push equipment (e.g. Geoprobe) to depths up to 20 feet at the locations shown on Plate 1, *Proposed Boring Locations*. Additionally, Hydropunch sampler would be advanced to a depth of approximately 35 feet at the three borings along the northeastern side of the building.

Soils from each of the borings would be continuously sampled to a depth of 20 feet. One soil sample would be collected from each of the proposed drilling locations for laboratory analysis. The selected samples will be labeled, preserved on ice, and logged on a chain of custody document for shipment to a State-certified analytical laboratory, in accordance with accepted industry practice. Soil samples will be collected using either new plastic drilling sleeves or pre-cleaned brass or stainless steel sampling sleeves fitted with Teflon tape and plastic end caps, to be provided by the subcontract environmental drilling company (Vironex of Concord, California).

Exploration and sampling operations will be supervised and continuously logged by a California Professional Geologist. All soil samples and spoils from the borings will be screened with a photoionization detector (PID) and logged by the on-site geologist.

Following soil sampling operations, soil borings will be backfilled with an approximate three percent bentonite cement grout with tremie pipe in accordance with environmental industry

standards and County requirements. Care shall be taken to prevent bridging, freefall and/or dilution of the grout material.

### *Groundwater Sampling*

Shallow groundwater samples will be obtained from the borings using temporary PVC casing and disposable Teflon tubing fitted with a pre-cleaned check-valve device supplied by the drilling company. Hydropunch samples would be collected after drawing water into the pre-cleaned sampler at the final depth of exploration by retracting the probe to expose a fitted screen; the water would be collected with a pre-cleaned bailer provided by the environmental drilling contractor.

All water samples would be quickly and carefully transferred from the bailers into laboratory-supplied 40 ml VOA vials with hydrochloric acid preservative. The samples would be placed on ice and transported to the analytical laboratory under documented chain of custody.

### Field Decontamination

All exploration and sampling equipment will be decontaminated prior to arrival on-site. All soil and groundwater contact equipment will be cleaned between sample drives/boring locations using an Alconox solution followed by a series of tap water and distilled water rinsings.

Cuttings, rinse water and other potentially contaminated materials generated during the field work will be sealed within new, labeled D.O.T.-approved 55-gallon drums or similar containment, and left on-site pending laboratory analysis.

### Laboratory Analyses

At this time, it is estimated that a total of four soil samples, seven groundwater samples and one trip blank will be submitted to a State-certified analytical laboratory under documented chain-of-custody. The laboratory will be instructed to analyze the samples for the following: volatile organic compounds (VOCs) by the EPA 8260B method.

### Summary Report

Our findings will be presented in a summary report which will include the following: (1) a site history; (2) a description of our field procedures; (3) a description of the conditions encountered; (4) boring logs with sample locations, soil classifications, PID readings, and groundwater levels (if applicable); (5) a scaled vicinity map and a plot plan drawing with boring locations shown together with relevant existing and historic site features; (6) both tabulated and appended chemical data with chain of custody documentation; (7) an interpretation of the data; (8) our opinions; (9) recommendations for additional investigation if deemed necessary; and, (10) the signature and stamp of the responsible California Professional Geologist.

### **QUALITY CONTROL / QUALITY ASSURANCE**

Decontamination of soil exploration equipment will include the cleaning and rinsing of the of soil contact equipment prior to field operations and between sample drives and boring locations. Soil sampling equipment will include new drilling contractor supplied soil sampling sleeves. The laboratory also will supply glassware for groundwater samples. During field sampling, the soil and groundwater samples will be obtained in accordance with EPA procedures and then will be labeled and packed in ice immediately after collection. Each sample will be logged onto a chain-of-custody document, which will accompany the samples at all times.

To assure that analyses are performed in accordance with accepted EPA and State analytical procedures, samples will be transported and submitted to a State certified laboratory, which employs internal quality controls. Batch quality control data will be requested with the laboratory report. Also, to trace potential volatile organic compounds sometimes related to laboratory or field handling induced contamination, travel blank VOA vials of distilled water will accompany the sample containers at all times.

### **STATEMENT OF QUALIFICATIONS**

Anton Geological is a western U.S. environmental and geological consulting firm based in northern California. Anton Geological was founded by the firm's president, Kenneth Anton, in 1996. Prior to starting Anton Geological, Mr. Anton served as a geologist at a West Sacramento environmental ad geotechnical consulting firm. Anton Geological's environmental projects have typically involved multi-acre properties of industrial, commercial, agricultural, and residential subdivision development for land developers, government agencies, and lending/financial institutions. Mt. Anton also is presently a consultant for colleagues at other northern California environmental and geotechnical firms, as well as for three national property assessment corporations.

Mr. Anton holds a Bachelor of Science degree in Geology form the University of California at Davis, and is a Professional Geologist in the State of California; Mr. Anton is a member of the Association of Engineering Geologists (AEG). Mr. Anton also has been certified for hazardous waste operations supervisory training in accordance with OSHA 29 CFR 1910.120. Mr. Anton has attended a number of courses in environmental hazard management through the University of California Extension Program and the California Groundwater Association (GRA). Mr. Anton has completed hundreds of Phase I and II environmental assessments in California, Colorado, Oregon, Nevada, New Mexico and Washington.



2101 Williams Street, San Leandro, CA  
December 14, 2012  
Anton Geological Project No. 012-003.01  
Page 10

Please contact the undersigned if you have any questions or comments regarding this Work Plan.

