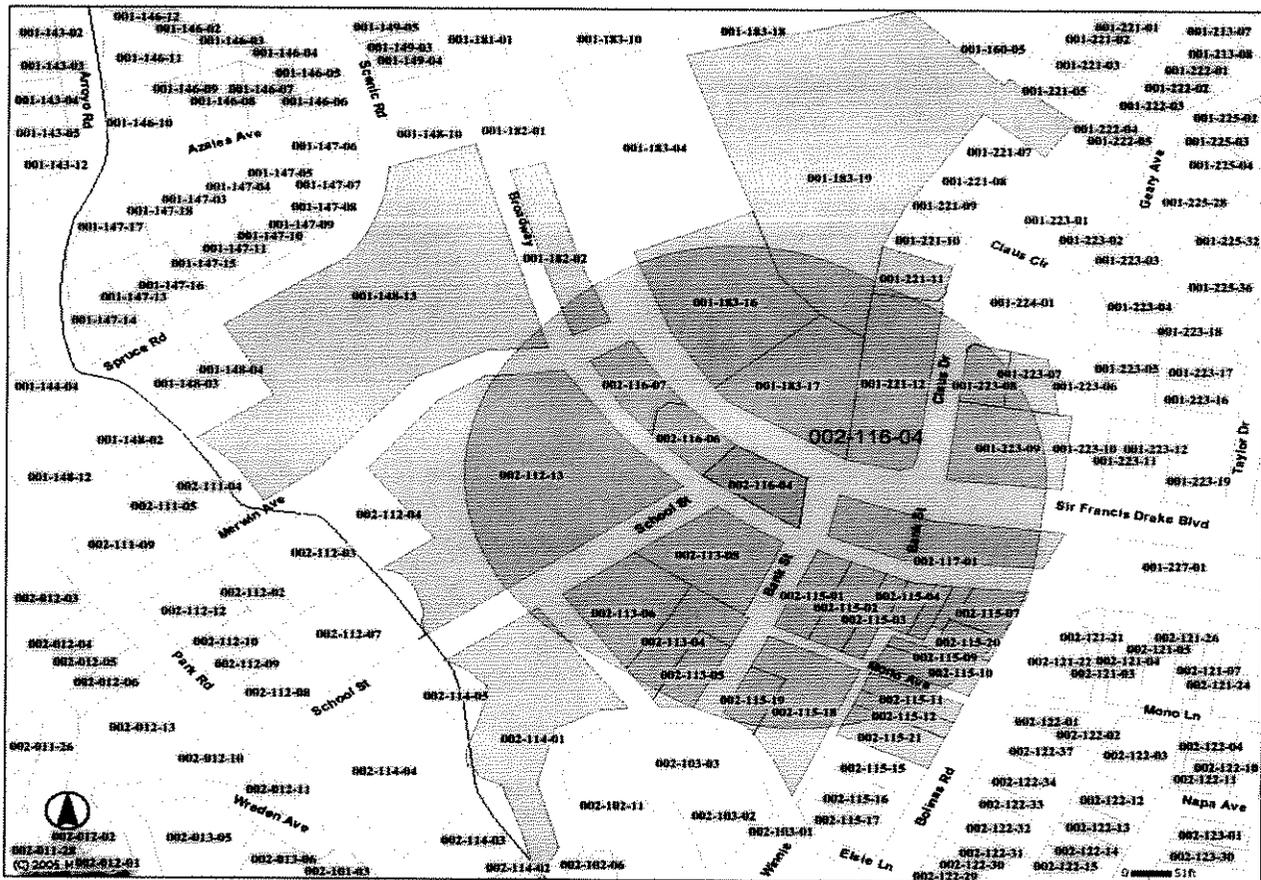


TOWN OF FAIRFAX STAFF REPORT

Department of Planning and Building Services

TO: Fairfax Planning Commission
DATE: August 15, 2013
FROM: Jim Moore, Director of Planning and Building Services
 Linda Neal, Senior Planner
LOCATION: 2001 Sir Francis Drake Boulevard; Assessor's Parcel No. 002-116-04
PROJECT: Removal of contaminated soils from gas station site
ACTION: Excavation Permit; Application # 13-30
APPLICANT: Bob Clark-Riddell, Pangea Environmental
OWNER: Arash Salkhi, Salkhi Family Trust
CEQA STATUS: Categorically exempt, § 15308



2001 SIR FRANCIS DRAKE BOULEVARD

BACKGROUND

The 7,569 square foot site has an average slope of roughly 6% and is developed as a gas station that is currently out of operation. The gas station is now under new ownership. The Commission will be reviewing discretionary permits to allow the site to reopen as a Chevron Station and convenience market in the near future.

In 1998 the owners of the gas station excavated two 10,000 gasoline tanks and one 500 gallon waste tank from the site. At that time 453 cubic yards of contaminated soil was removed from the area of the pump islands and disposed of out of the area. Laboratory test of the soil taken at that time exhibited elevated levels of hydrocarbons and methyl tertiary-butyl ether (MtBE). The excavated area was backfilled with clean soil. There is no record that an excavation permit was obtained at that time.

In 2007 an in ground system was installed at the site to extract and treat contaminated groundwater found at the site. In 2009 SOMA Environmental Engineering, Inc. conducted a multi-phase extraction on an intermittent basis for two (2) months in 2009. This process extracted both vapor and groundwater, treated the water and released it into the Ross Valley Sanitary System. 1,600 pounds of hydrocarbons were removed from the subsurface. Only the more volatile gasoline hydrocarbons can be removed using this method.

DISCUSSION

The applicants are now proposing to complete the clean-up process by excavating most of the remaining contaminated soil from the site and some from the adjacent public right-of-way. The excavated area will be refilled with clean fill. Town Code § 17.20.080 requires that an excavation permit be obtained from the Planning Commission for project involving the excavation or fill of over 100 cubic yards of material. The amount of contaminated material that will have to be removed from the site is estimated to be 350 cubic yards. The amount is an estimation because testing is done during the soil removal to determine at what point all the soil containing potentially harmful percentages of contaminants has been removed and that the remaining soils have levels of hydrocarbons and MTBE determined by the Regional Water Quality Control Board to be below harmful concentrations. Low levels of contaminants are expected to continue to be degraded naturally until they are no longer present.

The project does not include removal of the contaminants beneath Sir Francis Drake Boulevard roadbed to levels of insignificance because the contaminate levels beneath the pavement are found 7 feet below grade and pose only a limited risk to workers who may be digging at that depth to work on infrastructure. Protection measures can be put in place to protect these workers from harm. In order to address this, staff is recommending that a Soils Management Plan (SMP) be submitted as part of the encroachment permit application.

The contaminated soil will be removed to an appropriate disposal site out of Town.

Other Agency/Department Comments

Building Department

Any excavations adjacent to Sir Francis Drake Boulevard within ten (10) feet of the curb will need to be shored in advance of the excavation or stabilized by another method acceptable to the Building Department.

The public improvements will need to be restored to the satisfaction of the Building Official. The driveway apron shall be replaced with standard concrete, not exposed aggregate.

First – USA

Prior to excavation Pangea will notify the Underground Service Alert and hire an underground line locator as necessary to clear excavation area and identify any nearby utilities. Organizations with nearby utilities typically alert us of any concerns at that time. For extreme cases (e.g., telecommunication lines or PG&E utilities), these entities send representatives to field during key work.

PG&E

Applicant shall contact USA prior to starting work. USA will contact PG&E and they will review the plans at that time.

Marin Municipal Water District (MMWD)

Marin Municipal Water District indicated they will address any specific issues of concern to their agency during the USA notification process.

Ross Valley Sanitation District (RVSD)

RVSD indicated they will address any specific issues of concern to them during USA notification process.

Marin County Environmental Health

The applicant must obtain a permit from the Marin County Health Department prior to removing the Monitoring Wells.

RECOMMENDATION

Move to approve application # 13-30 based on the following findings and subject to the following conditions:

Recommended Findings

1. The health safety and welfare of the public will not be adversely affected by removal of the contaminated soils as required by the Regional Water Quality Control Board.
2. Adjacent properties are adequately protected by project investigation and design from geologic hazards and hydrologic hazards as a result of the work;
3. The 350 cubic yards proposed to remove the contamination is not more than is required clean-up of the property;
4. The proposed excavation/fill is below ground and the excavation phase will be temporary. Therefore, the visual and scenic enjoyment of the area by others will not be adversely affected by the project more than is necessary;
5. The site landscaping will not be removed by the project more than is necessary and any damaged areas will be restored.
6. The time of year during which construction will take place is such that work will not result in excessive siltation from storm runoff nor prolonged exposure of unstable excavated slopes.

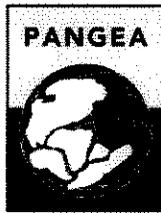
Recommended Conditions

1. The applicant shall obtain an encroachment permit from the Public Work Department prior to the start of construction. The Encroachment Permit application will require the submittal of a bond, cash deposit or letter of credit to the Town in an amount that will cover the cost of possible infrastructure damage.
2. Any excavations adjacent to Sir Francis Drake Boulevard within ten (10) feet of the curb will need to be shored in advance of the excavation or stabilized by another method acceptable to the Building Department.
3. A Soils Management Plan shall be submitted with the encroachment permit prior to the start of soil removal.
4. The public improvements will need to be restored to the satisfaction of the Public Works Manager.
5. The driveway apron shall be replaced with standard concrete, not exposed aggregate.
6. During the construction process the following shall be required:
 - All construction related vehicles including equipment delivery, cement trucks and construction materials shall be situated off the travel lane of the adjacent public right(s)-of-way at all times. This condition may be waived by the building official on a case by case basis with prior notification from the project sponsor.

- Additionally, any proposed temporary closure of a public right-of-way shall require prior approval by the Fairfax Police Department and any necessary traffic control, signage or public notification shall be the responsibility of the applicant or his/her assigns. Any violation of this provision will result in a stop work order being placed on the property and issuance of a citation.
 - The roadways shall be kept clean and the site free of dust by watering down the site or sweeping the roadway daily, if necessary.
 - The developer and all employees, contractors and subcontractors must comply with all requirements set forth in Ordinance # 637 (Chapter 8.32 of the Town Code), "Urban Runoff Pollution Prevention".
7. Any damages to the roadways accessing the site resulting from construction activities shall be the responsibility of the property owner.
 8. The applicant or owner shall defend, indemnify, and hold harmless the Town of Fairfax or its agents, officers, and employees from any claim, action, or proceeding against the Town of Fairfax or its agents, officers, or employees to attach, set aside, void, or annul an approval of the Planning Commission, Town Council, Planning Director, Design Review Board or any other department or agency of the Town concerning a development, variance, permit or land use approval which action is brought within the time period provided for in any applicable statute; provided, however, that the applicant's or owner's duty to so defend, indemnify, and hold harmless shall be subject to the Town's promptly notifying the applicant or owner of any said claim, action, or proceeding and the Town's full cooperation in the applicant's or owner's defense of said claims, actions, or proceedings.

ATTACHMENTS

- Exhibit A** – applicant’s supplemental information contained in a letter dated 8/2/13 from Bob Clark-Riddell, P.E., Pangea Environmental Services, Inc.
- Exhibit B** – Low-Threat Underground Storage Tank Closure Policy
- Exhibit C** – Other agency/department comments/conditions



August 2, 2013

Linda Neal, Senior Planner
Town of Fairfax
Planning Department
142 Bolinas Road
Fairfax, California 94930

Re: **Addendum to Application for Excavation Permit**
2001 Sir Francis Drake Boulevard
Fairfax, California
RB File # 21-0366
Global ID # T060417917
Cleanup Fund Claimant #14537

Dear Planning Department:

On behalf of the new property owner, Arash Salkhi & Nooshin Salkhi Family Trust, Pangea Environmental Services, Inc. (Pangea) is submitting this addendum to the application for an excavation permit for the subject site. **This addendum includes additional information requested during the meeting and site walk on July 24, 2013** with Town Engineer Ray Wrynski, Senior Planner Linda Neal, and Bob Clark-Riddell of Pangea. Pangea understands the application will be considered by the Planning Department and Planning Commission during an **upcoming meeting on August 15, 2013** at 7 pm at 46 Park Road. Per your request, I plan to attend the meeting to answer any questions from the Planning Commission or public.

This addendum includes information regarding the following topics:

- Regulatory Agency Direction and Approval
- Site Plan and Survey
- Use of Public Funds for Cleanup (California UST Cleanup Fund)
- Explanation of Excavation Extent that will Leave Some Residual
- Optional Excavation into Right of Way

The initial application submittal details excavation procedures, soil disposal, soil compaction, truck routes, grading/erosion control, and dust/noise abatement.

EXECUTIVE SUMMARY

The planned excavation has been approved by the Water Board. Cleanup costs will be reimbursed by the California UST Cleanup Fund, which is funded by a small fee on gasoline sales to the public, so the State tries to use available resources efficiently. Accordingly, the excavation will target all gasoline-impacted soil that exceeds applicable regulatory levels, but the Water Board will allow residual gasoline of lower concern or under the adjacent street to remain in the ground, where it will degrade naturally over time. The excavation will be performed by an appropriately-licensed contractor in accordance with applicable laws and codes.

