This is to be used for all "INFORMATIONAL HANDOUT" cover sheets. Edit as appropriate.

INFORMATION HANDOUT

MATERIALS INFORMATION

ASBESTOS AND DETERIORATED LEAD PAINT SURVEY
Dated January 2009

FOUNDATION REPORT
Dated March 14, 2008

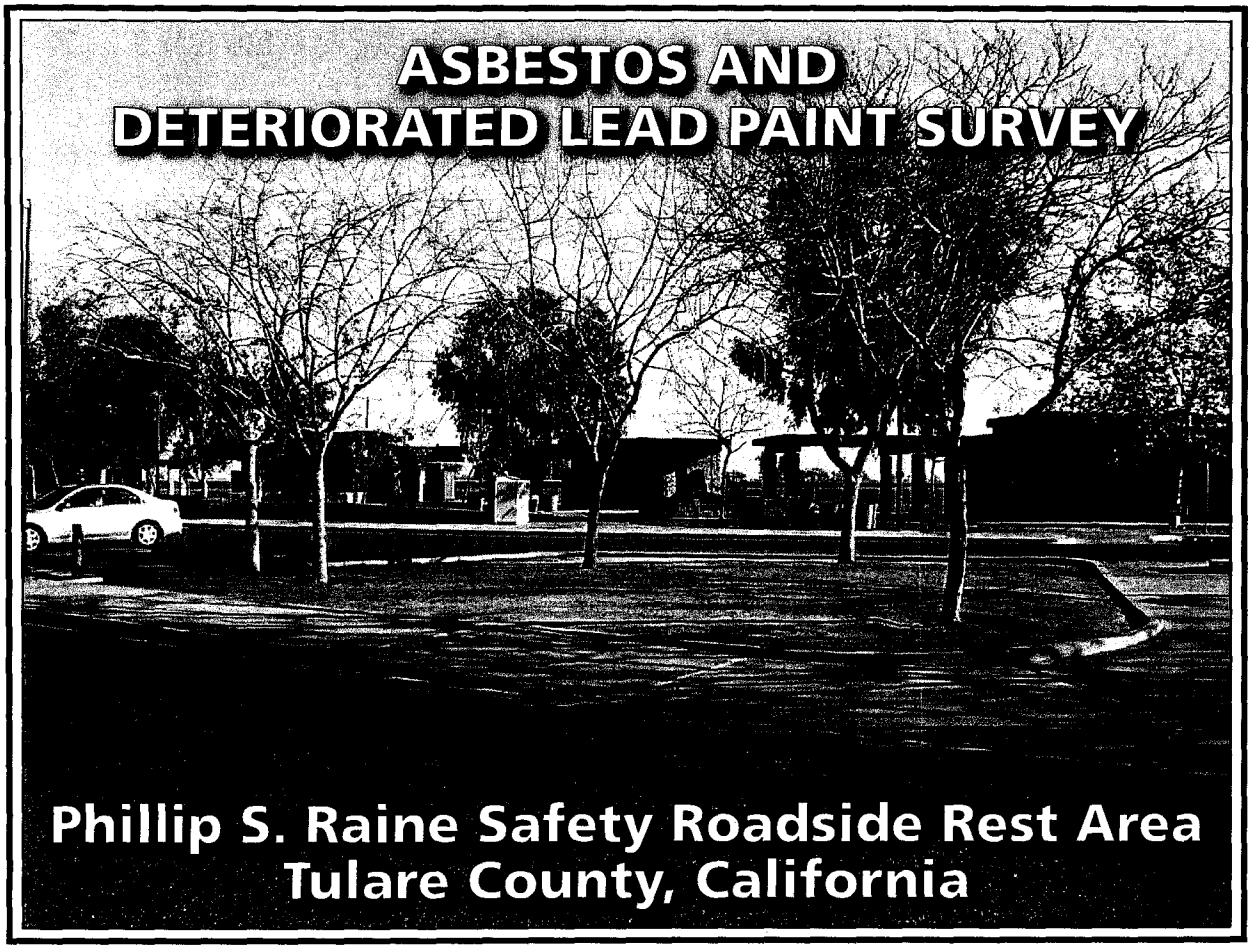
LEED FOR NEW CONSTRUCTION
Version 2.2
Reference Guide
October 2007

LEED CHECKLIST

SAMPLE DISPLAY PANEL GRAPHICS

ROUTE: 06-Tul-99-22.4

ASBESTOS AND DETERIORATED LEAD PAINT SURVEY



Phillip S. Raine Safety Roadside Rest Area
Tulare County, California

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION –
DISTRICT 6
2015 EAST SHIELDS AVENUE, SUITE 100
FRESNO, CALIFORNIA

Caltrans

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON

GEOCON PROJECT NO. S9200-06-61
CONTRACT NO. 06A1141
TASK ORDER NO. 61, EA 06-0A9701

JANUARY 2009

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9200-06-61
January 20, 2009

Ms. Susan Greenwood, Task Order Manager
Caltrans District 6
2015 E. Shields Avenue, Suite 100
Fresno, California 93726

Subject: PHILLIP S. RAINE SAFETY ROADSIDE REST AREA
HIGHWAY 99, TULARE COUNTY, CALIFORNIA
CONTRACT NO. 06A1141
TASK ORDER NO. 61, EA NO. 06-0A9701
ASBESTOS AND DETERIORATED LEAD-CONTAINING PAINT
SURVEY REPORT

Dear Ms. Greenwood:

In accordance with California Department of Transportation Contract No. 06A1141 and Authorization No. 06-0A9701, we have performed an asbestos and deteriorated lead-containing paint survey of the subject property in Tulare County, California. The scope of services included surveying the safety roadside rest area buildings and structures at the subject property for suspect asbestos-containing materials and deteriorated (peeling/flaking) lead-containing paint, collecting bulk samples, and submitting the samples to a laboratory for analysis.

The accompanying report summarizes the services performed and laboratory analysis.

The contents of this report reflect the views of Geocon Consultants, Inc., who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please contact us if you have questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Chris Giuntoli, CAC
Senior Project Scientist

John E. Juhrend, PE, CEG
Project Manager

CGG:JEJ:jaj

(5 + 2 CD) Addressee

TABLE OF CONTENTS

ASBESTOS AND DETERIORATED LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and deteriorated lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 06A1141 and Authorization No. 06-0A9701.

1.1 Project Description

We performed an asbestos and deteriorated LCP survey at the project location consisting of Phillip S. Raine safety roadside rest area (SRRA) buildings, vending kiosks, and picnic canopies adjacent to northbound and southbound Highway 99 at Post Mile 22.4, in Tulare County, California. Each SRRA contains two approximate 1,400-square-foot, single-story restroom structures with concrete foundations, cinderblock and wood exterior walls, and built-up roofing. Interior restroom facilities and a custodial/storage room are located within each restroom building. Additionally, an approximate 500-square-foot vending kiosk with concrete foundation, stucco and tile exterior walls, and built-up roof is located at each SRRA. The vending kiosks at the SRRAs were locked at the time of our site visit. Consequently, the interiors of the vending kiosks were not included in our survey of the SRRA structures. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

1.2 General Objectives

The purpose of our scope of services was to determine the presence and quantity of asbestos and deteriorated LCP at the project location prior to renovation activities. Caltrans will use the information obtained from this investigation for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

> *It was <u>not</u> Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type (e.g., wall, ceiling, window sill, window frame, door frame, molding, etc.) in each room.*

2.0 BACKGROUND

2.1 Asbestos

The *Code of Federal Regulations (CFR),* 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than* 1% asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than* 1% asbestos by dry weight *and* is:

- Friable (can be crumbled, pulverized, or reduced to powder by hand pressure); or
- Category I material that has become friable; or
- Category I material that has been subjected to sanding grinding, cutting or abrading; or
- Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be followed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Lead Paint

Construction activities (including renovation and demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, Section 1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1,

Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component. Renovation or demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfill facilities; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with LCP. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the Title 8, CCR, Section 1532.1.

2.3 Architectural Drawings and Previous Survey Activities

Caltrans provided as-built plans, dated September 7, 1982, for building construction at the Tipton (aka Phillip S. Raine) SRRA for our review. We observed no evidence of specified asbestos-containing products or lead-containing paints on the as-built drawings we reviewed. Previous survey reports for the project were not available for our review.

3.0 SCOPE OF SERVICES

Mr. Chris Giuntoli, a California-Certified Asbestos Consultant (CAC), certification No. 02-3163 (expiration June 18, 2009), and Certified Lead Paint Inspector/Assessor with the California Department of Public Health (DPH), certification number I-5502 (expiration June 14, 2009), performed the asbestos and LCP survey at the project location on December 23, 2008.

3.1 Asbestos

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for condition (evidence of deterioration, physical damage, and water damage) and friability. A total of 53 bulk asbestos samples representing 41 suspect building materials were collected.

