EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

AGENDA

Board of Directors Meeting

October 15, 2020 @ 9:15 AM

Zoom Meeting

Meeting ID: 841 1097 2506

1. Call to Order

2. Public Comment

3. Approval of the Minutes of the September 17th, 2020 Board of Directors Meeting *(Attachment)*

4. Executive Directors Report
   - A. Status Update on EGR Bus Yard at Mandela Parkway *(Attachments)*
     - i. Review of Funding Request Letter to Emeryville City Council
   - B. Status Update on Driver Barriers & Other Safety Measures

5. Business Items
   - A. Review and ratify Amendment #9 to Fueling Agreement with AC Transit *(Attachment)*
   - B. Contractor Selection and Award – EGR Bus Yard at Mandela Parkway
     1. Overview of Bid Process and Results
     2. Consider Committee Recommendation for Contractor Selection
     3. Review of Escrow Agreement and Authorize Chair to Execute the Final Agreement
     4. Review and Authorize Chair to Award Construction Contract and Execute all Contract Documents, contingent on Emeryville City Council Approval of funding *(Attachment)*

6. Confirm date of Next Meeting – November 19th, 2020

7. Adjournment

EMERYVILLE TRANSPORATATION MANAGEMENT ASSOCIATION

ACTION SUMMARY MINUTES

Board of Directors & Annual Membership Meeting

September 17, 2020

Annual Membership Meeting

1. Call to Order
   The Annual Membership Meeting was called to order at 9:03 AM by Chair, Geoff Sears

   Directors Present: Geoff Sears, Betsy Cooley, Bobby Lee, Colin Osborne, Andrew Allen, Peter Schreiber, Kassandra Kappelos

   Staff Present: Roni Hattrup, Tiffany Gephart, Gray-Bowen-Scott

2. Public Comment
   No public comment.

3. Election of Employer Member
   Roni informed the Board that nomination request letters were sent to the top 5 Employers listed on the City of Emeryville's Annual Comprehensive Financial Report, who are not already serving as Corporate Members, which included Grifols Diagnostics, Amyris, Cliff Bar, Oaks Car Club and Ikea. Roni noted that no nominations forms were received. Geoff Sears asked if nominations can be filled at any time, Roni noted that in the absence of nominations, the Board could appoint someone to fill the vacancy on the Board until the next annual election.

   The Board discuss several potential employer candidates that may be interested in serving on the Board and noted that they would bring such recommendations to the Board at a future meeting.

Board of Directors Meeting

1. Call to Order
   The Board of Directors Meeting was called to order 9:12 AM by Chair, Geoff Sears

2. Public Comment
   No public comment.

3. Election of Officers

   A. Chair
   Geoff Sears was nominated as Chair.
   The appointment of Chair was approved by a unanimous vote.

   AYE: 7
   NAY: 0
   ABSTAIN: 0

   B. Vice Chair
   Bobby Lee was nominated as Vice Chair

The appointment of Vice Chair was approved by a unanimous vote.

AYE: 7
NAY: 0
ABSTAIN: 0

C. Secretary

Betsy Cooley was nominated as Vice Chair
The appointment of Secretary was approved by a unanimous vote.

AYE: 7
NAY: 0
ABSTAIN: 0

D. Treasurer

Andrew Allen was nominated as Vice Chair
The appointment of Treasurer was approved by a unanimous vote.

AYE: 7
NAY: 0
ABSTAIN: 0

4. Approval of the Minutes of the July 16th and September 10th Board of Directors Meetings
Bobby Lee Motioned for Approval, Geoff Sears seconded the motion to approve the July 16th and September 10th Board of Directors Meeting Minutes.

This item was approved by a unanimous vote.
AYE: 7
NAY: 0
ABSTAIN: 0

5. Executive Directors Report

A. Status Update on EGR Bus Yard at Mandela Parkway
Roni commented that the bid package had been submitted to 7 Contractors and noted that three contractors had responded and conducted site walks and requested further information. Roni further noted that contractor bids are due on September 29th.

Roni reviewed the project budget status and noted that the project is in the construction phase. Geoff Sears commented that the City of Emeryville has made a verbal commitment to provide up to a million in grant money for the project. The City Manager has reconfirmed the verbal commitment and the funding is part of the CIP program. Geoff further commented that when the bids are received, we will need to go back to City Council to have them formally ratify the commitment.

Bobby Lee inquired about a contingency plan, should the City does not authorize the funds. Geoff commented that money would need to be borrowed. Roni concurred and noted that the organizations cash balance would not be sufficient to sustain the shuttle operation, should all funds be used for the project.

6. Business Items:
   A. Review and Accept the Independent Auditor's Report on the Financial Statements for year ending December 31, 2019 (Attachment)
   Roni noted that the audit committee met and reviewed the auditor's report and noted that the auditor provided a clean opinion. No additional comments were provided by the audit review committee.

   Peter Schreiber motioned for acceptance of the Independent Auditors Report. Kassandra Kappelos seconded the motion.