PANGEA Environmental Services, Inc.

1710 Franklin Street, Suite 200, Oakland, CA 94612 Telephone 510.836.3700 Facsimile 510.836.3709 www.pangeaenv.com

EXHIBIT # **A**

REGULATORY AGENCY DIRECTION AND APPROVAL

The RWQCB approval letter and public notice fact sheet are included in Attachment A. The site cleanup has been requested and approved by the San Francisco Region Water Quality Control Board (RWQCB). The excavation is required to cleanup impacted soil from a prior fuel release at the gasoline service station at the subject site. The soil impact meriting excavation was recently delineated by soil borings coordinated by Pangea in March 2013. Prior to final approval of the planned excavation, the RWQCB solicited public comment during a 30-day public notice period. No comments were received by the RWQCB. The RWQCB has indicated that they anticipate issuing regulatory case closure after completing the planned excavation. The overall goal of the excavation is to facilitate case closure and future remodeling of the gasoline service station facilities.

For more information about regulatory oversight, feel free to call Ralph Lambert of the RWQCB at (510) 622-2382 or lambert,ralph@waterboards.ca.gov.

The following drawings were included with the original application, and are included again for ease of reference. The site location is shown on Figure 1. The site map is shown on Figure 2. The hydrocarbon extent in soil is shown on Figure 3. **The lateral and vertical extent of the proposed excavation is shown on Figure 4.** Engineered drawings are include in Attachment C. Scaled 11" x 17" drawings were delivered separately to the Town of Fairfax.

SITE PLAN AND SURVEY

A Topographic and Boundary Survey dated May 31, 2013 was prepared by Ziebatech Land Surveying of San Ramon, California, on behalf of the current land owner Arash Salkhi. During our site walk on July 24, 2013, we confirmed that site improvements closely approximate the boundary of the property and the right of way along Sir Francis Drake.

As requested, **the proposed excavation limit is now shown on the topographic and boundary survey in Attachment B.** We agreed during the site walk that the proposed excavation would be within the property boundary, except for a short portion within the public right of way to allow removal of additional hydrocarbon impact (if permitted by the Town of Fairfax). For added safety precaution, the excavation will not extend closer to Sir Francis Drake than shown in Attachment B.

CLEANUP FUNDING

Cleanup costs will be reimbursed by the California Underground Storage Tank (UST) Cleanup Fund (Fund). The Fund is funded by a small fee on gasoline sales to the public. The current fee is 2 cents per gallon. Contrary to potential assumptions, cleanup costs are not paid by a large oil company for this site. The State tries to use available resources/funds efficiently.

EXPLANATION OF EXCAVATION EXTENT THAT WILL LEAVE SOME RESIDUAL IMPACT

The State Water Resources Control Board (State Board) and the San Francisco Bay - Regional Water Quality Control Board (RWQCB) have adopted screening levels and criteria for cleanup of petroleum hydrocarbons in soil and groundwater. In August 2012 the State Board adopted a *Low Threat Closure Policy* (LTCP). The LTCP, acknowledging that petroleum hydrocarbon releases have tended not to pose significant concern at most sites, established general and media-specific criteria for closing low-threat cases. This policy is expected to drastically reduce the amount of corrective action performed for hydrocarbon release sites, and to facilitate the closure of 50% or more of all active cases within the next few years.

For this site, the RWQCB approved a plan to excavate soil with hydrocarbon concentrations above 420 mg/kg (milligrams/kilogram) TPH as gasoline (TPHg) and 500 mg/kg TPH as diesel (TPHd)(TPH = Total Petroleum Hydrocarbons). The excavation will remove approximately 300 to 350 cubic yards, and the excavation depth would range from approximately 5 ft to 12 ft deep. Residual impact below these screening levels will not be removed, but will remain in soil to degrade naturally. **Years of groundwater monitoring data documents that hydrocarbons are degrading at the subject site.**

Compliance sampling after excavation will be performed to confirm that all soil exceeding the above screening levels of 420 mg/kg TPHg and 500 mg/kg TPHd has been removed from the subject site. Note that the initial excavation application included contingent excavation under the dispenser and piping. *Since the new owner plans to replace the dispensers and piping, the proposed excavation extent will be expanded under the northeastern dispenser and nearby piping as necessary to satisfy regulatory screening levels (Attachment B). The planned excavation volume is still below the estimated 350 cubic yard maximum presented in the application.*

However, adjacent to the site at the northern property boundary, we may find some TPHg under the street that is above screening levels yet cost prohibitive and impractical to excavate. Such residual TPHg would most probably be found at 7 ft depth, where it would represent a very limited risk to potential future construction workers. (The extent of known TPHg impact above screening levels is shown on Figure 3. At boring location B-8 near the right of way TPHg concentrations at 5 ft, 7 ft and 9 ft depth exceeded the 420 mg/kg TPHg screening level.)

It is very common for agencies and municipalities, including the City of Berkeley, to allow residual soil impact to remain under public sidewalks and streets. In such cases, a soil management plan (SMP) is often required to document the presence of hydrocarbons to help safeguard construction workers or others in the event of future subsurface work at that location. Agencies and municipalities acknowledge that petroleum hydrocarbons degrade naturally over time. In this manner, residual hydrocarbons under the concrete driveway or under a portion of Sir Francis Drake pose a low risk to human health or the environment.

OPTIONAL EXCAVATION INTO RIGHT OF WAY

Nonetheless, with Fairfax approval, the excavation will be extended a few feet into the right of way to attempt remove any identified soil impact above this screening level. The optional extension of the excavation is shown in Attachment A.

This optional extension would be performed in a cost effective and safe manner. As effectively used at other sites, a cement slurry can be used to help stabilize and support the excavation wall near and within the right of way. This technique involves filling a narrow excavation area (about 4 to 6 ft wide) with a 2- or 3-sack cement slurry within hours after excavation. The cement slurry provides initial wall support upon placement in the excavated area, and is hard enough to walk on within a few hours. Adjacent narrow excavation is performed about 48 hours later. Another benefit of this approach is supplemental cleanup of hydrocarbons: heat generated during curing of the cement slurry helps thermally destroy hydrocarbons. This technique will only be used after confirming sufficient soil stability during excavation elsewhere at the site. Based on soil logging drilling, shallow soil consist primarily of fine-grain materials (silty clay, sandy silt, and silt), that is anticipated to provide excavation wall stability.

Addendum to Application for Excavation Permit
2001 Sir Francis Drake Blvd
Fairfax, CA
August 2, 2013

CLOSING

Pangea appreciates your efforts to review our use permit application and addendum in a timely manner. If you have any questions or comments, please contact me at (510) 435-8664 or briddell@pangeaenv.com.

Sincerely,

Pangea Environmental Services, Inc.



Bob Clark-Riddell, P.E.
Principal Engineer

ATTACHMENTS

Figure 1 – Vicinity Map

Figure 2 – Site Map

Figure 3 – Hydrocarbon Extent in Soil Map

Figure 4 – Proposed Excavation Extent

Attachment A – Regulatory Approval Letter and Public Notice Fact Sheet

Attachment B – Survey Map with Proposed Excavation Extent

Attachment C – Stamped Engineer Drawings from J.M. Turner Engineering, Inc.

ATTACHMENT A

Regulatory Approval Letter and Public Notice Fact Sheet

San Francisco Bay Regional Water Quality Control Board

June 19, 2013

File No.: 21-0366 (RAL)

David Sherbon Revocable Trust
Attn: Suzanne Sherbon, Trustee, bonsuzu@live.com
1201 Brickyard Way
Point Richmond, CA 94801

Subject: Work Plan Approval and Requirement for a Technical Report
Fairfax Gas, 2001 Sir Francis Drake Boulevard, Fairfax, Marin County

Dear Ms. Sherbon:

This letter approves your May 2, 2013, *Remedial Action Workplan Addendum* and requires you to submit a technical report of the results the work.

The work plan proposes excavating hydrocarbon impacted soils to depths of 5 to 12 feet. Prior remedial efforts at this site have been successful at removing mass, particularly of the more volatile compounds, yet high concentrations of diesel, above the solubility limit in groundwater, have remained. Expanded soil exploration has identified free product remaining in shallow soil and concentrations of naphthalene and ethylbenzene above the low threat closure policy media specific criteria. You propose excavating approximately 350 cubic yards of impacted soil, collecting and analyzing confirmation soil samples. The samples shall be analyzed for gasoline, diesel, BTEX, and naphthalene, on a dry-weight basis. We anticipate that completing this work will move this site further along the path to closure.

You are required to submit a technical report consisting of the results of the excavation by October 18, 2012. The report shall describe the work conducted and present the results both in table format and on figures.

This requirement letter is directed to The David Sherbon Revocable Trust in its capacity as the owner of the property.

This requirement for a report is made pursuant to Water Code Section 13267, which allows the Regional Water Board to require technical or monitoring program reports from any person who has discharged, discharges, proposes to discharge, or is suspected of discharging waste that could affect water quality. The attachment provides additional information about Section 13267 requirements. Any extension in the above deadline must be confirmed in writing by Regional Water Board staff.

21-0366

You are required to submit all documents in electronic format to the State Water Resources Control Board's GeoTracker database. Guidance for electronic information submittal is available at http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal. All reports submitted should have the Regional Water Board file number 21-0366 on the first page of the reports.

Please direct all questions and correspondence regarding this matter to Ralph Lambert at (510)-622-2382 or e-mail ralambert@waterboards.ca.gov.

Sincerely,


for

Bruce H. Wolfe
Executive Officer

Digitally signed by Chuck
Headlee
Date: 2013.06.19
13:47:02 -07'00'

Attachment: Fact Sheet – Requirements for Submitting Technical Reports Under Section 13267 of the California Water Code

cc w/attach:

Bob Clark-Riddell, Pangea Environmental, (briddell@pangeaenv.com)
Debbie Cheung, SWRCB, UST Cleanup Fund Unit (dcheung@waterboards.ca.gov)
Sunil Ramdass, SWRCB, UST Cleanup Fund Unit (sramdass@waterboards.ca.gov)
Scott Callow, Marin County Health Dept., (scallow@co.marin.ca.us)



Site

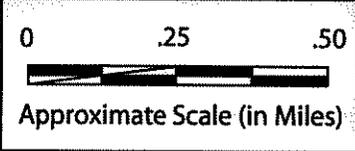
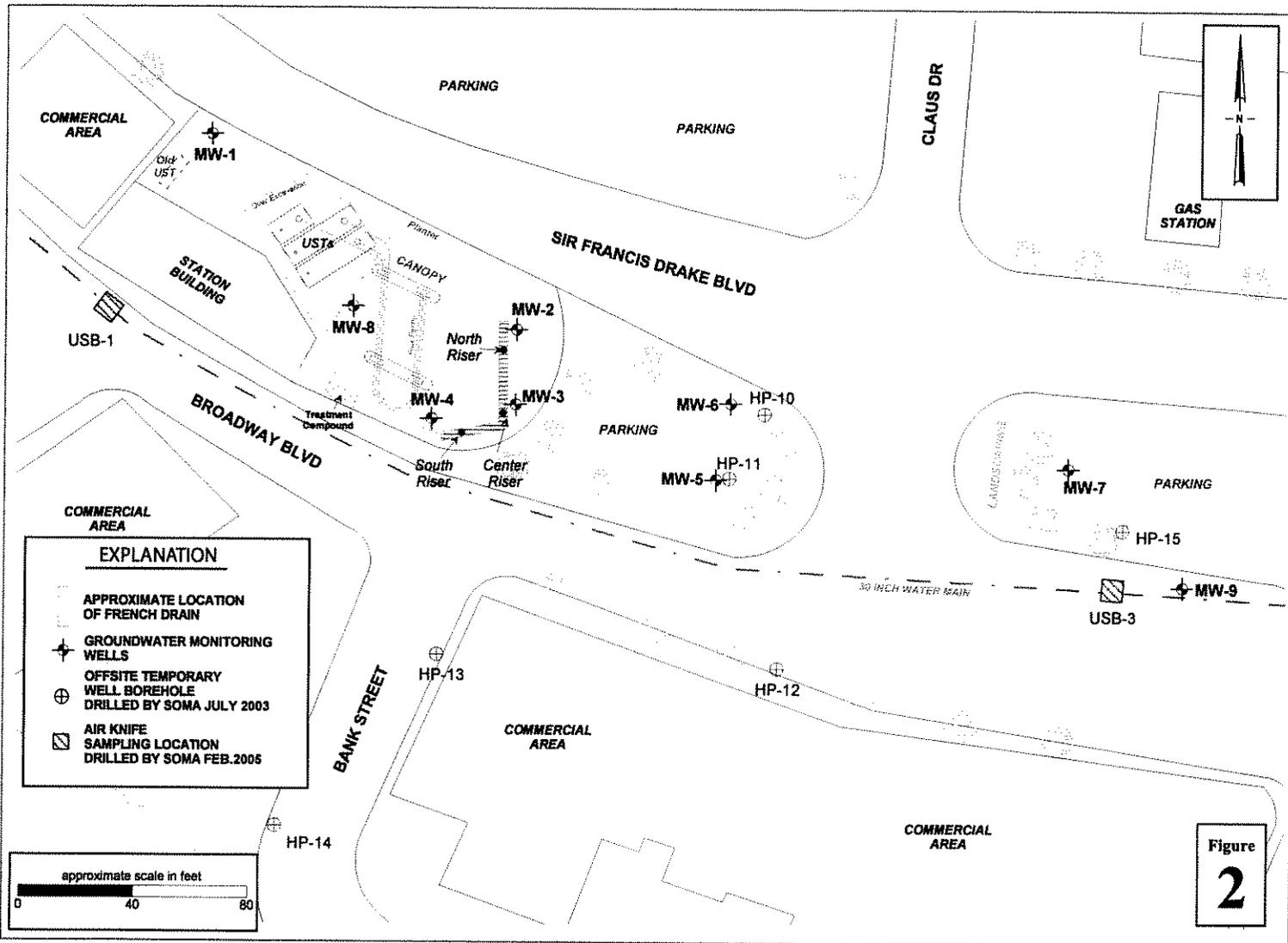