Our procedures for inspection and sampling are discussed below:

- Collected bulk asbestos samples after first wetting friable material with a light mist of water. The bulk samples were then cut from the substrate and transferred to a labeled container. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a 24-hour turn-around-time.

Sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

3.2 Lead Paint

Deteriorated suspect LCP was not observed on building surfaces at the project location. Consequently, we did not collect samples of deteriorated LCP.

4.0 INVESTIGATIVE RESULTS

Sample results for asbestos bulk samples are summarized in Table 1. The laboratory analyses indicated the following:

4.1 Asbestos

Chrysotile asbestos at a concentration of 5% was detected in samples representing approximately 400 square feet of nonfriable roofing mastic used on the Highway 99 northbound Phillip S. Raine SRRA vending kiosk.

No asbestos fibers were observed by EMSL in samples of the remaining suspect materials collected during our survey.

5.0 REPORT LIMITATIONS

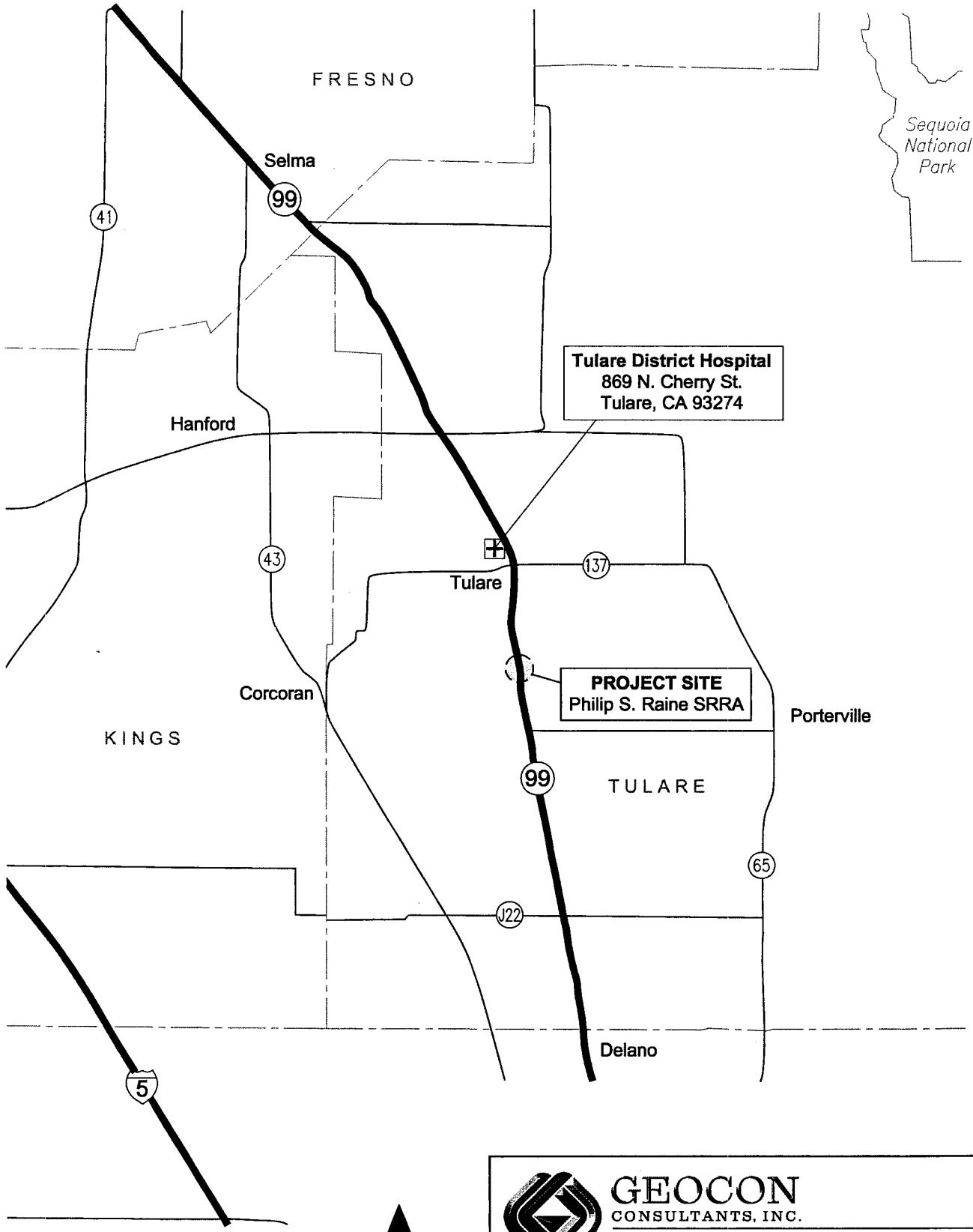
This asbestos and deteriorated LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structures identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or deteriorated LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases, may have been concealed to Geocon's investigator. Previous renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structures that were not accessible or sampled in conjunction with this TO.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect ACM and/or deteriorated LCP are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.



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NOT TO SCALE

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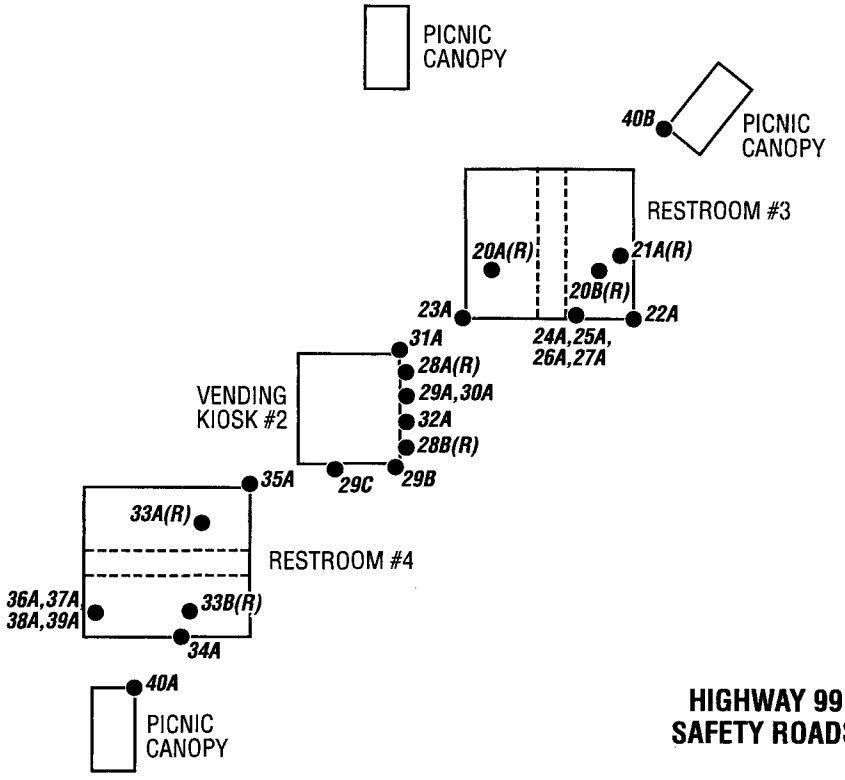
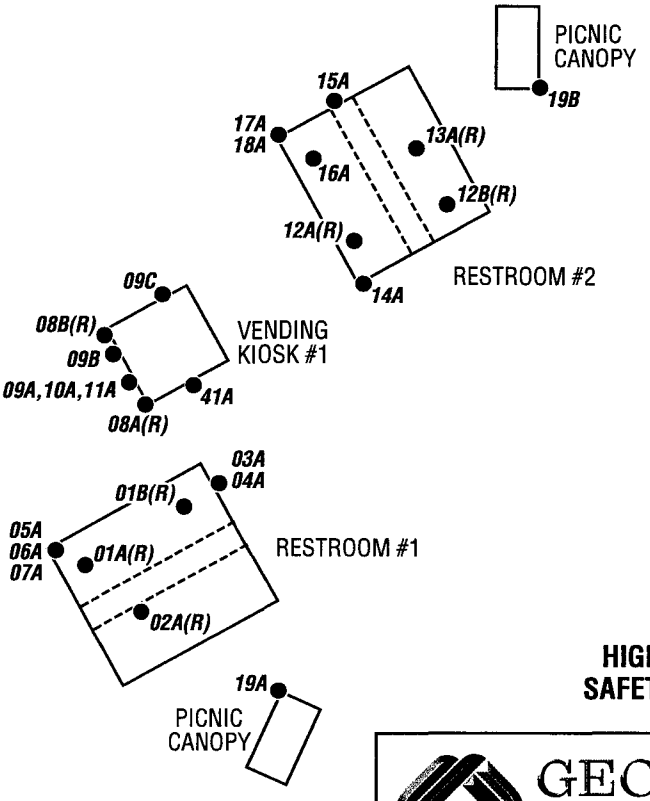
Phillip S. Raine Safety Roadside Rest Area

Tulare County, California	**VICINITY MAP**
GEOCON Proj. No. S9200-06-61	
Task Order No. 61, EA 06-0A9701	January 2009 | Figure 1



