INFORMATION HANDOUT

For Contract No. 10-0L9704
At 10-Tuo-120-R19.4/R20.1

Identified by
Project ID 1012000053

MATERIALS INFORMATION

Asbestos and Lead-Containing Paint Survey Report dated 02/2013

Flared Energy Absorbing Terminal Midwest Guardrail System (FLEAT MGS) Terminal System Plan Sheet

Slotted Rail Terminal-31 (SRT-31) Terminal System Plan Sheet

31” X-Tension Guard Rail End Terminal System Plan Sheet

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

Tuolumne River Bridge (32-0018)
Tuolumne County, California

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 6
ENVIRONMENTAL PLANNING/HAZARDOUS WASTE
855 M STREET, SUITE 200
FRESNO, CALIFORNIA 93721

PREPARED BY:

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

GEOCON PROJECT NO. S9525-01-62
TASK ORDER NO. 62
E-FIS 10 1200 0053 (EA 10-0L9701)
CONTRACT NO 06A1580

FEBRUARY 2013

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9525-01-62
February 28, 2013

Christopher Shawn Ogletree, Task Order Manager
Hazardous Waste and Paleontology Branch
855 M Street, Suite 200
Fresno, California 93721

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT
TUOLUMNE RIVER BRIDGE (32-0018)
TUOLUMNE COUNTY, CALIFORNIA
CONTRACT NO. 06A1580, TASK ORDER NO. 62, EA NO. 10-0L9701
E-FIS PROJECT NO. 10 1200 0053

Dear Mr. Ogletree:

In accordance with California Department of Transportation Contract No. 06A1580 and Task Order No. 62, we have performed an asbestos and lead-containing paint (LCP) survey of the subject project in Tuolumne County, California. The scope of services included surveying the Tuolumne River Bridge (32-0018) on State Route 120 for suspect asbestos-containing materials and LCP, collecting bulk samples, and submitting the samples to laboratories 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.

David Watts, CAC
Senior Project Scientist

John E. Jurrend, PE, CEG
Principal/Senior Engineer

(2 + 1 electronic) Addressee

TABLE OF CONTENTS

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT PAGE

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 06A1580, Task Order No. 62 (TO-62).

1.1 Project Description

The Tuolumne River Bridge (Bridge 32-0018, EA 10-0L9701, E-FIS Project No. 10 1200 0053) is located at Post Mile 19.6 on State Route 120 in Tuolumne County, California. We performed asbestos and LCP survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

1.2 General Objectives

The purpose of the scope of services outlined in TO-62 was to determine the presence and quantity of asbestos construction materials and LCP at the project location prior to various improvements. The information obtained from this investigation will be used by Caltrans 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.*

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 § 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 greater 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 addressed. 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 greater than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Lead Paint

Construction activities (including 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, §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 separated from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling 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 representative 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 representative 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 lead-containing paint. 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, §1532.1.

2.3 Architectural Drawings and Previous Survey Activities

Architectural drawings or previous survey reports for the project were not available for our review.

3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2013), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2013), performed the asbestos and LCP survey activities at the project location on January 7, 2013.

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 friability. A total of six bulk asbestos samples representing three material types were collected.

Our procedures for inspection and sampling in accordance with TO-62 are discussed below:

- Collected bulk asbestos samples after first wetting friable suspect materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers. 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 under chain-of-custody protocol 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). EMSL 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 five-day turnaround 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

A total of two bulk paint samples were collected from suspect LCP observed at the project location. We did not observe deteriorated paint during our survey. Our sampling procedures in accordance with TO-62 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for total and soluble lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a five-day turnaround time.

Paint sample identification numbers, descriptions, peeling and flaking quantities, and photo references are summarized on Table 2. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

4.0 INVESTIGATIVE RESULTS

4.1 Asbestos Analytical Results

Chrysotile asbestos at a concentration of 70% was detected in samples representing nonfriable sheet packing used as barrier rail shims on the bridge. A thorough quantification of the shims was not possible due to safety concerns (i.e., traffic); however, it is our opinion that the total amount of asbestos sheet packing used on the bridge is less than 100 square feet.

Asbestos was not detected in the remaining samples collected during our survey. A summary of the analytical laboratory test results is presented on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

4.2 Paint Analytical Results

Two samples representing intact beige paint applied to steel members of the bridge exhibited total lead concentrations of 59,000 and 96,000 mg/kg, greater than the TTLC of 1,000 mg/kg. A composite of the two paint samples contained a TCLP soluble lead concentration of 30 mg/l, greater than the TCLP of 5 mg/l.

A summary of the analytical laboratory test results for paint is presented on Table 2. Reproductions of the laboratory reports and chain-of-custody documentation are presented in Appendix A.

5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

5.1 Asbestos

NESHAP regulations do not require that asbestos-containing sheet packing (a Category I nonfriable/nonhazardous material) identified during our survey be removed prior to renovation/demolition or be treated as hazardous waste. The sheet packing may also be reused or stored for subsequent reuse. However, activities causing *disturbance* of the sheet packing matrix (i.e., cutting, abrading, sanding, grinding, etc.) would require compliance with the Cal/OSHA asbestos standard (Title 8, CCR Section 1529).

We also recommend the notification of contractors (that will be conducting demolition, renovation, or related activities) of the presence of asbestos in their work areas (i.e., provide the contractor[s] with a copy of this report and a list of asbestos removed by contractor[s] during subsequent activities). Personnel not trained for asbestos work should be instructed not to *disturb* asbestos.

