

With Respect To:

***Well Decommissioning Report***

G.I. Trucking Company, dba Estes West  
1750 Adams Avenue, San Leandro, CA

Dated October 3, 2012

ACEH Case No. RO0000442

**RECEIVED**

**9:41 am, Oct 08, 2012**

Alameda County  
Environmental Health

I declare, under penalty of perjury, that the information contained in the attached report is true and correct to be best of my knowledge.



---

Angela Maidment

Estes Terminals of California, LLC



**CONESTOGA-ROVERS  
& ASSOCIATES**

5900 Hollis Street, Suite A  
Emeryville, California 94608  
Telephone: (510) 420-0700 Fax: (510) 420-9170  
<http://www.craworld.com>

October 3, 2012

Reference No. 631000

Mr. Jerry Wickham  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Dear Mr. Wickham:

Re: Well Decommissioning Report  
G.I. Trucking Company dba Estes West  
LOP Case No. RO0000442  
1750 Adams Avenue  
San Leandro, California

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Dear Mr. Wickham:

Conestoga-Rovers & Associates (CRA) has prepared this *Well Decommissioning Report* on behalf of G.I. Trucking Company, dba Estes West for the site referenced above. This report represents the final task required for regulatory case closure for the site located at 1750 Adams Avenue in San Leandro, California (Figure 1). This report documents the destruction of five groundwater monitoring wells associated with the site on August 23, 2012. A copy of the Alameda County Environmental Health (ACEH) letter, dated July 25, 2012, confirming case closure and requesting destruction of the wells is included as Attachment A. Presented below are details of CRA's well decommissioning activities. It is noted here that the terms well decommissioning and well destruction are used interchangeably in this document, as different documents (letters, permits, field procedures, etc.) refer to either one or the other term.

## **WELL DECOMMISSIONING ACTIVITIES**

### ***Well Permits***

CRA coordinated the decommissioning of five groundwater monitoring wells in accordance with Alameda County Department of Public Works (ACDPW) guidelines and the State of California Well Standards. CRA acquired well destruction permits from ACDPW for the five wells, all located on the subject site. ACDPW issued Permit Nos. W2012-0560 through W2012-0564 to decommission these wells. A copy of this permit is included as Attachment B, and the locations of the wells are shown on Figure 2.

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Equal  
Employment Opportunity  
Employer

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October 3, 2012

Reference No. 631000

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### *Site Health and Safety Plan*

CRA prepared a comprehensive site health and safety plan (HASP) to protect CRA employees, subcontractor employees, terminal employees and County workers against possible hazards associated with well decommissioning activities. The HASP was reviewed and signed by each worker or visitor, and kept with the field crew during field activities.

### *Underground Utility Location*

On August 9, 2012, CRA marked the sidewalk along Adams Avenue and called Underground Services Alert (USA) to conduct a check of utility companies to locate where electrical, gas, sewer and communications enter the property. CRA also contacted terminal manager Gus Valdez to discuss whether any subsurface work had been conducted at the site since August 2011, when the last utility check was done. This was conducted as an additional precaution against impacting any utilities in the vicinity of the wells, even though no new asphalt cuts were observed and the wells were destroyed by pressure grouting. As a result of the above action, no additional utility location activities were deemed necessary.

### *Well Destruction*

ACDPW guidelines allowed for well destruction by pressure grouting rather than drilling out the casing and sand pack. This was approved by ACEH case manager Jerry Wickham. The five wells ranged in depth from 10.5 feet below grade (fbg) to 25 fbg. Well MW-1/RW-1 was measured at a depth of 10.5 fbg. Wells MW-2 and MW-3 were completed at 25 fbg. Well MW-5 was measured to a depth of 23.3 fbg and well RW-2, located within the former tankpit, was measured at a depth of 13 fbg. The screened interval and other construction details of well MW-5 are unknown. Well MW-4 had been destroyed previously during over-excavation of the tankpit in 1999. Reported construction details of the wells are presented in Table 1. This table was revised to include the measured depths on the day of well destruction. CRA contracted Vapor Tech Services (VTS) of Berkeley, California to destroy the wells. Field activities took place between August 9 (utility mark out) and August 23 (well destruction). Each well was pressure grouted by pumping Portland Type II Cement through a tremmie pipe from the bottom of the well to the surface. Once the well casing was filled with cement grout, 25 pounds per square inch (psi) of pressure was applied to the casing for a period of 5 minutes to force grout through the casing and sand pack and into the formation. The resulting void within the casing was filled with additional cement grout and pressure was re-applied until



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stable conditions were achieved. The well box and concrete surface completion of each well was removed and the destruction was completed with concrete to surface grade. CRA's *Standard Field Procedures for Well Destruction* is included as Attachment C.