   This item was approved by a unanimous vote.
   AYE: 7
   NAY: 0
   ABSTAIN: 0

   B. Review and Authorize signing and filing of the ETMA's 2019 Federal Tax Return and State Annual Information Return (Attachment)
   Roni provided an overview of the Federal and State tax documents.

   Peter Schreier motioned for approval of the 2019 State and Federal tax filings. Kassandra Kappelos seconded the motion.

   This item was approved by unanimous vote.
   AYE: 7
   NAY: 0
   ABSTAIN: 0

   C. Review and Consider Approval of Amendment 2 to Lease Agreement with Wareham Development to extend the term of the lease to June 30th, 2021 (Attachment)
   Roni presented Amendment 2 to the lease agreement with Hollis General Partnership to extend the term of the lease to June 30, 2021.

   Geoff Sears noted that he would abstain from the vote.

   Andrew Allen motioned for approval of Amendment 2 to the Lease Agreement with Hollis General Partnership. Betsy Cooley seconded the motion.

This item was approved by a majority vote.
AYE: 6
NAY: 0
ABSTAIN: 1; Geoff Sears abstained

D. Review and Consider Approval of Amendment 7 to Professional Services Agreement with BKF Engineers for Design Support Services During Construction (Attachment)

Roni presented Amendment 7 to the professional services agreement with BKF Engineers for design support services during the construction phase of the project.

Andrew Allen motioned for approval Amendment 7 to Professional Services Agreement with BKF Engineers. Bobby Lee seconded the motion.

This item was approved by a unanimous vote.
AYE: 7
NAY: 0
ABSTAIN: 0

E. Review and Consider Approval of Amendment 1 to Professional Services Agreement with Zoon Engineering for Construction Administration Services (Attachment)

Roni presented Amendment 1 to professional services agreement with Zoon Engineering to authorize the scope and budget for tasks 4 and 5 of their original proposal.

Andrew Allen motioned for approval Amendment 1 to Professional Services Agreement with Zoon Engineering for Construction Administration Services. Geoff Sears seconded the motion.

This item was approved by a unanimous vote.
AYE: 7
NAY: 0
ABSTAIN: 0

F. Review and Authorize Chair to execute an Amendment to Professional Services Agreement with Gray Bowen Scott for Project Oversight Services during Construction (Attachment)

Roni presented the proposed scope of work and budget request for construction management oversight services and requested Board authorization for the Chair to execute an Amendment to the professional services agreement with Gray Bowen Scott.

Andrew Allen motioned for approval for the Chair to execute an Amendment to Professional Services Agreement with Gray Bowen Scott for Project Oversight Services during Construction. Bobby Lee seconded the motion.

This item was approved by a unanimous vote.
AYE: 7
NAY: 0
ABSTAIN: 0

7. Next Meeting Date and Time
   Bobby Lee asked for an update on the driver barriers. Roni noted that the operations team and barrier manufacturer were working through solutions to ensure driver visibility would not be impacted by any glare on the barriers. Roni noted that a solution had been identified and that the final prototype was in production and would soon be installed.

8. Adjourn
   The meeting was adjourned at 9:54 AM.

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

October 2, 2020

To: Emeryville City Council

From: Emeryville Transportation Management Association

Subject: **Request for Funding – Emery Go Round Shuttle Bus Yard Project (CIP #: CF-09, Project #: 12475005)**

Dear Esteemed Councilmembers,

The purpose of this letter is to formalize the Emeryville Transportation Management Associations request for $1 Million in funding for construction of the Emery Go Round Shuttle Bus Yard, which has been earmarked for several years in the City's Capital Improvement Program.

The Emeryville Transportation Management Association has provided the Emery Go Round shuttle program for over 25 years. The program serves as a vital link to the City, providing first and last mile connectivity to the MacArthur BART Station. The Emery Go Round shuttle, which has been ranked one of the top 3 services in the City of Emeryville, is fare-free and open to the public. Prior to the COVID pandemic, the Emery Go Round's daily ridership was nearly 5,000, with annual ridership just under 1.4 million. When the COVID-19 pandemic hit, the ETMA was quick to take action to ensure the safety of our passengers and drivers. Protocols were established requiring rear-passenger boarding, social distancing, and face masks. The ETMA also modified the service plan to right size the level of service with ridership demand, which decreased by nearly 90%. As businesses begin to re-open, Emery Go Round ridership continues to grow and the ETMA is closely monitoring passenger boardings to ensure sufficient service is provided to allow for social distancing.

The Emery Go Round has been key in the ongoing economic growth of the City, providing frequent transit connectivity to alleviate traffic and parking throughout the City. The service is funded through the Citywide Property and Business Improvement District (PBID), which is currently set to end in 2030. While it is likely the PBID will be renewed, many properties are required through their condition of approval to be a member of the ETMA and contribute to the program regardless of the assessment district.