Written notification to U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

5.2 Lead Paint

LCP identified during our survey would be considered a California and Federal hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

We recommend that all paints at the project location (graffiti, graffiti abatement, signage, etc.) be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints.

In accordance with Title 8, CCR, § 1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, § 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

6.0 REPORT LIMITATIONS

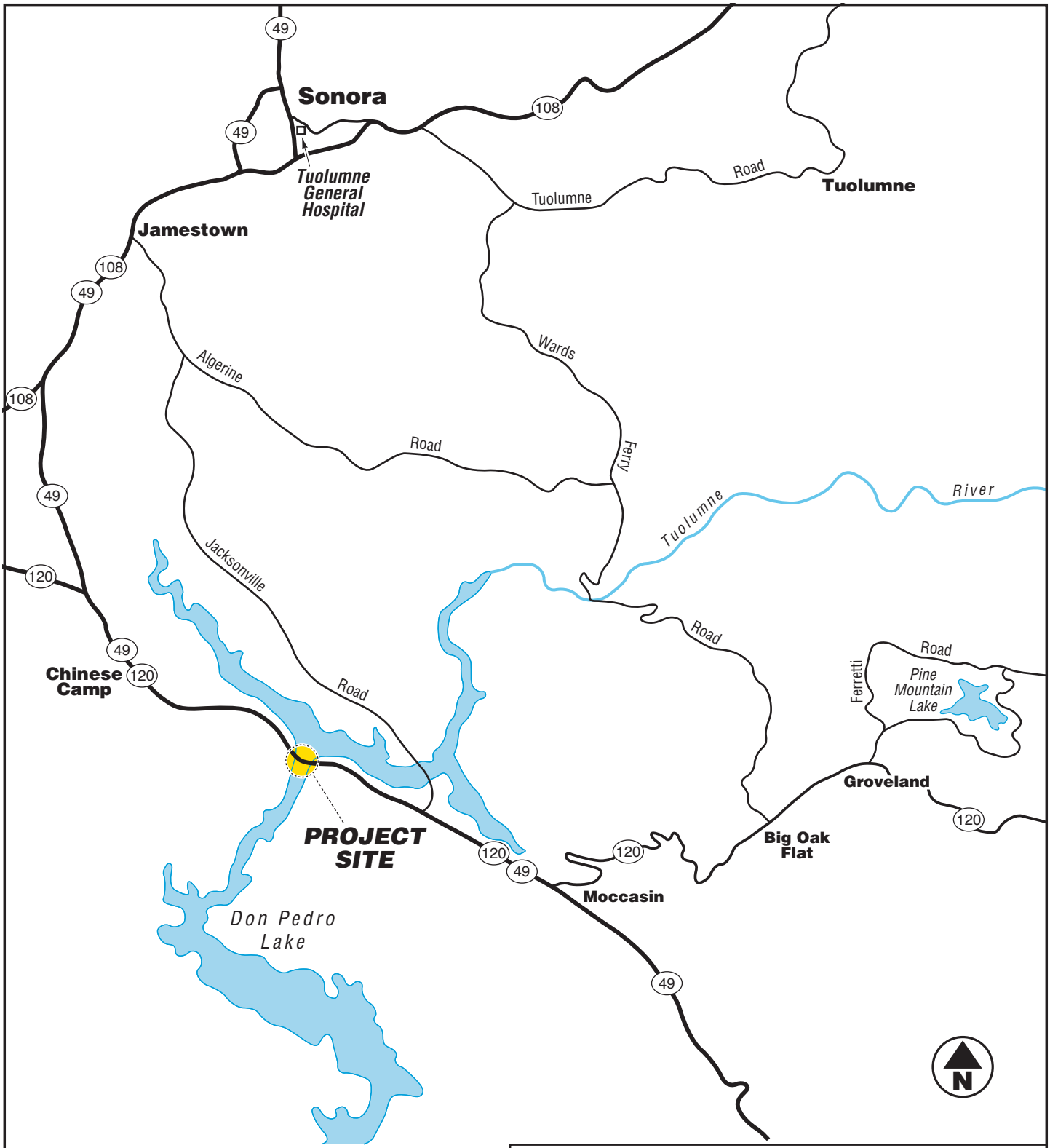
This asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our 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 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.



GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

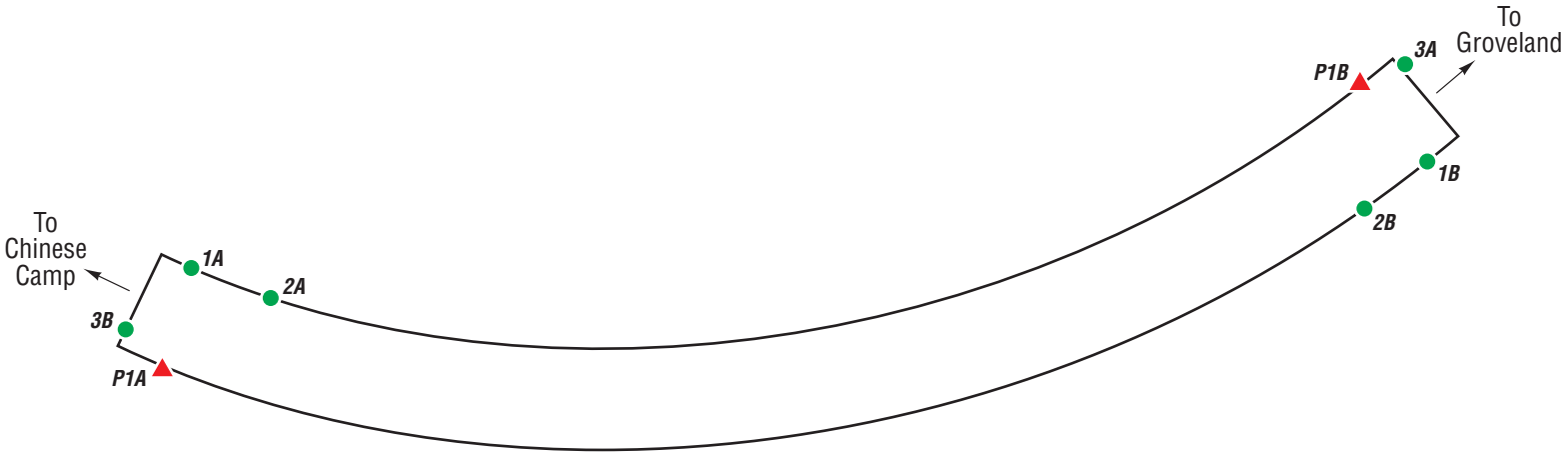
Tuolumne River Bridge

Tuolumne County,
California

VICINITY MAP

GEOCON Proj. No. S9525-01-62
Task Order No. 62
E-FIS 10 1200 0053 (EA 10-0L9701)
Caltrans Contract 06A1580

February 2013 | Figure 1



TUOLUMNE RIVER BRIDGE (32-0018)

NO SCALE

LEGEND:

- ● Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location

GEOCON
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PHONE 916.852.9118 – FAX 916.852.9132

Tuolumne River Bridge

Tuolumne County, California

SITE PLAN

GEOCON Proj. No. S9525-01-62
Task Order No. 62
E-FIS 10 1200 0053 (EA 10-0L9701)
Caltrans Contract 06A1580

February 2013 | Figure 2

TABLE 1
SUMMARY OF ASBESTOS ANALYTICAL RESULTS
TUOLUMNE RIVER BRIDGE (32-0018)
CALTRANS CONTRACT 06A1580, TASK ORDER NO. 62, EA 10-0L9701
TUOLUMNE COUNTY, CALIFORNIA

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

Sample Group No.	Description of Material	Approximate Quantity	Friable	Site Photos	Asbestos Content
1	Bridge bearing pads	NA	NA	2	ND
2	**Sheet packing (barrier rail shims)**	**Unable to safely quantify**	**No**	**3**	**70%**
3	Concrete	NA	NA	1 through 6	ND

Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

TABLE 2
SUMMARY OF PAINT ANALYTICAL RESULTS - TOTAL AND SOLUBLE LEAD
TUOLUMNE RIVER BRIDGE (32-0018)
CALTRANS CONTRACT 06A1580, TASK ORDER NO. 62, EA 10-0L9701
TUOLUMNE COUNTY, CALIFORNIA

Paint Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photos	Total Lead (mg/kg)	TCLP Lead (mg/l)
P1A	Beige paint (steel members)	Intact	2, 5, and 6	59,000	30
P1B				96,000	

Notes:

mg/kg = milligrams per kilogram (EPA Test Method 6010-B)

TCLP = Toxicity Characteristic Leaching Procedure (EPA Test Method 7420)

mg/l = milligrams per liter

Photo 1 – Tuolumne River Bridge (32-0018) on Highway 120 in Tuolumne County, California

Photo 2 – Bridge bearings

Photo 3 – Bridge barrier rail assemblies

GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

PHOTOGRAPHS 1, 2, & 3		
Tuolumne River Bridge (32-0018) Tuolumne County, California		
S9525-01-62		February 2013

Photo 4 – Expansion joint

Photo 5 – Truss and girder system

Photo 6 – West abutment

APPENDIX A

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

EMSL Order:	091300332
CustomerID:	GECN21
CustomerPO:	S9525-01-62
ProjectID:	

Attn: **Dave Watts**
Geocon Consultants, Inc.
6671 Brisa Street

Livermore, CA 94550

Project: **S9525-01-62 / TUOLUMNE RIVER**

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	01/09/13 9:00 AM
Analysis Date:	1/15/2013
Collected:	1/7/2013

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1A-Bridge Brearing Pads *091300332-0001*		Brown/Tan Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
1A-Adhesive *091300332-0001A*		Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1B-Bridge Bearing Pads *091300332-0002*		Brown/Tan Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (other)	**None Detected**
1B-Adhesive *091300332-0002A*		Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
2A-Sheet Packing Shims *091300332-0003*		Gray/White Fibrous Homogeneous		30% Non-fibrous (other)	**70% Chrysotile**
2B-Sheet Packing Shims *091300332-0004*		Gray/White Fibrous Homogeneous		30% Non-fibrous (other)	**70% Chrysotile**
3A-Concrete *091300332-0005*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Jennifer Keeling (8)

Baojia Ke, Laboratory Manager
or other approved signatory

Initial report from 01/15/2013 18:28:48

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

EMSL Order:	091300332
CustomerID:	GECN21
CustomerPO:	S9525-01-62
ProjectID:	

Attn: **Dave Watts**
Geocon Consultants, Inc.
6671 Brisa Street

Livermore, CA 94550

Project: **S9525-01-62 / TUOLUMNE RIVER**

Phone:	(925) 371-5900
Fax:	(925) 371-5915
Received:	01/09/13 9:00 AM
Analysis Date:	1/15/2013
Collected:	1/7/2013

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
3B-Concrete *091300332-0006*		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Jennifer Keeling (8)