The only exception to this method was well MW-1/RW-1. Sometime between 1986 and 1993, MW-1 had been reconstructed and renamed RW-1. To facilitate a passive skimmer, it was reconstructed with a 12-inch diameter PVC casing and a 4-inch diameter casing within the 12-inch casing. This modification was made to facilitate removal of LNAPL from the water table within the former tankpit. During its destruction, the 4-inch casing was removed and the 12-inch casing was grouted to the surface by tremmie pipe. Pressure could not be applied due to the larger casing diameter. This was approved by ACDPW.

Destruction of each well was documented on California Department of Water Resources (DWR) Well Completion Forms. These forms were submitted to the DWR to confirm the destruction of each well, and a copy of each is included with this report as Attachment D.

### ***Disposal of Well Debris***

ACDPW requested that well boxes from the five wells be removed and the void be concreted to the surface. This was accomplished with four of the wells. Again, the exception was well MW-1/ RW-1. This well was completed within a concrete pad. In order to avoid cutting the concrete to remove the well box, ACDPW approved leaving the well box ring in place. Broken concrete and metal from well boxes were recycled by the well destruction contractor. Other debris from the well destructions is temporarily stored in two drums onsite. This will be transported to an appropriate landfill for disposal. Manifests and disposal tags will be provided in a subsequent submittal.

### **CLOSING**

Environmental activities associated with this property are now completed. With the submittal of this Well Destruction Report, please issue the Remedial Action Completion Certification, per the ACEH letter of July 25, 2012. Please contact Robert Foss at (510) 420-3348 if you have any questions or comments.



**CONESTOGA-ROVERS  
& ASSOCIATES**

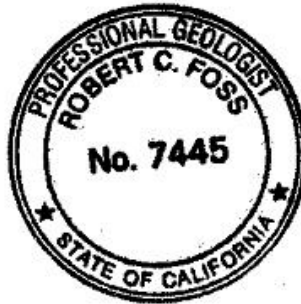
October 3, 2012

Reference No. 631000

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Sincerely,  
CONESTOGA-ROVERS & ASSOCIATES

*Robert Foss*



Robert Foss, PG

RCF/cm/6  
Encl.

