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Oakland, CA 94612  
(510) 663-4100 • FAX (510) 663-4141



March 22, 2001  
Project 3801.002

*ROT# 0000069*  
*Rec'd 4/1/01*  
*AB*

Ms. Susan L. Hugo  
Hazardous Materials Specialist  
Environmental Health Services  
Alameda County Health Care Services Agency  
1131 Harbor Bay Parkway  
Alameda, California 94501

Subject: Closure of the Powell Street Plaza Sites  
Long-Term Management Plan  
Emeryville, California

Dear Susan:

As you are aware, Geomatrix Consultants, Inc. (representing the former Eastshore Partners) has been working with URS Corporation (representing the current owners of the Powell Street Plaza site) to finalize a Long-Term Management Plan (LTMP) based upon the Risk Assessment and Long-Term Management Strategy for Petroleum Product that was originally presented to you in July 1997. Your response in October 1997 accepted the recommendations made in the July 1997 Geomatrix submittal, provided three conditions were met in the final LTMP. These three conditions were: 1) assurances that the LTMP will be maintained in the future, including a letter outlining the process of deed notification and financial responsibilities; 2) sealing of the existing subsurface vaults; and 3) a reasonable agreement between the property owners concurring with the implementation of the LTMP. At this time, we request final closure on this site. In order to facilitate your approval, we have compiled additional data and prepared additional documentation for your review and consideration.

Enclosed is a Covenant and Environmental Restriction on Property (the "Deed Notification") prepared by the present property owner's counsel, Barry Sandals of Morrison & Foerster, that will provide notification of the presence of the Petroleum Hydrocarbons (as defined therein) and require that the LTMP be followed by all current and future owners of the Burdened Property (as defined therein). In accordance with your recommendation, URS Corporation followed the Regional Water Quality Control Board (the "RWQCB") standard deed notification format and incorporated specific language to describe the situation at the site. We have enclosed a copy of the Deed Notification for your review and approval.

As we discussed during our January 26 meeting, we have provided additional documentation that supports the conclusion that there is no need to seal the subsurface vaults and that the LTMP should be revised to eliminate section 7.4 (Management for Potential Nuisance or Explosion Hazards Associated with Subsurface Vaults). This conclusion is based upon a review of the historical levels of groundwater on the site and the location and depth of the

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Environmental Health Services  
Alameda County Health Care Services Agency  
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subsurface vaults. A memo summarizing our meeting discussion and an addendum describing additional evidence we uncovered has been prepared by Lee Dodge of URS Corporation and is attached for your information.

Since the existing monitoring wells will be removed by the former Eastshore Partners, there will be no other current costs associated with the LTMP. All future costs to implement and maintain the LTMP will remain with the property. Future owners of the property will be notified of these requirements once the Deed Notification is approved and recorded. The Deed Notification will be recorded by the present owner in the Alameda County Land Records immediately after its approval.

Enclosed for your review are the following documents:

1. Powell Street Plaza Long-Term Management Plan, prepared by Geomatrix and dated March 7, 2001.
2. Memo from Lee Dodge dated February 8, 2001 summarizing the discussion and evidence provided at the January 26, 2001 meeting, including attachments.
3. Addendum to the summary of the January 26, 2001 meeting, written by Lee Dodge, describing additional evidence uncovered since the January 26 meeting, including a revised composite map showing the groundwater elevations and subsurface vault elevations.
4. Proposed Covenant and Environmental Restrictions on Property (the "Deed Notification").

As was indicated in our January meeting, the property is being marketed for sale and your quick response to this request would be most appreciated. As such, we request that you review the enclosed items and approve site closure for Powell Street Plaza under the conditions outlined in the LTMP, as amended. Thank you for your consideration of this matter.

As you are aware, Geomatrix Consultants, Inc. (representing the former Eastshore Partners) has been working with URS Corporation (representing the current owners of the Powell Street Plaza site) to finalize a Long-Term Management Plan (LTMP) based upon the Risk Assessment and Long-Term Management Strategy for Petroleum Product that was originally presented to you in July 1997. Your response in October 1997 accepted the recommendations made in the July 1997 Geomatrix submittal, provided three conditions were met in the final

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Alameda County Health Care Services Agency  
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LTMP. These three conditions were: 1) assurances that the LTMP will be maintained in the future, including a letter outlining the process of deed notification and financial responsibilities; 2) sealing of the existing subsurface vaults; and 3) a reasonable agreement between the property owners concurring with the implementation of the LTMP. At this time, we request final closure on this site. In order to facilitate your approval, we have compiled additional data and prepared additional documentation for your review and consideration.

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Alameda County Health Care Services Agency  
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3. Addendum to the summary of the January 26, 2001 meeting, written by Lee Dodge, describing additional evidence uncovered since the January 26 meeting, including a revised composite map showing the groundwater elevations and subsurface vault elevations.
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Sincerely yours,  
GEOMATRIX CONSULTANTS, INC.



Tom Graf  
Principal Engineer

TG/abr  
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Enclosures: Revised Soil Management Plan and Long-Term Management Strategy for Petroleum Product  
Memo from Lee Dodge dated February 8, 2001  
Addendum to the Summary of the January 26, 2001 Meeting, written by Lee Dodge  
Proposed Covenant and Environmental Restrictions on Property

cc: Lee Dodge – URS Corporation  
Ravi Arulanantham – Regional Water Quality Control Board  
Tom Gram – Eastshore Partners  
David Cooke – Allen Matkins  
Jeff Mills – UBS Realty Investors  
Barry Sandals – Morrison & Foerster



# Memorandum

Date: February 8, 2001

To: Susan Hugo, ACHA  
Ravi Arulanantham, RWQCB

cc: Jeff Fraulino, Jeff Mills – UBS, Tom Graf - Geomatrix

From: Lee Dodge – URS

Subject: **Powell St. Plaza –Summary of the January 26, 2001 Meeting Addressing the Long Term Management Plan**

On Friday, the 26<sup>th</sup> of January, a meeting was held on the Powell Street Plaza(PSP) site.