Baojia Ke, Laboratory Manager
or other approved signatory

Initial report from 01/15/2013 18:28:48

091300332

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*): 091300332

EMSL ANALYTICAL, INC.
2235 POLVOROSA DR., STE. 230
SAN LEANDRO, CA 94577
PHONE: (510) 895-3675
FAX: (510) 895-3680

Company: GEOCON		**EMSL-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
Street: 6671 BRISA ST			
City: LIVERMORE	**State/Province:** CA	**Zip/Postal Code:** 94550	**Country:** USA
Report To (Name): D. WATTS		**Fax #:** 925-371-5915	
Telephone #: 925-371-5900		**Email Address:** WATTS@GEOCONINC.COM	
Project Name/Number: 59525-01-62 / TUOLUMNE RIVER			
Please Provide Results: ☐ Fax ☒ Email	**Purchase Order:**	**U.S. State Samples Taken:**	

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

**For TEM Air 3 hours/6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT** (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: D. WATTS **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1A/B	BRIDGE BEARING PADS	N/A	1/7/13
2A/B	SHEET PACKING (SHIMS)	↓	↓
3A/B	CONCRETE	↓	↓

Client Sample # (s): 1A-3C **Total # of Samples:** 6

Relinquished (Client): [signature] **Date:** 1/7/13 **Time:** 1630

Received (Lab): FED-EX **Date:** 1/7/13 **Time:** 1630 / 0900

Comments/Special Instructions: [signature] RECEIVED JAN 09 2013 FX

ADVANCED TECHNOLOGY LABORATORIES

January 15, 2013

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 371-5900
Fax:(925) 371-5915

Re: ATL Work Order Number : 1300057
Client Reference : Tuolumne River, S9525-06-62

Enclosed are the results for sample(s) received on January 08, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/15/2013

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1A	1300057-01	Paint	1/07/13 0:00	1/08/13 9:09
P1B	1300057-02	Paint	1/07/13 0:00	1/08/13 9:09

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/15/2013

Total Metals by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1300057-01	P1A	**59000**	mg/kg	950	NA	100	B3A0312	01/14/2013	01/14/13 15:34	D6
1300057-02	P1B	**96000**	mg/kg	690	NA	100	B3A0312	01/14/2013	01/14/13 15:36	D6

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/15/2013

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B3A0312 - EPA 3050B									
Blank (B3A0312-BLK1)					Prepared: 1/14/2013 Analyzed: 1/14/2013				
Lead	ND	1.0			NR				
LCS (B3A0312-BS1)					Prepared: 1/14/2013 Analyzed: 1/14/2013				
Lead	49.2837	1.0	50.0000		98.6	80 - 120			
Duplicate (B3A0312-DUP1)		**Source: 1300062-02**			Prepared: 1/14/2013 Analyzed: 1/14/2013				
Lead	7.06404	1.0		7.01984	NR		0.628	20	
Matrix Spike (B3A0312-MS1)		**Source: 1300062-02**			Prepared: 1/14/2013 Analyzed: 1/14/2013				
Lead	108.288	0.99	123.762	7.01984	81.8	45 - 111			
Matrix Spike Dup (B3A0312-MSD1)		**Source: 1300062-02**			Prepared: 1/14/2013 Analyzed: 1/14/2013				
Lead	107.308	0.99	123.153	7.01984	81.4	45 - 111	0.908	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/15/2013

Notes and Definitions

D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FEDEX ☐ Other: GSO

Sample Condition Upon Receipt
1. CHILLED Y☐ N☑ 4. SEALED Y☐ N☐
2. HEADSPACE (VOA) Y☐ N☐ 5. # OF SPLS MATCH COC Y☐ N☐
3. CONTAINER INTACT Y☐ N☐ 6. PRESERVED Y☐ N☐

Client: GEOCON CONSULTANTS, INC.
Attn: D. WATTS
Address: 6671 Brisa Street
City Livermore State CA Zip Code 94550
TEL: (925) 371-5900
FAX: (925) 371-5915

Project Name: TUOLUMNE RIVER Project #: 9525-06-62 Sampler: (Printed Name) D. WATTS (Signature)

Relinquished by: (Signature and Printed Name)		Date: 1/7/13	Time: 1600	Received by: (Signature and Printed Name)	GSO	Date: 1/7/13	Time: 1600
Relinquished by: (Signature and Printed Name)		Date:	Time:	Received by: (Signature and Printed Name)	FEDEX	Date: 1/8/13	Time: 0900
Relinquished by: (Signature and Printed Name)		Date:	Time:	Received by: (Signature and Printed Name)		Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
D. WATTS 1/7/13
Print Name Date
Signature

Send Report To:
Attn: _____
Co: SAME AS ABOVE
Address _____
City _____ State _____ Zip _____

Bill To:
Attn: _____
Co: SAME AS ABOVE
Address _____
City _____ State _____ Zip _____

Special Instructions/Comments:
PRINT CHIPS
ANTICIPATE SOLUBLES

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal) - Pb	8015B (GRO) / BTEX	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	SOIL	WATER	GROUND WATER	WASTEWATER	PAINT	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	130057-01	P1A	1/7/13	WATER				X										X	5-DAY	1	Bag P		
	-02	P1B	↓	↓				↓										↓	↓	↓	↓		

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode ____ OTHER ____

- TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: White with report Yellow to folder Pink to submitter

ADVANCED TECHNOLOGY LABORATORIES

January 29, 2013

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 371-5900
Fax:(925) 371-5915

Re: ATL Work Order Number : 1300057

Client Reference : Tuolumne River, S9525-06-62

Enclosed are the results for sample(s) received on January 08, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/29/2013

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite P1A & P1B	1300057-03	Paint	1/07/13 0:00	1/08/13 9:09