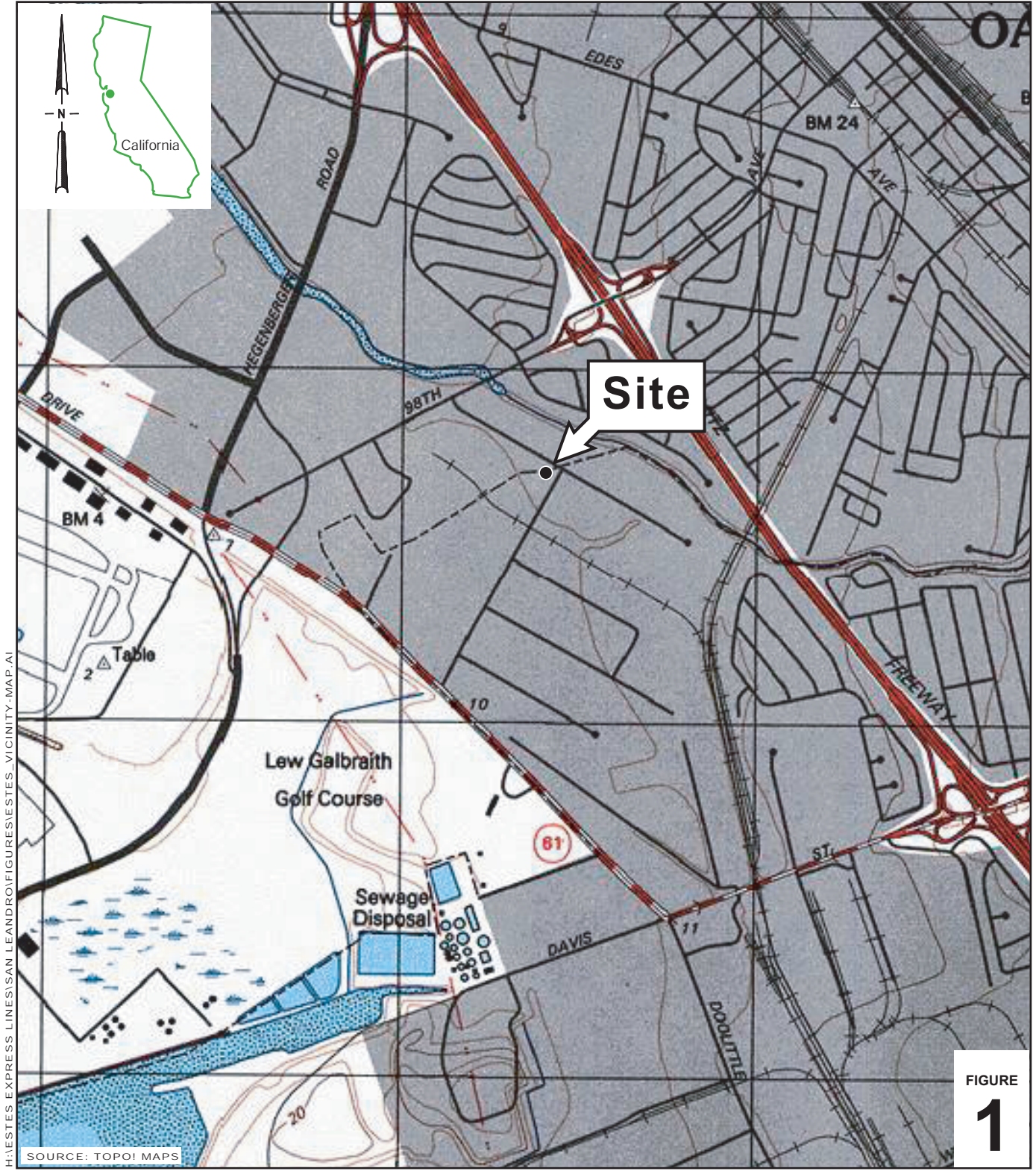
Figure 1      Vicinity Map  
Figure 2      Site Plan

Table 1      Monitoring Well Construction Details

Attachment A    ACEH Case Closure letter dated July 25, 2012  
Attachment B    Well Destruction Permits  
Attachment C    CRA Standard Field Procedures for Well Destruction  
Attachment D    DWR Well Completion Forms

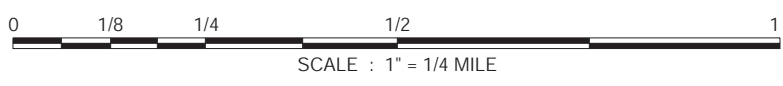
cc:      Mr. Matt Bramblett, Hart & Hickman