Attending were:

✓ Susan L. Hugo, Hazardous Materials Specialist Alameda County Health Agency<sup>1</sup> (ACHA)

✓ Ravi Arulanantham, Ph.D.; Staff Toxicologist, Ca., Regional Water Quality Control Board (RWQCB)

Tom Graf, P.E., Principal Engineer, Geomatrix Consultants, Inc.

Lee Dodge, P.E., Sr. Civil / Environmental Engineer; URS Corporation

Ms. Hugo represents the lead agency, ACHA; Mr. Arulanantham represents the RWQCB, he is the technical representative for the State; Mr. Graf is the technical consultant for the former owner, Eastshore Partners. Mr. Dodge is the technical consultant for the current owner Aetna Real Estate Associates and its real estate investment adviser, UBS Realty Investors, LLC. ✓

Prior to this meeting Mr. Dodge and Mr. Graf have been working cooperatively with the objective of attaining the most complete understanding of existing conditions of the site in order to determine specific activities, if any, to be addressed by the Long Term Management Plan, (LTMP).

The purpose of this meeting was to acquaint Ms. Hugo and Mr. Arulanantham with data and other information that was unavailable to them and Geomatrix in 1997 when the LTMP<sup>2</sup> was submitted by Geomatrix on behalf of Eastshore Partners. That information includes:

- ✓ A. A drawing of subsurface drainage details that shows the type, installation depth, number, and location of these features.
- B Two groundwater elevation maps produced by PFS Environmental, Inc. one showed the most recent data available, (from a sampling event on November 25, 1996), and, for perspective, the other showed data from a sampling event that occurred 3 months earlier


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<sup>1</sup> Formerly Alameda HealthCare Services Agency - ACHCSA

<sup>2</sup> Risk Assessment and Long-Term Management Strategy for Petroleum Product, Geomatrix Consultants July 1997

- C. A drawing that provided the details of the underground electrical and telephone utilities. This drawing provided details like those described in item A above.
- D. A composite map by URS that illustrated the utility vault locations and depth, the location of the former diesel tanks, the approximate area of residual contamination, and last measured groundwater elevations.
- E. A short memo prepared by Lee Dodge on January 25, 2001, that explains the history of the 1997 Geomatrix Risk Assessment and proposed Long Term Management Strategy and provides an explanation of the current situation as PSP.
- F. A table prepared by Lee Dodge on January 25, 2001 that lists all subsurface intrusions on the southern 350 feet of the site, the type of intrusion, the estimated depth of the November 1996 elevation of the groundwater at the location of each of the intrusions, and the distance from the bottom of each intrusion to the level of the groundwater.

Packages of these materials were provided to the attendees and explanations of the sources and the composite map itself were presented. The data and the maps were discussed and all questions answered. The following conclusions were discussed and revisions to both the Geomatrix LTMP and the ACHA conditions to the LTMP were offered based on the evidence we now have.

- Of the 19 catch basins or curb inlets, sanitary sewer manholes, and utility vaults in the southern 350' of the Plaza, only six are over the "approximate area of residual petroleum contamination" and of the six only two are vaults, and one is a sanitary sewer manhole.
- The two vaults are 0.5 and 3-feet above the November 1996 groundwater level. (This represents a revision of the data originally supplied based upon a more detailed review of the original sampling data.)
-  The hypothetical danger of nuisance petroleum or explosive gases collecting in vaults is not likely since only two of the vaults in the southern end of the property are in the approximate area of the residual contamination and all of the vaults are well above the groundwater elevation.
- The above discussion leads to the conclusion that a revision of the proposed LTMP for the Powell Street Plaza property is appropriate. Both Mr. Dodge and Mr. Graf propose that section 7.4-Management of Potential Nuisance or Explosion Hazards Associated with Subsurface Vaults should be removed. All the other conditions in the original Geomatrix plan-Section 7.0-Recommendations for Long-Term Site Management should remain. We also recommend that condition no. 2 of the ACHA 10/15/97 letter, which refers to the need to seal the existing vaults to prevent hydrocarbon intrusion, should be removed. The relative elevations between the bottom of the vaults and the groundwater elevation eliminate the need for this condition. Finally, all references to the Shellmound III site should be removed since that site is under different ownership.

Condition 1 of the ACHA letter of 10/15/97<sup>3</sup> required a deed notification. When this writer asked what would be acceptable, the answer was to use the Water Board template as a guide but modify it appropriately to address conditions at this site.

The meeting participants all agreed that the site was no longer an environmental or human health hazard.

**Action Items**

Provide a meeting summary.

Dodge, Graf

Submit a revised LTMP

Dodge, Graf

Provide UBS with the RWQCB deed restriction template

Hugo

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<sup>3</sup> ACHA letter to Eastshore Partners dated October 15, 1997, signed by S L Hugo

RE: JANUARY 26 MEETING SUMMARY

PLEASE NOTE THE FOLLOWING;

Items A through F were presented at the January 26 meeting. Since that date information from a more ~~a more~~ current groundwater sampling event was discovered and therefore the data from that event supercedes that which was presented on January 26.

Item A: A grading, drainage and utility plan, Sheet C-1, has not changed and is supplied (it should be noted this information is included in the composite map, Item D).

Item B: Two groundwater elevation maps created from groundwater sampling events of August and November 1996 are included for perspective. The last sampling event was in May 1997 and that groundwater elevation map is part of the revised composite map attached to the Addendum to the summary of the January 26 meeting.

Item C: Details of curb inlets, drop boxes and other surface drainage features is not enclosed.

Item D: This composite map has been superceded due to the later sampling data. A revised version is included with the January 26 meeting Addendum. Its title is 1997 Groundwater Contours, Vaults, and Other Subsurface Features, and the Approximate Area of Residual Contamination.

Item E: Is Included.

Item F: A table listing the relationship of vault depths and groundwater elevations has been superceded and incorporated into the composite map(see item D above).