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/29/2013

Client Sample ID Composite P1A & P1B

Lab ID: 1300057-03

TCLP Metals by ICP-AES EPA 6010B **Analyst: AG**

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**30**	0.14	NA	1	B3A0680	01/29/2013	01/29/13 14:24	

QUALITY CONTROL SECTION

TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B3A0680 - EPA 3010A_SOIL									
Blank (B3A0680-BLK1)				Prepared: 1/29/2013 Analyzed: 1/29/2013					
Lead	ND	0.050			NR				
Blank (B3A0680-BLK2)				Prepared: 1/29/2013 Analyzed: 1/29/2013					
Lead	ND	0.050			NR				
LCS (B3A0680-BS1)				Prepared: 1/29/2013 Analyzed: 1/29/2013					
Lead	1.00675	0.050	1.00000		101	80 - 120			
LCS Dup (B3A0680-BSD1)				Prepared: 1/29/2013 Analyzed: 1/29/2013					
Lead	0.979781	0.050	1.00000		98.0	80 - 120	2.72	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Tuolumne River, S9525-06-62
6671 Brisa Street	Report To : Dave Watts
Livermore , CA 94550	Reported : 01/29/2013

Notes and Definitions

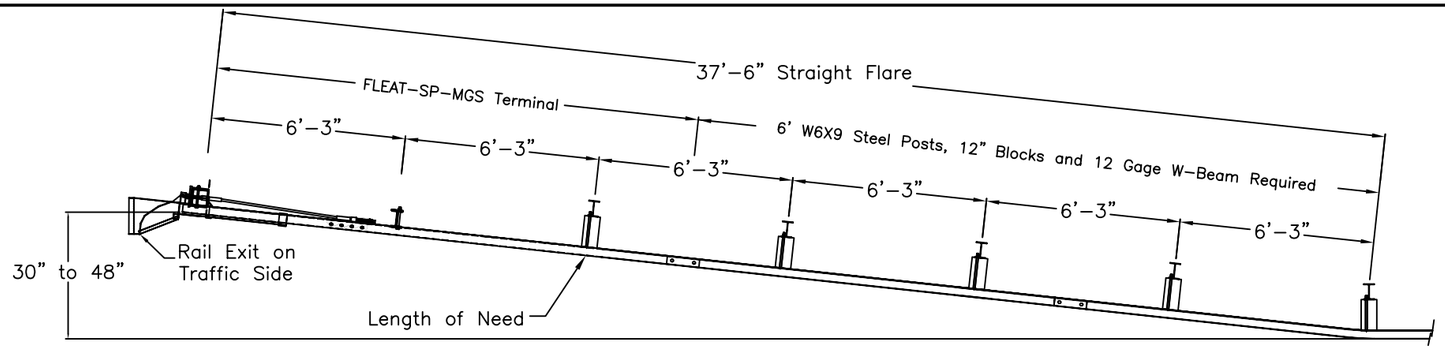
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.

Diane Galvan

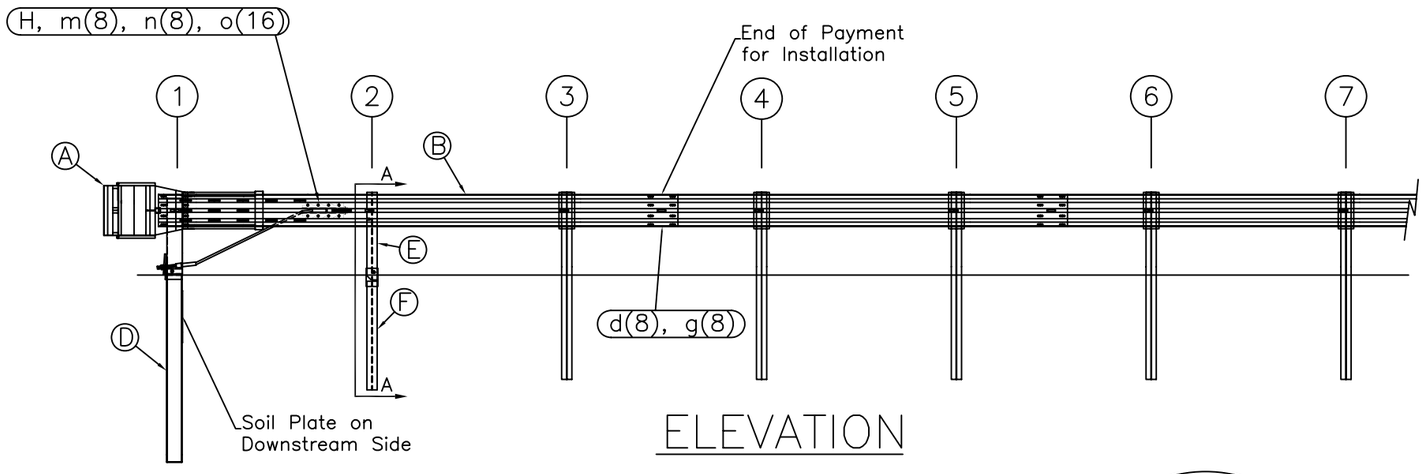
From: b and d [bferia1@yahoo.com]
Sent: Friday, January 25, 2013 3:35 PM
To: Diane Galvan
Cc: David Watts
Subject: 1300057

please composite and run a tclp asap. thanks.