HIGHWAY 99 NORTHBOUND SAFETY ROADSIDE REST AREA



HIGHWAY 99 SOUTHBOUND SAFETY ROADSIDE REST AREA

LEGEND:

- ● Approximate Asbestos Sample Location
- *(R)* Roof

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Phillip S. Raine Safety Roadside Rest Area		
Tulare County, California	**SITE PLAN**	
GEOCON Proj. No. S9200-06-61		
Task Order No. 61, EA 06-0A9701	January 2009	Figure 2

Photo 1 – Phillip S. Raine SRRA typical restroom

Photo 2 – Phillip S. Raine SRRA typical vending kiosk

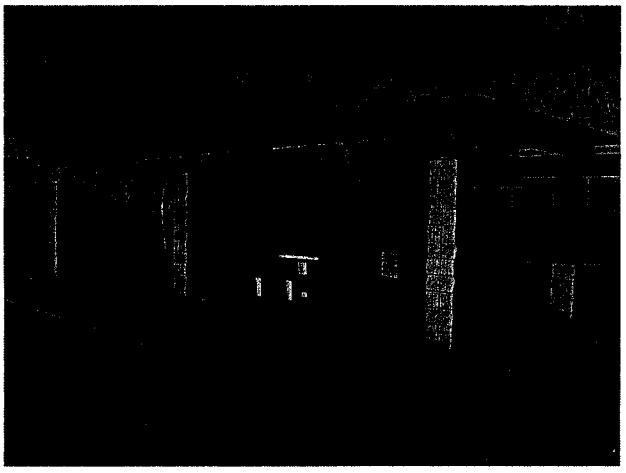

Photo 3 – Phillip S. Raine SRRA typical picnic canopy

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PHOTOGRAPHS 1, 2, & 3		
Phillip S. Raine SRRA Tulare County, California		
S9200-06-61		January 2009

Photo 4 – Typical built-up roof on SRRA restrooms

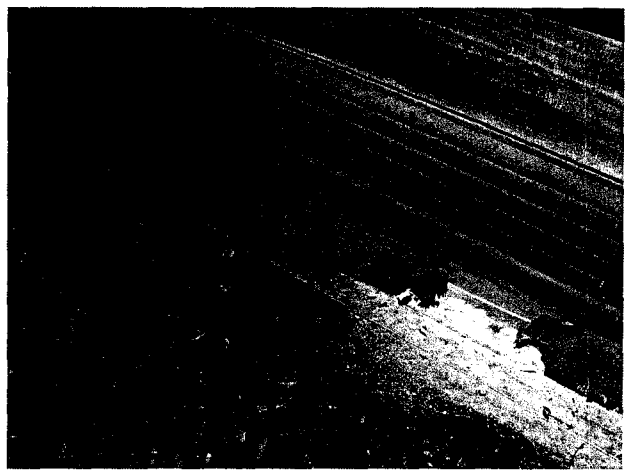

Photo 5 – Typical roof mastic on SRRA restrooms

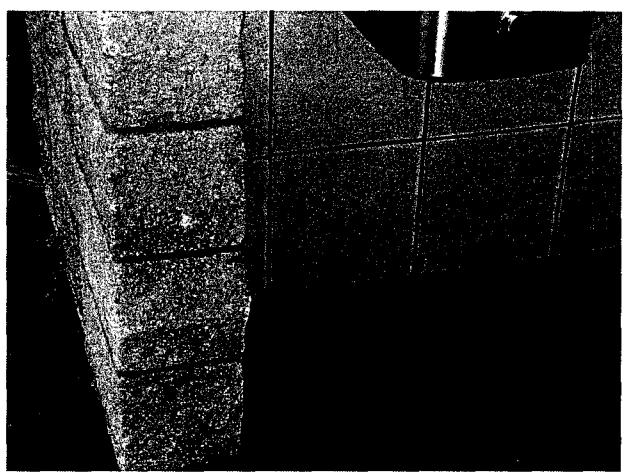

Photo 6 – Typical exterior mortar and ceramic wall tile grout on SRRA restrooms

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PHOTOGRAPHS 4, 5, & 6		
Phillip S. Raine SRRA Tulare County, California		
S9200-06-61		January 2009

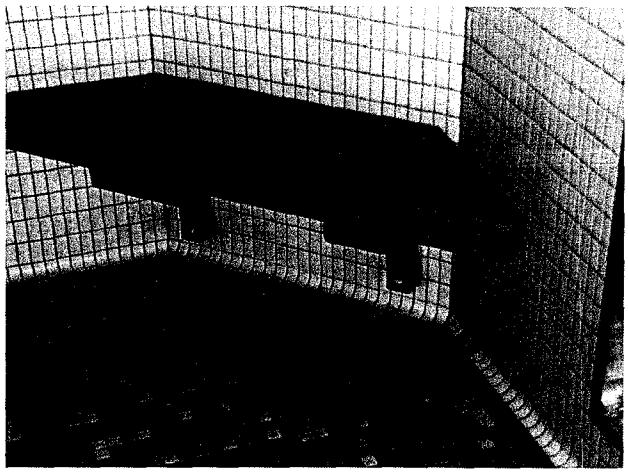

Photo 7 – Typical interior ceramic wall and floor tile systems in SRRA restrooms

Photo 8 – Built-up roof on vending kiosk at Highway 99 southbound SRRA

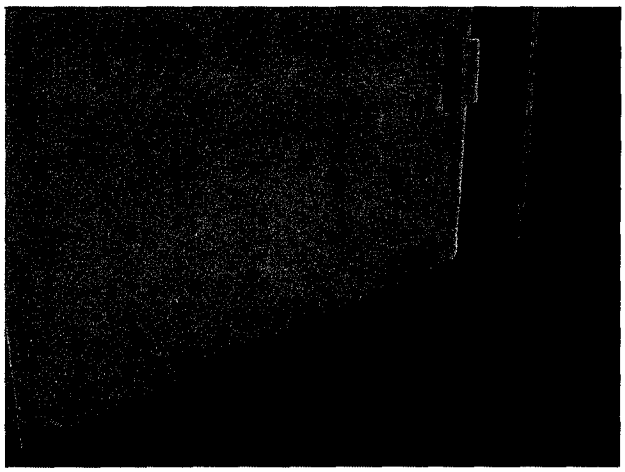

Photo 9 – Typical stucco at SRRA vending kiosks

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PHOTOGRAPHS 7, 8, & 9		
Phillip S. Raine SRRA Tulare County, California		
S9200-06-61		January 2009

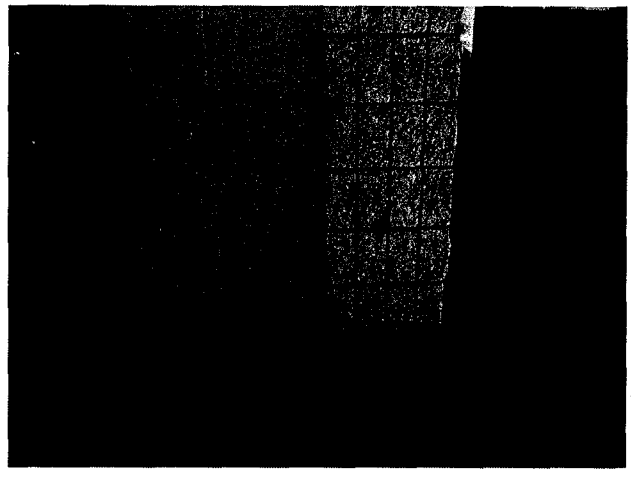

Photo 10 – Typical exterior mortar and ceramic wall tile grout at SRRA vending kiosks

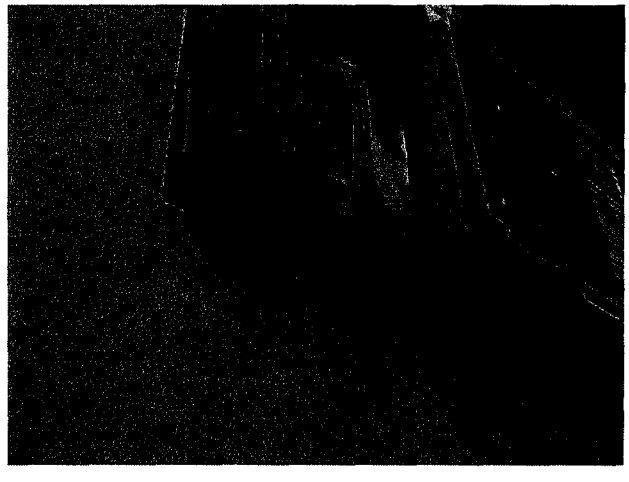

Photo 11 – Typical sealant at SRRA vending kiosk wall-mounted AC units

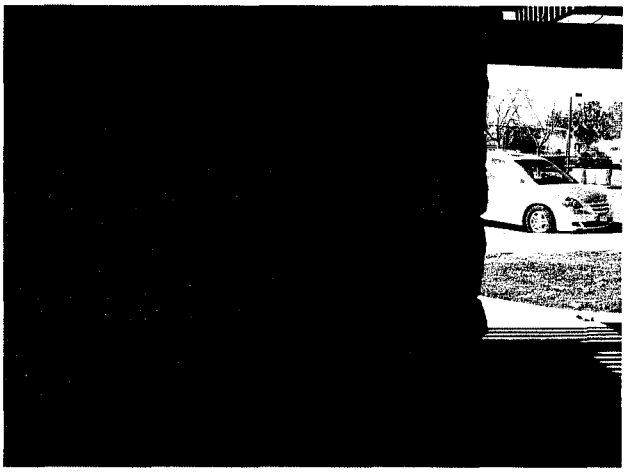

Photo 12 – Typical exterior mortar at SRRA picnic canopies

Photo 13 – Asbestos-containing roof mastic in built-up roof on vending kiosk at Highway 99 northbound SRRA