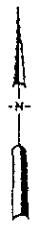
POWELL STREET

SHELLMOUND STREET

INTERSTATE 80

POWELL STREET PLAZA

SHELLMOUND III



0 200

APPROXIMATE SCALE IN FEET

**EXPLANATION**

- MW-1 - Groundwater Monitoring Well
- MW-5 - Well abandoned by Permit
- Property Boundary
- 4.0 - Groundwater Contour  
(Contours dashed where uncertain)
- Approximate Direction of Groundwater Flow

MW-19

MW-5

MW-13

MW-11 (0.40)

MW-14 (4.88)

MW-6 (3.40)

MW-12 (2.85)

MW-13 (5.10)

MW-9 (3.84)

MW-8 (1.69)

MW-1 (3.02)

MW-10

MW-4

MW-3 (2.74)

MW-2 (2.99)

MG-3

MG-2

PZ-1

MG-1

MW-18

MG-4

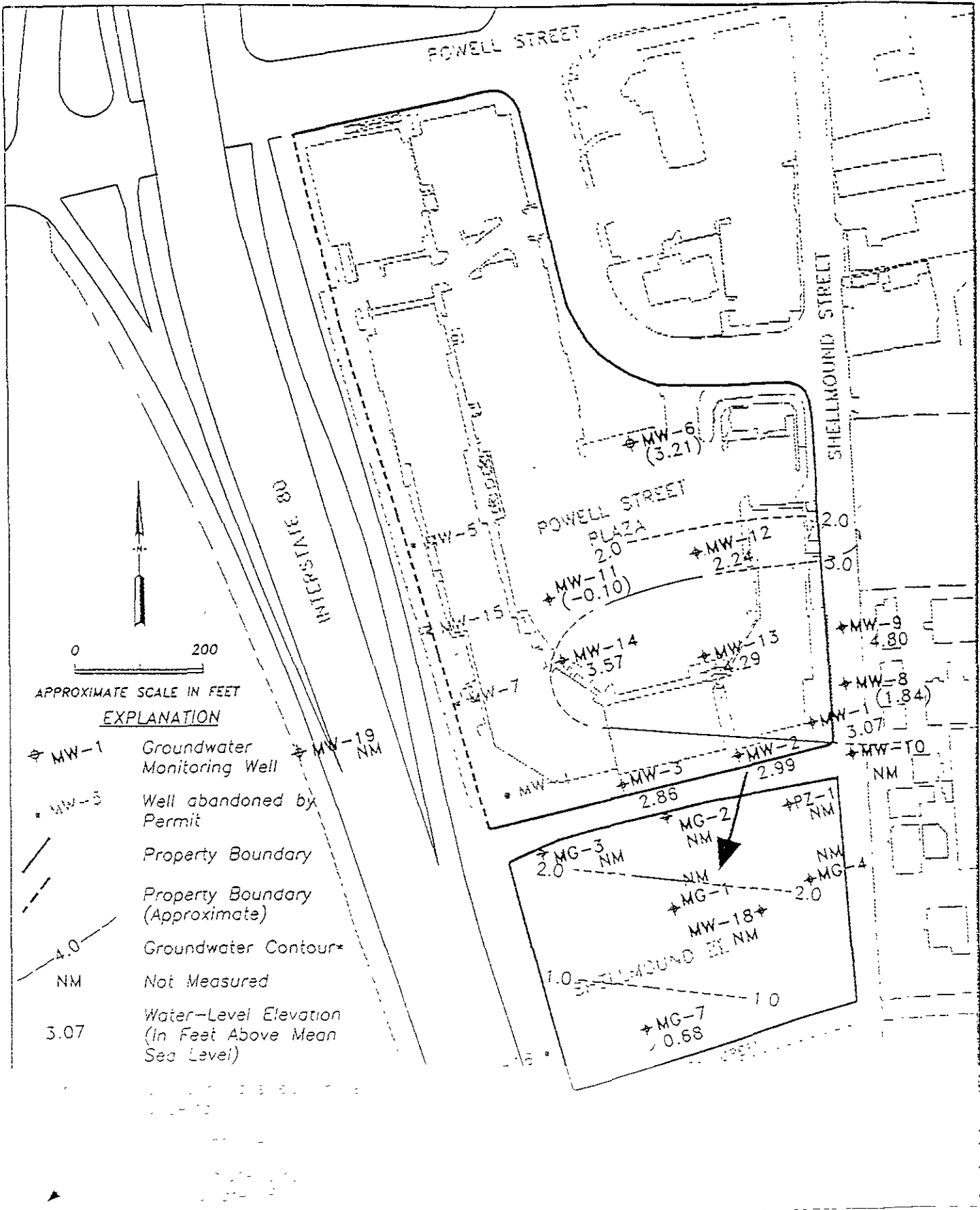
MG-7 (0.95)

1000 - 1000000



PES Environmental, Inc  
Engineering & Environmental Services

Groundwater Evaluation Report  
Powell Street Plaza  
Shellmound III  
Emergency Response



APPROXIMATE SCALE IN FEET

**EXPLANATION**

- ⊕ MW-1 Groundwater Monitoring Well
- MW-3 Well abandoned by Permit
- Property Boundary
- - - Property Boundary (Approximate)
- 4.0 Groundwater Contour
- NM Not Measured
- 3.07 Water-Level Elevation (in Feet Above Mean Sea Level)



**PES Environmental, Inc.**  
 Engineering & Environmental Services

Groundwater Elevation in November 1993  
 Date: 11/15/93  
 Location: 1000 Powell Street  
 City: San Francisco, CA 94109  
 Project: 93-001

**The following is an explanation of the history of the 1997 LTMP for Powell St. Plaza with an explanation of the current situation.**

In July of 1997 Geomatrix proposed a Long Term Management Strategy for Petroleum Product for the Powell Street Plaza Site<sup>1</sup>. The document was submitted, reviewed, and conditionally accepted in an October 15, 1997 letter from the Alameda County Health Care Services Agency, ACHCSA<sup>2</sup>. That acceptance was conditioned upon three requirements in addition to those postponed in the Geomatrix document. The three conditions are listed below:

1. Assurance that the site management plan will be maintained in the future, including a letter from you outlining the process of deed notification and financial responsibilities.
2. Sealing of the existing subsurface vaults to prevent petroleum hydrocarbon intrusion on the Powell Street Plaza site and your plan to facilitate adequate sealing of vaults during future construction on the Shellmound III site. The vault integrity must also be maintained to prevent any future intrusion of petroleum product. Please provide this office with an acceptable plan to evaluate that the vaults are properly sealed.
3. A reasonable agreement between the property owners (of Powell Street Plaza and Shellmound III sites) and East Shore Partners concurring with the implementation of the Long Term Management Plan (LTMP)..