For 10 years, the ETMA has struggled to find a location for the Emery Go-Round fleet and operations facility within close proximity to Emeryville. In 2017, the ETMA identified two short term facilities to allow the ETMA time to secure a long-term facility for its parting and operations office. The license agreement for the ETMA's current fleet parking facility, located on Horton Street, is currently set to expire on December 14, 2020, though we are negotiating an extension through June 30, 2021. The lease

on the ETMA's current operations office, located on 63rd Street, is set to expire on June 30, 2021. This will be the last extension issued to the TMA for the use of these facilities.

The ETMA has been working with Caltrans and the City of Oakland over the past 5 years on the development of a new parking facility located in West Oakland on Mandela Parkway under the 580/80 flyover connectors. The project involves construction of a new 95,000 square foot bus parking facility, including drainage work, utility work, subgrade preparation, asphalt resurfacing, minor concrete, pavement markings, fencing, lighting and electrical work, landscaping/irrigation and a mobile office unit for the Emery Go Round operations team.

The ETMA Board Chair and staff worked closely with the City of Oakland and West Oakland business and neighborhood groups in the early phase of the project to gain support from the community. Oakland city staff and Councilmember McElhaney were in support of the project because it would clean up the site at the gateway into West Oakland and provide an active presence, offering more security in a problematic area. In April 2019, the Oakland Planning Commission unanimously approved the Major Conditional Use Permit for the project.

A few other project milestones that we have achieved include:

1. Completion of the Project Design (PS&E)
2. Executed a 30-year lease with Caltrans
3. Obtained necessary permits from Caltrans and Oakland
4. Solicited the project for construction and have identified a recommended contractor (note: project requires prevailing wage rates be paid).

We received 4 bids from contractors with pricing ranging from $2.05M and $2.55M. After reviewing the responsive and responsible bids, the ETMA intends to award to the contract to the lowest bidder, OC Jones in the amount of $2,051,680. Our construction management oversight team has had a good experience working with this contractor on past projects. Several risk factors have been identified with the project, the most significant being the off haul of contaminated soils and material. While the ETMA's contract documents do make assumptions for quantities of contaminated soils, it is unknown whether the geotechnical engineers' assumptions are accurate. Other risk factors include the potential for encountering deeper than expected building foundations and unmapped abandoned utilities in conflict with the work. For these reasons, we have included a 20% contingency in the overall project budget, which we believe to be prudent.

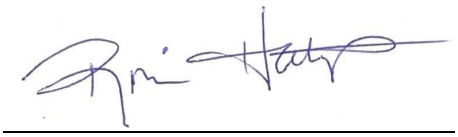
We plan to award the construction contract at our October 15th, 2020 regular ETMA Board of Directors meeting, contingent upon City Council's approval of funding at the October 20th, 2020 Council meeting. The ETMA must have the City's financial commitment of the requested funding before we sign an agreement with the selected contractor, so we can demonstrate that we have adequate funding prior to the start of work. Construction is anticipated to start in November 2020 and will take approximately

six months to complete. Timely completion of this shuttle bus parking and operations facility is critical to the ongoing operation of the Emery Go Round shuttle, as the ETMA will be without a fleet parking facility on July 1, 2021.

As depicted in the project funding plan attached, the anticipated project cost for the new facility is approximately $3.7 million. To complete this project, the ETMA must exhaust nearly all our cash reserves, leaving just over the minimum operating reserve required per the ETMA's administrative policies. This assumes the City approves our request for the $1 Million earmarked in the City's CIP. If the City does not approve the full funding request, the ETMA will have to evaluate options for costly financing which will likely result in construction delays and a future funding shortfall for the Emery Go Round shuttle program.

We appreciate our partnership and hope you will consider our request for $1 Million, for construction of the Emery Go Round Shuttle Bus Yard Project.

Kind regards,



Executive Director

Attachment:

1. Funding Plan – 10/1/2020
2. CIP #: CF-09, Project #: 12475005

Emeryville Transportation Management Association
EMERY GO ROUND SHUTTLE BUS YARD PROJECT
FUNDING PLAN - 10/01/20

Project Phase	TOTAL ESTIMATED PROJECT COST	ETMA Funding	City of Emeryville Funding	TOTAL FUNDING
Project Oversight	$ 173,000.00	$ 173,000.00	$ -	**$ 173,000.00**
Environmental, PS&E & Permitting	$ 400,000.00	$ 400,000.00	$ -	**$ 400,000.00**
Construction	$ 2,051,680.00	$ 1,051,680.00	$ 1,000,000.00	**$ 2,051,680.00**
Construction Oversight	$ 190,000.00	$ 190,000.00	$ -	**$ 190,000.00**
Modular Office Acquisition & Installation	$ 175,000.00	$ 175,000.00	$ -	**$ 175,000.00**
Contingency (20%)	$ 600,000.00	$ 600,000.00	$ -	**$ 600,000.00**
TOTAL COST & FUNDING	**$ 3,689,680.00**	**$ 2,589,680.00**	**$ 1,000,000.00**	**$ 3,589,680.00**