Very truly yours,

ANTON GEOLOGICAL

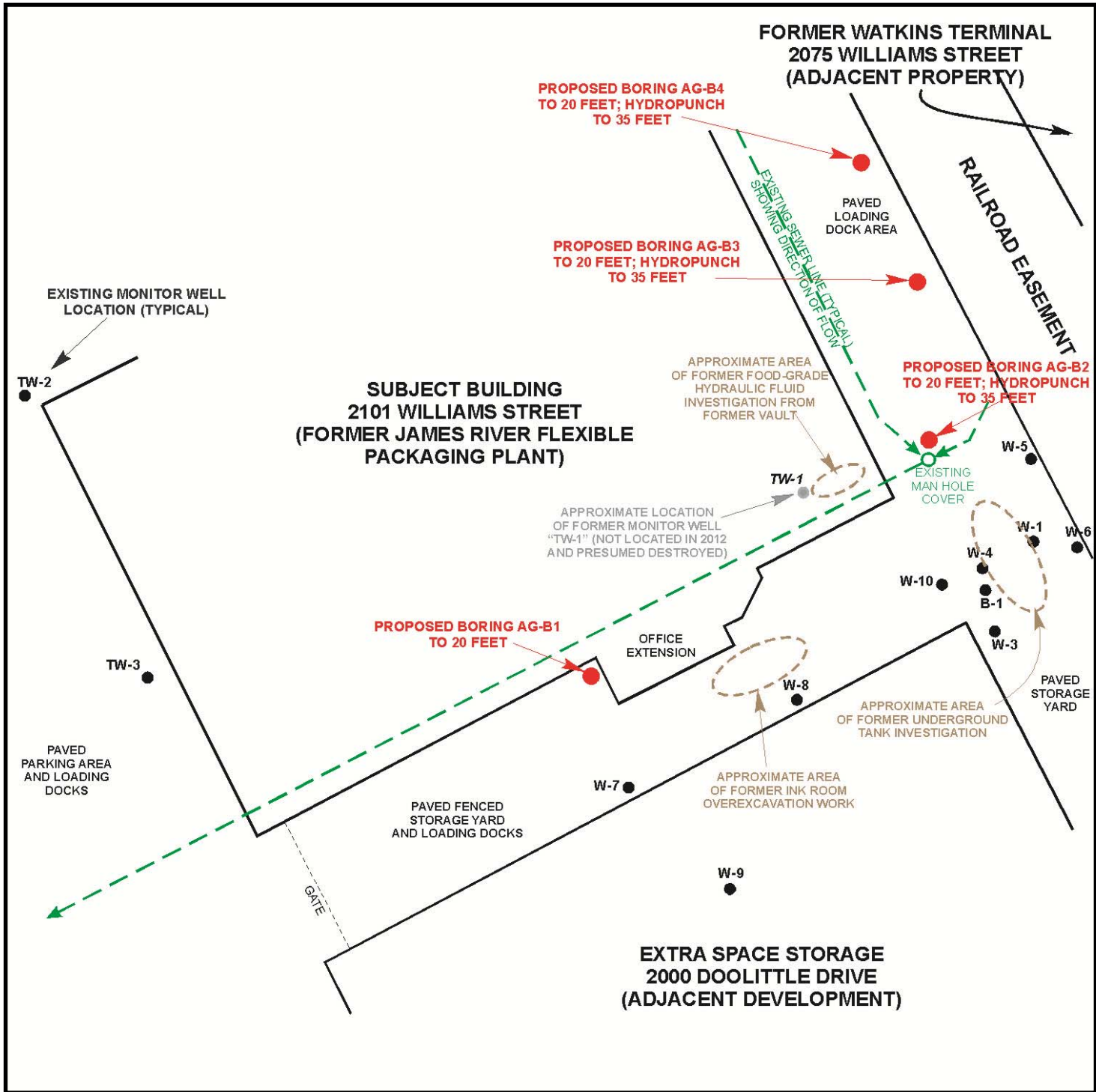


Kenneth R. Anton  
Professional Geologist No. 6602



KA:ka

(1) addressee



**Notes:**

1. Prepared from aerial photography obtained from Google Earth dated October 2011, prior environmental reports prepared by others (describing the location of TW-1), our August 2012 field measurements (using measuring wheels and/or measuring tapes), and our general field notes.
2. All locations and dimensions are approximate only.



SCALE 1" = 100'