One of the objectives of the LTMP was "To present procedures to manage potential nuisance or explosion hazard issues associated with residual petroleum hydrocarbons entering existing or future subsurface utility vaults."<sup>3</sup> It is my understanding that the 1997 LTMP was developed without having recourse to the drawings showing the type, number, location of, and depth of these 'vaults'. Without this information one was prudent in assuming that whatever product may still be in the groundwater could find its way into a subsurface vault, potentially accumulate, and thereby create an explosion hazard or at least a nuisance. the LTMP was therefore conditioned upon a requirement, by the ACHCSA, to clean, seal, and monitor the existing subsurface vaults. Section 7.4 of the Geomatrix plan also made allowances for this possibility.

In the years that followed, the information that would have been most useful in formulating the proposed 1997 LTMP, was found and, when coupled to the November 1996 groundwater

<sup>1</sup> Section 7.0, Risk Assessment and Long-Term Management Strategy for Petroleum Product, Geomatrix July 1997.  
<sup>2</sup> ACHCSA letter to Eastshore Partners dated October 15, 1997, signed by S.L. Hugo  
Risk Assessment and Long-Term Management Strategy for Petroleum Product, Geomatrix July 1997, pg. 43

elevations, yields a picture that requires reconsideration of one of the LTMP assumptions and resultant requirement. This information consists of a utility map of the South end of the Powell Street Plaza site. This drawing shows that most of the subsurface appurtenances are surface drainage features mainly, curb inlets and catch basins. There are other utility structures that generally meet the vault definition, which is a closed space with no significant connection to the atmosphere. Vaults are a reason to consider the possibility of an explosive atmosphere accumulating; the catch basins and curb inlets, which are at the surface and open to the atmosphere, are not. there are four utility vaults, PG&E and PacBell), plus two sanitary sewer manholes, SSMH, that are within the southern 350' of the site.

Additionally, the depth to which these subsurface features reach is directly relevant to there being a potential for petroleum hydrocarbons accumulating in them. For example, if the groundwater is below the bottom of the box there is no need to protect the box from petroleum entering unless you have appreciable free product thickness. To assess this situation, a figure was created to show the relationship between the former groundwater depth, (11/96), and the utility features of interest. For clarity, only the utility appurtenances near the formerly contaminated area – the southernmost 350' – are highlighted. In order to better understand these relationships, the November 1996 water elevations have been superimposed on the 1987 utility plans. These groundwater elevations show a slight 'mound' that is the remnant of an assumed water leak; it is assumed since there is no other plausible reason for there to be a 'mound' in an otherwise nearly flat water table condition. The groundwater receded to the levels shown on Figure 1 in November of 1996 and should, by this time, have returned to static elevations.

A review of the referenced information shows that there are only six subsurface 'appurtenances' over the area of residual petroleum contamination. All of them are at least 2' above the water level of November of 1996. The vaults are 5' to 7' above the 11/96 water level.

The sanitary sewer manholes, SSMH, deserve a separate discussion. Sanitary sewers are expected to generate methane, a combustible and potentially explosive gas. It is standard procedure to test them for an explosive atmosphere before entering one. The explosion potential here would always be driven by methane. It is worthy to note that the manhole that is within the area of residual contamination has an invert elevation of at least 3' above the water level and even if it were well into the groundwater, the entry procedures would be governed by the fact it is a sewage line.

#### Summary and Conclusions

- Of the 19 catch basins or curb inlets, sanitary sewer manholes, or utility vaults in the southern 350' of the plaza, only 6 are over the area of residual petroleum

contamination' and of the 6, only 2 are vaults; 1 of which is a sanitary sewer manhole.

- None are within 2 feet of the 1996 groundwater plume.
- The vaults are 5' to 7' above the 11/96 water level.
- The hypothetical danger of nuisance petroleum or explosive gasses collecting in vaults is not likely or even possible in most cases.
- The above discussion leads to the conclusion that a revision of LTMP for the Powell Street Plaza property is appropriate. With one exception, we proposed that all the conditions in the original Geomatrix plan-Section 7.0-remain with the exception that Section 7.4 is no longer a necessary requirement. The additional conditions required by the ACHCSA are to be retained with the exception of no. 2, the need for which no longer exists.



# Memorandum

ate: March 13, 2001

To: Susan Hugo, Ravi Arulanantham, Tom Graf

cc: Jeff Fraulino, Jeff Mills – UBS Realty Investors LLC

From: Lee Dodge

Subject: **Addendum to the Summary of the January 26 Meeting**

When we met on January 26, 2001, I provided to you a composite map of the Powell Street Plaza site. The groundwater data used to produce this original composite map was from a November 1996 sampling event (the last one in my files). On further review, I discovered that the final sampling event was in May 1997 and that event did acquire groundwater elevation data. This data should have been used in the composite map you were given. I have corrected the map and provide the revised map as an attachment to this memo in order to replace the one you received at the January 26 meeting (item D in meeting summary).

Of significance is the fact that some of the groundwater elevations in the later sampling events were higher than the November '96 elevations. As a result, an assumption we had made – that the groundwater mound was a receding remnant of an earlier water system leak – is not supportable. What is evident is that over the sampling period the groundwater level has shown some fluctuation. However, it should be noted that the trend has been a lowering of the overall level of groundwater at the site.

In order to evaluate the implications of the fluctuation of ground water levels, I created a table that replaces the one you received in January. It compares 11 water level elevation data sets to the bottom of the four vaults and the three sanitary sewer manholes, SSMH, in the southern 350' of PSP. (The SSMH are included since they are close to the definition of a utility vault, i.e., a subsurface closed structure.) The sampling events portrayed in the table occurred intermittently between November 1994 and May 1997. The results show that in all cases the bottom of the "vaults" remained above the highest groundwater elevation measured. Note that I have evaluated all the vaults rather than only considering those over the "approximate area of residual HC contamination." We should be primarily concerned with those vaults over the approximate area of HC contamination; however, I have included all the vaults in order to expand our evidential data.