Figure
1

2001 Sir Francis Drake Blvd
Fairfax, California



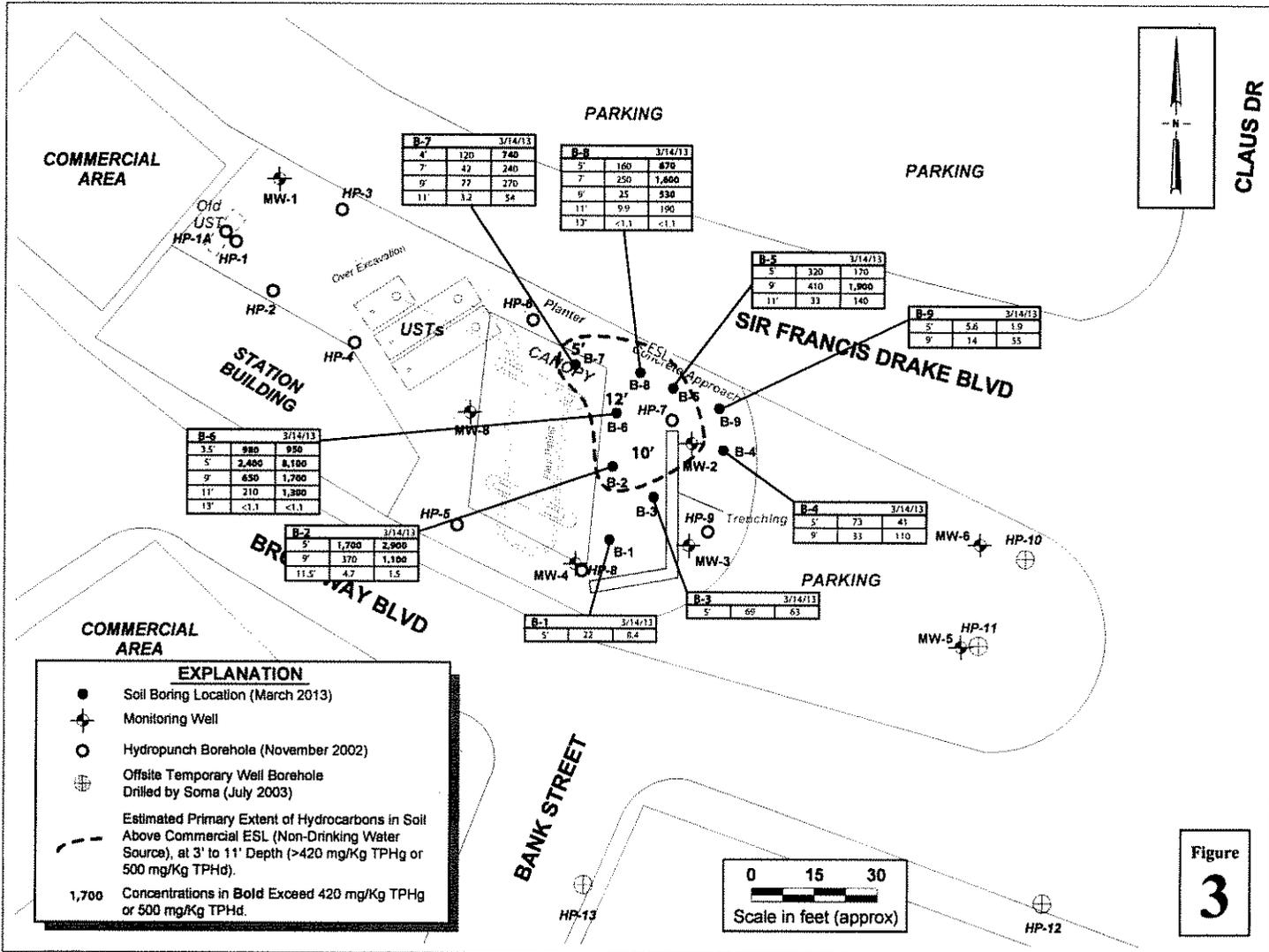
Vicinity Map



2001 Sir Francis Drake Boulevard
Fairfax, California



Site Map

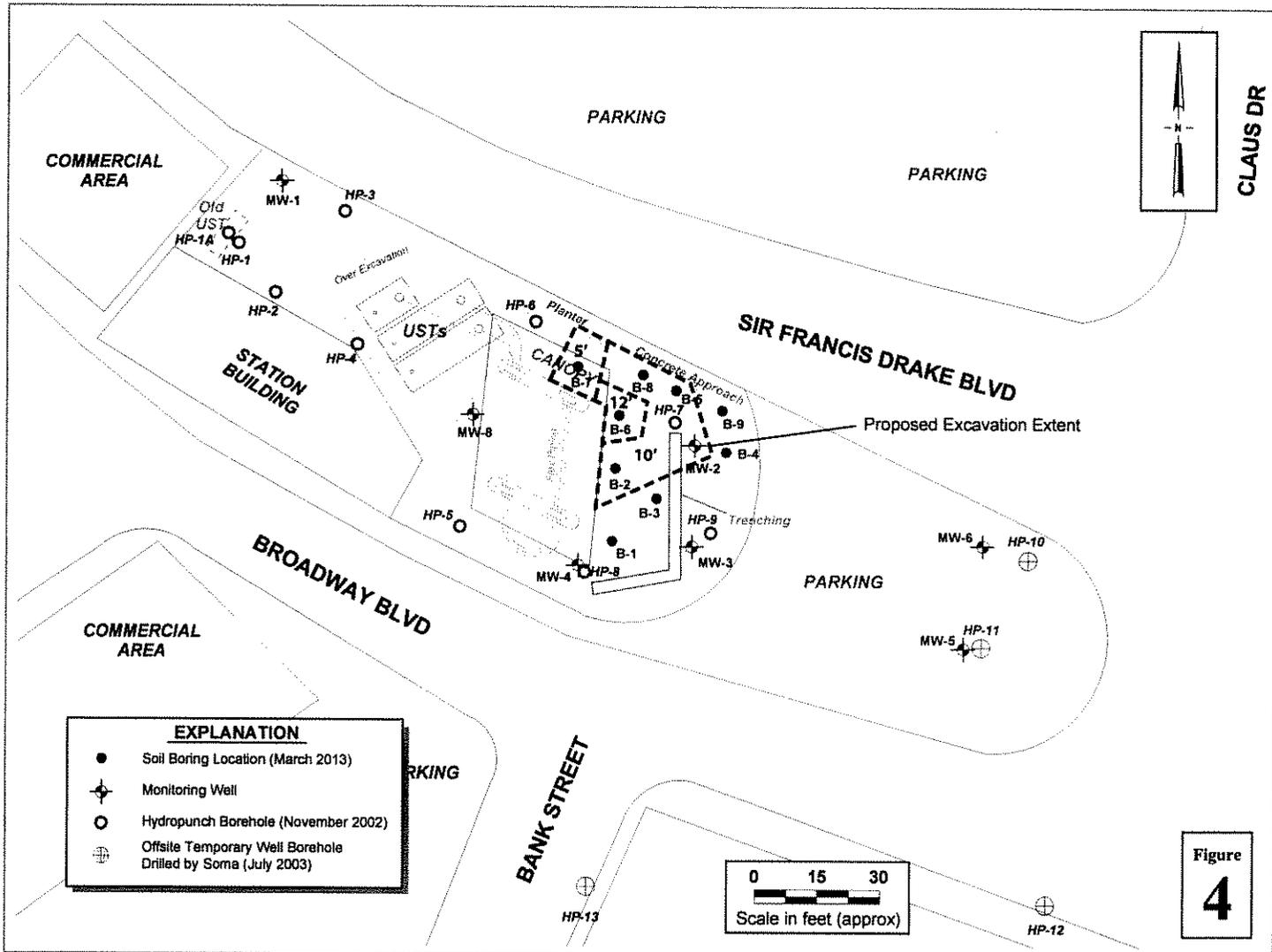


2001 Sir Francis Drake Boulevard
Fairfax, California



Hydrocarbon Extent in Soil

Figure
3



201 Sir Francis Drake Boulevard
Fairfax, California



Proposed Excavation Extent

San Francisco Bay Regional Water Quality Control Board

Invitation to Comment on Proposed Additions to Cleanup Plan for Fairfax Gas

2001 SIR FRANCIS DRAKE BOULEVARD
FAIRFAX, CALIFORNIA

May 2013

Summary

The San Francisco Bay Regional Water Quality Control Board (Water Board) is notifying neighbors and other interested parties of a proposed addition to the existing cleanup plan for the Fairfax Gas facility, 2001 Sir Francis Drake Boulevard, Fairfax. The purpose is to speed up the cleanup of hydrocarbons in soil and groundwater beneath the site to minimize potential risk to human health and the environment.

The proposed addition to the cleanup plan consists of limited soil excavation east and southeast of the northern dispenser island.



We invite all interested parties to comment on the proposed addition to the existing cleanup plan. **Written or emailed comments are due to the Water Board at the above address by June 20, 2013.**

Background

The site is located between Sir Francis Drake Boulevard to the northeast and Broadway Boulevard to the southwest, with commercial properties bordering the site on the northwest and a public parking lot on the southeast. The site had a car repair shop and a retail gasoline dispensing facility. The facility is currently shut down. The site location is shown above.

Presently, two 10,000-gallon gasoline USTs and one 5,000-gallon diesel UST are on-site, located northwest of the pump islands.

Site Investigations

Since 1998, several subsurface investigations have been conducted at this site and along Broadway Boulevard. As part of these investigations soil and groundwater sampling was conducted to define the extent of soil and groundwater contamination.

Petroleum hydrocarbons were encountered in soil and groundwater beneath the site and include: total petroleum hydrocarbons as gasoline (TPH-g); diesel (TPH-d); benzene,

toluene, ethylbenzene, and total xylenes (BTEX); methyl tertiary-butyl ether (MTBE); and tertiary-butyl alcohol (TBA). These hydrocarbons are typical of virtually all old gas stations and have been detected at concentrations exceeding groundwater quality objectives.

Fairfax Gas has installed several monitoring wells on- and off-site and conducted periodic groundwater sampling events. During the February 2013 groundwater sampling event, the maximum detected hydrocarbon concentrations were as follows: TPHg at 3,400 µg/L (micrograms per liter, equivalent to parts per billion); 5,900 µg/L for TPHd; 260 µg/L benzene; and 62 µg/L MTBE. Significantly impacted soil and groundwater is restricted to the gas station property.

In March 2013, Pangea performed a soil investigation to delineate soil contamination east of the fuel canopy onsite. Results of the soil investigation revealed a limited area of free product in the soil that could be effectively remediated by soil excavation.

Shallow groundwater beneath the site is not currently used as drinking water. The City of Fairfax supplies drinking water to the site and vicinity.

Previous Cleanup Activities

In 1998, Fairfax Gas excavated and removed two 10,000-gallon gasoline USTs and one 500-gallon waste-oil UST along with contaminated soil from the vicinity of the pump island area. One 5,000-gallon double-walled UST containing diesel was left in-place. Results of laboratory analyses on soil samples collected during the UST removal exhibited elevated levels of petroleum hydrocarbons and MTBE. After excavating the tank pits, hydrocarbon impacted soils were transported to Forward Landfill for proper disposal. During this process, a total of 453 cubic yards of soil was excavated and

transported for disposal. The excavation area was backfilled with clean fill.

In 2007, an in-place groundwater remediation system was installed at the site. This system consists of an extraction system with a French drain, two extraction points, and a groundwater treatment system that utilizes granulated activated carbon (GAC) adsorption technology. Relatively uncomplicated to operate, GAC technology has been shown to remove gasoline compounds from groundwater. Once treated to below effluent requirements, the groundwater is discharged into the City of Fairfax sanitary sewer system. However, only limited amounts of groundwater is available for extraction at this site and only the hydrocarbons dissolved in groundwater can be treated.

SOMA Environmental Engineering, Inc. conducted multi-phase extraction (MPE – extracts both vapor and groundwater). MPE was operated on an intermittent basis for a total of about two months during 2009, 2010, and 2011. A total of approximately 1,600 pounds of hydrocarbons were removed from subsurface. The hydrocarbons removed were mainly the more volatile gasoline and not the diesel.