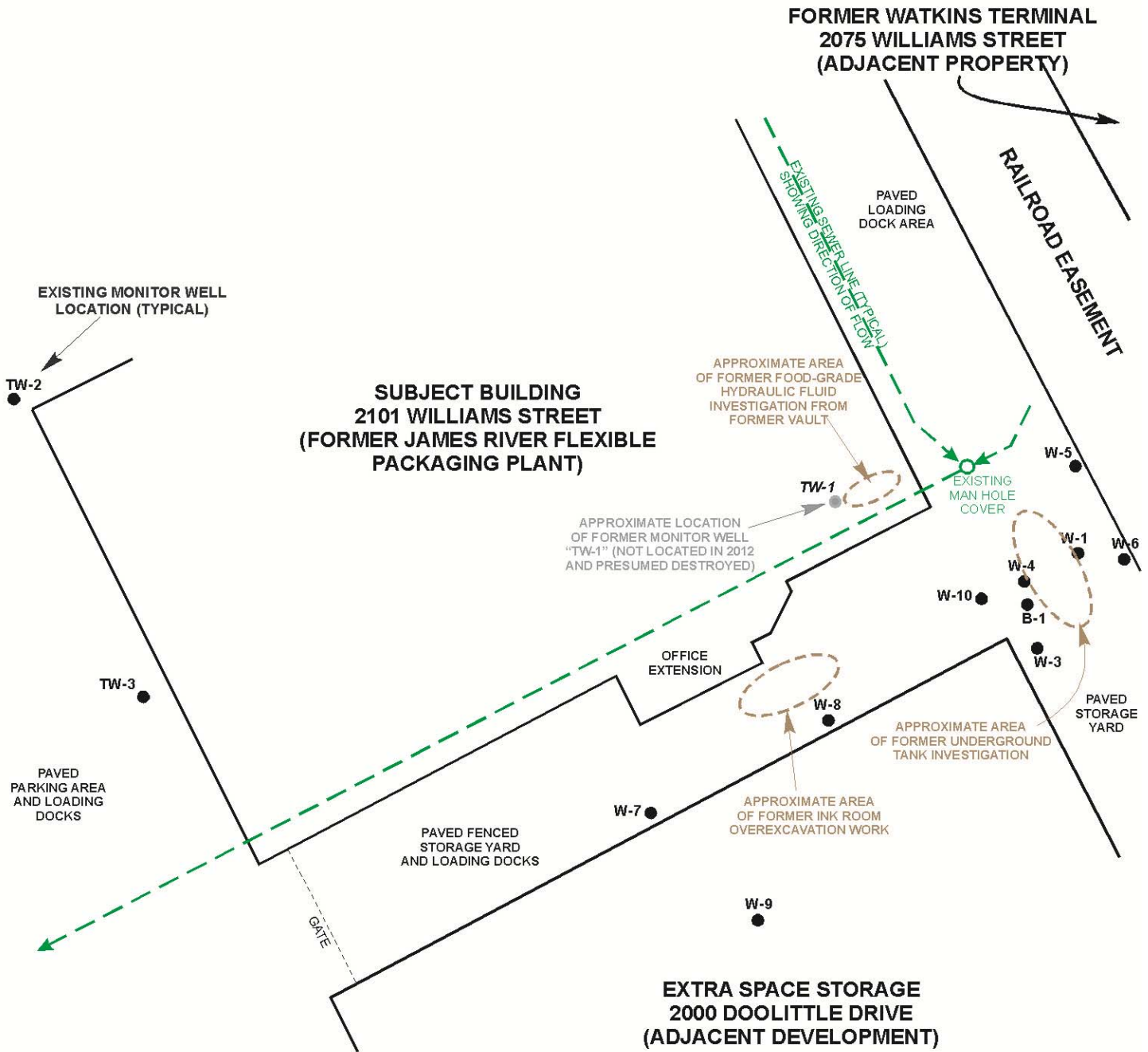
**ANTON  
GEOLOGICAL**

Western U. S. Geological and Environmental Consulting Services  
P. O. Box 370, Elk, California 95432-0370 (707) 877-3278

**PROPOSED BORING  
LOCATIONS**

2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003.01

**PLATE  
1**

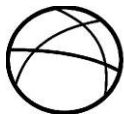


**Notes:**

1. Prepared from aerial photography obtained from Google Earth dated October 2011, prior environmental reports prepared by others (describing the location of TW-1), our August 2012 field measurements (using measuring wheels and/or measuring tapes), and our general field notes.
2. All locations and dimensions are approximate only.



SCALE 1" = 100'



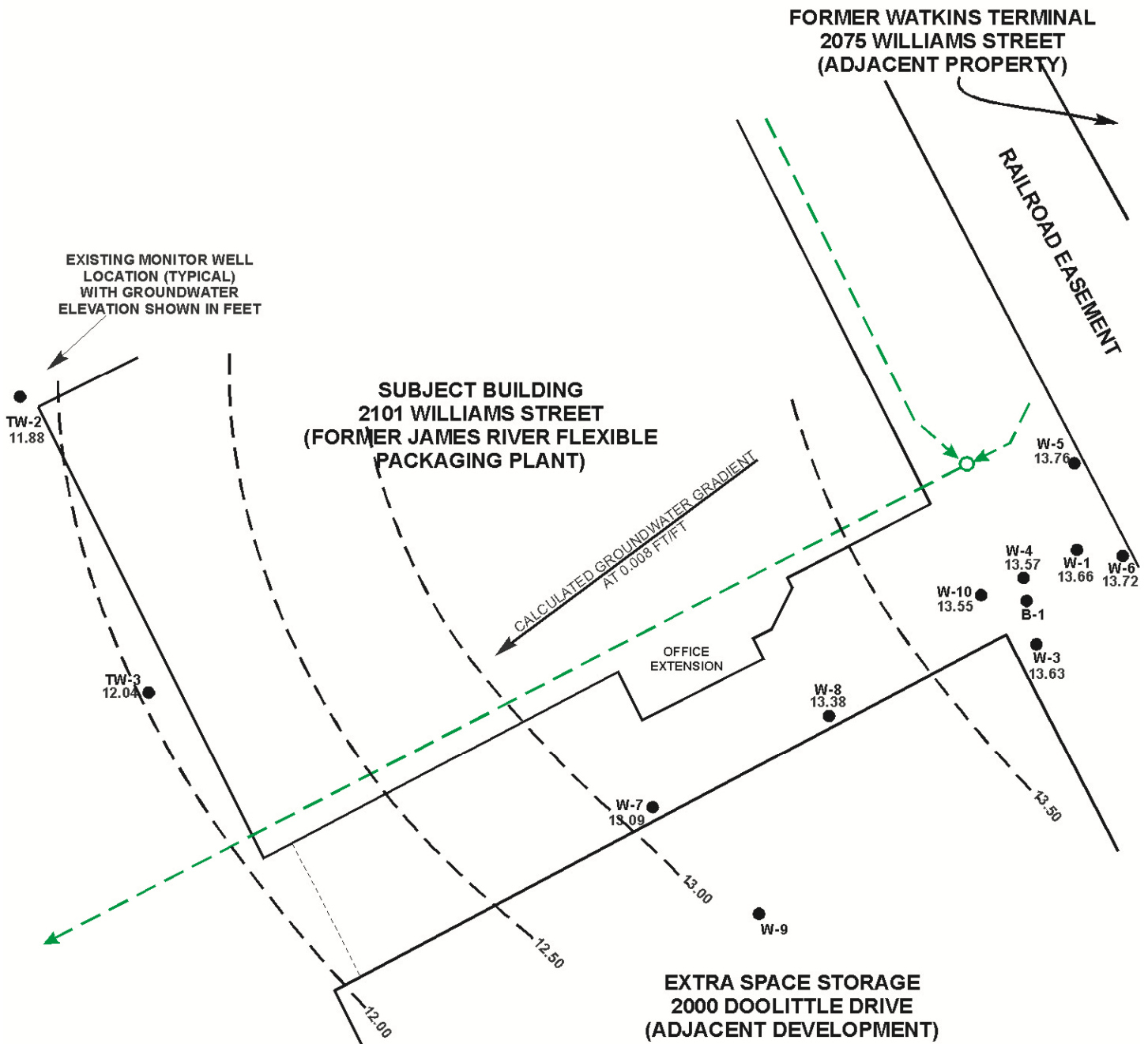
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**SITE PLAN**

2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003

**PLATE  
2A**



**Notes:**

1. Groundwater elevations and contour lines shown in feet above Mean Sea Level (MSL).
2. Prepared from aerial photography obtained from Google Earth dated October 2011, our August 2012 field measurements, and our general field notes.
3. Groundwater direction and gradient calculated using elevation data from W-1, W-7 and TW-2.
4. Groundwater elevations for B-1 and W-9 were not calculated. B-1 is a lower water-bearing zone monitor well, and no well casing elevation data for W-9 was identified during our review of prior environmental reports
5. All locations and dimensions are approximate only.