Since the highest level of groundwater has remained below the bottom elevation of the vaults during the worst cases of fluctuation, the hypothetical danger of nuisance petroleum or explosive gases collecting in them remains unlikely. Further, the residual HC in either the groundwater or the soil can only decrease with time due to natural attenuation.

Even though one assumption has been changed – that of a receding groundwater mound – there remain the 2 conditions upon which we based our previous conclusions, the groundwater does not reach the vaults and all but 2 of the vaults are outside the approximate area of residual contamination.

In light of this additional evidence, the conclusion drawn by Mr. Dodge and Mr. Graf remains unchanged. We believe there remains sufficient evidence that a revision of the LTMP for the Powell Street Plaza property is appropriate. Section 7.4 Management of Potential Nuisance or Explosion Hazards Associated with Subsurface Vaults should be removed. In addition, we recommend that you eliminate condition no. 2 required by the ACHA in its 10/15/97 letter, which refers to the need to seal the existing vaults to prevent hydrocarbon intrusion. With the relative elevations between the bottom of the vaults and the groundwater elevation, there is no reason for this condition. Finally, all references to the Shellmound III site should be removed since that site is under different ownership.

**Attachment:**

- A composite map that added the utility vault locations and depth, the location of the former diesel tanks, the approximate area of residual HC contamination, and last measured groundwater elevations from May 1997. The composite map also contains the table that compares groundwater elevation data from 11 PES sampling events to the bottom elevations of the 7 "vaults" within the southern 350' of the Powell St. Plaza. For consistency, other surface drainage features remain on this map.

## Long-Term Management Plan Powell Street Plaza Emeryville, California

This plan has been prepared by Geomatrix Consultants, Inc., on behalf of the former Eastshore Partners to satisfy the requirement for a Long-Term Management Plan that addresses the residual petroleum hydrocarbons that remain in the soil and groundwater at the Powell Street Plaza site in Emeryville, California. The Powell Street Plaza site was the location of the former Pacific Intermountain Express fueling and maintenance facility until 1986.

The construction worker health and safety and soil management guidelines presented in this Long-Term Management Plan are consistent with the findings of the Screening Risk Assessment dated July 1997.

### 1.1 OBJECTIVES

Residual petroleum hydrocarbons are present at the site as separate-phase material (on the shallow groundwater or entrained in subsurface soil in the saturated zone or capillary fringe) or dissolved in groundwater. The current distribution of the residual petroleum appears to be limited to the south-central and southwestern areas of the Powell Street Plaza (PSP) site.

Detectable concentrations of dissolved petroleum hydrocarbons in groundwater are more widely distributed in the southern portion of the PSP site.

The results of a screening ecological risk assessment indicate that residual petroleum hydrocarbons do not present an unacceptable risk to aquatic organisms in Temescal Creek or the San Francisco Bay. With regard to potential human health risks, residual petroleum hydrocarbons do not present an unacceptable risk to: (1) current or future building occupants or off-site receptors during construction that could be exposed to chemicals in indoor or ambient air (as a result of partitioning or vaporizing from groundwater or separate-phase material); (2) recreational users of Temescal Creek or the San Francisco Bay that could be exposed to chemicals dissolved in surface water; and (3) construction and maintenance workers that could be exposed to chemicals in ambient air or dissolved in groundwater

Potential health effects associated with dermal contact with residual petroleum by construction or maintenance workers were not evaluated quantitatively in the screening human health risk assessment; however, the results of the qualitative evaluation indicate that short-term contact



with this material may cause skin irritation. Therefore, the objectives of the long-term site management plan are:

- To present guidelines for appropriate health and safety precautions for future on-site construction or maintenance workers who may access subsurface soil to a depth that would encounter the residual petroleum (i.e., excavation to a depth of approximately 6 feet below grade); and
- To present recommendations for short-term (i.e., during construction activities) and long-term management of the residual petroleum hydrocarbons present at the site.
- To address concerns raised by interested parties regarding the potential for methane production associated with residual petroleum at the site.

Each of these objectives is addressed in the following sections.

## **1.2 GUIDELINES FOR CONSTRUCTION WORKER HEALTH AND SAFETY**

During future site maintenance or development, construction workers may need to excavate or access soil below a depth of 6 feet in areas where residual petroleum may be present. As stated previously, short-term dermal contact with the residual petroleum may cause skin irritation. Therefore, future on-site construction or maintenance workers accessing soil below a depth of 6 feet, in areas where residual petroleum may be present, should be made aware of the potential for skin irritation and should wear personal protective equipment (e.g., Tyvek coverall, nitrile or similar gloves) to reduce the potential for direct contact with this material.

In addition, it may be prudent to monitor organic vapors in the event that the residual petroleum is encountered in a relatively confined space (e.g., a narrow utility trench).

## **1.3 SOIL MANAGEMENT PROCEDURES**

The following two sections provide recommendations for soil management procedures that may be appropriate during and following proposed site development.

### **1.3.1 Soil Management Guidelines for Site Construction**

Soil management activities during site construction should include the following.

## **Soil Handling**

Figure 1 illustrates the estimated extent of residual petroleum (referred to herein as the “potential residual petroleum area”). The residual petroleum historically has been observed at or below a depth of 6 feet. Therefore, soil excavated at or below 6 feet in this area should be segregated from other excavated soil.

## **Soil Stockpiling**

Temporary stockpiling of excavated soil may be needed during site construction. Soil excavated at or below 6 feet in the potential residual petroleum area and segregated from other excavated soil should be placed on and covered by plastic sheeting until removed from the site or tested to determine the appropriate disposal or reuse options.

## **Soil Disposal**

If soil excavated and segregated is to be disposed of offsite, the soil should be profiled and the appropriate landfill activity (e.g., Class I, Class II, Class II, or recycling) should be selected for disposal based on the soil profiling results. Chemical analytical results for hydrocarbons in soil samples collected during previous investigations indicate that the soil may likely require disposal to a Class II facility; it may also be suitable for recycling. Soil containing petroleum hydrocarbons may also be returned to the excavation, if contained at least one foot above the water table and two feet below grade.