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PHOTOGRAPHS 12 & 13		
Phillip S. Raine SRRA Tulare County, California		
S9200-06-61		January 2009

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY RESULTS - ASBESTOS
PHILLIP S. RAINE SAFETY ROADSIDE REST AREA
CALTRANS CONTRACT 06A1141, TASK ORDER NO. 61, EA 06-0A9701
TULARE COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample Group No.	Description of Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
1	Roof core	Highway 99 southbound, restroom No. 1	NA	NA	4	ND
2	Roof mastic	Highway 99 southbound, restroom No. 1	NA	NA	5	ND
3	Grout	Highway 99 southbound, restroom No. 1 (exterior)	NA	NA	6	ND
4	Mortar	Highway 99 southbound, restroom No. 1 (exterior)	NA	NA	6	ND
5	Mortar	Highway 99 southbound, restroom No. 1 (interior ceramic wall tiles)	NA	NA	7	ND
6	Mortar	Highway 99 southbound, restroom No. 1 (interior ceramic floor tiles)	NA	NA	7	ND
7	Grout	Highway 99 southbound, restroom No. 1 (interior ceramic floor tiles)	NA	NA	7	ND
8	Roof core	Highway 99 southbound, vending kiosk No. 1	NA	NA	8	ND
9	Stucco	Highway 99 southbound, vending kiosk No. 1	NA	NA	9	ND
10	Mortar	Highway 99 southbound, vending kiosk No. 1 (exterior)	NA	NA	10	ND
11	Gray sealant	Highway 99 southbound, vending kiosk No. 1 (AC unit)	NA	NA	11	ND

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY RESULTS - ASBESTOS
PHILLIP S. RAINE SAFETY ROADSIDE REST AREA
CALTRANS CONTRACT 06A1141, TASK ORDER NO. 61, EA 06-0A9701
TULARE COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample Group No.	Description of Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
12	Roof core	Highway 99 southbound, restroom No. 2	NA	NA	4	ND
13	Roof mastic	Highway 99 southbound, restroom No. 2	NA	NA	5	ND
14	Grout	Highway 99 southbound, restroom No. 2 (exterior)	NA	NA	6	ND
15	Mortar	Highway 99 southbound, restroom No. 2 (exterior)	NA	NA	6	ND
16	Mortar	Highway 99 southbound, restroom No. 2 (interior ceramic wall tiles)	NA	NA	7	ND
17	Mortar	Highway 99 southbound, restroom No. 2 (interior ceramic floor tiles)	NA	NA	7	ND
18	Grout	Highway 99 southbound, restroom No. 2 (interior ceramic floor tiles)	NA	NA	7	ND
19	Mortar	Highway 99 southbound, picnic canopy	NA	NA	12	ND
20	Roof core	Highway 99 northbound, restroom No. 3	NA	NA	4	ND
21	Roof mastic	Highway 99 northbound, restroom No. 3	NA	NA	5	ND
22	Mortar	Highway 99 northbound, restroom No. 3 (exterior)	NA	NA	6	ND

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY RESULTS - ASBESTOS
PHILLIP S. RAINE SAFETY ROADSIDE REST AREA
CALTRANS CONTRACT 06A1141, TASK ORDER NO. 61, EA 06-0A9701
TULARE COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample Group No.	Description of Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
23	Grout	Highway 99 northbound, restroom No. 3 (exterior)	NA	NA	6	ND
24	Mortar	Highway 99 northbound, restroom No. 3 (interior ceramic wall tiles)	NA	NA	7	ND
25	Grout	Highway 99 northbound, restroom No. 3 (interior ceramic wall tiles)	NA	NA	7	ND
26	Mortar	Highway 99 northbound, restroom No. 3 (interior ceramic floor tiles)	NA	NA	7	ND
27	Grout	Highway 99 northbound, restroom No. 3 (interior ceramic floor tiles)	NA	NA	7	ND
28	**Roof core**	**Highway 99 northbound, vending kiosk No. 2**	**400 square feet**	**No**	**13**	**5%**
29	Stucco	Highway 99 northbound, vending kiosk No. 2	NA	NA	9	ND
30	Mortar	Highway 99 northbound, vending kiosk No. 2 (exterior)	NA	NA	10	ND
31	Grout	Highway 99 northbound, vending kiosk No. 2 (exterior)	NA	NA	10	ND
32	Gray sealant	Highway 99 northbound, vending kiosk No. 2 (AC unit)	NA	NA	11	ND
33	Roof core	Highway 99 northbound, restroom No. 4	NA	NA	4	ND

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY RESULTS - ASBESTOS
PHILLIP S. RAINE SAFETY ROADSIDE REST AREA
CALTRANS CONTRACT 06A1141, TASK ORDER NO. 61, EA 06-0A9701
TULARE COUNTY, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample Group No.	Description of Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
34	Mortar	Highway 99 northbound, restroom No. 4 (exterior)	NA	NA	6	ND
35	Grout	Highway 99 northbound, restroom No. 4 (exterior)	NA	NA	6	ND
36	Mortar	Highway 99 northbound, restroom No. 4 (interior ceramic wall tiles)	NA	NA	7	ND
37	Grout	Highway 99 northbound, restroom No. 4 (interior ceramic wall tiles)	NA	NA	7	ND
38	Mortar	Highway 99 northbound, restroom No. 4 (interior ceramic floor tiles)	NA	NA	7	ND
39	Mortar	Highway 99 northbound, restroom No. 4 (interior ceramic floor tiles)	NA	NA	7	ND
40	Mortar	Highway 99 northbound, picnic canopy	NA	NA	12	ND
41	Grout	Highway 99 southbound, vending kiosk No. 1 (exterior)	NA	NA	10	ND

Notes:
NA = Not applicable (no asbestos detected)
ND = Not detected

APPENDIX A

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitaslab@emsl.com

Attn: **Chris Giuntoli**
Geocon Consultants
6671 Brisa Street
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Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9200-06-61**

Customer ID: GECN21
Customer PO: S9200-06-61
Received: 12/24/08 10:50 AM
EMSL Order: 090809913

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Analysis Date: 12/26/2008
Report Date: 12/27/2008

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
R-01A-A, Roofing *090809913-0001*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-01A-B, Insulation *090809913-0001A*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-01B-A, Roofing *090809913-0002*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-01B-B, Insulation *090809913-0002A*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-02A, Roof mastic *090809913-0003*		Black Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (other)	**None Detected**
R-03A, Grout *090809913-0004*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-04A, Mortar *090809913-0005*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-05A, Mortar *090809913-0006*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Adam C. Fink (80)

Baojia Ke, Laboratory Manager
or other approved signatory

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			Non-Asbestos		Asbestos
Sample	Location	Appearance	% Fibrous	% Non-Fibrous	% Type
R-06A, Mortar *090809913-0007*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-07A, Grout *090809913-0008*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-08A-A, Shingle *090809913-0009*		Black Non-Fibrous Homogeneous	30% Glass	70% Non-fibrous (other)	**None Detected**
R-08A-B, Roofing 1 *090809913-0009A*		Black Non-Fibrous Homogeneous	15% Glass	85% Non-fibrous (other)	**None Detected**
R-08A-C, Roofing 2 *090809913-0009B*		Black Non-Fibrous Homogeneous	15% Glass	85% Non-fibrous (other)	**None Detected**
R-08A-D, Roofing 3 *090809913-0009C*		Black Non-Fibrous Homogeneous	15% Glass	85% Non-fibrous (other)	**None Detected**
R-08A-E, Tar *090809913-0009D*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-08B-A,Shingle *090809913-0010*		Black Non-Fibrous Homogeneous	30% Glass	70% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
R-08B-B, Roofing 1		Black	15%	Glass	85% Non-fibrous (other)	**None Detected**
090809913-0010A		Non-Fibrous Homogeneous				
R-08B-C, Roofing 2		Black	15%	Glass	85% Non-fibrous (other)	**None Detected**
090809913-0010B		Non-Fibrous Homogeneous				
R-08B-D, Tar		Black			100% Non-fibrous (other)	**None Detected**
090809913-0010C		Non-Fibrous Homogeneous				
R-09A, Stucco		Gray			100% Non-fibrous (other)	**None Detected**
090809913-0011		Non-Fibrous Homogeneous				
R-09B, Stucco		Gray			100% Non-fibrous (other)	**None Detected**
090809913-0012		Non-Fibrous Homogeneous				
R-09C, Stucco		Gray			100% Non-fibrous (other)	**None Detected**
090809913-0013		Non-Fibrous Homogeneous				
R-10A, Mortar		Gray			100% Non-fibrous (other)	**None Detected**
090809913-0014		Non-Fibrous Homogeneous				
R-11A, Gray sealant		Gray			100% Non-fibrous (other)	**None Detected**
090809913-0015		Non-Fibrous Heterogeneous				