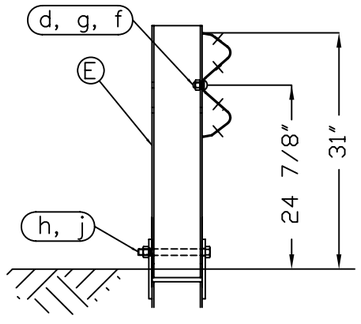


PLAN

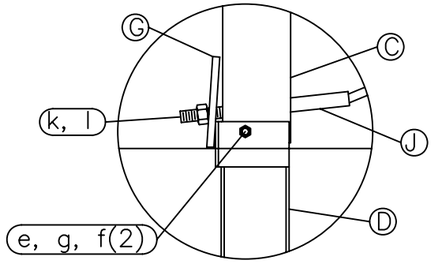
TRAFFIC



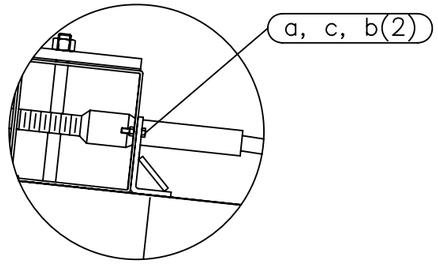
ELEVATION



SECTION A-A
Post #2



Post #1 Connection Detail



Impact Head Connection Detail

ITEM	QTY	BILL OF MATERIALS	ITEM NO.
A	1	IMPACT HEAD	F3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	MGS-SF1303
C	1	FIRST POST TOP (6X6X$\frac{1}{8}$" Tube)	TPHP1A
D	1	FIRST POST BOTTOM (6' W6X15)	TPHP1B
E	1	SECOND POST ASSEMBLY TOP	UHP2A
F	1	SECOND POST ASSEMBLY BOTTOM	HP3B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
		HARDWARE (ALL DIMENSIONS IN INCHES)	
a	2	5/16 x 1 HEX BOLT GRD 5	B5160104A
b	4	5/16 WASHER	W0516
c	2	5/16 HEX NUT	N0516
d	9	5/8 Dia. x 1 1/4 SPLICE BOLT (POST #2)	B580122
e	1	5/8 Dia. x 9 HEX BOLT GRD 5	B580904A
f	3	5/8 WASHER	W050
g	10	5/8 Dia. H.G.R NUT	N050
h	1	3/4 Dia. x 8 1/2 HEX BOLT GRD A449	B340854A
j	1	3/4 Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	CABLE ANCHOR BOX SHOULDER BOLT	SB58A
n	8	1/2 A325 STRUCTURAL NUT	N055A
o	16	1 1/16 OD x 9/16 ID A325 STR. WASHER	W050A

GENERAL NOTES:
1. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
2. The lower sections of the Posts 1&2 shall not protrude more than 4 in above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
3. The lower sections of the hinged posts should not be driven with the upper post attached. If the post is placed in a drilled hole, the backfill material must be satisfactorily compacted to prevent settlement.
4. When competent rock is encountered, a 12" Ø post hole, 20 in. deep cored into the rock surface may be used if approved by the engineer for post 1. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first post can be field cut to length, placed in the hole and backfilled with suitable backfill. The soil plate may be trimmed if required.
5. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.

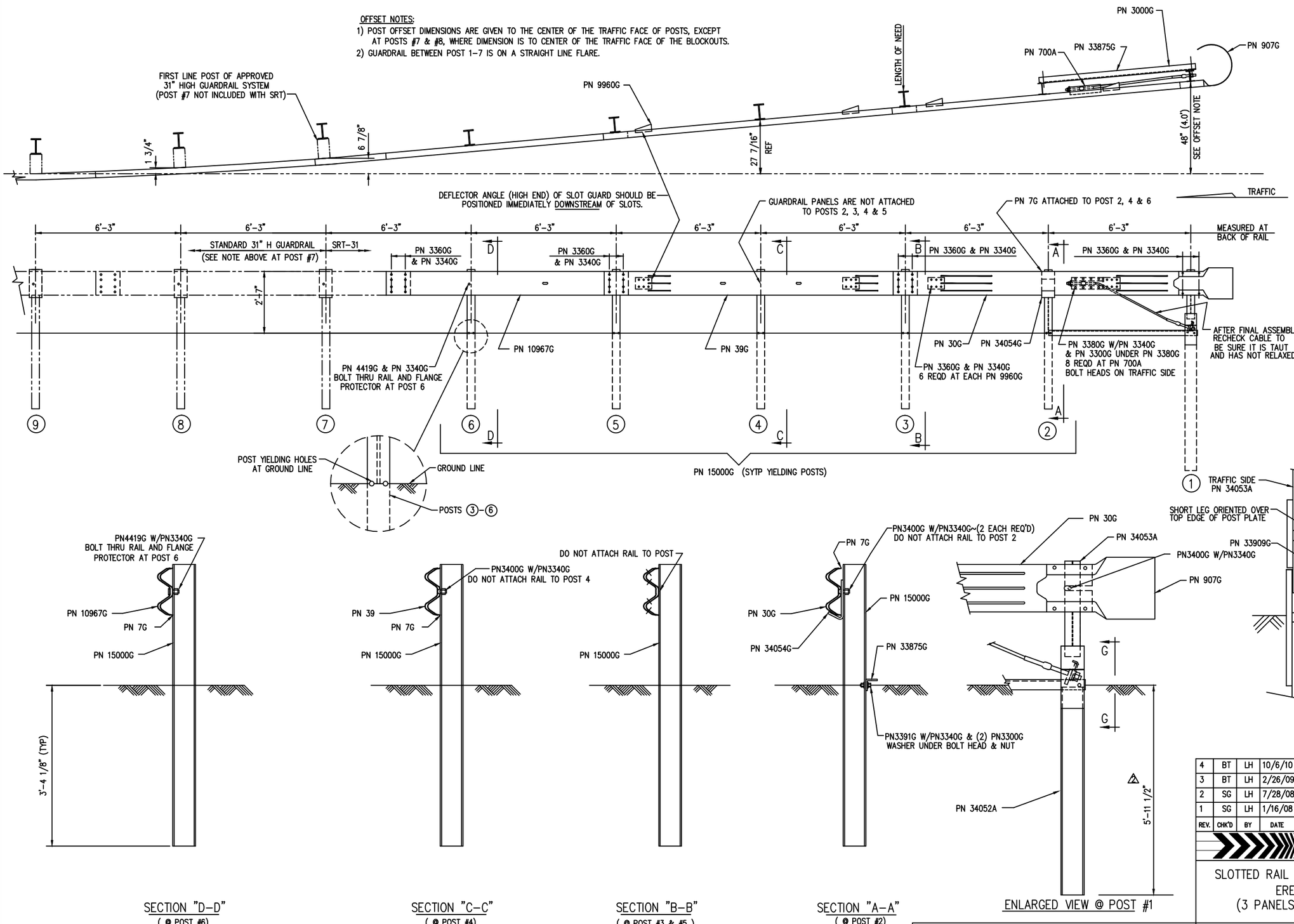
RSI
Road Systems, Inc.
Big Spring, TX
Phone: 432-263-2435
or Phone: 330-346-0721