ETMA Cash Balance Summary	
ETMA Cash Balance (as of Jan 1, 2020)	$ 3,181,063.00
ETMA Funds to be Expended	$ 2,344,425.00
City of Emeryville Funding	$ 1,000,000.00
Anticipated ETMA Fund Balance	**$ 836,638.00**
ETMA Required Operating Reserve (15% of ETMA Budget)	*$ 684,000.00*

CITY OF EMERYVILLE
CAPITAL IMPROVEMENT PROGRAM

☐ New Project ☑ Existing Project

CIP#: CF-09

Project Category: Community Facility

Project Number: 12475005

Title: **Emery-Go-Round Shuttle Bus Yard**

Lead Department: Public Works Department

Priority Level: Discretionary

Description:

This project would provide assistance to the Emeryville Transportation Management Association (TMA) to establish a long term bus yard for the Emery Go Round shuttle. The project includes tenant improvements to as well as possible purchase of a bus yard located in or nearby Emeryville.

Justification:

Current Status: ETMA is developing plans for a long term bus yard in Oakland on Caltrans property.

Endorsing Authority: General Plan

General Plan Elements:

- ☐ Land Use
- ☑ Transportation
- ☐ Conservation, Safety & Noise
- ☐ Parks, Open Space & Public Facilities
- ☐ Urban Design
- ☐ Sustainability
- ☐ Housing

Anticipated Costs:		
Acquisition		
Design/Prof Svc		
Construction		
Construction Admin		
Other	$	1,000,000
Total:	$	1,000,000

Operating Budget Impact
FY 19-20
FY 20-21
FY 21-22
FY 22-23
FY 23-24

Estimated Costs and Funding Source:	**Prior Funding**	**FY 19/20**	**FY20/21**	**FY21/22**	**FY22/23**	**FY23/24**
250 - Traffic Impact Fee	$ 1,000,000					
Estimated FTE:		0.05	0.00	0.00	0.00	0.00

AMENDMENT NO. 9 TO THE CONTRACT

This Amendment No. 9 to the Contract ("Amendment") is made and entered into as of *31 August 2020* ("Effective Date") by and between **ALAMEDA-CONTRA COSTA TRANSIT DISTRICT**, a special transit district established pursuant to California Public Utilities Code, Section 24501 et seq., having its principal place of business at 1600 Franklin Street, Oakland, California 94612 (hereinafter "AC Transit" or the "District") and **EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION**, having its principal place of business at 1300 67th Street, Emeryville, California 94608 (hereinafter the "Corporation") to amend the terms of the Contract dated *01 September 2004* (the "Contract") as specified below.

WHEREAS, Contractor and the District entered into a Contract wherein District agreed to fuel and service the Emery-Go-Round shuttle service buses operated by Corporation; and

WHEREAS, Corporation and District have further modified the Contract from time to time since its inception, and

WHEREAS, the Term of the amended Contract is scheduled to expire on *31 August 2020*; and

WHEREAS, the Corporation and the District desire to further extend the Term of the Contract for an additional four (4) month period while the Parties use good faith efforts to negotiate a new master agreement, and Corporation is agreeable and, by this Amendment, the Corporation and the District desire to set forth their agreements with respect thereto; and

NOW THEREFORE, in consideration of the faithful performance of the terms, conditions, promises and covenants contained in this Amendment No. 9 to the Contract, as amended to date, and the continuing provisions of the Contract, the parties agree as follows:

1. **Definitions**. Capitalized terms used but not defined herein shall have the meanings ascribed to those terms in the Contract.
2. **Section 3. Period of Performance**. The Term of the Contract delineated in *Section 3*, as amended, shall be extended for an additional four (4) months from 01 September 2020 to 31 December 2020, or until the effective date of a new master agreement between the Parties - whichever occurs first.
3. **Section 3-A. Contract Price**. The District will continue to charge Corporation for buses at approximately 2.5 gallons per week per bus for the Diesel Exhaust Fluid (DEF) at an average cost of $2.99 per gallon, with a fuel surcharge of $0.42 per gallon. The District will notify Corporation of any proposed changes to the pricing and the Parties will agree upon the changes in writing.
4. **Contract**. Except as set forth herein, all other terms of the Agreement the Contract shall remain in full force and effect, unaltered and unchanged by this Amendment.
5. **No Oral Modification**. This Amendment may not be changed orally, but only by an agreement in writing executed by the parties hereto.
6. **Governing Law**. This Amendment shall be governed by, and construed in accordance with, the laws of the State of California.
7. **Counterparts**. This Amendment may be executed in any number of counterparts, each of which shall be deemed to be one and the same instrument.

IN WITNESS WHEREOF, the parties have duly executed this Amendment No. 9 as of the Effective Date.