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			Non-Asbestos		Asbestos
Sample	**Location**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
R-12A-A, Roofing *090809913-0015*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-12A-B, Insulation *090809913-0015A*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-12B-A, Roofing *090809913-0017*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-12B-B, Insulation *090809913-0017A*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-13A, Roof mastic *090809913-0018*		Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (other)	**None Detected**
R-14A, Grout *090809913-0019*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-15A, Mortar *090809913-0020*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-16A, Mortar *090809913-0021*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	Location	Appearance	% Fibrous	% Non-Fibrous	% Type
R-17A, Mortar *090809913-0022*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-18A, Grout *090809913-0023*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-19A, Mortar *090809913-0024*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-19B, Mortar *090809913-0025*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-20A-A, Roofing *090809913-0026*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-20A-B, Insulation *090809913-0026A*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-20B-A, Roofing *090809913-0027*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-20B-B, Insulation *090809913-0027A*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
R-21A, Roof mastic *090809913-0028*		Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	**None Detected**
R-22A, Mortar *090809913-0029*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-23A, Grout *090809913-0030*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-24A, Mortar *090809913-0031*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-25A, Grout *090809913-0032*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-26A, Mortar *090809913-0033*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-27A, Grout *090809913-0034*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-28A-A, Shingle *090809913-0035*		Black Non-Fibrous Homogeneous	30% Glass	70% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Location**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
R-28A-B, Roofing 1 *090809913-0035A*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28A-C, Roofing 2 *090809913-0035B*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28A-D, Roofing 3 *090809913-0035C*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28A-E, Tar *090809913-0035D*		Black Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
R-28A-F, Mastic *090809913-0035E*		Black Non-Fibrous Homogeneous			95% Non-fibrous (other)	**5% Chrysotile**
R-28B-A, Shingle *090809913-0036*		Black Non-Fibrous Homogeneous	30%	Glass	70% Non-fibrous (other)	**None Detected**
R-28B-B, Roofing 1 *090809913-0036A*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28B-C, Roofing 2 *090809913-0036B*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**

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			Non-Asbestos			Asbestos
Sample	**Location**	**Appearance**	**%**	**Fibrous**	**% Non-Fibrous**	**% Type**
R-28B-D, Roofing 3 *090809913-0036C*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28B-E, Tar *090809913-0036D*		Black Non-Fibrous Homogeneous	15%	Glass	85% Non-fibrous (other)	**None Detected**
R-28B-F, Mastic *090809913-0036E*		Black Non-Fibrous Homogeneous			95% Non-fibrous (other)	**5% Chrysotile**
R-29A, Stucco *090809913-0037*		Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
R-29B, Stucco *090809913-0038*		Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
R-29C, Stucco *090809913-0039*		Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
R-30A, Mortar *090809913-0040*		Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
R-31A, Grout *090809913-0041*		Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**

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Sample	Location	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
R-32A, Grey sealant *090809913-0042*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33A-A,Roofing *090809913-0043*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33A-B, Insulation 1 *090809913-0043A*		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33A-C, Insulation 2 *090809913-0043B*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33B-A, Roofing *090809913-0044*		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33B-B, Insulation 1 *090809913-0044A*		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-33B-C, Insulation 2 *090809913-0044B*		Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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			Non-Asbestos		Asbestos
Sample	**Location**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
R-34A, Mortar *090809913-0045*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-35A, Grout *090809913-0046*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-36A, Mortar *090809913-0047*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-37A, Grout *090809913-0048*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-38A, Mortar *090809913-0049*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-39A, Grout *090809913-0050*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-40A, Mortar *090809913-0051*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
R-40B, Mortar *090809913-0052*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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or other approved signatory

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NVLAP Lab Code 101048-3

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitaslab@emsl.com

Attn: **Chris Giuntoli**
Geocon Consultants
6671 Brisa Street
Livermore, CA 94550

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9200-06-61**

Customer ID: GECN21
Customer PO: S9200-06-61
Received: 12/24/08 10:50 AM
EMSL Order: 090809913

EMSL Proj: S9200-06-**
Analysis Date: 12/26/2008
Report Date: 12/27/2008

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Location**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
R-41A, Grout *090809913-0053*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Adam C. Fink (80)

Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.Samples received in good condition unless otherwise noted.
NVLAP Lab Code 101048-3

THIS IS THE LAST PAGE OF THE REPORT.

090809913

EMSL – San Leandro • 2235 Polvorosa Ave, Suite 230, San Leandro, CA 94577

(888) 455-3675 • Phone (510) 895-3675 • Fax (510) 895-3680 • sanleandrolab@emsl.com

EMSL Rep:	DAN KOCHER	*Third Party Billing*	**requires written authorization from third party*
Company:	GEOCON CONSULTANTS, INC.	EMSL-Bill to:	
Contact:	CHRIS GIUNTOLI	Contact:	
Address:	6671 BRISA ST	Address:	
City & State:	LIVERMORE, CA Zip 94550	City & State:	Zip
Phone:	925-371-5900	Fax:	
☒ Email Results	GIUNTOLI@GEOCONINC.COM	☐ Fax results	
Project Name or Number:	59200-06-61	Purchase Order Number:	

TURNAROUND TIME

☐ 3 Hours	☐ 6 Hours	☐ 12 Hours	☒ 24 Hours	☐ 48 Hours	☐ 72 Hours	☐ 4 Days	☐ 5 Days	☐ 6-10 Days

SAMPLE MATRIX

☐ Air	☒ Bulk	☐ Soil	☐ Wipe	☐ Micro-Vac	☐ Drinking Water	☐ Wastewater	☐ Chips	☐ Other

ASBESTOS ANALYSIS

PCM - Air
- ☐ NIOSH 7400 (A) Issue 2: August 1994
- ☐ OSHA w/TWA

TEM AIR
- ☐ AHERA 40 CFR, Part 763 Subpart E
- ☐ NIOSH 7402 Issue 2
- ☐ EPA Level II

PLM - Bulk
- ☒ EPA 600/R-93/116
- ☐ NY Stratified Point Count
- CARB 435 Level: ☐ A ☐ B ☐ C ☐ D ☐ E
- ☐ NIOSH 9002
- ☐ PLM NOB (Gravimetric) NYS 198.1
- ☐ EPA Point Count (400 Points)
- ☐ EPA Point Count (1,000 Points)
- ☐ Standard Addition Point Count

SOILS
- EPA Protocol ☐ Qualitative ☐ Quantitative
- CARB 435 Level: ☐ A ☐ B ☐ C ☐ D ☐ E
- ☐ EMSL MSD 9000 Method fibers/gram
- ☐ Superfund EPA 540-R097-028 (dust generation)

TEM BULK
- ☐ Drop Mount (Qualitative)
- ☐ Chatfield SOP-1988-02
- ☐ TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC
- ☐ ASTM D 5755-95 (Quantitative)

TEM WIPE
- ☐ ASTM D-6480-99
- ☐ Qualitative☐

TEM WATER
- ☐ EPA 100.1
- ☐ EPA 100.2
- ☐ NYS 198.2

OTHER:

LEAD ANALYSIS

Flame Atomic Absorption
- ☐ Wipe, SW846-7420☐ASTM ☐ non ASTM
- ☐ Soil, SW846-7420
- ☐ Air, NIOSH 7082
- ☐ Chips, SW846-7420 or AOAC 5.009 (974.02)
- ☐ Wastewater, SW 846-7420
- ☐ TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption
- ☐ Air, NIOSH 7105
- ☐ Wastewater, SW846-7421
- ☐ Soil, SW846-7421
- ☐ Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma
- ☐ Wipe, SW846-6010☐ASTM ☐ non ASTM
- ☐ Soil, SW846-6010
- ☐ Air, NIOSH 7300

MATERIALS ANALYSIS
- ☐ Full Particle Identification
- ☐ Optical Particle Identification
- ☐ Dust Mites and Insect Fragments
- ☐ Particle Size & Distribution
- ☐ Product Comparison
- ☐ Paint Characterizaton
- ☐ Failure Analysis
- ☐ Corrosion Analysis
- ☐ Glove Box Containment Study
- ☐ Petrographic Examination of Concrete
- ☐ Portland Cement in Workplace Atmospheres (OSHA ID-143)
- ☐ Man Made Vitrous Fibers – MMVF's
- ☐ Synthetic Fiber Identification
- ☐ Other:

MICROBIAL ANALYSIS

Air Samples
- ☐ Mold & Fungi by Air O Cell
- ☐ Mold & Fungi by Agar Plate count & id
- ☐ Bacterial Count and Gram Stain
- ☐ Bacterial Count and Identification

Water Samples
- ☐ Total Coliforms, Fecal Coliforms
- ☐ Escherichia Coli, Fecal Streptococcus
- ☐ Legionella
- ☐ Salmonella
- ☐ Giardia and Cryptosporidium

Wipe and Bulk Samples
- ☐ Mold & Fungi – Direct Examination
- ☐ Mold & Fungi – (Culture follow up to direct examination if necessary)
- ☐ Mold & Fungi – Culture (Count & ID)
- ☐ Mold & Fungi – Culture (Count only)
- ☐ Bacterial Count & Gram Stain
- ☐ Bacterial Count & Identification (3 most prominent types)
- ☐ Other:

IAQ ANALYSIS
- ☐ Nuisance Dust (NIOSH 0500 & 0600)
- ☐ Airborne Dust (PM10, TSP)
- ☐ Silica Analysis by XRD ☐ Niosh 7500
- ☐ HVAC Efficiency
- ☐ Carbon Black
- ☐ Airborne Oil Mist
- ☐ Other:

Client Sample # (S)

TOTAL SAMPLE # 53

Relinquished:		Date:	12/23/08	Time:	1700
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:	12/24/08	Time:	10:50 am

Fedex

090809913

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SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L) Area (Inches sq.)
1 R-01A	ROOF CORE	
2 R-01B	↓	
3 R-02A	ROOF MASTIC	
4 R-03A	GROUT	
5 R-04A	MORTAR	
6 R-05A	MORTAR	
7 R-06A	MORTAR	
8 R-07A	GROUT	
9 R-08A	ROOF CORE	
10 R-08B	↓	
11 R-09A	STUCCO	
12 R-09B	↓	
13 R-09C	↓	
14 R-10A	MORTAR	
15 R-11A	GRAY SEALANT	
16 R-12A	ROOF CORE	
17 R-12B	↓	
18 R-13A	ROOF MASTIC	
19 R-14A	GROUT	
20 R-15A	MORTAR	
21 R-16A	MORTAR	
22 R-17A	MORTAR	
23 R-18A	GROUT	
24 R-19A	MORTAR	
25 R-19B	MORTAR	

Relinquished:		Date:		Time:	
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:	10.24.2008	Time:	10:50 am

Fedex

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SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L) Area (Inches sq.)
26 R-20A	ROOF CORE	
27 R-20B	↓	
28 R-21A	ROOF MASTIC	
29 R-22A	MORTAR	
30 R-23A	GROUT	
31 R-24A	MORTAR	
32 R-25A	GROUT	
33 R-26A	MORTAR	
34 R-27A	GROUT	
35 R-28A	ROOF CORE	
36 R-28B	↓	
37 R-29A	STUCCO	
38 R-29B	↓	
39 R-29C	↓	
40 R-30A	MORTAR	
41 R-31A	GROUT	
42 R-32A	GRAY SEALANT	
43 R-33A	ROOF CORE	
44 R-33B	↓	
45 R-34A	MORTAR	
46 R-35A	GROUT	
47 R-36A	MORTAR	
48 R-37A	GROUT	
49 R-38A	MORTAR	
50 R-39A	GROUT	

Relinquished:		Date:		Time:	
Received:		Date:		Time:	
Relinquished:		Date:		Time:	
Received:		Date:	10-24-2008	Time:	10:50 am

Fed Ex

090809913

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SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME Air (L) Area (Inches sq.)
S1 R-40A	MORTAR	
S2 R-40B	"	
S3 R-41A	GROUT	

Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: _____ Time: _____
Relinquished: _____ Date: _____ Time: _____
Received: _____ Date: 10-24-08 Time: 10:50am

Paddy

Memorandum

Flex your power!
Be energy efficient!

To: MR. JOE ESFANDIARY
Branch Chief
Structural Design Section I
Office of Transportation Architecture
Division of Engineering Services
Attention: Tashir Rashid

Date: March 14, 2008

File: 06-TUL-99-PM22.1/22.7
06-OA970
Philip Raine SRRA

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Introduction

This report has been prepared to provide foundation recommendations for the proposed remodeling and new construction of the Philip Raine safety roadside rest area (SRRA). The upgrade improvements include expanding the restrooms, addition of a new CHP office, break room and storage buildings.

Pertinent Investigations, Reports and Resources

The following listed publications and information were reviewed to assist in the assessment of site conditions:

1. Recent soil exploration using a cone-penetrometer drill rig.
2. California Building Code, 2007 edition.
3. Foundation Investigation report, Tipton Safety Roadside Rest Area, Caltrans, December 11, 1980.
4. Soil Survey Map of Tulare County, Southern Part, U.S. Dept of Agriculture.
5. Groundwater Level data (2006), Well Nos. 21S24E01R001M and 21S24E01L001M, Department of Water Resources (DWR), California.
6. The floor plans and layouts dated 12-15-06 from the Division of Engineering Services, Architectural and Structural Design.

Site Subsurface Conditions

The topography at the SRRA site is flat to gently sloping. Based on the published California Soil and Geologic map and the recent exploration the site is underlain by deep alluvium consisting of medium dense to dense interbedded sands, silty sands and clayey sands.

Ground Water

DWR records show that the depth of groundwater below the project site was 35 feet below existing ground surface (DWR Well No. 21S24E01R001M) on the northbound side and 120 feet below existing ground surface (DWR Well No. 21S24E01L001M) on the southbound side in January, 2006. Groundwater is not expected to be a factor during construction.

Seismicity

According to the 2007 edition of the California Building Code (UBC) the Site Class is type "D". The mapped MCE short period spectral response acceleration, S_S is 0.65g. The spectral response acceleration at a period of 1 second, S_1 is 0.25g.

Liquefaction Potential

The site is not located in an area shown as potentially liquefiable on the State Seismic Hazard Map. The potential for liquefaction is considered very low. The potential for seismically induced settlement and lateral spreading is also considered very low.

Surface Fault Rupture Hazard

Surface fault rupture is defined as displacement that occurs along the surface trace of a fault. The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

Corrosivity

Composite soil samples were taken from recent test pits at locations representative of foundation materials. The test results indicate that the foundation materials are non-corrosive to construction materials.

Foundation Recommendations

Footings

The existing SRRA buildings are supported on spread footings with an allowable bearing capacity of 1.0 tsf. The proposed improvements should also be supported on spread footings sized using a maximum allowable bearing pressure of 2.0 tsf. The spread footings should be at least 12 inches wide and embedded at least 3 feet below existing ground surface or finished grade, whichever is deeper.

Lateral Pressures

A maximum allowable active lateral earth pressure of 40 psf and a maximum allowable passive earth pressure of 350 psf may used.

Moisture Barrier

There are no subsurface conditions that will require placement of a moisture barrier at either of the SRRA sites.

Slope Instability

There are no slopes greater than 5:1, proposed or existing, at the project sites. There is no potential for slope instability.

Differential Settlement

The on-site soil types and densities are similar below the proposed building sites at both SRRA locations and the potential of differential settlement should be considered to be low.

Construction Considerations

Spread footings shall be placed on firm soil. If non-suitable materials are encountered during excavation, the non-suitable materials should be removed and the footing elevation

be lowered to a firm base. If any unforeseen geological conditions are encountered during footing excavation, this office should be contacted for additional recommendations.

Existing trees and roots within the proposed structure areas should be removed in accordance with Section 16: Clearing and Grubbing of the Caltrans Standard Specifications (May 2006).

Project Information

Standard Special Provision S5-280, "Project Information", discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. *4 cone penetrometer boring logs.*

Data and Information included in the Information Handout provided to the bidders and Contractors are:

None.

Data and Information available for inspection at the District Office:

None.

Data and Information available for inspection at the Transportation Laboratory are:

None.

If any conceptual changes to the SRRA structures are proposed during final project design, the Office of Geotechnical Design – North should review those changes to determine if the foundation recommendations contained herein are still applicable.

If you have any questions, please contact Christopher Koepke at (916) 227-1040.