SCALE 1" = 100'



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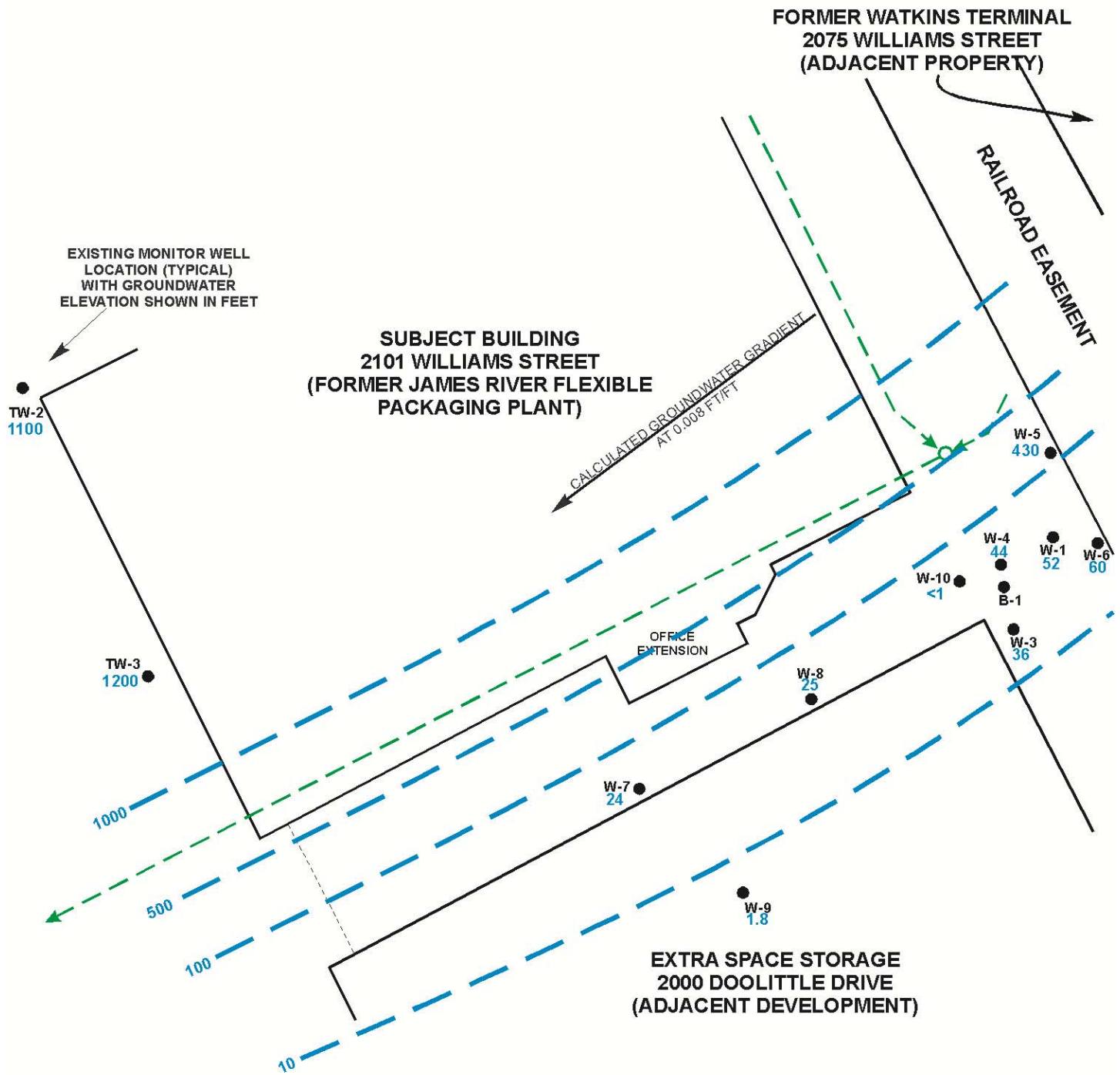
**GROUNDWATER  
ELEVATION MAP**

**AUGUST 2012**

**2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003**

**PLATE  
2B**





**Notes:**

1. PCE concentrations and isoconcentration lines shown in ug/L.
2. Prepared from aerial photography obtained from Google Earth dated October 2011, our August 2012 field measurements, and our general field notes.
3. Groundwater direction and gradient calculated using elevation data from W-1, W-7 and TW-2.
4. Concentration for B-1 not included; B-1 is screened in a lower water-bearing zone.
5. At 17 feet deep, W-10 is significantly shallower than the other wells (averaging 30 feet); as such, the anomalous data was ignored for this modeling effort.
6. All locations and dimensions are approximate only.



SCALE 1" = 100'



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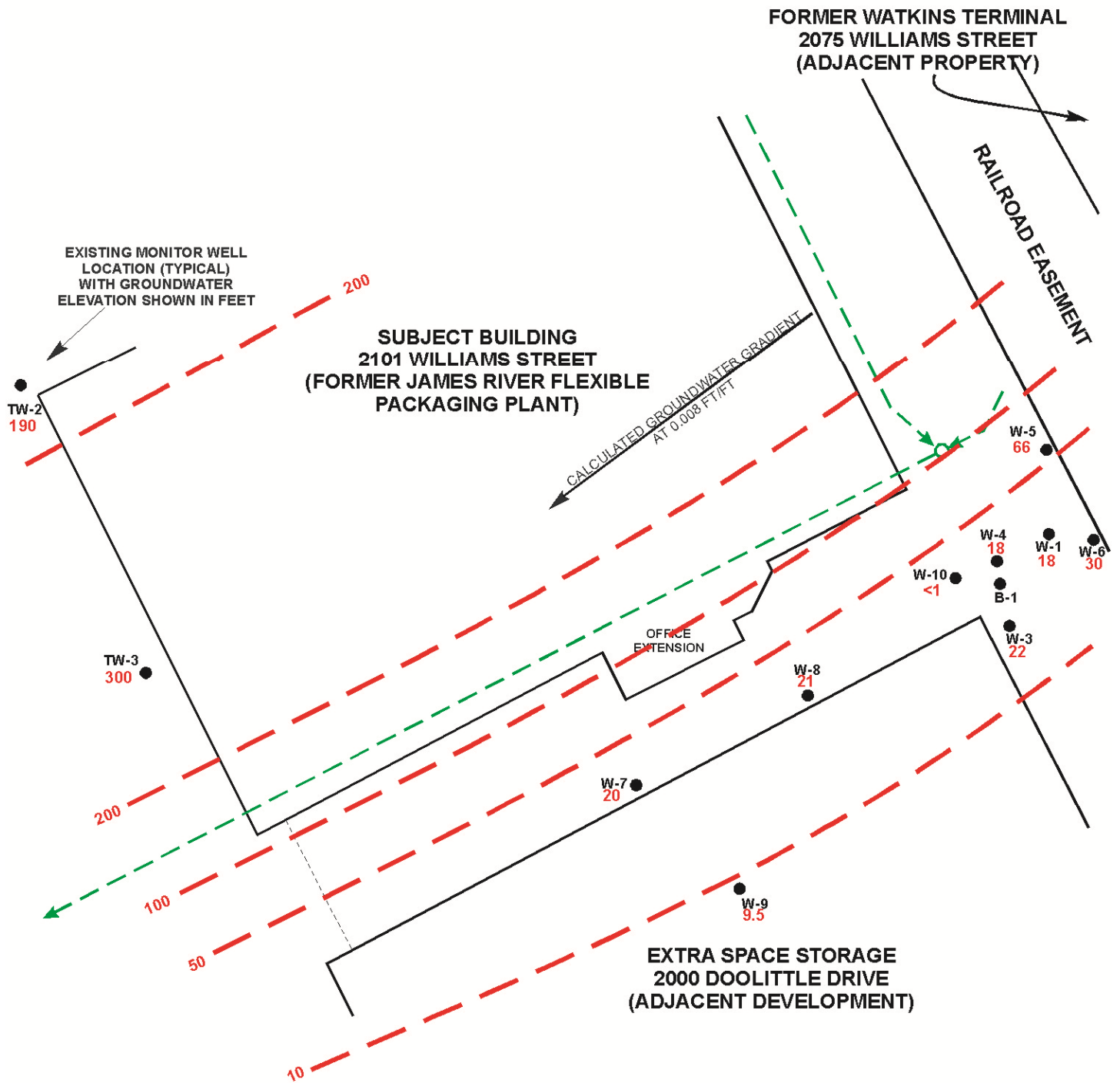
**PCE ISOCONCENTRATION  
MAP**