Proposed Additional Cleanup Activities

Pangea proposes to excavate soil east and southeast of the northern most fuel dispenser. Soil excavation depth would range from 5 ft to 12 ft deep. The proposed excavation will remove approximately 350 cubic yards of soil.

To help secure the site during excavation, traffic barriers (e.g., K-Rails) will be used to block access into the excavation area at the northern boundary with Sir Francis Drake Boulevard. Temporary fencing will be used to further secure the area from vehicular and pedestrian access. Structural support for the excavation walls will be performed as merited to ensure excavation wall stability, especially

adjacent to the property boundary with Sir Francis Drake Boulevard. The excavation sloping may be used where feasible along the eastern and southern boundaries inside the property. Along the northern boundary a narrow trench may be excavated and filled immediately with controlled density fill. Trucks for soil disposal and fill material will follow a traffic control plan. The excavation will be permitted with the City of Fairfax.

Water Board Oversight Process

The Water Board oversees more than 3,000 site cleanup cases in the Bay Area, including more than 2,000 leaking fuel tank cases. Water Board staff direct investigation or cleanup work and set cleanup standards under Water Code authority. Responsible parties (e.g., pas operators) propose specific measures, perform the actual work, and submit technical reports documenting task completion.

As part of this process, we circulate key documents, such as draft closure plans, to

interested persons and provide an opportunity or comment on these documents. Interested persons include other agencies, local officials, non-profit organizations, and interested landowners and residents and occupants in the site vicinity.

For Additional Information

Reports are available on-line at the State Water Resources Control Board website: <http://geotracker.waterboards.ca.gov/search.asp> enter "21-0366" as the case ID, search, then select "Report" from the left hand side, then select the "site maps/documents" tab.

or contact Water Board case manager Ralph Lambert at (510) 622-2382
ralambert@waterboards.ca.gov or

Fairfax Gas consultant
Bob Clark-Riddell, P.E.
Pangea Environmental Services, Inc.
at (510) 836-3700
briddell@pangeaenv.com

ATTACHMENT A

Regulatory Approval Letter and Public Notice Fact Sheet

21-0366

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Sincerely,


for

Bruce H. Wolfe
Executive Officer

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Attachment: Fact Sheet – Requirements for Submitting Technical Reports Under Section 13267 of the California Water Code

cc w/attach:

Bob Clark-Riddell, Pangea Environmental, (briddell@pangeaenv.com)
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Sunil Ramdass, SWRCB, UST Cleanup Fund Unit (sramdass@waterboards.ca.gov)
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SOMA Environmental Engineering, Inc. conducted multi-phase extraction (MPE – extracts both vapor and groundwater). MPE was operated on an intermittent basis for a total of about two months during 2009, 2010, and 2011. A total of approximately 1,600 pounds of hydrocarbons were removed from subsurface. The hydrocarbons removed were mainly the more volatile gasoline and not the diesel.

Proposed Additional Cleanup Activities

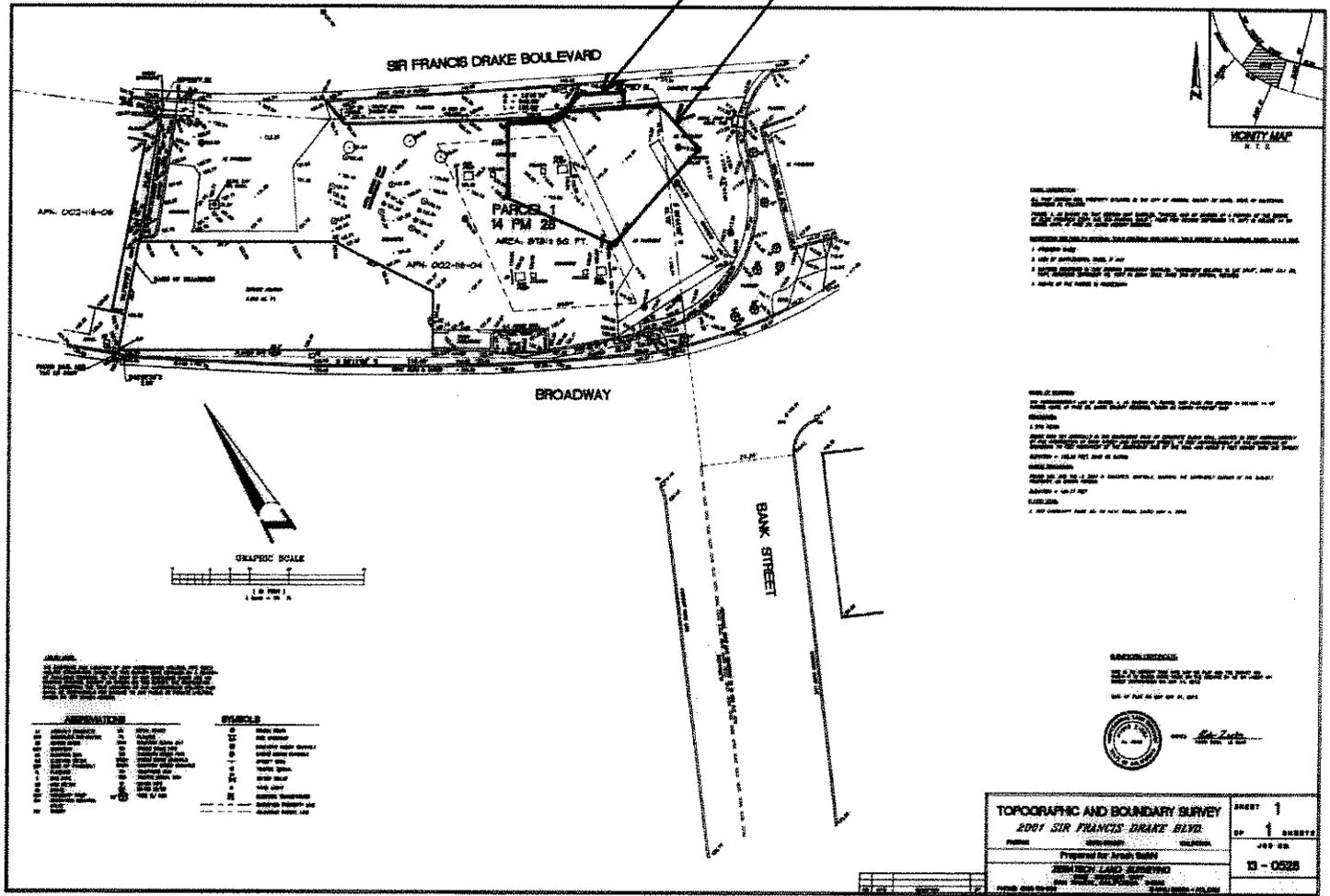
Pangea proposes to excavate soil east and southeast of the northern most fuel dispenser. Soil excavation depth would range from 5 ft to 12 ft deep. The proposed excavation will remove approximately 350 cubic yards of soil.

To help secure the site during excavation, traffic barriers (e.g., K-Rails) will be used to block access into the excavation area at the northern boundary with Sir Francis Drake Boulevard. Temporary fencing will be used to further secure the area from vehicular and pedestrian access. Structural support for the excavation walls will be performed as merited to ensure excavation wall stability, especially

ATTACHMENT B

Survey with Proposed Excavation Extent

OPTIONAL EXCAVATION IN RIGHT OF WAY
 PROPOSED EXCAVATION



THIS SURVEY WAS MADE IN ACCORDANCE WITH THE PROVISIONS OF THE SURVEYING ACT, R.S. 24-1-1, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, STATE OF CALIFORNIA, AND THE PRACTICES AND METHODS OF THE SURVEYING PROFESSION IN CALIFORNIA.

1. PROPERTY OWNER
 2. DATE OF SURVEY, 2001
 3. INSTRUMENTS USED, TRANSIT, LEVEL, TAPE, TOTAL STATION
 4. NAME OF THE SURVEYOR

THIS SURVEY WAS MADE IN ACCORDANCE WITH THE PROVISIONS OF THE SURVEYING ACT, R.S. 24-1-1, AND THE RULES AND REGULATIONS OF THE BOARD OF SURVEYING AND MAPPING, STATE OF CALIFORNIA, AND THE PRACTICES AND METHODS OF THE SURVEYING PROFESSION IN CALIFORNIA.

1. PROPERTY OWNER
 2. DATE OF SURVEY, 2001
 3. INSTRUMENTS USED, TRANSIT, LEVEL, TAPE, TOTAL STATION
 4. NAME OF THE SURVEYOR

ACKNOWLEDGEMENT
 I HEREBY ACKNOWLEDGE THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF THE ORIGINAL SURVEY RECORD AS FILED IN THE OFFICE OF THE COUNTY CLERK, COUNTY OF SAN FRANCISCO, CALIFORNIA, ON 08/11/01.



TOPOGRAPHIC AND BOUNDARY SURVEY 2001 SIR FRANCIS DRAKE BLVD.		SHEET 1 OF 1 SHEETS
Prepared for: [Name] Date: [Date]	COLLECTOR [Name]	JOB NO. 13-0528

FIGURE REVISED BY BOB CLARK-RIDDELL
 OF PANGLOSS ENVIRONMENTAL
 8/1/13

ATTACHMENT C

Engineered Drawing from J.M. Turner Engineering, Inc.

GENERAL NOTES

1. PROVIDE ACCESS AND BARRICADING PER OSHA REQUIREMENTS.
2. CONTRACTOR TO VERIFY THE LOCATION & SIZE OF ALL EXISTING UNDERGROUND UTILITIES AND/OR PIPES, PRIOR TO COMMENCING THE EXCAVATION, IN ORDER TO ELIMINATE ANY CONFLICTS WITH THE SHORING SYSTEM.
3. THIS PLAN IS DESIGNED STRICTLY FOR PROTECTION OF WORKERS, LAYOUT IS PER CONTRACT DRAWINGS, CONTRACTOR TO VERIFY THAT THERE IS SUFFICIENT CLEARANCE & WORKING SPACE.
4. THIS PLAN IS IN ACCORDANCE WITH FEDERAL AND/OR STATE OSHA REGULATIONS, DESIGN BY A REGISTERED CIVIL ENGINEER.
5. THESE PLANS ARE NOT INTENDED TO SHOW THE METHOD AND MEANS OF EXCAVATION OF THE WORK, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTRACTOR SHALL HAVE A COMPETENT PERSON AT THE SITE WHERE THIS PLAN IS IN USE. HE/SHE SHALL BE RESPONSIBLE MAKING SURE THAT ALL ELEMENTS OF THIS PLAN ARE ADHERED TO AND SHALL NOTIFY THE ENGINEER IF CONDITIONS ENCOUNTERED ARE DIFFERENT THAN ANTICIPATED AND SHOWN ON THIS PLAN. IF CONDITIONS ARE DIFFERENT, THIS PLAN MUST BE MODIFIED TO COVER THOSE CONDITIONS OR A NEW PLAN SHALL BE USED.
7. IF ANY EXISTING STRUCTURE(S), BUILDING(S) OR RAILROAD(S), NOT ALREADY SHOWN ON THE SHORING PLANS, IS (ARE) WITHIN A DISTANCE EQUAL TO THE DEPTH OF EXCAVATION, (FROM EDGE OF EXCAVATION TO STRUCTURE) THE CONTRACTOR SHALL CONTACT J.M. TURNER ENGINEERING FOR PLAN REVIEW AND/OR POSSIBLE PLAN REVISIONS.
8. IF EXISTING PARALLEL UTILITIES, NOT ALREADY SHOWN ON THE SHORING PLANS, ARE 48" IN DIAMETER OR LARGER AND ARE CLOSER THAN 48" FROM THE EDGE OF THE EXCAVATION THE CONTRACTOR SHALL CONTACT J.M. TURNER ENGINEERING FOR PLAN REVIEW AND/OR PLAN REVISIONS.

OPEN CUT NOTES:

9. CONTRACTOR TO VERIFY THAT REQUIRED CLEARANCES ARE OBTAINED.
10. EQUIPMENT MAY OPERATE FROM THE SPOIL PILE SIDE AS LONG AS REQUIRED SETBACK IS MAINTAINED.
11. CONTRACTOR IS REQUIRED TO NOTIFY A REPRESENTATIVE @ J.M. TURNER ENGINEERING @ (707) 528-4503 3 TO 4 DAYS PRIOR TO START OF EXCAVATION TO SCHEDULE A SITE VISIT 1 TO 2 DAYS AFTER START OF EXCAVATION IF DEEMED NECESSARY BY J.M. TURNER ENGINEERING.
12. IF SLOUGHING OR RAVELING OCCURS DECREASE SLOPING GRADIENT TO PREVENT FURTHER RAVELING OR SLOUGHING OF THE SOILS.
13. PROTECT THE SLOPE DURING WET WEATHER, BY USE OF VISQUEEN WITH SAND BAGS OR EQUIVALENT MATERIAL. CONTRACTOR TO COMPLY WITH PROJECTS SWPPP.
14. SOILS ARE BASED ON THE GEOTECHNICAL REPORT PREPARED BY PANGEA ENVIRONMENTAL SERVICES DATED 03/14/13 PROJECT No. 1505.001.
15. SOIL SLOPING TO BE VERIFIED PER ENGINEER SITE VISIT.