FLEAT-SP-MGS Terminal Midwest Guardrail System 31" Top of Rail

Sheet:	Date:	By:
1	02/24/10	JRR

Drawing Name:	Scale:	Rev:
FLT-SP-S-MGS	None	0

OFFSET NOTES:
1) POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF POSTS, EXCEPT AT POSTS #7 & #8, WHERE DIMENSION IS TO CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS.
2) GUARDRAIL BETWEEN POST 1–7 IS ON A STRAIGHT LINE FLARE.



VIEW "G–G"
(@ POST #1)

SECTION "D–D"
(@ POST #6)

SECTION "C–C"
(@ POST #4)

SECTION "B–B"
(@ POST #3 & #5)

SECTION "A–A"
(@ POST #2)

ENLARGED VIEW @ POST #1

BILL OF MATERIAL

	PN	QTY	DESCRIPTION
	7G	3	12/6"/FLG PROTECTOR (AT POST 2, 4 & 6)
	30G	1	12/12'6/S SRT-1 (GUARDRAIL)
	39G	1	12/12'6/S SRT-2 (GUARDRAIL)
	700A	1	CABLE ANCHOR BRACKET
	907G	1	12/BUFFER/ROLLED (TERMINAL)
	3000G	1	3/4 x 6'-6" CABLE
HARDWARE	3240G	2	5/16" WASHER (AT POST 1)
	3245G	2	5/16" HEX NUT (AT POST 1)
3	3300G	12	5/8" WASHER
1	3340G	67	5/8" HEX HGR NUT
	3360G	52	5/8"ø x 1 1/4" HGR SPLICE BOLT
	3380G	8	5/8"ø x 1 1/2" HEX HD BOLT
3	3400G	4	5/8"ø x 2" HGR POST BOLT (AT POSTS 1, 2 & 4)
	3391G	2	5/8"ø x 1 3/4" HEX BOLT (A325) (AT STRUT)
	3900G	2	1" WASHER (AT CABLE)
	3910G	2	1" HEX NUT (AT CABLE)
	4211G	2	5/16"ø x 1 3/4" HEX BOLT (AT POST 1)
	4419G	1	5/8"ø x 1 3/4" COUNTERSUNK HD BOLT (AT POST 6)
	9960G	4	SLOT GUARD BRACKET
	10967G	1	12/9'4.5/3'1.5/S SRT-3 (GUARDRAIL)
	15000G	5	6'-0" SYT POST (W6 X 8.5)
	33909G	1	CABLE ANCHOR BRACKET (AT POST 1)
	33875G	1	ANGLE STRUT 3 x 3 x 1/4
	34052A	1	CR POST 1 BOT (W6 x 15)
	34053A	1	CR POST 1 TOP (W6 x 8.5)
	34054G	1	POST SHELF ANGLE (AT POST 2)

REV.	CHK'D	BY	DATE	REMARKS
4	BT	LH	10/6/10	OFFSET POSTS #7 & #8
3	BT	LH	2/26/09	REVISED HARDWARE
2	SG	LH	7/28/08	REVISED POST #1 LENGTH IN GROUND
1	SG	LH	1/16/08	REVISED HARDWARE QUANTITY IN BILL OF MATERIAL