Report by:

Chris Koepke

REGISTERED GEOLOGIST
CHRISTOPHER W. KOEPKE
No. 2207
CERTIFIED ENGINEERING GEOLOGIST
Exp. 10/08
STATE OF CALIFORNIA

Christopher Koepke, C.E.G.
Engineering Geologist
Office of Geotechnical Design – North
Branch E

cc: Qiang Huang, R.E. Pending, Structures OE (E-copy), GDN File, Peggy Lim (E-copy), Ron Sekhon (E-copy), GS File room

Errata Sheet

for the document titled:

LEED for New Construction
Version 2.2
Reference Guide
Third Edition, October 2007

EQ	387	Please replace the last phrase of the title "Regularly Occupied Spaces" to the following (changes in CAPS) "in residential applications it refers to ALL SPACES EXCEPT CLOSETS OR OTHER STORAGE AREAS, UTILITY ROOMS, AND BATHROOMS. (BEDROOMS, LIVING ROOMS, TV ROOMS, DINING ROOMS, KITCHENS, MEDIA ROOMS, ETC. WOULD ALL BE CONSIDERED "REGULARLY OCCUPIED.)"
EQ	394	Please replace the last phrase of the title "Regularly Occupied Spaces" to the following (changes in CAPS) "in residential applications it refers to ALL SPACES EXCEPT CLOSETS OR OTHER STORAGE AREAS, UTILITY ROOMS, AND BATHROOMS. (BEDROOMS, LIVING ROOMS, TV ROOMS, DINING ROOMS, KITCHENS, MEDIA ROOMS, ETC. WOULD ALL BE CONSIDERED "REGULARLY OCCUPIED.)"
Glossary	418	Please replace the last phrase of the title "Regularly Occupied Spaces" to the following (changes in CAPS) "in residential applications it refers to ALL SPACES EXCEPT CLOSETS OR OTHER STORAGE AREAS, UTILITY ROOMS, AND BATHROOMS. (BEDROOMS, LIVING ROOMS, TV ROOMS, DINING ROOMS, KITCHENS, MEDIA ROOMS, ETC. WOULD ALL BE CONSIDERED "REGULARLY OCCUPIED.)"

Errata posted 6/13/2008

EQc3.1	323	Under the heading "Requirements" , in the first bullet point, the referenced standard has been updated to the "SMACNA IAQ Guidelines for Occupied Buildings under Construction, Second Edition-November 2007, chapter 3"

Errata posted 4/7/2008

MRc7	288 & 291	Under "Summary of Referenced Standard" (p288) and "Resources" (p291), change the Forest Stewardship Council, United States' phone number to (703) 438-6401
MRc7	288	Revise the "Chain of Custody (COC) Certification" definition to: **Chain-of-Custody (COC) Certification** enables tracking of wood all the way through

		the value chain into final products. It is awarded to companies that produce, sell, promote, or trade forest products after audits verify proper accounting of material flows and proper use of the FSC name and logo.
MRc7	289	Replace the text under "Chain-of-Custody Requirements" with the text below: **Chain-of-Custody Requirements** Each wood products vendor that invoices FSC-certified wood products to project contractors and subcontractors must be COC-certified by an FSC-accredited certifier. Contractors and subcontractors are not required to have COC certification.
MRc7	289	Replace the text under "Calculations" with the text below: List all new (i.e. not reclaimed, salvaged, or recycled, etc.) wood products used on the project and identify which products are FSC certified. Using **Equation 1**, tally both the non-FSC-certified wood and the FSC certified wood. Wood products that are identified as "FSC Pure" or "FSC Mixed Credit" shall be valued at 100% the product cost. Wood products identified as "FSC Mixed [NN]%" should be valued at the indicated percentage of their cost, e.g., a product identified as "FSC Mixed 75%" should be valued at 75% of the cost. "FSC Recycled" and "FSC Recycled Credit" products do not contribute to this credit.
MRc7	289	Replace the title **"Assemblies" with "Products that Combine Wood and Other Materials"** and under that heading replace the existing text with the following: In the case of manufactured products such as windows and some furniture systems that combine wood and non-wood materials, only the wood portion can be applied toward the credit. To determine the value of the wood portion, calculate the amount of wood as a percent of the total weight, volume, or cost of the product and multiply this by the total value of the product as invoiced to project contractors, subcontractors, or buying agents. If the wood portion of the assembly product is identified as "FSC Pure" or "FSC Mixed Credit," then 100% of the value of the wood portion shall count toward achievement of the credit. If the product is identified as "FSC Mixed [NN]%," then the wood portion should be valued at the indicated percentage, e.g., for a product identified as "FSC Mixed 75%," the wood portion should be valued at 75% of the cost. The calculations for certified wood shall include only new wood products. The value of any recycled wood fiber content of a product that qualifies as contributing to MR Credit 4, Recycled Content Materials, shall be excluded.
MRc7	290	Replace the text under "Submittal Documentation" with the text below: This credit is submitted as part of the **Construction Submittal**. The following data and calculation information is required in order to complete the v2.2 Submittal Templates: ☐ For all permanently-installed wood products, both FSC-certified and not, vendor invoices must be compiled, and wood price values entered into the submittal template. A Vendor is defined as the company that sells wood products to building project contractors or subcontractors.

		Each vendor invoice must conform to the following requirements: 1. Each wood product must be identified on a line-item basis; 2. FSC products must be identified as such on a line-item basis and must be identified as "FSC Pure," "FSC Mixed Credit," or "FSC Mixed [NN]%"; 3. The $ value of each line item must be shown; 4. The vendor's chain-of-custody (COC) number must be shown on any invoice that includes FSC products. Exceptions – in some rare instances, it may not be practical for a vendor to invoice wood products on a line-item basis because the invoice would be dozens of pages long. In such cases, the invoice should indicate the aggregate value of wood products sold by the vendor. If the wood products are FSC certified: 1. The vendor's COC number must be shown on the invoice; 2. The invoice must be supplemented by a letter from the vendor stating that the products invoiced are FSC certified. 3. The invoice or the letter must state whether the products are "FSC Pure," "FSC Mixed Credit," or "FSC Mixed [NN]%." An optional narrative can be submitted describing any special circumstances or considerations regarding the project's credit approach.
MRc7	290	Under Definitions, revise the "Chain of Custody (COC)" definition so it reads as follows: **Chain-of-Custody (COC)** is the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution. The COC certificate number is listed on vendor invoices for products to document that an entity has followed FSC guidelines for product accounting.

Yes	?	No		Sustainable Sites	14 Points
7	0	0			
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
			Credit 1	**Site Selection**	1
			Credit 2	**Development Density & Community Connectivity**	1
			Credit 3	**Brownfield Redevelopment** (if Asbestos or Harzadous Mat)	1
			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
1			Credit 4.3	**Alternative Transportation**, Low-Emitting & Fuel-Efficient Vehicles	1
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
			Credit 5.1	**Site Development,** Protect of Restore Habitat -SRRA?	1
1			Credit 5.2	**Site Development,** Maximize Open Space - SRRA?	1
1			Credit 6.1	**Stormwater Design,** Quantity Control	1
1			Credit 6.2	**Stormwater Design,** Quality Control	1
			Credit 7.1	**Heat Island Effect,** Non-Roof	1
1			Credit 7.2	**Heat Island Effect,** Roof	1
1			Credit 8	**Light Pollution Reduction**	1

Yes	?	No		Water Efficiency	5 Points
3	0	0			
1			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
			Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
			Credit 2	**Innovative Wastewater Technologies**	1
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1
1			Credit 3.2	**Water Use Reduction**, 30% Reduction	1

Yes	?	No		Energy & Atmosphere	17 Points
14	0	0			
Y			Prereq 1	**Fundamental Commissioning of the Bld Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
10			Credit 1	**Optimize Energy Performance** (2 Points Minimum)	1 to 10
				10.5% New Buildings or 3.5% Existing Building Renovations	1
				14% New Buildings or 7% Existing Building Renovations	2
				17.5% New Buildings or 10.5% Existing Building Renovations	3
				21% New Buildings or 14% Existing Building Renovations	4
				24.5% New Buildings or 17.5% Existing Building Renovations	5
				28% New Buildings or 21% Existing Building Renovations	6
				31.5% New Buildings or 24.5% Existing Building Renovations	7
				35% New Buildings or 28% Existing Building Renovations	8
				38.5% New Buildings or 31.5% Existing Building Renovations	9
				42% New Buildings or 35% Existing Building Renovations	10
3	0	0	Credit 2	**On-Site Renewable Energy** - Bond Program Locations?	1 to 3
				2.5% Renewable Energy	1
				7.5% Renewable Energy	2
				12.5% Renewable Energy	3
1			Credit 3	**Enhanced Commissioning**	1
0			Credit 4	**Enhanced Refrigerant Management**	1
0			Credit 5	**Measurement & Verification**	1
0			Credit 6	**Green Power**	1

Yes	?	No		Materials & Resources	13 Points
6	2	0			
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
1			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
			Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
			Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
1			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
1			Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
			Credit 3.1	**Materials Reuse**, 5%	1
			Credit 3.2	**Materials Reuse**,10%	1
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials**, 10% Extracted, Proc'd & Manuf'd locally (500mi)	1
	1		Credit 5.2	**Regional Materials**, 20% Extracted, Proc'd & Manuf'd locally (500mi)	1
			Credit 6	**Rapidly Renewable Materials**	1
1			Credit 7	**Certified Wood**	1

Yes	?	No		Indoor Environmental Quality	15 Points
13	0	0			
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
			Credit 1	**Outdoor Air Delivery Monitoring**	1
			Credit 2	**Increased Ventilation**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Lighting	1
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	**Thermal Comfort**, Design	1
1			Credit 7.2	**Thermal Comfort**, Verification	1
1			Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
1			Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No		Innovation & Design Process	5 Points
5	0	0			
1			Credit 1.1	**Innovation in Design**: LEED Element Signage	1
1			Credit 1.2	**Innovation in Design**: Water Use Reduction (40%+)	1
1			Credit 1.3	**Innovation in Design**:Optimize Energy Performance over 45.5%	1
1			Credit 1.4	**Innovation in Design**: Renewable Energy over 17.5%	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No	Project Totals (pre-certification estimates)	69 Points
48	2			

Certified: 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points

Sample Display Panel (DP-1) Graphic

PHILIP S. RAINE
Safety Roadside Rest Area

nature

Pacific Flyway

Migration Routes

This is generic text to fill a paragraph for layout purposes only text will be provided with photos for fabrication and printing of display panels.