**AUGUST 2012**

**2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003**

**PLATE  
2C**





**Notes:**

1. TCE concentrations and isoconcentration lines shown in ug/L.
2. Prepared from aerial photography obtained from Google Earth dated October 2011, our August 2012 field measurements, and our general field notes.
3. Groundwater direction and gradient calculated using elevation data from W-1, W-7 and TW-2.
4. Concentration for B-1 not included; B-1 is screened in a lower water-bearing zone.
5. At 17 feet deep, W-10 is significantly shallower than the other wells (averaging 30 feet); as such, the anomalous data was ignored for this modeling effort.
6. All locations and dimensions are approximate only.



SCALE 1" = 100'



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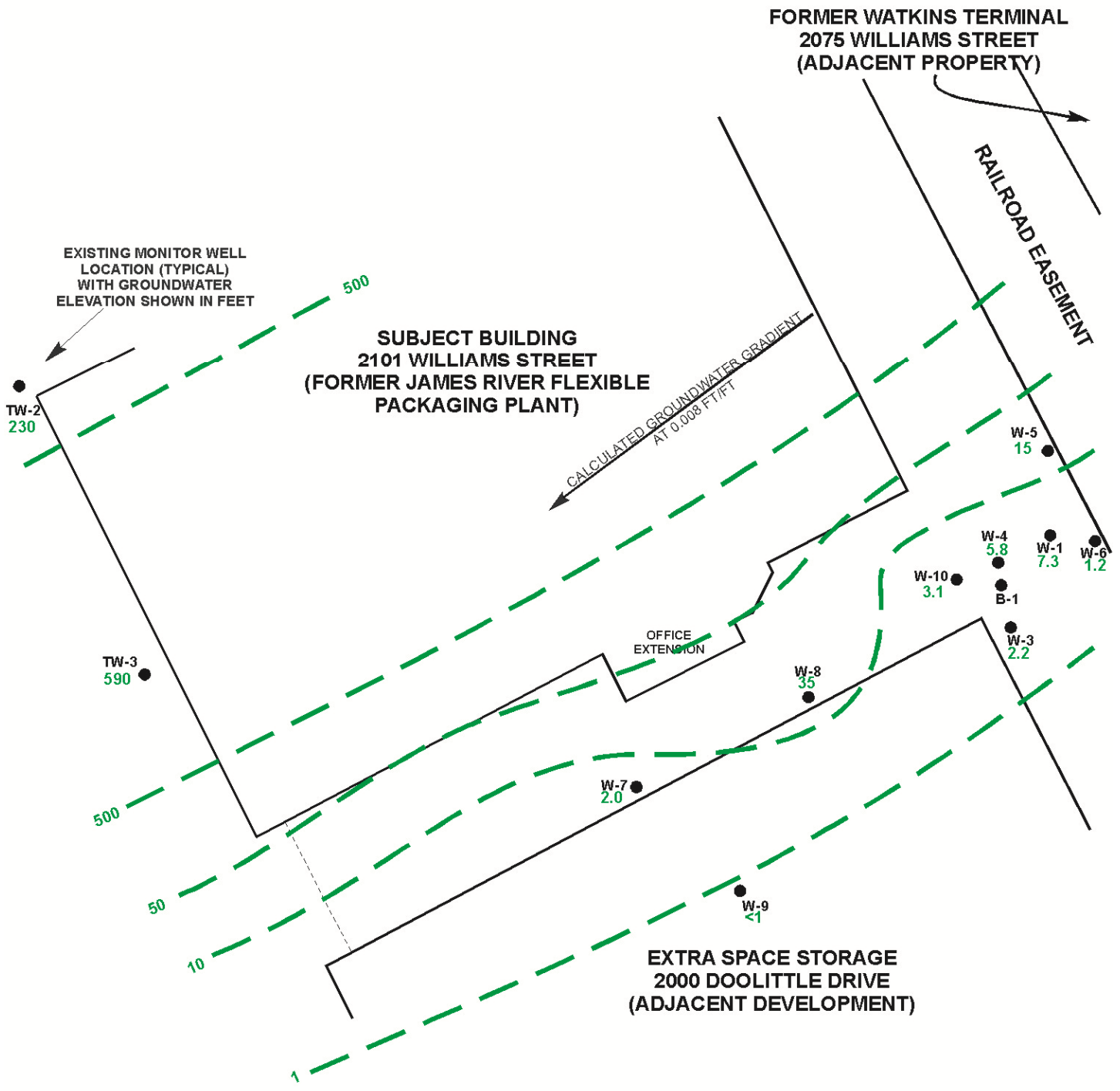
Western U. S. Geological and Environmental Consulting Services  
P. O. Box 370, Elk, California 95432-0370 (707) 877-3278

**TCE ISOCONCENTRATION  
MAP**

**AUGUST 2012**

2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003

**PLATE  
2D**



**Notes:**

1. Cis-1,2 DCE concentrations and isoconcentration lines shown in ug/L.
2. Prepared from aerial photography obtained from Google Earth dated October 2011, our August 2012 field measurements, and our general field notes.
3. Groundwater direction and gradient calculated using elevation data from W-1, W-7 and TW-2.
4. Concentration for B-1 not included; B-1 is screened in a lower water-bearing zone.
5. All locations and dimensions are approximate only.