## FIGURES



Site

FIGURE 1



### Former GI Trucking Company (Estes Express Lines)

1750 Adams Avenue  
San Leandro, California



**CONESTOGA-ROVERS  
& ASSOCIATES**

Vicinity Map

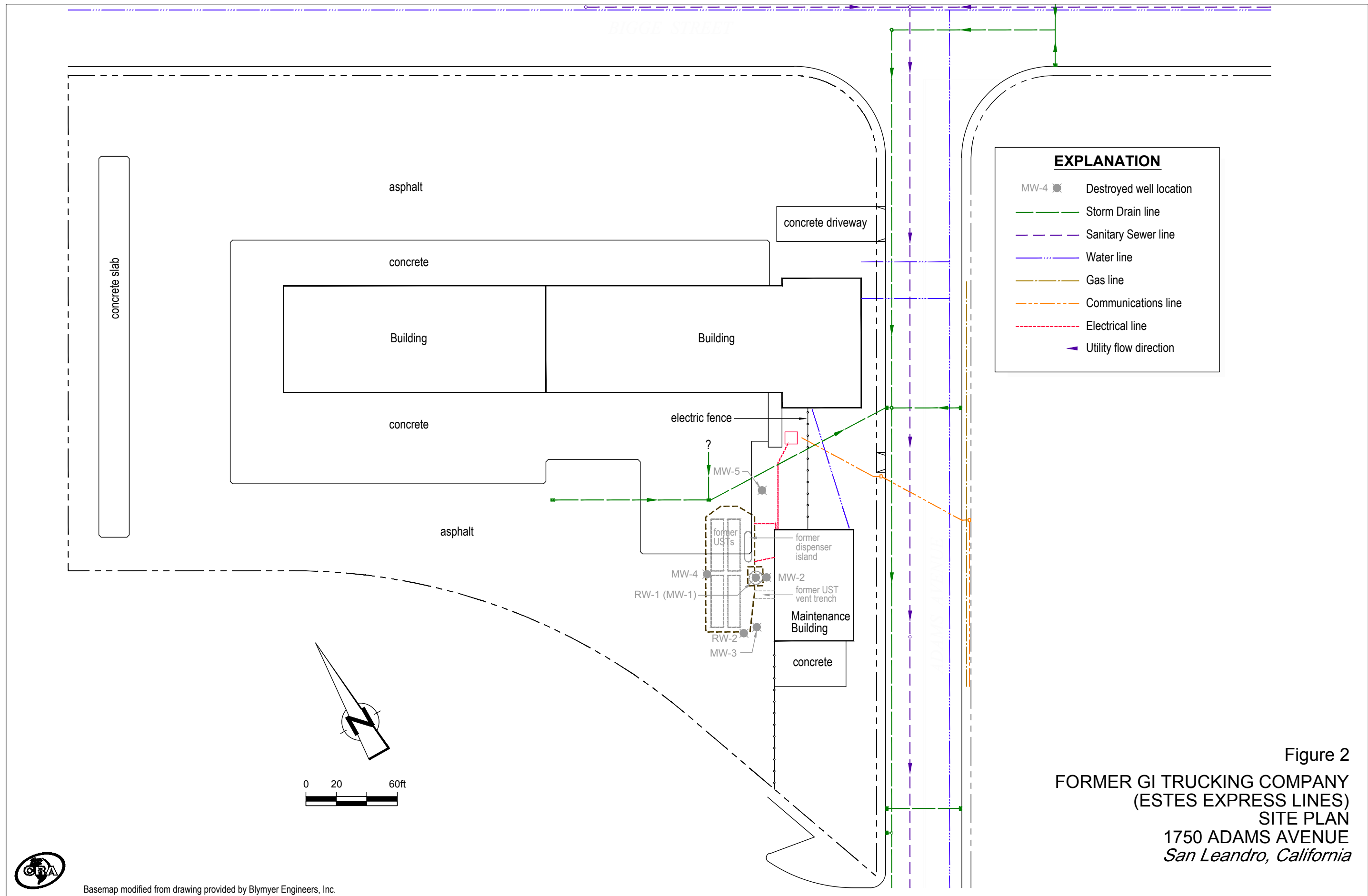


Figure 2  
 FORMER GI TRUCKING COMPANY  
 (ESTES EXPRESS LINES)  
 SITE PLAN  
 1750 ADAMS AVENUE  
 San Leandro, California



Basemap modified from drawing provided by Blymyer Engineers, Inc.



## TABLES

**TABLE 1**

**WELL STATUS/DETAILS  
ESTES-GI TRUCKING COMPANY  
1750 ADAMS AVENUE  
SAN LEANDRO, CALIFORNIA**

<i>Well</i>	<i>Status</i>	<i>Date Installed</i>	<i>Date Decommissioned</i>	<i>Casing Diameter (inches)</i>	<i>Reported Depth (fbg)</i>	<i>Measured Depth (fbg)</i>	<i>Top of Screen (fbg)</i>	<i>Bottom Screen of (fbg)</i>	<i>Length of Screen (fbg)</i>
<i>MW-1</i>	Reconstructed as RW-1 in 1993	12/31/86	1993	2	25	--	--	--	--
<i>RW-1</i>	Decommissioned	1993	08/23/12	4' within 12'	25	10.5	6	25	19
<i>MW-2</i>	Decommissioned	12/31/86	08/23/12	2	25	25	6	25	19
<i>MW-3</i>	Decommissioned	12/31/86	08/23/12	2	25	25	6	25	19
<i>MW-4</i>	Destroyed	12/31/86	06/1999	2	25	23.3	6	25	19
<i>MW-5</i>	Decommissioned	Unknown	08/23/12			Construction Details Unknown			
<i>RW-2</i>	Decommissioned	6/6/96	08/23/12	4	13	13	3	13	10