ALAMEDA-CONTRA COSTA TRANSIT DISTRICT

By: _____
Michael A. Hursh
General Manager

APPROVED AS TO FORM AND CONTENT:

By: _____
Jill A. Sprague
General Counsel

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

By: _____

Printed Name: _____

Title: _____

ETMA MANDELA YARD PROJECT - 04-ALA-580 PM 46.33 - ENGINEERS ESTIMATE AND CONTRACTORS SCHEDULE OF BID PRICES

ENGINEERS ESTIMATE AND SCHEDULE OF BID PRICES							CONTRACTOR PRICING											
BID ITEMS							OC JONES "A"			REDGWICK "B"			MCGUIRE AND HESTER "C"			TEICHERT "D"		
BID ITEM	ITEM CODE	ITEM DESCRIPTION	UNIT	ENGINEER EST UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT
1	070030	LEAD COMPLIANCE PLAN	LS	$ 30,000	1	$ 30,000.00	$ 3,000	1	$ 3,000.00	$ 12,000	1	$ 12,000.00	$ 2,100	1	$ 2,100.00	$ 2,500	1	$ 2,500.00
2	120100	TRAFFIC CONTROL SYSTEM	LS	$ 30,000	1	$ 30,000.00	$ 35,000	1	$ 35,000.00	$ 51,600	1	$ 51,600.00	$ 85,500	1	$ 85,500.00	$ 30,000	1	$ 30,000.00
3	130200	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	$ 10,000	1	$ 10,000.00	$ 1,500	1	$ 1,500.00	$ 5,000	1	$ 5,000.00	$ 3,200	1	$ 3,200.00	$ 10,000	1	$ 10,000.00
4	130400A	WATER POLLUTION CONTROL	LS	$ 50,000	1	$ 50,000.00	$ 40,000	1	$ 40,000.00	$ 35,000	1	$ 35,000.00	$ 19,800	1	$ 19,800.00	$ 50,000	1	$ 50,000.00
5	190101	ROADWAY EXCAVATION	CY	$ 100	2,250	$ 225,000.00	$ 65	2,250	$ 146,250.00	$ 60	2,250	$ 135,000.00	$ 39	2,250	$ 87,750.00	$ 60	2,250	$ 135,000.00
6	204031A	REMOVE TREE	EA	$ 700	4	$ 2,800.00	$ 1,100	4	$ 4,400.00	$ 500	4	$ 2,000.00	$ 1,700	4	$ 6,800.00	$ 2,500	4	$ 10,000.00
7	209000A	LANDSCAPE PLANTING	LS	$ 80,000	1	$ 80,000.00	$ 120,000	1	$ 120,000.00	$ 145,000	1	$ 145,000.00	$ 254,850	1	$ 254,850.00	$ 145,000	1	$ 145,000.00
8	209001A	ONE YEAR PLANT ESTABLISHMENT PERIOD	LS	$ 22,000	1	$ 22,000.00	$ 11,000	1	$ 11,000.00	$ 10,000	1	$ 10,000.00	$ 41,000	1	$ 41,000.00	$ 15,000	1	$ 15,000.00
9	209002A	LANDSCAPE IRRIGATION	LS	$ 45,000	1	$ 45,000.00	$ 90,000	1	$ 90,000.00	$ 110,000	1	$ 110,000.00	$ 125,000	1	$ 125,000.00	$ 104,000	1	$ 104,000.00
10	210112A	BIORETENTION SOIL MIX	CY	$ 85	90	$ 7,650.00	$ 110	90	$ 9,900.00	$ 170	90	$ 15,300.00	$ 147.50	90	$ 13,275.00	$ 120	90	$ 10,800.00
11	260203	CLASS 2 AGGREGATE BASE	CY	$ 70	2,115	$ 148,050.00	$ 83	2,115	$ 175,545.00	$ 45	2,115	$ 95,175.00	$ 63	2,115	$ 133,245.00	$ 52	2,115	$ 109,980.00
12	390132	HOT MIX ASPHALT (TYPE A)	TON	$ 150	1,725	$ 258,750.00	$ 142	1,725	$ 244,950.00	$ 135	1,725	$ 232,875.00	$ 154	1,725	$ 265,650.00	$ 145	1,725	$ 250,125.00
13	600029	REMOVE ASPHALT CONCRETE SURFACING	SF	$ 1	30,000	$ 30,000.00	$ 1	30,000	$ 30,000.00	$ 0.50	30,000	$ 15,000.00	$ 0.85	30,000	$ 25,500.00	$ 5	30,000	$ 150,000.00
14	641100A	8" HDPE PIPE	LF	$ 120	180	$ 21,600.00	$ 190	180	$ 34,200.00	$ 175	180	$ 31,500.00	$ 248	180	$ 44,640.00	$ 205	180	$ 36,900.00
15	650010	12" REINFORCED CONCRETE PIPE	LF	$ 175	365	$ 63,875.00	$ 155	365	$ 56,575.00	$ 132	365	$ 48,180.00	$ 184	365	$ 67,160.00	$ 165	365	$ 60,225.00
16	680285	4" PERFORATED PLASTIC PIPE UNDERDRAIN	LF	$ 40	155	$ 6,200.00	$ 10	155	$ 1,550.00	$ 20	155	$ 3,100.00	$ 18.50	155	$ 2,867.50	$ 100	155	$ 15,500.00