SCALE 1" = 100'

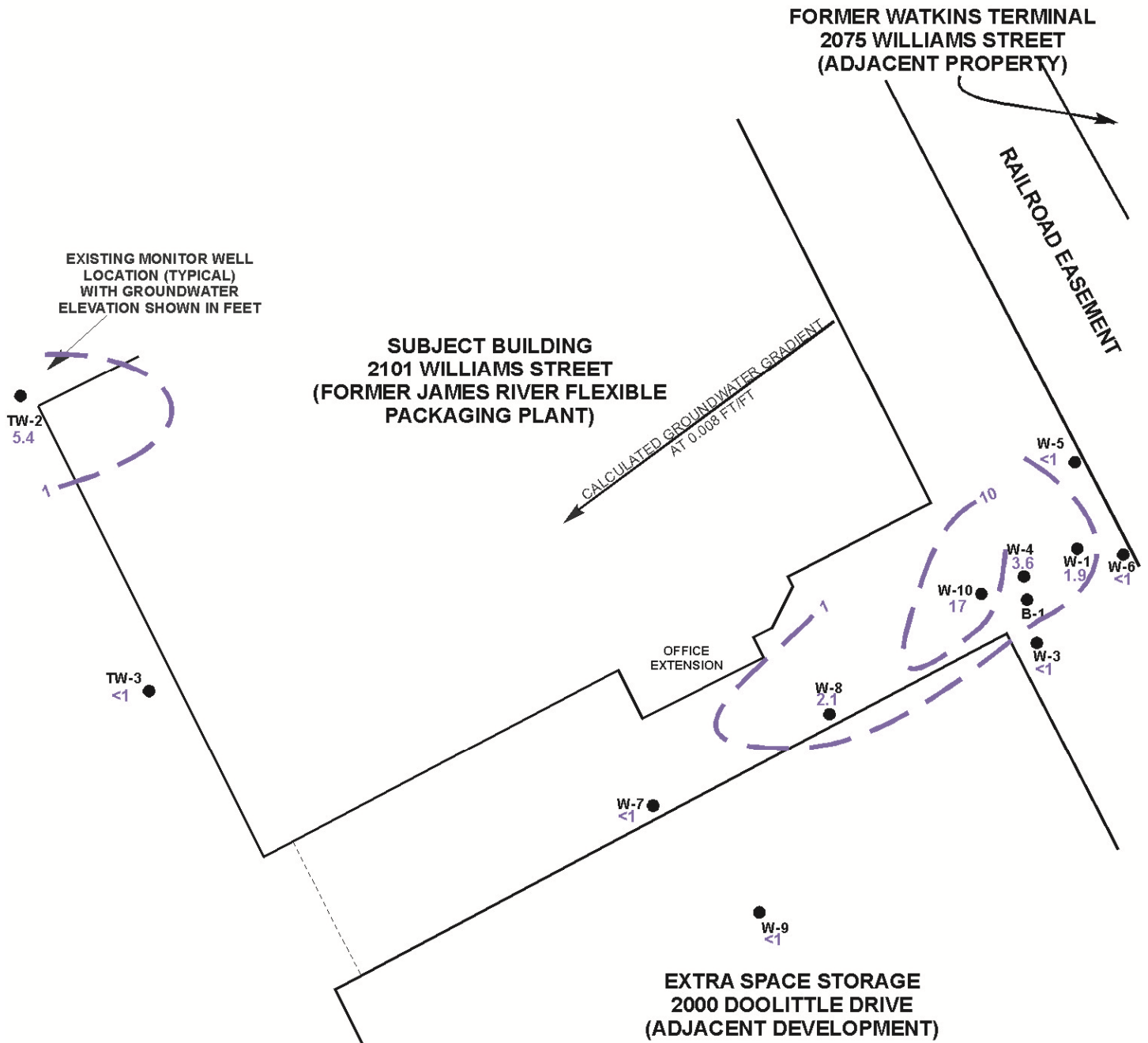


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**CIS-1,2 DCE  
 ISOCONCENTRATION MAP**

**AUGUST 2012**  
 2101 Williams Street, San Leandro, CA  
 Anton Geological Project No. 012-003

**PLATE  
 2E**



Notes:

1. Cis-1,2 DCE concentrations and isoconcentration lines shown in ug/L.
2. Prepared from aerial photography obtained from Google Earth dated October 2011, our August 2012 field measurements, and our general field notes.
3. Groundwater direction and gradient calculated using elevation data from W-1, W-7 and TW-2.
4. Concentration for B-1 not included; B-1 is screened in a lower water-bearing zone.
5. All locations and dimensions are approximate only.



SCALE 1" = 100'