**PANGEA
ENVIRONMENTAL SERVICES**

**2001 SIR FRANCIS DRAKE BLVD
FAIRFAX, CA**

OPEN CUT SHORING PLAN

INDEX:

- SHEET S/1 COVER PAGE
- SHEET S/2 PLAN VIEW & SECTIONS
- SHEET S/3 SITE VIEW
- SHEET S/4 TRUCK ROUTE PLAN

STEEL REQUIREMENTS

- N/A

WELDING REQUIREMENTS

- N/A

TIMBER REQUIREMENTS

- N/A

DEWATERING REQUIREMENTS

- DEWATER INSIDE THE EXCAVATION AS NEEDED TO ALLOW CONSTRUCTION AND/OR REQUIRED WORK OPERATIONS.
- DEWATERING IS THE RESPONSIBILITY OF THE CONTRACTOR. IF DEWATERING WELLS, SPECIAL SUMP PUMPS OR ANY REQUIREMENTS FOR DEWATERING ARE REQUIRED BY THE REVIEWING AGENCY, CONTRACTOR SHALL ADDRESS THIS IN A SEPARATE SUBMITTAL.
- DEWATERING WELLS MAY BE REQUIRED (AS MANY AS NEEDED) TO MAINTAIN THE WATER LEVEL AT THE BOTTOM OF THE EXCAVATION.

REVISIONS BY
07/01/13 SA

2001 SIR FRANCIS DRAKE BLVD
FAIRFAX, CA
EXCAVATION PLAN

PANGEA
ENVIRONMENTAL SERVICES
1710 FRANKLIN STREET, SUITE 200
DANFORD, CA 94612

J.M. TURNER ENGINEERING, INC.
CONSULTING ENGINEERS
1000 CHERRY AVE. SUITE 200, CA 94604
(925) 528-4503 FAX (925) 528-4507



SCALE: N.T.S.
DATE: 05/20/13
DRAWN BY: SA
CHECKED BY: SA
DRAWING NO.: 1505-1-21
SHEET: 1 OF 4

2001 SIR FRANCIS DRAKE BOULEVARD
FAIRFAX, CA
EXCAVATION PLAN



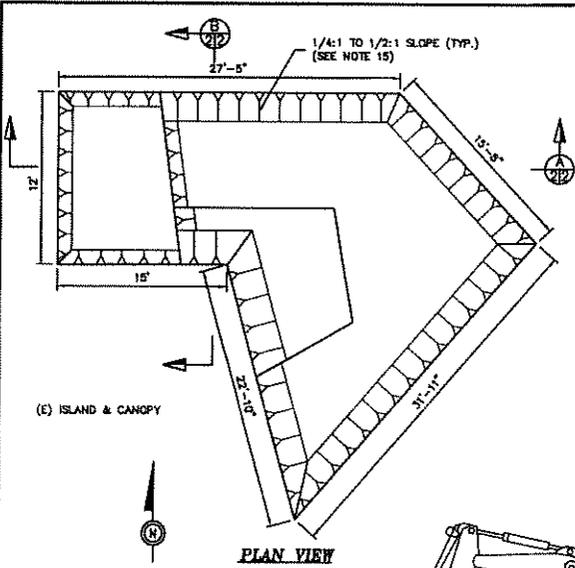
REVISIONS BY
07/02/13 SA

2001 SIR FRANCIS DRAKE BLVD
FAIRFAX, CA
EXCAVATION PLAN

FANGEE
ENVIRONMENTAL SERVICES
1710 FRANKLIN STREET, SUITE 200
OAKLAND, CA 94612

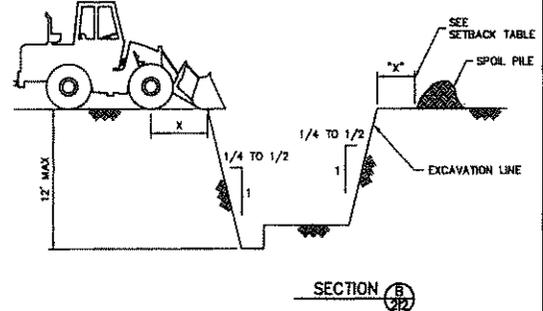
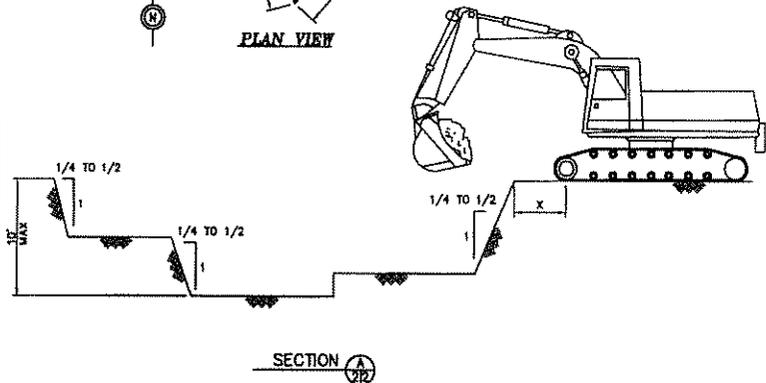
J.K. STORNER ENGINEERING, INC.
CONSULTING ENGINEER
1000 CALLE DEL SOL, SUITE 100, SAN JOSE, CA 95128
(408) 298-8800 FAX (408) 298-8809

SCALE: N.T.S.
DATE: 06/20/13
DRAWN BY: J.A.L.
CHECKED BY: J.A.L.
DRAWING NO.: 1301-L-02
SHEET: 2 OF 4

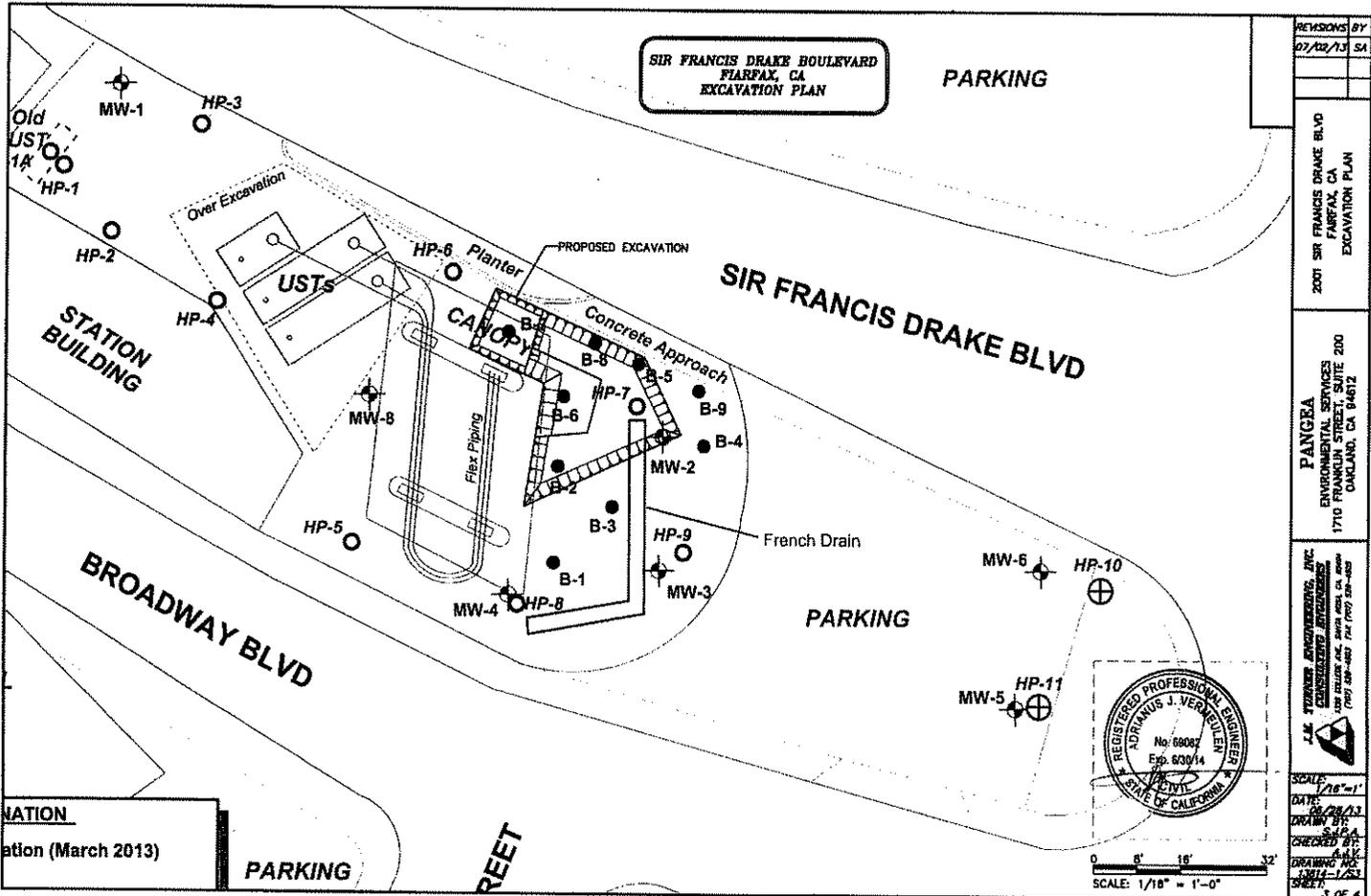


SETBACK TABLE
200 PSF MAX BURCHARGE
X = SETBACK

K-RAIL	X=1'
HS 20-44 TRAFFIC	X=4'
SPOIL PILE	X=4'
EXCAVATOR	X=4'
DUMP TRUCK	X=4'
3 CY LOADER	X=4'
5 CY LOADER	X=5'
CRANE TO 30 TON	X=8'
CONCRETE TRUCK	X=10'



SIR FRANCIS DRAKE BOULEVARD
 FIAKFAX, CA
 EXCAVATION PLAN



ATION
 ation (March 2013)



REVISIONS BY	DATE
07/02/13 SA	

2001 SIR FRANCIS DRAKE BLVD
 FIAKFAX, CA
 EXCAVATION PLAN

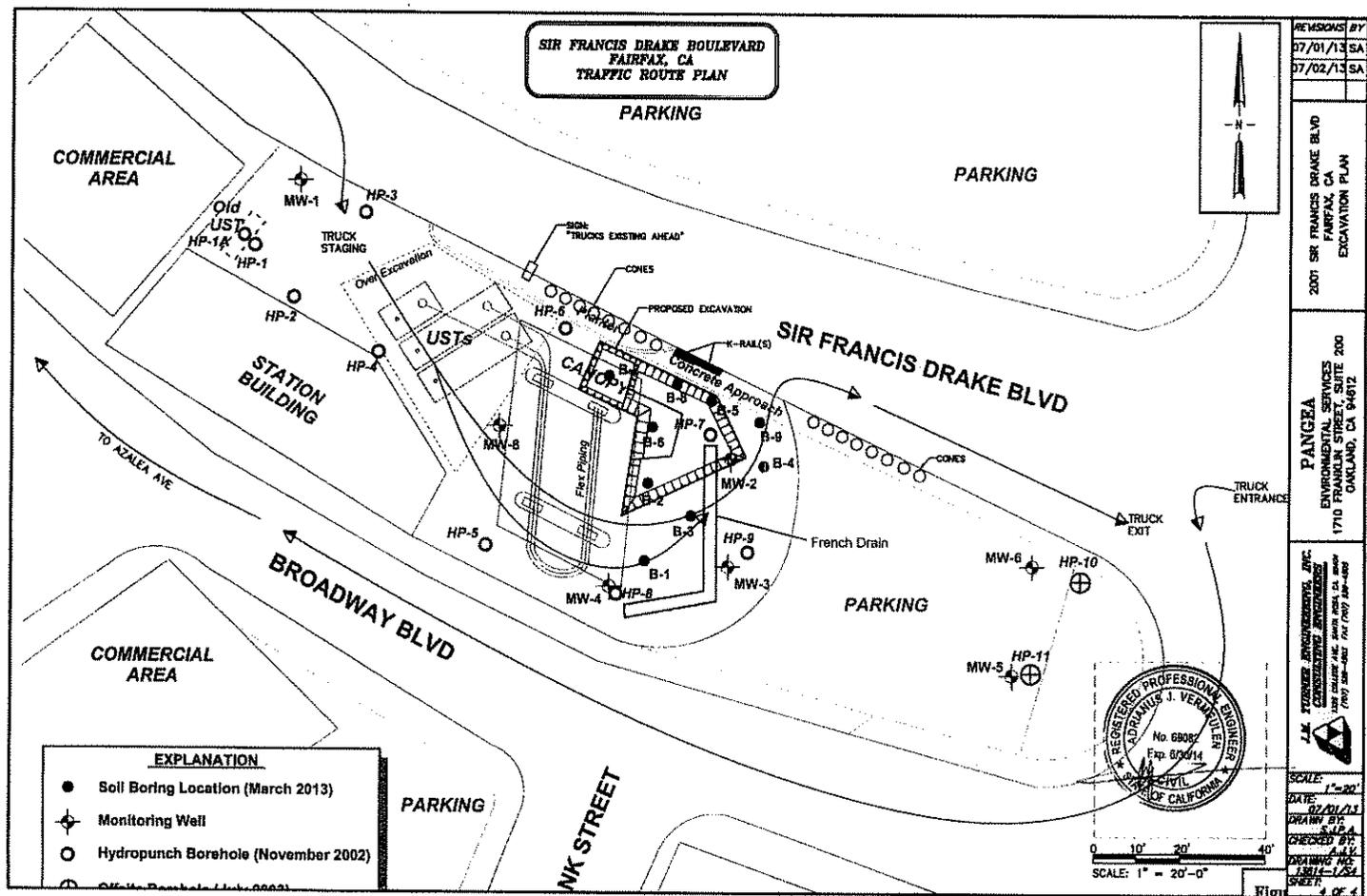
PANGAEA
 ENVIRONMENTAL SERVICES
 1710 FRANKLIN STREET, SUITE 200
 OAKLAND, CA 94612