17	680286A	4" PLASTIC PIPE CLEANOUT	EA	$ 250	5	$ 1,250.00	$ 125	5	$ 625.00	$ 1,200	5	$ 6,000.00	$ 458	5	$ 2,290.00	$ 900	5	$ 4,500.00
18	682042	CLASS 2 PERMEABLE MATERIAL (BLANKET)	CY	$ 200	65	$ 13,000.00	$ 175	65	$ 11,375.00	$ 130	65	$ 8,450.00	$ 255	65	$ 16,575.00	$ 315	65	$ 20,475.00
19	707226A	STORM DRAIN MANHOLE (COO TYPE 1)	EA	$ 7,500	4	$ 30,000.00	$ 6,800	4	$ 27,200.00	$ 6,900	4	$ 27,600.00	$ 4,800	4	$ 19,200.00	$ 6,000	4	$ 24,000.00
20	707227A	SEWER MANHOLE (COO TYPE 1)	EA	$ 7,500	2	$ 15,000.00	$ 5,600	2	$ 11,200.00	$ 6,900	2	$ 13,800.00	$ 6,200	2	$ 12,400.00	$ 7,700	2	$ 15,400.00
21	710233A	INLET CONNECTION	EA	$ 1,500	2	$ 3,000.00	$ 2,000	2	$ 4,000.00	$ 3,500	2	$ 7,000.00	$ 1,100	2	$ 2,200.00	$ 5,000	2	$ 10,000.00
22	730011A	MINOR CONCRETE (CURB CT TYPE A1-6)	LF	$ 30	1,630	$ 48,900.00	$ 27	1,630	$ 44,010.00	$ 40	1,630	$ 65,200.00	$ 75	1,630	$ 122,250.00	$ 52	1,630	$ 84,760.00
23	731505A	MINOR CONCRETE (CURB AND GUTTER COO TYPE A MOD)	LF	$ 35	95	$ 3,325.00	$ 45	95	$ 4,275.00	$ 100	95	$ 9,500.00	$ 60	95	$ 5,700.00	$ 75	95	$ 7,125.00
24	731505B	MINOR CONCRETE (CURB AND GUTTER COO TYPE A)	LF	$ 40	105	$ 4,200.00	$ 45	105	$ 4,725.00	$ 75	105	$ 7,875.00	$ 59	105	$ 6,195.00	$ 116	105	$ 12,180.00
25	731505C	MINOR CONCRETE (CURB AND GUTTER COO TYPE D)	LF	$ 35	20	$ 700.00	$ 48	20	$ 960.00	$ 120	20	$ 2,400.00	$ 60	20	$ 1,200.00	$ 102	20	$ 2,040.00
26	731505D	MINOR CONCRETE (CURB AND GUTTER CT TYPE A2-6)	LF	$ 40	365	$ 14,600.00	$ 37	365	$ 13,505.00	$ 66	365	$ 24,090.00	$ 56	365	$ 20,440.00	$ 120	365	$ 43,800.00
27	731505E	MINOR CONCRETE (DEEPENED CURB)	LF	$ 50	245	$ 12,250.00	$ 210	245	$ 51,450.00	$ 280	245	$ 68,600.00	$ 271	245	$ 66,395.00	$ 380	245	$ 93,100.00
28	731505F	MINOR CONCRETE (DEEPENED CURB AND GUTTER)	LF	$ 60	125	$ 7,500.00	$ 220	125	$ 27,500.00	$ 345	125	$ 43,125.00	$ 400	125	$ 50,000.00	$ 570	125	$ 71,250.00
29	731505G	MINOR CONCRETE (LATERAL BRACING)	CY	$ 2,000	6	$ 12,000.00	$ 2,000	6	$ 12,000.00	$ 3,000	6	$ 18,000.00	$ 3,200	6	$ 19,200.00	$ 5,500	6	$ 33,000.00
30	731505H	MINOR CONCRETE (VALLEY GUTTER)	LF	$ 20	55	$ 1,100.00	$ 40	55	$ 2,200.00	$ 100	55	$ 5,500.00	$ 60	55	$ 3,300.00	$ 70	55	$ 3,850.00
31	731505I	MINOR CONCRETE (SIDEWALK)	SF	$ 15	510	$ 7,650.00	$ 9	510	$ 4,590.00	$ 22	510	$ 11,220.00	$ 24	510	$ 12,240.00	$ 15	510	$ 7,650.00
32	731517A	MINOR CONCRETE (DRIVEWAY)	SF	$ 20	845	$ 16,900.00	$ 11	845	$ 9,295.00	$ 18	845	$ 15,210.00	$ 20	845	$ 16,900.00	$ 23	845	$ 19,435.00
33	731710	REMOVE CONCRETE CURB	LF	$ 20	135	$ 2,700.00	$ 21	135	$ 2,835.00	$ 20	135	$ 2,700.00	$ 10	135	$ 1,350.00	$ 10	135	$ 1,350.00
34	731780	REMOVE CONCRETE SIDEWALK	SY	$ 60	130	$ 7,800.00	$ 50	130	$ 6,500.00	$ 40	130	$ 5,200.00	$ 23	130	$ 2,990.00	$ 30	130	$ 3,900.00
35	731840	REMOVE CONCRETE (CURB AND GUTTER)	LF	$ 30	275	$ 8,250.00	$ 13	275	$ 3,575.00	$ 18	275	$ 4,950.00	$ 6	275	$ 1,650.00	$ 14	275	$ 3,850.00
36	731870A	REMOVE CONCRETE PAD	CY	$ 70	400	$ 28,000.00	$ 140	400	$ 56,000.00	$ 50	400	$ 20,000.00	$ 68	400	$ 27,200.00	$ 225	400	$ 90,000.00
37	750031A	OVERFLOW INLET	EA	$ 3,000	3	$ 9,000.00	$ 1,500	3	$ 4,500.00	$ 2,500	3	$ 7,500.00	$ 4,100	3	$ 12,300.00	$ 8,500	3	$ 25,500.00