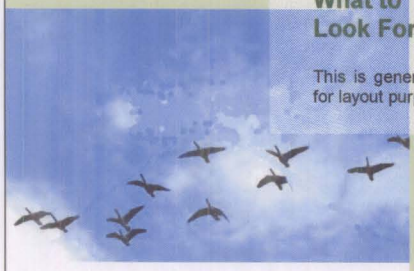
This is generic text to fill a paragraph for layout purposes only text will be provided with photos for fabrication and printing of display panels

Did you know?
(fun fact here)

Migration

Valley Refuge

This is generic text to fill a paragraph for layout purposes only text will be provided with photos for fabrication and printing of display panels.



What to Look For .....

This is generic text to fill a paragraph for layout purposes only.

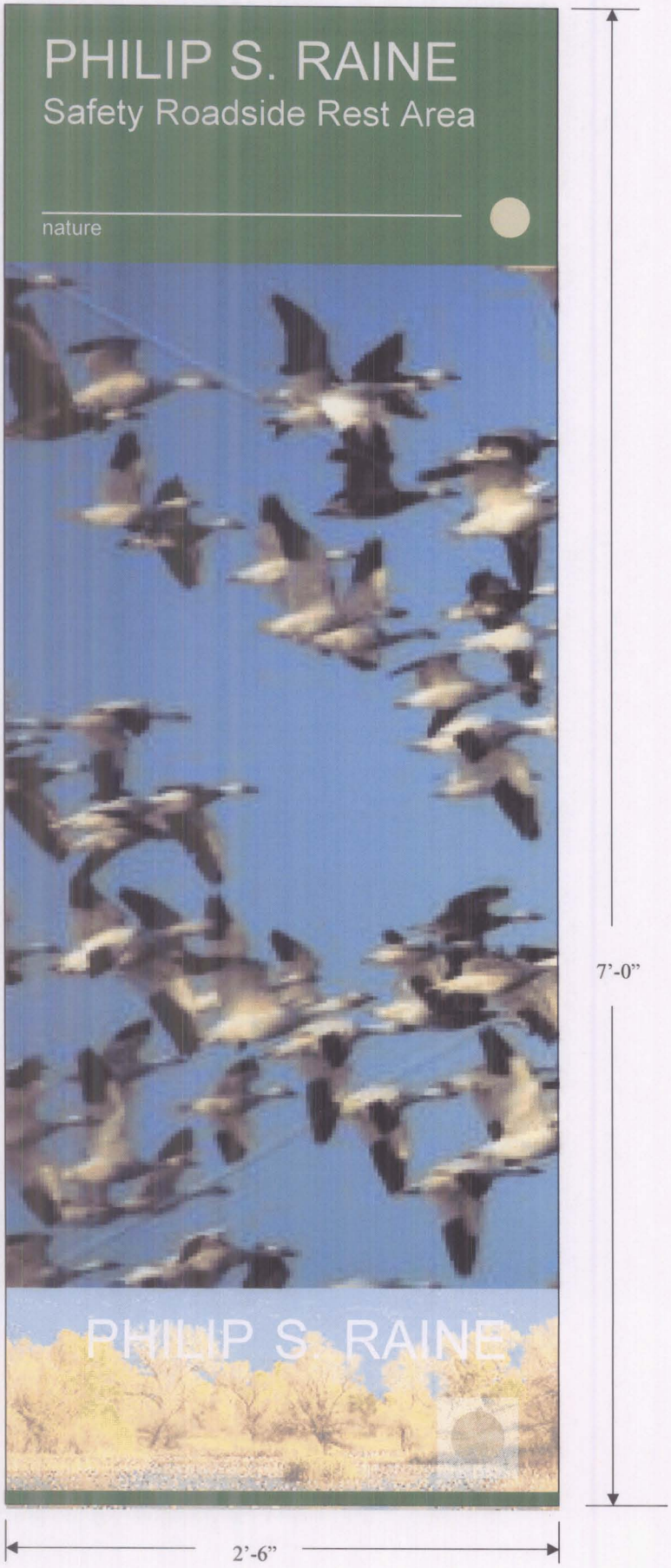
Bird Watching

This is generic text to fill a paragraph for layout purposes only text will be provided with photos for fabrication and printing of display panels.

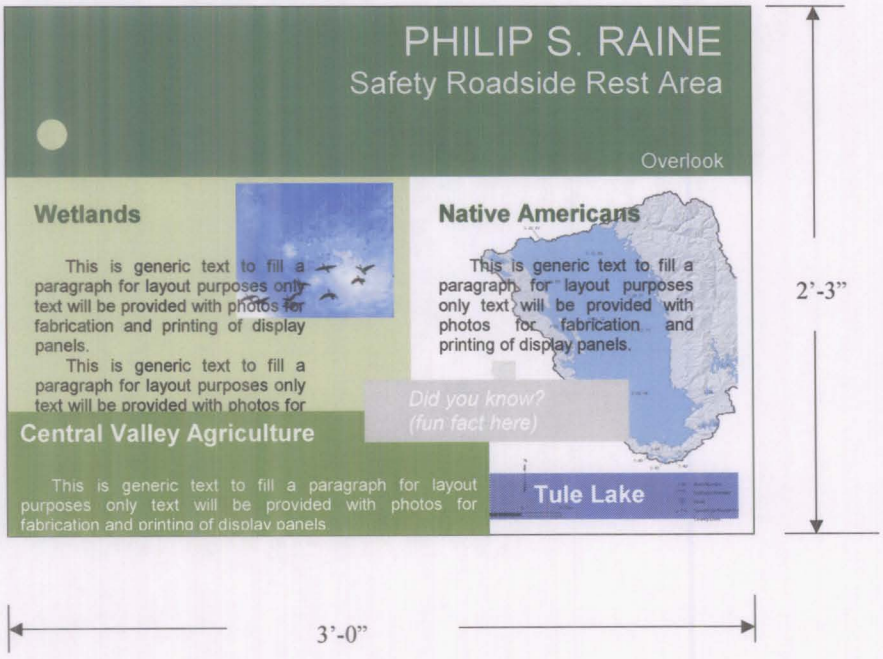
7'-0"

2'-6"

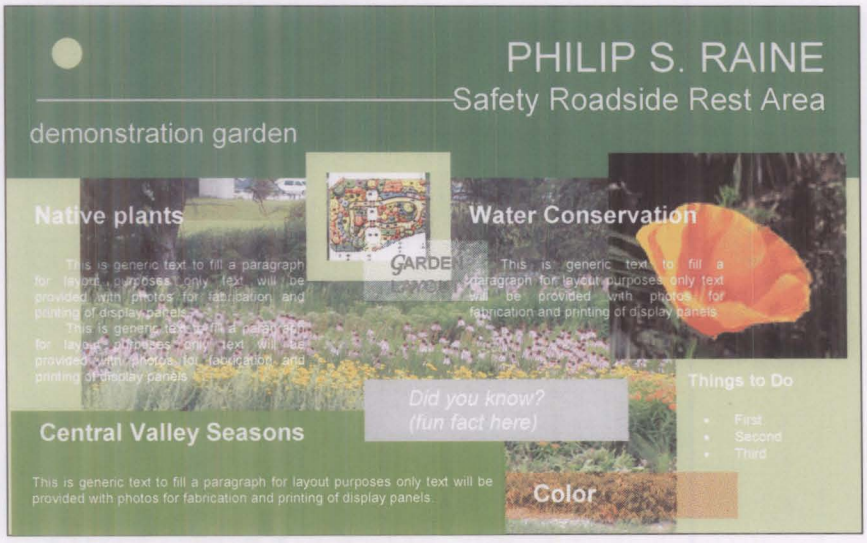
Sample Display Panel (DP-1) Graphic (Back)



Sample Display Panel (DP-2) Graphic



Sample Display Panel (DP-3) Graphic



Sample Display Panel on Building (DP-4) Graphic

Typical Graphics for Building Panels (DP-4)