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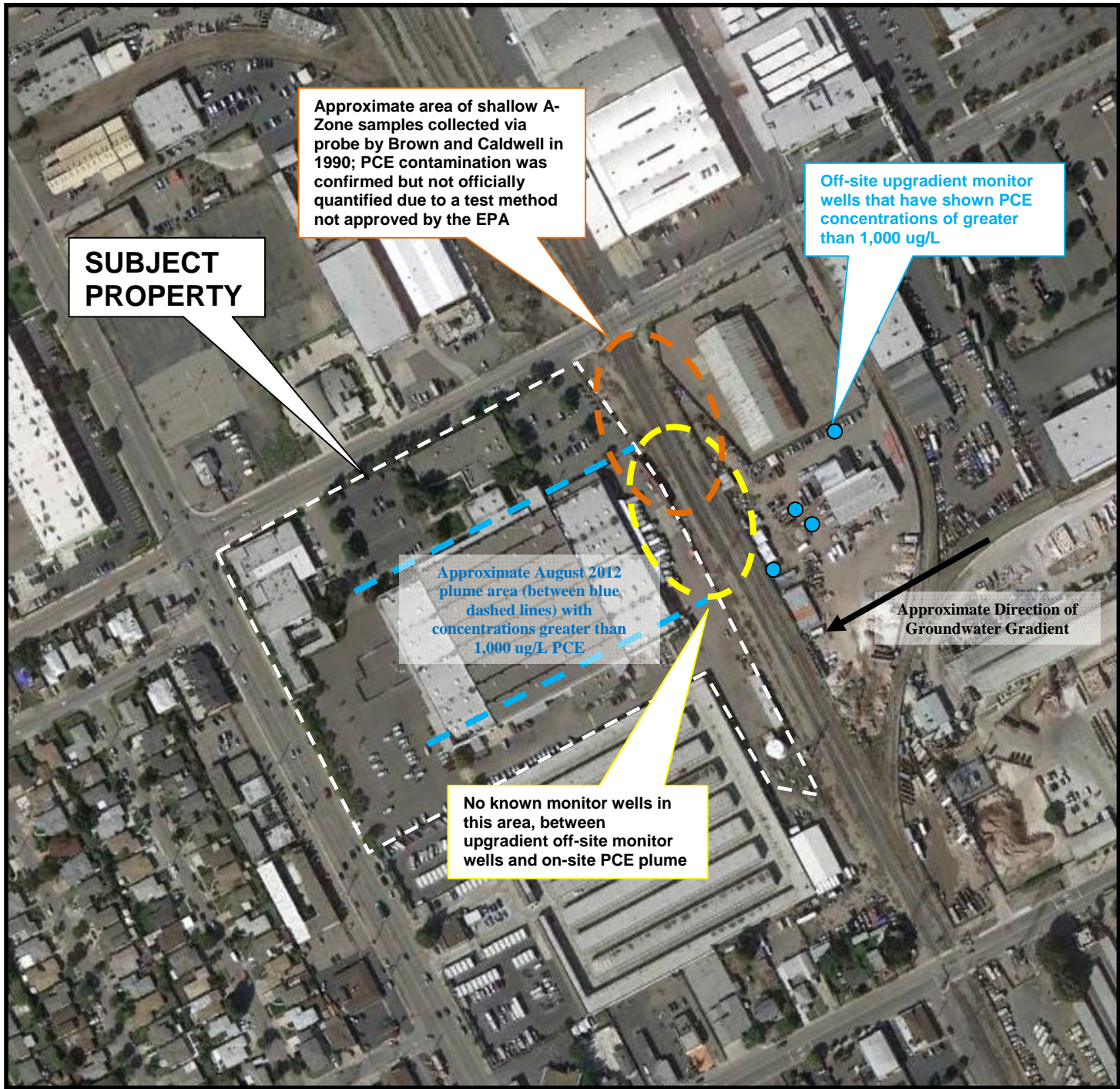
**VINYL CHLORIDE  
ISOCONCENTRATION MAP**

**AUGUST 2012**

**2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003**

**PLATE  
2F**





**Notes:**

1. Photograph dated October 11, 2011.
2. Photograph obtained from Google.
3. All locations and dimensions are approximate only.
4. Off-site well data (for off-site monitor well numbers MW-3/3A, MW-15, MW-15A and MW-16/16A) obtained from Figures 2 and 3 of P&D Environmental, Inc. report entitled "Groundwater and Indoor Air Investigation Report (B25 Through B27, IA1 Through IA3), RWQCB Case #01S0426, Bluewater Environmental Services, Inc. (Former Watkins Terminal) Site, 2075 Williams Street, San Leandro, California", dated July 5, 2012.



SCALE NOT SHOWN



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**NOTEWORTHY NEARBY  
OFF-SITE MONITOR WELLS  
AUGUST 2012**

2101 Williams Street, San Leandro, CA  
Anton Geological Project No. 012-003

**PLATE  
2G**

**APPENDIX**  
**SITE SAFETY PLAN**

**SITE SAFETY PLAN**  
2101 Williams Street  
San Leandro, California  
Anton Geological Project No. 012-003.01

KEY PERSONNEL

The project geologist, Kenneth Anton, will be responsible for oversight of daily activities. Throughout this Safety Plan, our on-site representative is referred to as our "geologist".

The following is a reference list of project contacts:

Owner Contact: Carey Andre (510) 261-5500

Project Geologist: Kenneth Anton, PG  
Anton Geological  
(707) 877-3278

TRAINING CERTIFICATION

Mr. Anton has been certified for Supervisory Hazardous Waste Site Operations training received in accord with 29 CFR 1910.120. Contractors are responsible for similar training.

SITE ORIENTATION MEETING

A meeting will be conducted prior to the commencement of site work for the purpose of discussing the work zones, physical and chemical hazards, as well as additional elements of this Safety Plan. The meeting will be conducted by our geologist; attendees will include the drill crew and tenants (if present) as a minimum.

HAZARD ASSESSMENT

The primary potential hazards generally include physical hazards inherent in equipment usage, and chemical, both contact and inhalation. These concerns and methods for safely guarding against each are discussed separately below.

Physical Hazards

Hard-hats, safety glasses and sturdy shoes will be worn when working within the primary and decontamination work zones. Work zones will be kept in an orderly fashion to minimize tripping hazards.

## Chemical Hazards

The primary chemicals expected during the current undertaking include volatile organic compounds: specifically tetrachloroethene and its decay components. Tyvek gloves are required for all soil and groundwater contact. If significantly contaminated soil is encountered, additional protective clothing may include Tyvek suits and/or additional gloves. Glove material should consist of the one of the following: neoprene or nitrile rubber. Emergency response measures to be taken if skin or eye exposure occurs are presented later in the Safety Plan. Respiratory exposure limits for the most likely anticipated compounds of concern are tabulated below.

RESPIRATORY EXPOSURE LIMITS <sup>a</sup>			
COMPOUND	IDLH <sup>b</sup>	PEL <sup>d</sup>	STEL <sup>e</sup>
Tetrachloroethene	150 <sup>c</sup>	25	---

**NOTES:**

<sup>a</sup> Units are parts-per-million (ppm) in air.

<sup>b</sup> Immediately Dangerous to Life and Health (revised IDLH concentration by National Institute for Occupational Safety and Health—NIOSH Internet web site as of November 1999).