**Abbreviations and Notes:**

fbg= feet below grade

Wells Destroyed by Pressure Grouting on August 23, 2012

Well MW-1 Reconstructed as RW-1 in approximately 1993

Well MW-4 Destroyed during over-excavation of tankpit in 1999

ATTACHMENT A

ACEH CASE CLOSURE LETTER DATE JULY 25, 2012

ALAMEDA COUNTY  
**HEALTH CARE SERVICES**  
AGENCY  
ALEX BRISCOE, Director



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

July 25, 2012

Mike Rogers  
ABF Freight Systems  
PO Box 10048  
Fort Smith, AR 72917-0048

Treadark Real Estate Corp.  
3801 Old Greenwood Road  
Fort Smith, AR 72903

Estes Terminals California LLC  
3901 West Broad Street  
Richmond, VA 23230

GI Trucking DBA Estes West  
3901 West Broad Street  
Richmond, VA 23230

Attention: Angela Maidment

Attention: Angela Maidment

(Sent via E-mail to: [amaidment@estes-express.com](mailto:amaidment@estes-express.com)) (Sent via E-mail to: [amaidment@estes-express.com](mailto:amaidment@estes-express.com))

Subject: Request for Well Decommissioning for Fuel Leak Case No. RO0000442 and GeoTracker Global ID T0600100900, GI Trucking Company, 1750 Adams Avenue, San Leandro, CA 94577

Dear Responsible Parties:

Alameda County Environmental Health (ACEH) have reviewed the fuel leak case file and case closure summary for the above-referenced site and concur that no further action related to the underground storage tank fuel release is required at this time. No comments were received on the proposed case closure during a public comment period conducted between June 19 and July 24, 2012. Prior to issuance of remedial action completion certification and case closure, we request that the monitoring wells at the site be properly decommissioned, should the monitoring wells have no further use at the site. Please decommission the monitoring wells and provide documentation of the well decommissioning to this office no later than October 25, 2012. Remedial action completion certification will be issued following receipt of the documentation.

Well destruction permits may be obtained from the Alameda County Public Works Agency (<http://www.acgov.org/pwa/wells/index.shtml>). If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at [jerry.wickham@acgov.org](mailto:jerry.wickham@acgov.org).

**TECHNICAL REPORT REQUEST**

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **October 25, 2012** – Well Decommissioning Report

Responsible Parties  
RO0000442  
July 25, 2012  
Page 2

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at [jerry.wickham@acgov.org](mailto:jerry.wickham@acgov.org). Case files can be reviewed online at the following website: <http://www.acgov.org/aceh/index.htm>. If your email address does not appear on the cover page of this notification ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Sincerely,



Digitally signed by Jerry Wickham  
DN: cn=Jerry Wickham, o=Environmental Health,  
ou=Alameda County, email=jerry.wickham@acgov.org, c=US  
Date: 2012.07.25 10:24:57 -07'00'

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297  
Senior Hazardous Materials Specialist

Attachments: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (Sent via E-mail to: [lgriffin@oaklandnet.com](mailto:lgriffin@oaklandnet.com))

Robert Foss, Conestoga-Rovers & Associates, 5900 Hollis Street, Suite A, Emeryville, CA 94608 2032 (Sent via E-mail to: [bfoss@croworld.com](mailto:bfoss@croworld.com))

Donna Drogos, ACEH (Sent via E-mail to: [donna.drogos@acgov.org](mailto:donna.drogos@acgov.org))

Jerry Wickham, ACEH (Sent via E-mail to: [jerry.wickham@acgov.org](mailto:jerry.wickham@acgov.org))

GeoTracker, e-File

## Attachment 1

### Responsible Party(ies) Legal Requirements / Obligations

#### REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

#### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.waterboards.ca.gov/water\\_issues/programs/ust/electronic\\_submittal/](http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)).