## **Excavation Dewatering**

Preparations should be made to remove, store, characterize, and dispose of standing water from excavations during construction and maintenance trenching activities. Appropriate precautions may include having a temporary storage tank (e.g., Baker tank) on site and prearranged disposal arrangements (e.g., disposal to sanitary sewer).

## **Site Access**

Site access should be limited via a fence surrounding site construction activities and associated soil stockpile areas during construction or maintenance work.

### **1.3.2 Long-Term Soil Management**

Long-term soil management includes guidelines for handling, stockpiling, and disposing of soil from the potential residual petroleum area during future site maintenance activities, and maintaining a cover over the site. The residual petroleum addressed in this report is at or below a depth of approximately 6 feet. Based on the soil management guidelines for site construction presented in Section 1.3.1, soil containing petroleum hydrocarbons that is excavated during construction and returned to the site, must be contained at least two feet below grade. This creates a minimum of 2 feet of soil cover over the residual petroleum. Guidelines and recommendations presented in Sections 1.1 and 1.2 of this report should be followed for future site maintenance work requiring soil excavation below 6 feet. If the proposed and current uses for the site change, further evaluation of potential risk to exposure to chemicals in the separate-phase material or dissolved in groundwater may be warranted.

### **1.4 POTENTIAL FOR METHANE PRODUCTION**

A final issue raised by interested parties at the sites is the potential for methane production from residual petroleum and subsequent accumulation in buildings on site. Methane is one of many byproducts associated with biodegradation of petroleum products and other organic matter. Methane production results from anaerobic degradation processes, which occur once the reservoir of oxygen in the subsurface is depleted. Methane concentrations in soil have been shown to correlate with the subsurface location of separate-phase hydrocarbon plumes, reflecting ongoing anaerobic degradation processes (Marrin, 1987). However, a quantitative relationship between methane production and the volume of separate-phase material has not been developed based on a review of the literature.

The negative Oxidation-Reduction Potential (ORP) measurements at the sites indicate that anaerobic processes dominate the degradation of the residual petroleum at the sites. Thus, some methane is likely being produced. If a site-specific measure of methane production is determined to be necessary, then direct-soil gas measurements should be conducted. However, based on the lack of problems associated with methane production at the PSP site and the limited and attenuating presence of residual petroleum in the subsurface, the likelihood is low that sufficient quantities of methane are being generated to adversely affect buildings constructed at the PSP site.

## **Long-Term Management Plan Powell Street Plaza Emeryville, California**

This plan has been prepared by Geomatrix Consultants, Inc., on behalf of the former Eastshore Partners to satisfy the requirement for a Long-Term Management Plan that addresses the residual petroleum hydrocarbons that remain in the soil and groundwater at the Powell Street Plaza site in Emeryville, California. The Powell Street Plaza site was the location of the former Pacific Intermountain Express fueling and maintenance facility until 1986.

The construction worker health and safety and soil management guidelines presented in this Long-Term Management Plan are consistent with the findings of the Screening Risk Assessment dated July 1997.

### **1.1 OBJECTIVES**

Residual petroleum hydrocarbons are present at the site as separate-phase material (on the shallow groundwater or entrained in subsurface soil in the saturated zone or capillary fringe) or dissolved in groundwater. The current distribution of the residual petroleum appears to be limited to the south-central and southwestern areas of the Powell Street Plaza (PSP) site. Detectable concentrations of dissolved petroleum hydrocarbons in groundwater are more widely distributed in the southern portion of the PSP site.

The results of a screening ecological risk assessment indicate that residual petroleum hydrocarbons do not present an unacceptable risk to aquatic organisms in Temescal Creek or the San Francisco Bay. With regard to potential human health risks, residual petroleum hydrocarbons do not present an unacceptable risk to: (1) current or future building occupants or off-site receptors during construction that could be exposed to chemicals in indoor or ambient air (as a result of partitioning or vaporizing from groundwater or separate-phase material); (2) recreational users of Temescal Creek or the San Francisco Bay that could be exposed to chemicals dissolved in surface water; and (3) construction and maintenance workers that could be exposed to chemicals in ambient air or dissolved in groundwater.

Potential health effects associated with dermal contact with residual petroleum by construction or maintenance workers were not evaluated quantitatively in the screening human health risk assessment; however, the results of the qualitative evaluation indicate that short-term contact

with this material may cause skin irritation. Therefore, the objectives of the long-term site management plan are:

- To present guidelines for appropriate health and safety precautions for future on-site construction or maintenance workers who may access subsurface soil to a depth that would encounter the residual petroleum (i.e., excavation to a depth of approximately 6 feet below grade); and
- To present recommendations for short-term (i.e., during construction activities) and long-term management of the residual petroleum hydrocarbons present at the site.
- To address concerns raised by interested parties regarding the potential for methane production associated with residual petroleum at the site.

Each of these objectives is addressed in the following sections.

## **1.2 GUIDELINES FOR CONSTRUCTION WORKER HEALTH AND SAFETY**

During future site maintenance or development, construction workers may need to excavate or access soil below a depth of 6 feet in areas where residual petroleum may be present. As stated previously, short-term dermal contact with the residual petroleum may cause skin irritation. Therefore, future on-site construction or maintenance workers accessing soil below a depth of 6 feet, in areas where residual petroleum may be present, should be made aware of the potential for skin irritation and should wear personal protective equipment (e.g., Tyvek coverall, nitrile or similar gloves) to reduce the potential for direct contact with this material.

In addition, it may be prudent to monitor organic vapors in the event that the residual petroleum is encountered in a relatively confined space (e.g., a narrow utility trench).

## **1.3 SOIL MANAGEMENT PROCEDURES**

The following two sections provide recommendations for soil management procedures that may be appropriate during and following proposed site development.

### **1.3.1 Soil Management Guidelines for Site Construction**

Soil management activities during site construction should include the following:

## **Soil Handling**

Figure 1 illustrates the estimated extent of residual petroleum (referred to herein as the “potential residual petroleum area”). The residual petroleum historically has been observed at or below a depth of 6 feet. Therefore, soil excavated at or below 6 feet in this area should be segregated from other excavated soil.

## **Soil Stockpiling**

Temporary stockpiling of excavated soil may be needed during site construction. Soil excavated at or below 6 feet in the potential residual petroleum area and segregated from other excavated soil should be placed on and covered by plastic sheeting until removed from the site or tested to determine the appropriate disposal or reuse options.