38	770001A	ORNAMENTAL METAL FENCE	LF	$ 150	450	$ 67,500.00	$ 157	450	$ 70,650.00	$ 200	450	$ 90,000.00	$ 157	450	$ 70,650.00	$ 150	450	$ 67,500.00
39	770002A	ORNAMETAL SLIDING GATE	EA	$ 25,000	2	$ 50,000.00	$ 32,000	2	$ 64,000.00	$ 17,000	2	$ 34,000.00	$ 16,000	2	$ 32,000.00	$ 29,000	2	$ 58,000.00
40	770003A	ORNAMENTAL SWINGING GATE	EA	$ 5,000	1	$ 5,000.00	$ 14,000	1	$ 14,000.00	$ 12,500	1	$ 12,500.00	$ 14,300	1	$ 14,300.00	$ 26,000	1	$ 26,000.00
41	770004A	BOLLARD	EA	$ 350	115	$ 40,250.00	$ 280	115	$ 32,200.00	$ 350	115	$ 40,250.00	$ 330	115	$ 37,950.00	$ 315	115	$ 36,225.00
42	770005A	FIRE PROTECTION SYSTEM	LS	$ 150,000	1	$ 150,000.00	$ 65,000	1	$ 65,000.00	$ 93,000	1	$ 93,000.00	$ 83,400	1	$ 83,400.00	$ 85,000	1	$ 85,000.00
43	770006A	DOMESTIC WATER METER AND SERVICE	LS	$ 40,000	1	$ 40,000.00	$ 16,000	1	$ 16,000.00	$ 29,500	1	$ 29,500.00	$ 26,800	1	$ 26,800.00	$ 45,000	1	$ 45,000.00
44	770007A	SLURRY CAP	LS	$ 5,000	1	$ 5,000.00	$ 1,500	1	$ 1,500.00	$ 3,500	1	$ 3,500.00	$ 4,000	1	$ 4,000.00	$ 6,200	1	$ 6,200.00
45	770008A	LIGHTING/ELECTRICAL SYSTEM	LS	$ 190,000	1	$ 190,000.00	$ 226,000	1	$ 226,000.00	$ 325,000	1	$ 325,000.00	$ 232,000	1	$ 232,000.00	$ 200,000	1	$ 200,000.00
46	803050	REMOVE CHAIN LINK FENCE	LF	$ 20	435	$ 8,700.00	$ 12	435	$ 5,220.00	$ 12	435	$ 5,220.00	$ 7	435	$ 3,045.00	$ 30	435	$ 13,050.00
47	803051A	REMOVE ORNAMENTAL METAL FENCE AND GATES	LF	$ 40	195	$ 7,800.00	$ 21	195	$ 4,095.00	$ 20	195	$ 3,900.00	$ 20	195	$ 3,900.00	$ 20	195	$ 3,900.00
48	800360	CHAIN LINK FENCE (TYPE CL-6)	LF	$ 25	285	$ 7,125.00	$ 65	285	$ 18,525.00	$ 72	285	$ 20,520.00	$ 69	285	$ 19,665.00	$ 65	285	$ 18,525.00
49	800401A	CHAIN LINK FENCE (10' HEIGHT)	LF	$ 50	30	$ 1,500.00	$ 110	30	$ 3,300.00	$ 35	30	$ 1,050.00	$ 115	30	$ 3,450.00	$ 110	30	$ 3,300.00
50	840000A	SIGNING AND STRIPING	LS	$ 50,000	1	$ 50,000.00	$ 13,000	1	$ 13,000.00	$ 12,700	1	$ 12,700.00	$ 14,400	1	$ 14,400.00	$ 14,000	1	$ 14,000.00
51	999990	MOBILIZATION - 10%	LS	$ 186,000	1	$ 186,000.00	$ 205,000	1	$ 205,000.00	$ 195,000	1	$ 195,000.00	$ 68,800	1	$ 68,800.00	$ 250,000	1	$ 250,000.00
52	VARIOUS	24' x 60' TRAILER UTILITY CONNECTIONS	LS	$ 25,000	1	$ 25,000.00	$ 7,000	1	$ 7,000.00	$ 5,000	1	$ 5,000.00	$ 9,900	1	$ 9,900.00	$ 12,000	1	$ 12,000.00
		ENGINEER'S ESTIMATE TOTAL BASE BID		$ $ 2,111,925.00			TOTAL BASE BID "A"		$ $ 2,051,680.00	TOTAL BASE BID "B"		$ $ 2,191,790.00	TOTAL BASE BID "C"		$ $ 2,224,572.50	TOTAL BASE BID "D"		$ $ 2,550,895.00
BID ALTERNATE A			UNIT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT	UNIT PRICE	QUANTITY	AMOUNT
5A	190101	ROADWAY EXCAVATION	CY	100	1410	$ 141,000.00	50	1410	$ 70,500.00	76	1410	$ 107,160.00	42	1410	$ 59,220.00	125	1410	$ 176,250.00
11A	260203	CLASS 2 AGGREGATE BASE	CY	70	1250	$ 87,500.00	107	1250	$ 133,750.00	63	1250	$ 78,750.00	95	1250	$ 118,750.00	70	1250	$ 87,500.00
		ENGINEER'S EST ALT TOTAL BASE BID WITH BID ITEMS 5A & 11A IN PLACE OF BID ITEMS 5 & 11		$ **1,967,375.00**			ALT BASE BID "A"		$ **1,934,135.00**	ALT BASE BID "B"		$ **2,147,525.00**	ALT BASE BID "C"		$ **2,181,547.50**	ALT BASE BID "D"		$ **2,569,665.00**
							Numbers match Bid Forms			Alt Base Bid "B" $2,147,515 on Bid Form			Numbers match Bid Forms			Numbers match Bid Forms		