J.M. SWANER ENVIRONMENTAL, INC.
 ENVIRONMENTAL ENGINEERING
 1000 BELLER AVE. SUITE 1000, CA 94608
 (925) 288-4600 Fax: (925) 288-4605

SCALE: 1/16" = 1'-0"

DATE: 07/02/13
 DRAWN BY: SA
 CHECKED BY: SA
 DRAWING NO: 13071-1-01
 SHEET: 5 OF 4

SIR FRANCIS DRAKE BOULEVARD
FAIRFAX, CA
TRAFFIC ROUTE PLAN



EXPLANATION	
●	Soil Boring Location (March 2013)
⊕	Monitoring Well
○	Hydropunch Borehole (November 2002)
○	Old UST



REVISIONS BY	07/01/13 SA
	07/02/13 SA
2007 SIR FRANCIS DRAKE BLVD FAIRFAX, CA EXCAVATION PLAN	
PANGEA ENVIRONMENTAL SERVICES 1710 FRANKLIN STREET, SUITE 200 OAKLAND, CA 94612	
J.M. STONER ENVIRONMENTAL, INC. CONSULTING ENGINEERS 1000 BRIDGE AVE. SUITE 1000, CA. 94612 PH: 510-530-1000 FAX: (510) 530-1000	
SCALE:	1" = 20'
DATE:	07/01/13
DRAWN BY:	SA
CHECKED BY:	SA
DRAWING NO.:	1304-1-13A
SHEET:	4 OF 4

Low-Threat Underground Storage Tank Case Closure Policy

Preamble

The State Water Resources Control Board (State Water Board) administers the petroleum UST (Underground Storage Tank) Cleanup Program, which was enacted by the Legislature in 1984 to protect health, safety and the environment. The State Water Board also administers the petroleum UST Cleanup Fund (Fund), which was enacted by the Legislature in 1989 to assist UST owners and operators in meeting federal financial responsibility requirements and to provide reimbursement to those owners and operators for the high cost of cleaning up unauthorized releases caused by leaking USTs.

The State Water Board believes it is in the best interest of the people of the State that unauthorized releases be prevented and cleaned up to the extent practicable in a manner that protects human health, safety and the environment. The State Water Board also recognizes that the technical and economic resources available for environmental restoration are limited, and that the highest priority for these resources must be the protection of human health and environmental receptors. Program experience has demonstrated the ability of remedial technologies to mitigate a substantial fraction of a petroleum contaminant mass with the investment of a reasonable level of effort. Experience has also shown that residual contaminant mass usually remains after the investment of reasonable effort, and that this mass is difficult to completely remove regardless of the level of additional effort and resources invested.

It has been well-documented in the literature and through experience at individual UST release sites that petroleum fuels naturally attenuate in the environment through adsorption, dispersion, dilution, volatilization, and biological degradation. This natural attenuation slows and limits the migration of dissolved petroleum plumes in groundwater. The biodegradation of petroleum, in particular, distinguishes petroleum products from other hazardous substances commonly found at commercial and industrial sites.

The characteristics of UST releases and the California UST Program have been studied extensively, with individual works including:

- a. Lawrence Livermore National Laboratory report (1995)
- b. SB1764 Committee report (1996)
- c. UST Cleanup Program Task Force report (2010)
- d. Cleanup Fund Task Force report (2010)
- e. Cleanup Fund audit (2010)
- f. State Water Resources Control Board site closure orders
- g. State Water Resources Control Board Resolution 2009-0081

In general, these efforts have recognized that many petroleum release cases pose a low threat to human health and the environment. Some of these studies also recommended establishing "low-threat" closure criteria in order to maximize the benefits to the people of the State of California through judicious application of available resources.

The purpose of this policy is to establish consistent statewide case closure criteria for low-threat petroleum UST sites. The policy is consistent with existing statutes, regulations, State Water Board precedential decisions, policies and resolutions, and is intended to provide clear direction to responsible parties, their service providers, and regulatory agencies. The policy seeks to increase UST cleanup process efficiency. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing a greater threat to human and environmental health.

This policy is based in part upon the knowledge and experience gained from the last 25 years of investigating and remediating unauthorized releases of petroleum from USTs. While this policy does not specifically address other petroleum release scenarios such as pipelines or above ground storage tanks, if a particular site with a different petroleum release scenario exhibits attributes similar to those which this policy addresses, the criteria for closure evaluation of these non-UST sites should be similar to those in this policy.

This policy is a state policy for water quality control and applies to all petroleum UST sites subject to Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations. The term "regulatory agencies" in this policy means the State Water Board, Regional Water Quality Control Boards (Regional Water Boards) and local agencies authorized to implement Health and Safety Code section 25296.10. Unless expressly provided in this policy, the terms in this policy shall have the same definitions provided in Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations.

Criteria for Low-Threat Case Closure

In the absence of unique attributes of a case or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria described in this policy pose a low threat to human health, safety or the environment and are appropriate for closure pursuant to Health and Safety Code section 25296.10. Cases that meet the criteria in this policy do not require further corrective action and shall be issued a uniform closure letter consistent with Health and Safety Code section 25296.10. Annually, or at the request of the responsible party or party conducting the corrective action, the regulatory agency shall conduct a review to determine whether the site meets the criteria contained in this policy.

It is important to emphasize that the criteria described in this policy do not attempt to describe the conditions at all low-threat petroleum UST sites in the State. The regulatory agency shall issue a closure letter for a case that does not meet these criteria if the regulatory agency determines the site to be low-threat based upon a site specific analysis.

This policy recognizes that some petroleum-release sites may possess unique attributes and that some site specific conditions may make case closure under this policy inappropriate, despite the satisfaction of the stated criteria in this policy. It is impossible to completely capture those sets of attributes that may render a site ineligible for closure based on this low-threat policy. This policy relies on the regulatory agency's use of the conceptual site model to identify the special attributes that would require specific attention prior to the application of low-threat criteria. In these cases, it is the regulatory agency's responsibility to identify the conditions that make closure under the policy inappropriate.

General Criteria

General criteria that must be satisfied by all candidate sites are listed as follows:

- a. The unauthorized release is located within the service area of a public water system;
- b. The unauthorized release consists only of petroleum;
- c. The unauthorized ("primary") release from the UST system has been stopped;
- d. Free product has been removed to the maximum extent practicable;
- e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed;
- f. Secondary source has been removed to the extent practicable;
- g. Soil or groundwater has been tested for methyl tert-butyl ether (MTBE) and results reported in accordance with Health and Safety Code section 25296.15; and
- h. Nuisance as defined by Water Code section 13050 does not exist at the site.

a. The unauthorized release is located within the service area of a public water system

This policy is protective of existing water supply wells. New water supply wells are unlikely to be installed in the shallow groundwater near former UST release sites. However, it is difficult to predict, on a statewide basis, where new wells will be installed, particularly in rural areas that are undergoing new development. This policy is limited to areas with available public water systems to reduce the likelihood that new wells in developing areas will be inadvertently impacted by residual petroleum in groundwater. Case closure outside of areas with a public water system should be evaluated based upon the fundamental principles in this policy and a site specific evaluation of developing water supplies in the area. For purposes of this policy, a public water system is a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

b. The unauthorized release consists only of petroleum

For the purposes of this policy, petroleum is defined as crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means 60 degrees Fahrenheit and 14.7 pounds per square inch absolute, including the following substances: motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils, including any additives and blending agents such as oxygenates contained in the formulation of the substances.

c. The unauthorized release has been stopped

The tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e. the primary source) has been removed, repaired or replaced. It is not the intent of this policy to allow sites with ongoing leaks from the UST system to qualify for low-threat closure.

d. Free product has been removed to the maximum extent practicable

At petroleum unauthorized release sites where investigations indicate the presence of free product, free product shall be removed to the maximum extent practicable. In meeting the requirements of this section:

- (a) Free product shall be removed in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable laws;

- (b) Abatement of free product migration shall be used as a minimum objective for the design of any free product removal system; and
- (c) Flammable products shall be stored for disposal in a safe and competent manner to prevent fires or explosions.

e. A conceptual site model that assesses the nature, extent, and mobility of the release has been developed

The Conceptual Site Model (CSM) is a fundamental element of a comprehensive site investigation. The CSM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants). The CSM is relied upon by practitioners as a guide for investigative design and data collection. Petroleum release sites in California occur in a wide variety of hydrogeologic settings. As a result, contaminant fate and transport and mechanisms by which receptors may be impacted by contaminants vary greatly from location to location. Therefore, the CSM is unique to each individual release site. All relevant site characteristics identified by the CSM shall be assessed and supported by data so that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy. The supporting data and analysis used to develop the CSM are not required to be contained in a single report and may be contained in multiple reports submitted to the regulatory agency over a period of time.

f. Secondary source has been removed to the extent practicable

“Secondary source” is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable as described herein. “To the extent practicable” means implementing a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. It is expected that most secondary mass removal efforts will be completed in one year or less. Following removal or destruction of the secondary source, additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy.

g. Soil and groundwater have been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15

Health and Safety Code section 25296.15 prohibits closing a UST case unless the soil, groundwater, or both, as applicable have been tested for MTBE and the results of that testing are known to the Regional Water Board. The exception to this requirement is where a regulatory agency determines that the UST that leaked has only contained diesel or jet fuel. Before closing a UST case pursuant to this policy, the requirements of section 25296.15, if applicable, shall be satisfied.

h. Nuisance as defined by Water Code section 13050 does not exist at the site

Water Code section 13050 defines "nuisance" as anything which meets all of the following requirements:

- (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- (3) Occurs during, or as a result of, the treatment or disposal of wastes.

For the purpose of this policy, waste means a petroleum release.

Media-Specific Criteria

Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. Groundwater
2. Vapor Intrusion to Indoor Air
3. Direct Contact and Outdoor Air Exposure

Candidate sites must satisfy all three of these media-specific criteria as described below.

1. Groundwater

This policy describes criteria on which to base a determination that threats to existing and anticipated beneficial uses of groundwater have been mitigated or are de minimis, including cases that have not affected groundwater.

State Water Board Resolution 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 is a state policy for water quality control and applies to petroleum UST cases. Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. Resolution No. 92-49 does not require that the requisite level of water quality be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame.

Water quality control plans (Basin Plans) generally establish "background" water quality as a restorative endpoint. This policy recognizes the regulatory authority of the Basin Plans but underscores the flexibility contained in Resolution 92-49.

It is a fundamental tenet of this low-threat closure policy that if the closure criteria described in this policy are satisfied at a petroleum unauthorized release site, attaining background water quality is not feasible, establishing an alternate level of water quality not to exceed that prescribed in the applicable Basin Plan is appropriate, and that water quality objectives will be attained through natural attenuation within a reasonable time, prior to the expected need for use of any affected groundwater.

If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed below. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

Groundwater-Specific Criteria

- (1) a. The contaminant plume that exceeds water quality objectives is less than 100 feet in length.
 - b. There is no free product.
 - c. The nearest existing water supply well or surface water body is greater than 250 feet from the defined plume boundary.
- (2) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
 - b. There is no free product.
 - c. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
 - d. The dissolved concentration of benzene is less than 3,000 micrograms per liter ($\mu\text{g/l}$), and the dissolved concentration of MTBE is less than 1,000 $\mu\text{g/l}$.
- (3) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
 - b. Free product has been removed to the maximum extent practicable, may still be present below the site where the release originated, but does not extend off-site.
 - c. The plume has been stable or decreasing for a minimum of five years.
 - d. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
 - e. The property owner is willing to accept a land use restriction if the regulatory agency requires a land use restriction as a condition of closure.
- (4) a. The contaminant plume that exceeds water quality objectives is less than 1,000 feet in length.
 - b. There is no free product.
 - c. The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.
 - d. The dissolved concentration of benzene is less than 1,000 $\mu\text{g/l}$, and the dissolved concentration of MTBE is less than 1,000 $\mu\text{g/l}$.
- (5) a. The regulatory agency determines, based on an analysis of site specific conditions that under current and reasonably anticipated near-term future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

Sites with Releases That Have Not Affected Groundwater

Sites with soil that does not contain sufficient mobile constituents [leachate, vapors, or light non-aqueous-phase liquids (LNAPL)] to cause groundwater to exceed the groundwater criteria in this policy shall be considered low-threat sites for the groundwater medium. Provided the general criteria and criteria for other media are also met, those sites are eligible for case closure.