## **Soil Disposal**

If soil excavated and segregated is to be disposed of offsite, the soil should be profiled and the appropriate landfill activity (e.g., Class I, Class II, Class II, or recycling) should be selected for disposal based on the soil profiling results. Chemical analytical results for hydrocarbons in soil samples collected during previous investigations indicate that the soil may likely require disposal to a Class II facility; it may also be suitable for recycling. Soil containing petroleum hydrocarbons may also be returned to the excavation, if contained at least one foot above the water table and two feet below grade.

## **Excavation Dewatering**

Preparations should be made to remove, store, characterize, and dispose of standing water from excavations during construction and maintenance trenching activities. Appropriate precautions may include having a temporary storage tank (e.g., Baker tank) on site and prearranged disposal arrangements (e.g., disposal to sanitary sewer).

## **Site Access**

Site access should be limited via a fence surrounding site construction activities and associated soil stockpile areas during construction or maintenance work.

### **1.3.2 Long-Term Soil Management**

Long-term soil management includes guidelines for handling, stockpiling, and disposing of soil from the potential residual petroleum area during future site maintenance activities, and maintaining a cover over the site. The residual petroleum addressed in this report is at or below a depth of approximately 6 feet. Based on the soil management guidelines for site construction presented in Section 1.3.1, soil containing petroleum hydrocarbons that is excavated during construction and returned to the site, must be contained at least two feet below grade. This creates a minimum of 2 feet of soil cover over the residual petroleum. Guidelines and recommendations presented in Sections 1.1 and 1.2 of this report should be followed for future site maintenance work requiring soil excavation below 6 feet. If the proposed and current uses for the site change, further evaluation of potential risk to exposure to chemicals in the separate-phase material or dissolved in groundwater may be warranted.

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**Recording Requested By:**

[CURRENT OWNER]

**When Recorded, Mail To:**

Lawrence P. Kolb, Acting Executive Officer  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

COVENANT AND ENVIRONMENTAL RESTRICTION  
ON PROPERTY

POWELL STREET PLAZA  
1603 Powell Street, Emeryville, CA

This Covenant and Environmental Restriction on Property (this "Covenant") is made as of the \_\_\_\_\_ day of \_\_\_\_\_, 2001 by Aetna Real Estate Associates, L.P., a Delaware limited partnership ("Covenantor") who is the Owner of record of that certain property situated at 1603 Powell Street, in the City of Emeryville, County of Alameda, State of California, which is more particularly described in Exhibit A hereto [the southernmost 350 feet of the Powell Street Plaza] and incorporated herein by this reference (hereinafter referred to as the "Burdened Property"), for the benefit of the California Regional Water Quality Control Board for the San Francisco Bay Region (the "Board"), with reference to the following facts:

A. Contamination of the Burdened Property. Soil and groundwater at the Burdened Property was contaminated by petroleum hydrocarbons, i.e., leaking diesel fuel storage tanks from a trucking operation conducted by Pacific Intermountain Express, the owner of the property until approximately 1986 (the "Petroleum Hydrocarbons").

B. Exposure Pathways. Without the mitigation measures which have already been performed on the Burdened Property, exposure to the Petroleum Hydrocarbons could have occurred through in-place contact, inhalation of indoor air, dermal contact, and ingestion. However, the risk of exposure to the Petroleum Hydrocarbons has been reduced to insignificant levels by the previous remediation measures if the measures in Article 3 are followed.

C. Adjacent Land Uses and Population Potentially Affected. The Burdened Property is developed into a shopping center and is adjacent to other commercial use property.

D. Full and voluntary disclosure to the Board of the presence of the Petroleum Hydrocarbons on the Burdened Property has been made and extensive sampling and remediation to remove the Petroleum Hydrocarbons has been conducted.

E. Covenantor desires and intends that in order to benefit the Board, and to protect the present and future public health and safety, the Burdened Property shall be used in such a manner as to avoid



potential harm to persons or property that may result from Petroleum Hydrocarbons that have been deposited on the Burdened Property.

## ARTICLE I GENERAL PROVISIONS

1.1 Provisions to Run with the Land. This Covenant sets forth protective provisions, covenants, conditions and restrictions (collectively referred to as "Restrictions") upon and subject to which the Burdened Property shall be improved, held, used, occupied, sold, hypothecated, encumbered, and/or conveyed. The restrictions set forth in Article III are reasonably necessary to protect present and future human health and safety or the environment as a result of the presence on the land of residual Petroleum Hydrocarbons. Each and all of the Restrictions shall run with the land, and pass with each and every portion of the Burdened Property, and shall apply to, inure to the benefit of, and bind the respective successors in interest thereof, for the benefit of the Board and all Owners. Each and all of the Restrictions are imposed upon the entire Burdened Property unless expressly stated as applicable to a specific portion of the Burdened Property. Each and all of the Restrictions run with the land pursuant to section 1471 of the Civil Code. Each and all of the Restrictions are enforceable by the Board.

1.2 Concurrence of Owners Presumed. All purchasers of any portion of the Burdened Property shall be deemed by their purchase of such Burdened Property, to be in accord with the foregoing and to agree for and among themselves, their heirs, successors, and assignees, and the agents and employees of such owners, heirs, successors, and assignees, that the Restrictions as herein established must be adhered to for the benefit of the Board and the Owners of the Burdened Property and that the interest of the Owners of the Burdened Property shall be subject to the Restrictions contained herein.

1.3 Incorporation into Deeds. Covenantor desires and covenants that the Restrictions set out herein shall be incorporated in and attached to each and all deeds of any portion of the Burdened Property. Recordation of this Covenant shall be deemed binding on all successors and assigns regardless of whether a copy of this Covenant and Agreement has been attached to or incorporated into any given deed.

1.4 Purpose. It is the purpose of this instrument to convey to the Board real property rights, which will run with the land, to protect human health and the environment by reducing the risk of exposure to Petroleum Hydrocarbons.