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

<b>Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)</b>	<b>REVISION DATE:</b> July 20, 2010
	<b>ISSUE DATE:</b> July 5, 2005
	<b>PREVIOUS REVISIONS:</b> October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
<b>SECTION:</b> Miscellaneous Administrative Topics & Procedures	<b>SUBJECT:</b> Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

#### REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

#### Submission Instructions

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org)
  - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to [deh.loptoxic@acgov.org](mailto:deh.loptoxic@acgov.org) notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ATTACHMENT B

WELL DESTRUCTION PERMITS



# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 08/10/2012 By jamesy**

**Permit Numbers: W2012-0560 to W2012-0564**  
**Permits Valid from 08/23/2012 to 08/23/2012**

**Application Id:** 1344035150704  
**Site Location:** 175 Adams St, SL  
**Project Start Date:** 08/23/2012  
**Assigned Inspector:** Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

**City of Project Site:**San Leandro

**Completion Date:**08/23/2012

**Applicant:** Conestoga-Rovers - Tarah Kirnan  
5900 Hollis St, Ste. A, Emeryville, CA 94608  
**Property Owner:** Estes Express Lines Angela Maidment  
3901 West Broad St., Richmond, VA 23230  
**Client:** \*\* same as Property Owner \*\*

**Phone:** 510-420-3325

**Phone:** 804-353-1900

	<b>Total Due:</b>	\$1985.00
<b>Receipt Number: WR2012-0252</b>	<b>Total Amount Paid:</b>	\$1985.00
<b>Payer Name : Conestoga-Rovers</b>	<b>Paid By: CHECK</b>	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Well Destruction-Monitoring - 5 Wells  
Driller: Vapor Tech - Lic #: 916085 - Method: press

**Work Total: \$1985.00**

**Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2012-0560	08/10/2012	11/21/2012	MW-1/RW-1	8.00 in.	2.00 in.	3.00 ft	25.00 ft	No Records	No Records	No Records
W2012-0561	08/10/2012	11/21/2012	MW-2	8.00 in.	2.00 in.	3.00 ft	25.00 ft	No Records	No Records	No Records
W2012-0562	08/10/2012	11/21/2012	MW-3	8.00 in.	2.00 in.	3.00 ft	25.00 ft	No Records	No Records	No Records
W2012-0563	08/10/2012	11/21/2012	MW-5	8.00 in.	2.00 in.	0.00 ft	21.50 ft	No Records	No Records	No Records
W2012-0564	08/10/2012	11/21/2012	RW-2	10.00 in.	4.00 in.	2.00 ft	13.00 ft	No Records	No Records	No Records

**Specific Work Permit Conditions**

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and

## Alameda County Public Works Agency - Water Resources Well Permit

mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.

4. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

7. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

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ATTACHMENT C

CRA STANDARD FIELD PROCEDURES FOR WELL DESTRUCTION

# Conestoga-Rovers & Associates

## STANDARD FIELD PROCEDURES FOR WELL DESTRUCTION

This document presents standard field methods for destroying groundwater monitoring wells. The objective of well destruction is to destroy wells in a manner that is protective of potential water resources. The two procedures most commonly used are pressure grouting and drilling out the well. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### **Pressure Grouting**

Pressure grouting consists of pumping neat Portland cement through a tremie pipe to the bottom of the well and filling the well casing with cement from the bottom to the top. Displaced groundwater is contained at the wellhead and discharged into an appropriate container for disposal. The cement is composed of about five gallons of water per 94 lb. sack of Portland Type I/II Cement. Once the well casing is completely filled with cement, 25 pounds per square inch of air pressure is applied to the grout column using an air-compressor. The process is continued until the grout column is stable under pressure. In some instances, the well casing can also be pressurized by extending the well casing to the appropriate height and filling it with grout. In either case, the additional pressure allows the grout to be forced into the sand pack. After grouting the sand pack and casing, the well vault is removed and the area resurfaced or backfilled as required.

### **Well Drill Out**

When well drill out is required, the well location is cleared for subsurface utilities and a hollow-stem auger drilling rig is used to drill out the well casing and filter pack materials. First, drill rods are dropped down the well and used to guide the augers as they drill out the well. Once the well is drilled out, the boring is filled with Portland cement injected through the augers or a tremie pipe under pressure to the bottom of the boring. The well vault is removed and the area resurfaced or backfilled as required.

ATTACHMENT D

DWR WELL COMPLETION FORMS

**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**

**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**

**CONFIDENTIAL**

**STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)**

**REMOVED**



**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

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