For older releases, the absence of current groundwater impact is often a good indication that residual concentrations present in the soil are not a source for groundwater pollution.

2. Petroleum Vapor Intrusion to Indoor Air

Exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. This policy describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. For the purposes of this section, the term "bioattenuation zone" means an area of soil with conditions that support biodegradation of petroleum hydrocarbon vapors.

The low-threat vapor-intrusion criteria described below apply to sites where the release originated and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the future. Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario. Petroleum release sites shall satisfy the media-specific criteria for petroleum vapor intrusion to indoor air and be considered low-threat for the vapor-intrusion-to-indoor-air pathway if:

- a. Site-specific conditions at the release site satisfy all of the characteristics and criteria of scenarios 1 through 3 as applicable, or all of the characteristics and criteria of scenario 4 as applicable; or
- b. A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency; or
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health.

Exception: Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.

3. Direct Contact and Outdoor Air Exposure

This policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatilized to outdoor air poses a low threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

- a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs). The concentration limits for 0 to 5 feet bgs protect from ingestion of soil, dermal contact with soil, and inhalation of volatile soil emissions and inhalation of particulate emissions. The 5 to 10 feet bgs concentration limits protect from inhalation of volatile soil emissions. Both the 0 to 5 feet bgs concentration limits and the 5 to 10 feet bgs concentration limits for the appropriate site classification (Residential or Commercial/Industrial) shall be satisfied. In addition, if exposure to construction workers or utility trench workers are reasonably anticipated, the concentration limits for Utility Worker shall also be satisfied; or
- b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or
- c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Table 1
Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health

Chemical	Residential		Commercial/ Industrial		Utility Worker
	0 to 5 feet bgs mg/kg	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 5 feet bgs mg/kg	Volatilization to outdoor air (5 to 10 feet bgs) mg/kg	0 to 10 feet bgs mg/kg
Benzene	1.9	2.8	8.2	12	14
Ethylbenzene	21	32	89	134	314
Naphthalene	9.7	9.7	45	45	219
PAH ¹	0.063	NA	0.68	NA	4.5

Notes:

1. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAH is only necessary where soil is affected by either waste oil or Bunker C fuel.
2. The area of impacted soil where a particular exposure occurs is 25 by 25 meters (approximately 82 by 82 feet) or less.
3. NA = not applicable
4. mg/kg = milligrams per kilogram

Low-Threat Case Closure

Cases that meet the general and media-specific criteria established in this policy pose a low threat to human health, safety and the environment and satisfy the case-closure requirements of Health and Safety Code section 25296.10, and case closure is consistent with State Water Board Resolution 92-49 that requires that cleanup goals and objectives be met within a reasonable time frame. If the case has been determined by the regulatory agency to meet the criteria in this policy, the regulatory agency shall notify responsible parties that they are eligible for case closure and that the following items, if applicable, shall be completed prior to the issuance of a uniform closure letter specified in Health and Safety Code section 25296.10. After completion of these items, and unless the regulatory agency revises its determination based on comments received on the proposed case closure, the regulatory agency shall issue a uniform closure letter within 30 days from the end of the comment period.

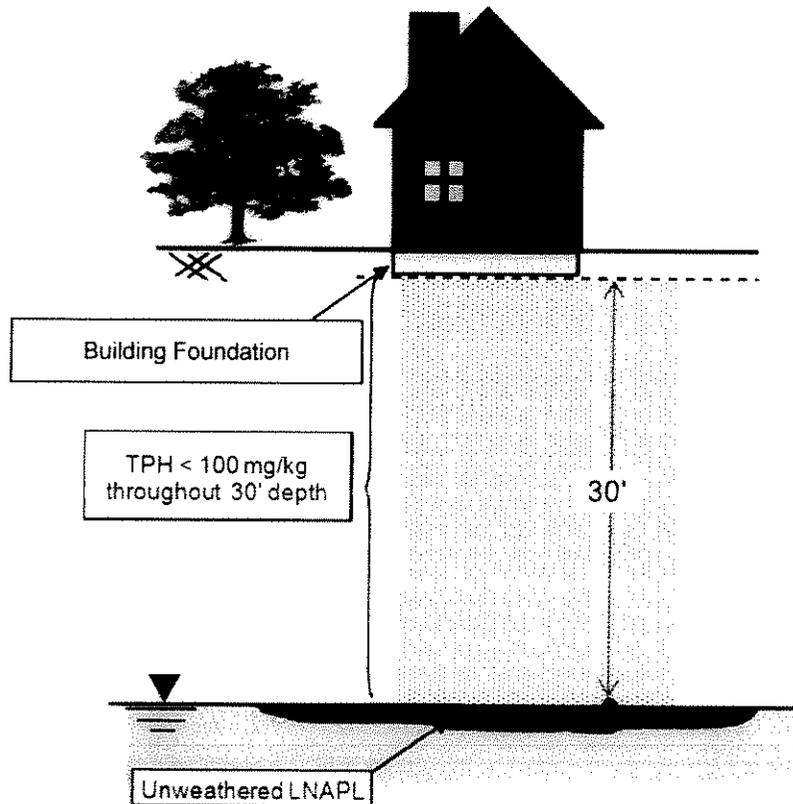
- a. **Notification Requirements** – Municipal and county water districts, water replenishment districts, special act districts with groundwater management authority, agencies with authority to issue building permits for land affected by the petroleum release, owners and occupants of the property impacted by the petroleum release, and the owners and occupants of all parcels adjacent to the impacted property shall be notified of the proposed case closure and provided a 60 day period to comment. The regulatory agency shall consider any comments received when determining if the case should be closed or if site specific conditions warrant otherwise.
- b. **Monitoring Well Destruction** – All wells and borings installed for the purpose of investigating, remediating, or monitoring the unauthorized release shall be properly destroyed prior to case closure unless a property owner certifies that they will keep and maintain the wells or borings in accordance with applicable local or state requirements.
- c. **Waste Removal** – All waste piles, drums, debris and other investigation or remediation derived materials shall be removed from the site and properly managed in accordance with regulatory agency requirements.

Appendix 1

Scenario 1: Unweathered* LNAPL in Groundwater

Required Characteristics of the Bioattenuation Zone

Existing Building or Potential Future Construction



Required Characteristics of the Bioattenuation Zone:

1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet vertically between the LNAPL in groundwater and the foundation of existing or potential buildings; and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

TPH = total petroleum hydrocarbons

TPH-g = total petroleum hydrocarbons as gasoline

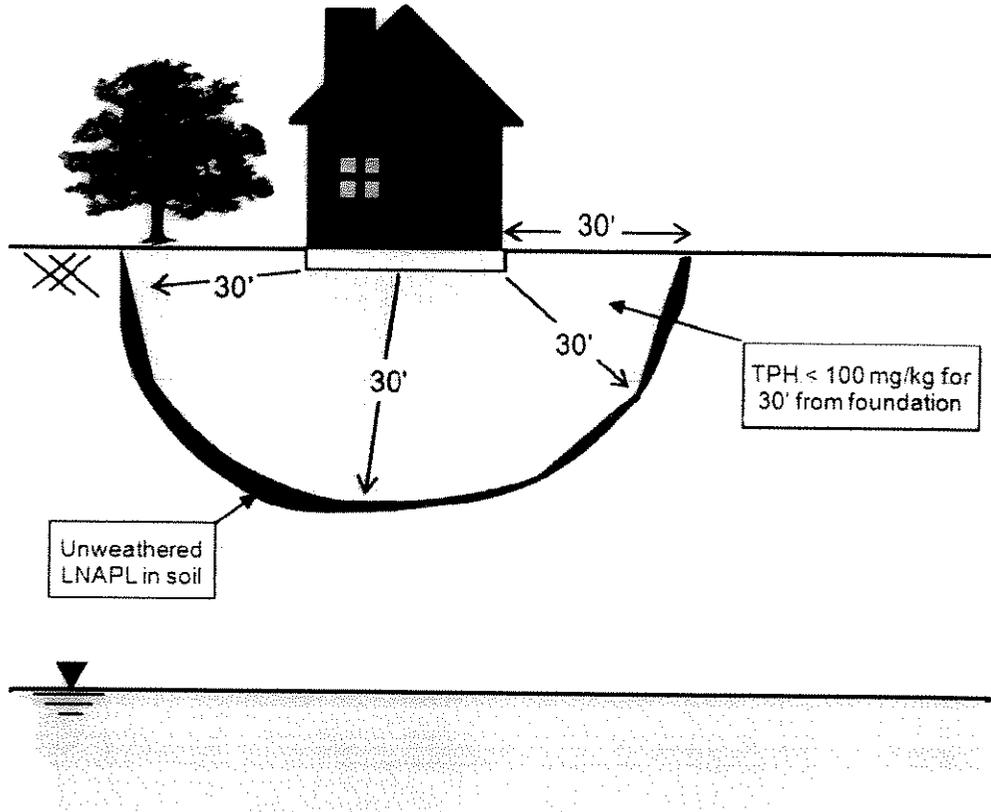
TPH-d = total petroleum hydrocarbons as diesel

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 2 Scenario 2: Unweathered* LNAPL in Soil

Required Characteristics of the Bioattenuation Zone

Existing Building or Potential Future Construction



Required Characteristics of the Bioattenuation Zone:

1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet both laterally and vertically between the LNAPL in soil and the foundation of existing or potential buildings, and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire lateral and vertical extent of the bioattenuation zone.

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volatilization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 3
Scenario 3 - Dissolved Phase Benzene Concentrations in Groundwater
 (Low concentration groundwater scenarios with or without oxygen data)
 (1 of 2)

Defining the Bioattenuation Zone Without Oxygen Data or Oxygen < 4%

Existing Building or Future Construction

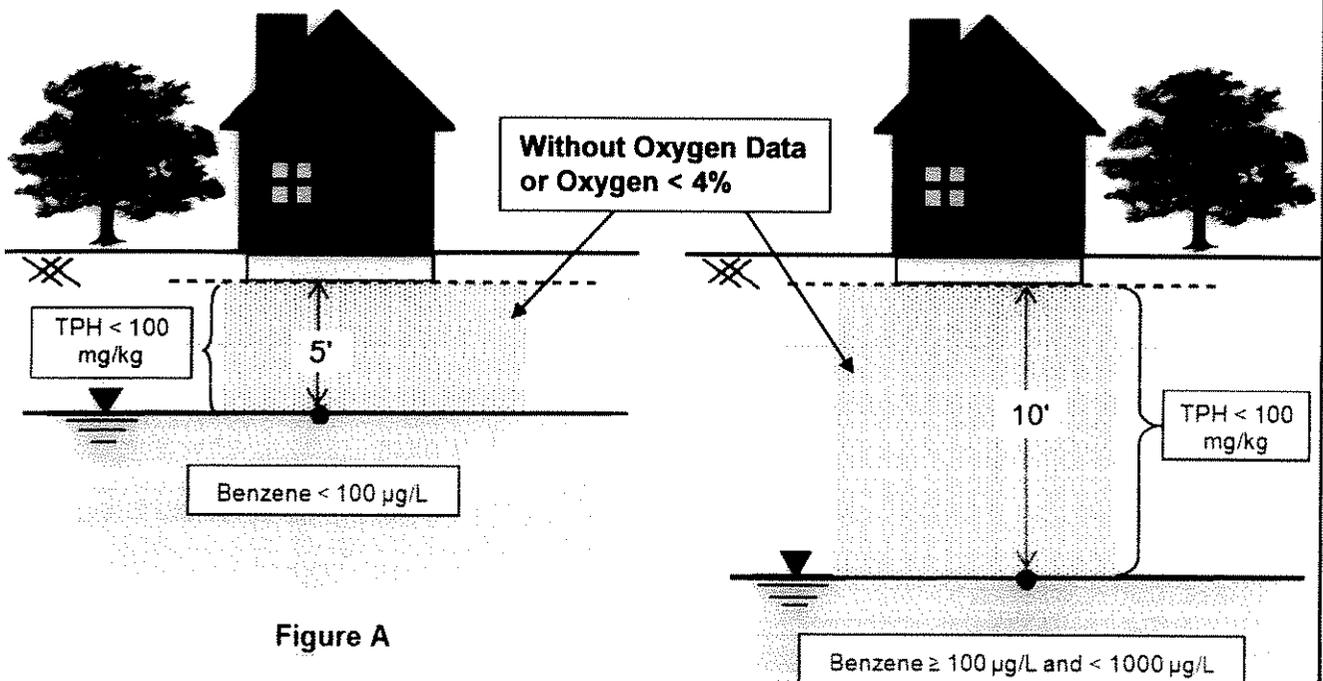


Figure A

Figure B

Required Characteristics of Bioattenuation Zone for Sites Without Oxygen Data or Where Oxygen is < 4%

Figure A: 1) Where benzene concentrations are less than 100 µg/L, the bioattenuation zone:

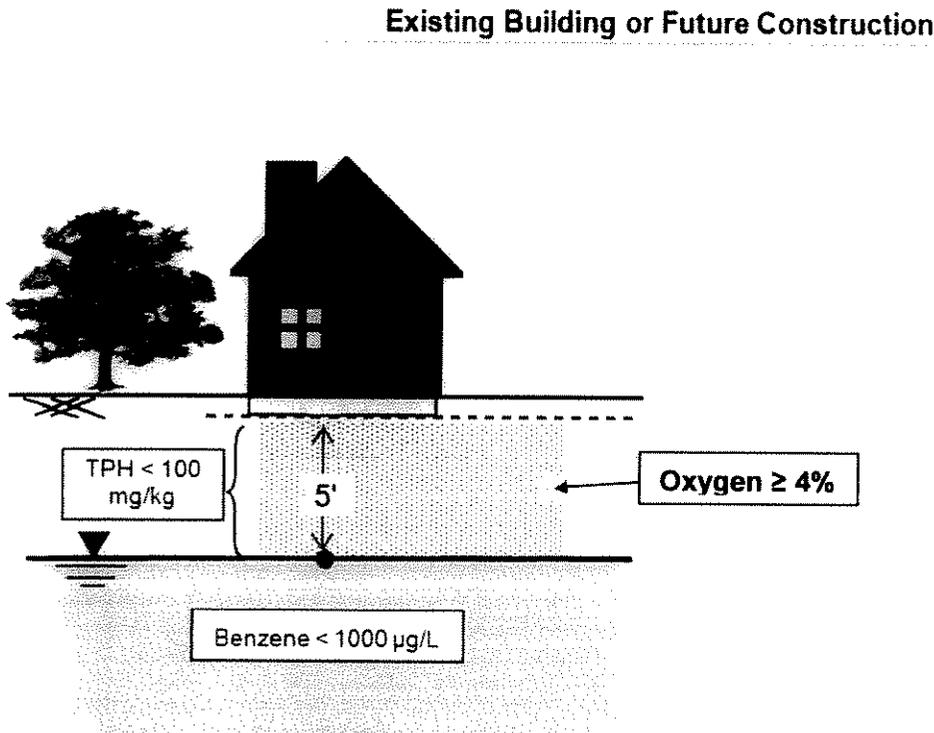
- a) Shall be a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
- b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Figure B: 1) Where benzene concentrations are equal to or greater than 100 µg/L but less than 1000 µg/L, the bioattenuation zone:

- a) Shall be a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
- b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Appendix 3
Scenario 3 - Dissolved Phase Benzene Concentrations in Groundwater
(Low concentration groundwater scenarios with or without oxygen data)
(2 of 2)

Defining the Bioattenuation Zone With Oxygen $\geq 4\%$



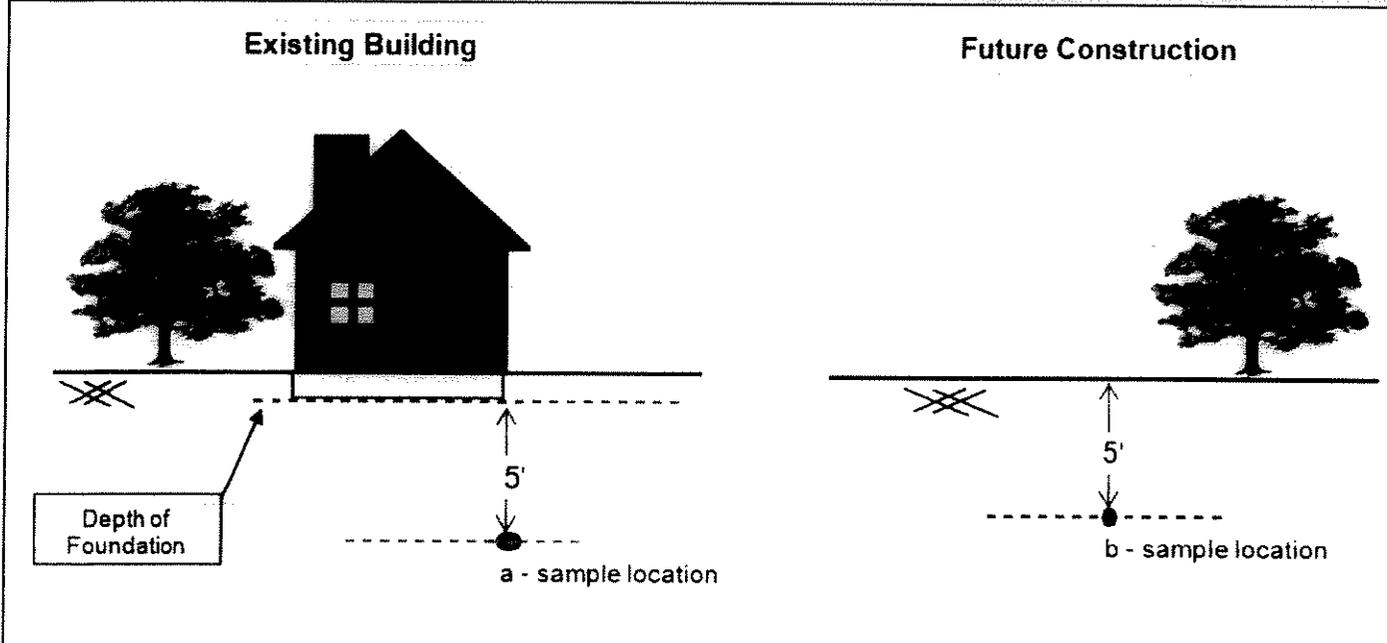
Required Characteristics of Bioattenuation Zone for Sites With Oxygen $\geq 4\%$

Where benzene concentrations are less than 1000 $\mu\text{g/L}$, the bioattenuation zone:

1. Shall be a continuous zone that provides a separation of least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
2. Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Appendix 4
Scenario 4 - Direct Measurement of Soil Gas Concentrations
(1 of 2)

Soil Gas Sampling – No Bioattenuation Zone



The criteria in the table below apply unless the requirements for a bioattenuation zone, established below, are satisfied.

When applying the criteria below, the soil gas sample must be obtained from the following locations:

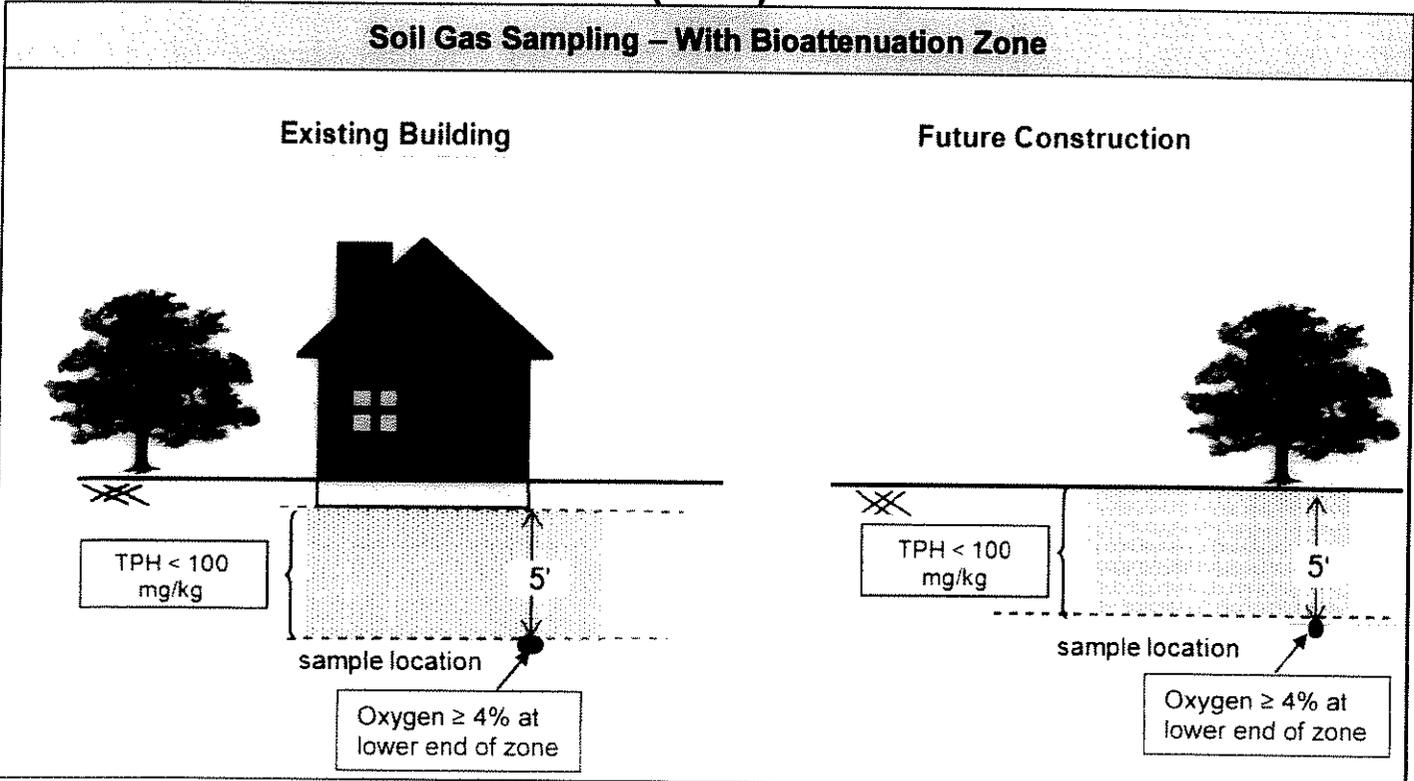
- a. Beneath or adjacent to an existing building: The soil gas sample shall be collected at least five feet below the bottom of the building foundation.
- b. Future construction: The soil gas sample shall be collected from at least five feet below ground surface.

Soil Gas Criteria ($\mu\text{g}/\text{m}^3$)

	No Bioattenuation Zone*	
	Residential	Commercial
Constituent	Soil Gas Concentration ($\mu\text{g}/\text{m}^3$)	
Benzene	< 85	< 280
Ethylbenzene	<1,100	<3,600
Naphthalene	< 93	< 310

*For the no bioattenuation zone, the screening criteria are same as the California Human Health Screening Levels (CHHSLs) with engineered fill below sub-slab.

Appendix 4
Scenario 4 - Direct Measurement of Soil Gas Concentrations
(2 of 2)



The criteria in the table below apply if the following requirements for a bioattenuation zone are satisfied:

1. There is a minimum of five vertical feet of soil between the soil vapor measurement and the foundation of an existing building or ground surface of future construction.
2. TPH (TPHg + TPHd) is less than 100 mg/kg (measured in at least two depths within the five-foot zone.)
3. Oxygen is greater than or equal to four percent measured at the bottom of the five-foot zone.

Soil Gas Criteria ($\mu\text{g}/\text{m}^3$)		
	With Bioattenuation Zone**	
	Residential	Commercial
Constituent	Soil Gas Concentration ($\mu\text{g}/\text{m}^3$)	
Benzene	< 85,000	< 280,000
Ethylbenzene	< 1,100,000	< 3,600,000
Naphthalene	< 93,000	< 310,000

**A 1000-fold bioattenuation of petroleum vapors is assumed for the bioattenuation zone.

Linda Neal

From: Ray Wrynski [r.wrynski@verizon.net]
Sent: Thursday, August 08, 2013 10:50 AM
To: Linda Neal
Subject: Re: 2001 SIR FRANCIS DRAKE BLVD.

Linda:

That all looks good. You should print a copy of that e-mail and keep it in your file. If a utility is damaged, that e-mail will show that the applicant knew that a thorough check for utilities was to be done.

Ray

----- Original Message -----

From: Linda Neal
To: Ray Wrynski
Sent: Thursday, August 08, 2013 10:01 AM
Subject: FW: 2001 SIR FRANCIS DRAKE BLVD.

Bob did contact the Water District – see below.

Linda

From: Bob Clark-Riddell [mailto:briddell@pangeaenv.com]
Sent: Tuesday, July 23, 2013 3:34 PM
To: Linda Neal
Subject: FW: 2001 SIR FRANCIS DRAKE BLVD.

Linda,

I look forward to our meeting tomorrow at 2 pm. Here is a quick update on other organizations you requested I contact.

First – USA: Prior to excavation Pangea will notify the Underground Service Alert and hire an underground line locator as necessary to clear excavation area and identify any nearby utilities. Organizations with nearby utilities typically alert us of any concerns at that time. For extreme cases (e.g., telecommunication lines or PG&E utilities), these entities send representatives to field during key work.

PG&E: Told us to call USA which will alert them. Would not review plans at this time.

MMWD: Said work is on private property so not concerned. Will address any specific issued identified during USA notification process.

Ross Valley Sanitation District: Said work is on private property so not concerned. However, they will review the excavation drawings. Will address any specific issued identified during USA notification process.

Marin County Environmental Health: Requested a permit to remove MW-2 via excavation. They recommend we obtain a permit to remove all other wells at same time, since they will likely be removed within 12 months.

Bob Clark-Riddell, P.E.

Pangea Environmental Services, Inc.
510.435.8664