## ARTICLE II DEFINITIONS

2.1 Board. "Board" shall mean the California Regional Water Quality Control Board for the San Francisco Bay Region and shall include its successor agencies, if any

2.2 Improvements. "Improvements" shall mean all buildings, roads, driveways, regradings, paved parking areas and signs, constructed or placed upon any portion of the Burdened Property

2.3 Owner or Owners. "Owner" or "Owners" shall mean the current owner of all or any portion of the Burdened Property at any point in time, either the Covenantor or a successor-in-interest.

2.5 [already defined].

ARTICLE III  
DEVELOPMENT, USE AND CONVEYANCE OF THE BURDENED PROPERTY

3.1 Restrictions on Development and Use. Owner promises to restrict the use of the Burdened Property as follows:

- a. Development of the Burdened Property shall not include detached single family homes, schools, day-care centers, or hospitals.
- b. No Owners of the Burdened Property or any portion thereof shall conduct any excavation work on the Burdened Property, unless the workplan conforms to the soil management procedures in the Long-Term Management Strategy approved by the Alameda County Health Agency on October 15, 1997, as it may from time to time hereafter be amended ("LTMS"). Any contaminated soils brought to the surface by grading, excavation, trenching, or backfilling shall be managed by Owner or his agent in accordance with the LTMS and with all applicable provisions of local, state and federal law;
- c. All uses and development of the Burdened Property shall be consistent with the LTMS.
- d. No Owners of the Burdened Property or any portion thereof shall drill, bore, otherwise construct, or use a well for the purpose of extracting water for any use, including but not limited to, domestic, potable, or industrial uses, unless expressly permitted in writing by the Board.
- e. Owner agrees that the Board, and/or any persons acting pursuant to Board orders, shall have reasonable access to the Burdened Property on reasonable prior notice for the purposes of inspection, surveillance, maintenance, or monitoring, as provided for in Division 7 of the Water Code.
- f. No Owner of the Burdened Property shall act in any manner that will materially aggravate or contribute to the Petroleum Hydrocarbons existing at the Burdened Property.

3.2 Enforcement. Failure of an Owner to comply with any of the restrictions, as set forth in paragraph 3.1, shall be grounds for the Board, by reason of this Covenant, to have the authority to require that the Owner modify or remove any Improvements constructed in violation of that paragraph. Violation of the Covenant shall be grounds for the Board to file civil actions against the Owner as provided by law.

3.3 Notice in Agreements. After the date of recordation hereof, all Owners and shall execute a written instrument which shall accompany or be included in all purchase agreements relating to the property. Any such instrument shall contain the following statement

The land described on Exhibit A contains residual levels of diesel fuel petroleum hydrocarbons in soil and groundwater that have been evaluated by the California Regional Water Quality Control Board, San Francisco Bay Region, which has concluded that adverse health effects will not be associated with activities at the site by current and future construction workers, maintenance workers, or building occupants, if the LTMS is followed. The property is subject

to a Covenant dated as of \_\_\_\_\_, 2001, and recorded on \_\_\_\_\_, 2001, in the Official Records of Alameda County, California, as Document No. \_\_\_\_\_, which Covenant imposes certain covenants, conditions, and restrictions on usage of the property described herein. This statement is not a declaration that a hazard exists.

#### ARTICLE IV VARIANCE AND TERMINATION

4.1 Variance. Any Owner may apply to the Board for a written variance from the provisions of this Covenant.

4.2 Termination. Any Owner may apply to the Board for a termination of the Restrictions as they apply to all or any portion of the Burdened Property. If the Board grants the application, Owner and the Board will cooperate in arranging for the withdrawal of this Covenant from record title to the Burdened Property by execution and recordation of an appropriate notice of termination of the effect of this Covenant.

4.3 Term. Unless terminated in accordance with paragraph 4.2 above, by law or otherwise, this Covenant shall continue in effect in perpetuity.

#### ARTICLE V MISCELLANEOUS

5.1 No Dedication Intended. Nothing set forth herein shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Burdened Property or any portion thereof to the general public.

5.2 Notices. Whenever any person gives or serves any notice, demand, or other communication with respect to this Covenant, each such notice, demand, or other communication shall be in writing and shall be deemed effective (1) when delivered, if personally delivered to the person being served or official of a government agency being served, or (2) three (3) business days after deposit in the mail if mailed by United States mail, postage paid certified, return receipt requested:

*If To: "Covenantor"*  
c/o UBS Realty Investors LLC  
242 Trumbull Street  
Hartford, CT 06103-1212

**[or, if different, to the Owner(s) of the Burdened Property at the time of the notice]**

*If To: "Board"*  
Regional Water Quality Control Board  
San Francisco Bay Region  
Attention Executive Officer  
1515 Clay Street, Suite 1400  
Oakland, California 94612

5.3 Partial Invalidity. If any portion of the Restrictions or terms set forth herein is determined to be invalid for any reason, the remaining portion shall remain in full force and effect as if such portion had not been included herein.

5.4 Article Headings. Headings at the beginning of each numbered article of this Covenant are solely for the convenience of the parties and are not a part of the Covenant.

5.5 Recordation. This instrument shall be executed by the Covenantor and by the Executive Officer of the Board. This instrument shall be recorded by the Covenantor in the County of Alameda within ten (10) days of the date of execution.

5.6 References. All references to Code sections include successor provisions.

5.7 Construction. Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the Covenant to effect the purpose of this instrument and the policy and purpose of the Water Code. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

5.8 Governing Law. The provisions of this instrument shall be interpreted according to California law.

IN WITNESS WHEREOF, the parties execute this Covenant as of the date set forth above.

Covenantor: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Agency: State of California  
Regional Water Quality Board,  
San Francisco Bay Region

By: \_\_\_\_\_

Title: Executive Officer \_\_\_\_\_

Date \_\_\_\_\_

STATE OF CALIFORNIA     )  
  )  
COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_, 20\_\_ before me, the undersigned a Notary Public in and for said state, personally appeared [Covenantor], personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public in and for said  
County and State

STATE OF CALIFORNIA     )  
  )  
COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_, 20\_\_ before me, the undersigned a Notary Public in and for said state, personally appeared [EXECUTIVE OFFICER], personally known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Notary Public in and for said  
County and State

EXHIBIT A  
LEGAL DESCRIPTION OF PROPERTY