<sup>c</sup> Carcinogen (NIOSH, June 1990). Original NIOSH IDLH = 3000.

<sup>d</sup> Permissible Exposure Limit expressed as 8-hour time weighted average (NIOSH, June 1990).

<sup>e</sup> Short Term Exposure Limit expressed as a 15-minute time weighted average not to be exceeded during workday (not established for tetrachloroethylene).

During this undertaking, on-site respirators will consist of the half-face type fitted with organic vapor cartridges (AO-R51HE). Respirators will be worn if photoionization detector (PID) indicates total organic vapors of 20 ppm or greater within the primary work zone breathing space for more than 10 minutes. If the total organic vapors are consistently greater than 50 ppm, full-face respirators would be worn and consideration will be given to potential engineering controls and/or upgrading personal protection.

## Explosion Hazard

During PID air monitoring, ten percent of the Lower Explosive Limit (LEL) for ethylbenzene would be considered the project safety standard. The LEL for ethylbenzene has been set by the National Institute for Occupational Safety and Health (NIOSH) at 1.0 percent in air. Ten percent of 1.0 is equivalent to 1000 ppm. Monitoring would be performed on vapors emanating from any borehole or spoil. A dry chemical fire extinguisher would be on-hand at all times during this undertaking.

## WORK ZONES AND SECURITY MEASURES

The general work area will be controlled by the project manager to keep non-essential personnel away from any hazard. Following exploration and sampling activities, the soil boring would be backfilled from the bottom with a bentonite-cement grout mixture via tremie pipe in accordance with County standards.

## DECONTAMINATION

Gross contamination will be removed from the equipment prior to leaving the site. Drill cuttings and rinse water would be sealed in labeled D.O.T. 55-gallon drums or equivalent, and left on-site pending chemical analysis. Cleaning materials may include trisodium phosphate or Alconox cleanser and pressurized hot water (steam cleaner).

## EMERGENCY RESPONSE

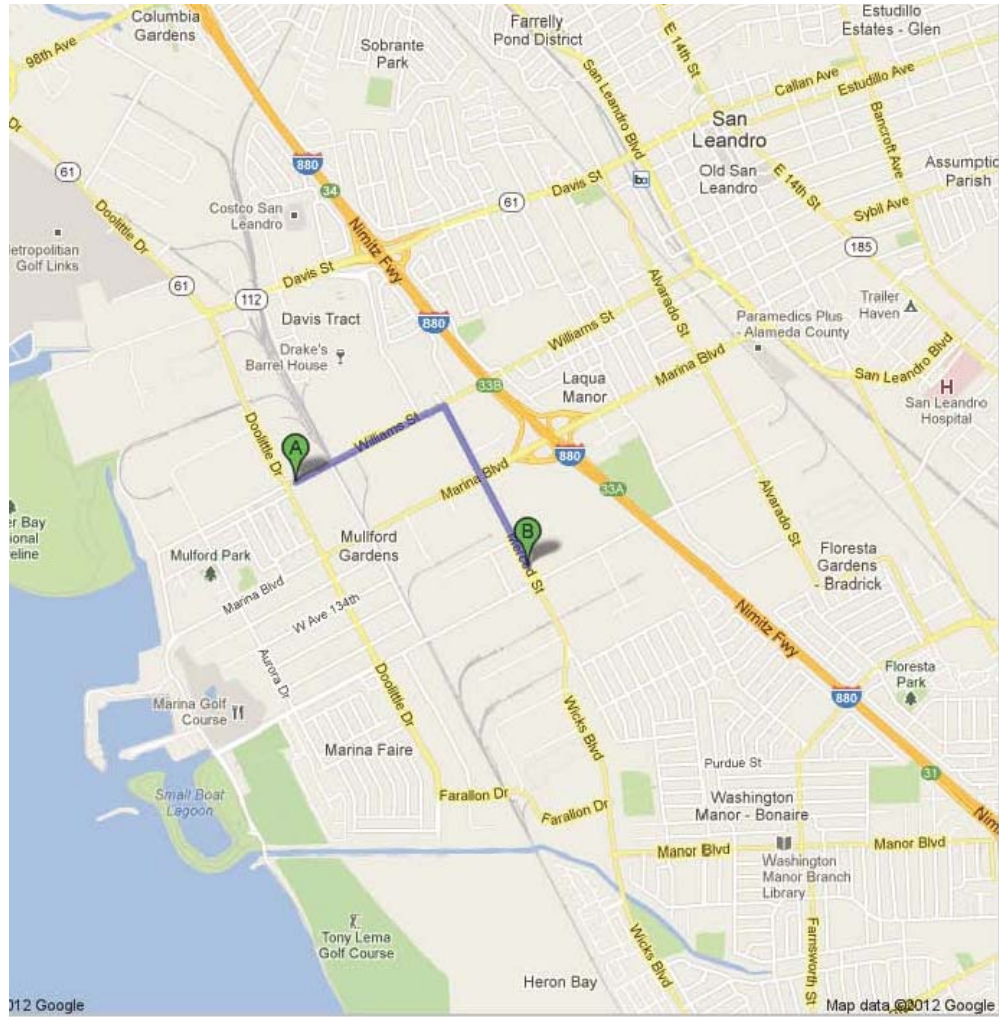
In extreme emergencies which require immediate aid, dial 911. The nearest emergency medical facility is **Concentra Urgent Care** located at **2587 Merced Street, San Leandro**, California (refer to attached map); phone number **(510) 351-3553**. Potential emergencies and appropriate responses are listed below.

### EMERGENCY

### OVERT RESPONSE

Chemical in Eyes	Flush with copious amounts of water for <u>at least 15 minutes</u> and transport to medical facility.
Skin Contact	Wash with soap and water and transport to medical facility.
Inhalation	Move to fresh air, decontaminate individual and transport to medical facility.
Ingestion	Decontaminate individual and transport to medical facility.
Puncture/Laceration	Decontaminate individual and transport to medical facility.





**Concentra Urgent Care**  
2587 Merced Street  
San Leandro, California  
**(510) 351-3553**



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Western U. S. Geological and Environmental Consulting Services  
P. O. Box 370, Elk, California 95432-0370 (707) 877-3278

**MAP TO URGENT CARE  
CENTER**

2101 Williams Street, San Leandro, California  
Anton Geological Job No. 012-003.01

**ABOUT 1.1  
MILES TO  
FACILITY**