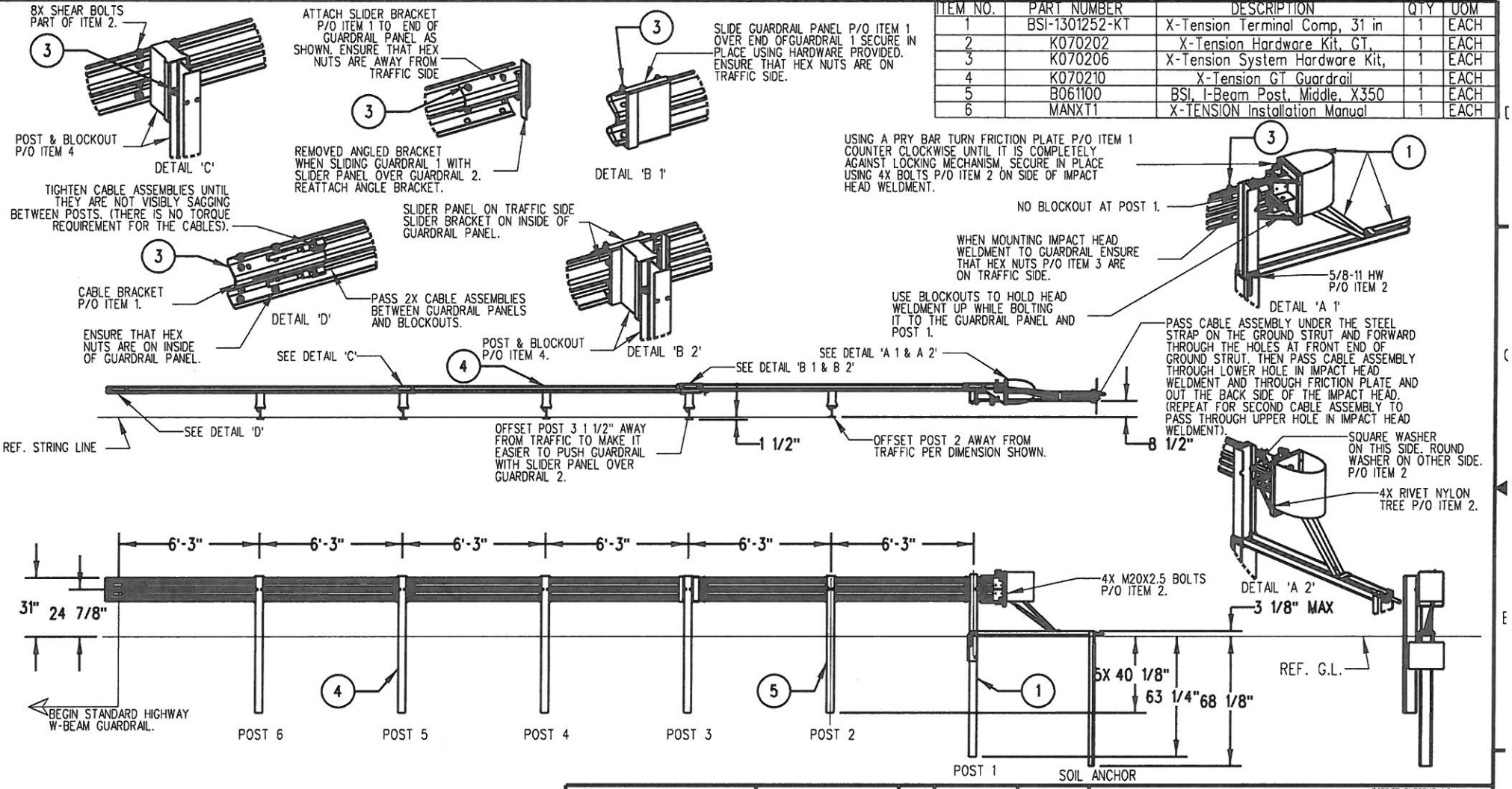
SRT-31

SLOTTED RAIL TERMINAL SRT-31 (31" H) ERECTION DETAILS (3 PANELS, CR AND SYT POSTS)

DRAWN	BT
CHECKED	SG
SCALE	NTS
DATE	10/30/07
ENG. FILE #	SS436-01E
SHT.No.	E1 OF 1
DRAWING NO.	SS 436
REV.	4

TRINITY HIGHWAY PRODUCTS, LLC.
2525 STEMMONS FREEWAY
DALLAS, TX 75207

ITEM NO.	PART NUMBER	DESCRIPTION	QTY	UOM
1	BSI-1301252-KT	X-Tension Terminal Comp, 31 in	1	EACH
2	K070202	X-Tension Hardware Kit, GT,	1	EACH
3	K070206	X-Tension System Hardware Kit,	1	EACH
4	K070210	X-Tension GT Guardrail	1	EACH
5	B061100	BSI, I-Beam Post, Middle, X350	1	EACH
6	MANXT1	X-TENSION Installation Manual	1	EACH



NOTES: UNLESS OTHERWISE SPECIFIED.

1. SYSTEM TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
2. ONLY TIGHTEN THE CABLE ASSEMBLIES USING THE NUTS AT THE CABLE BRACKET (SEE DETAIL 'D'). DO NOT TIGHTEN THE CABLES AT THE FRONT OF THE GROUND ANCHOR.
3. WHEN DRIVING STEEL POST, ENSURE THAT A DRIVING CAP WITH TIMBER OR PLASTIC INSERT IS USED TO PREVENT DAMAGE TO THE GALVANIZING TO THE TOP OF THE POST.

APPROVALS

DRAWN BY:	NMV
DRAWN DATE:	2/08/13
APPR'D BY:	JMT
APPR'D DATE:	2/08/13

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
FRACTIONS ±1/16 DECIMAL .XX ± .03 .XXX ± .010 ANGLES ±1/2°
INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-1994
THIRD ANGLE PROJECTION
DO NOT SCALE DRAWING

REV	ECN#	DATE
B	2067	05/02/13
A	2022	2/08/13

LINDSAY TRANSPORTATION SOLUTIONS™

BARRIER SYSTEMS INC.
3333 Vaca Valley Parkway Ste 800
Vacaville, CA 95688
Tel: 888-800-3691
www.barriersystemsinc.com

TITLE
X-TENSION GUARDRAIL TERMINAL SYSTEM
STEEL POST WITH COMPOSITE BLOCKOUT
31" RAIL HEIGHT

SIZE	DWG NO.	REV.
B	XTGTSS5	B

SCALE 1:50 SHEET 1 OF 1