Green Escrow Services, Inc.

2010 Crow Canyon Pl STE 212
San Ramon, CA 94583
(925) 523-3232 fax (925) 523-3231

Date:
Escrow No.:
Property Address:

HOLDING ESCROW INSTRUCTIONS

Green Escrow Services, Inc is licensed by the State of California under the Department Of Corporations License No. 963-5090

Escrow Holder is hereby instructed to deposit the sum of $_____ into a holding account for the benefit of the undersigned parties.

Fee shall be _____for this holding account payable at the time of opening the escrow holding account. The monthly service fee is $35 and will be assessed after the 4th month. A disbursement fee of $25.00 will be charged for any and all disbursements over 5. A notary charge in the amount of $75 will be assessed and a mobile notary will be sent by Green Escrow Services to obtain signatures.

Said funds are to be held and disbursed as follows, in accordance with the payment terms defined in Article II of the construction agreement, which is attached as Appendix A:

Disbursement process:
When a disbursement is requested, Green Escrow Services will send to all parties a disbursement form to be completed and signed by all parties. Completed disbursement forms will be accepted by Docusign OR submitting a signed notarized disbursement form. NOTE: Green Escrow Services has 72 hours to complete each disbursement from the receipt of the completed form. Rush requests can be made however not guaranteed.

Disputes:

No notice, demand or change of instruction shall be of any effect in this escrow unless given in writing by all parties affected thereby. In the event a demand for funds and/or documents deposited with Escrow Holder in connection with this escrow is made and which is not concurred in by all parties hereto, Escrow Holder, not withstanding which party made such demand, may elect to do any of the following:

(i) Take no further action in connection with this escrow and continue to hold such funds and/or documents until receipt of mutual concurring instructions from all parties to this escrow as to the disposition of such funds and/or documents;

(ii) Commence an action in interpleader and obtain an order from the court allowing Escrow Holder to deposit such funds and/or documents with the court, in which case Escrow Holder shall have no further liability or obligation with respect to this escrow; or

(iii) In the event that any party commences an action against any other party with respect to this escrow, deposit such funds and/or documents with the court, in

which case Escrow Holder shall have no further liability or obligations with respect to this escrow.

In the event Escrow Holder interpleads any funds and/or documents with any court pursuant to either subparagraphs (ii) or (iii) above, Escrow Holder shall be entitled to reimbursement of its reasonable attorney's fees and expenses of litigation in connection with such action.

ALL SIGNATURES NOTARIZED:

In the event the undersigned utilize "facsimile" transmitted signed documents, the undersigned hereby agree to accept and instruct the Escrow Holder to rely upon such documents as if they bore original signatures. The undersigned hereby acknowledge and agree to provide to Escrow Holder, within 72 hours of transmission, such documents bearing the original signatures. The undersigned further acknowledge and agree that documents necessary for recording with non-original (facsimile) signatures will not be accepted for recording by the County Recorder, thus delaying the close of escrow.

Deposit of funds:

(i) All funds received in this escrow will be deposited with other escrow funds in one or more non-interest bearing escrow accounts of Escrow Holder in a financial institution selected by Escrow Holder. Escrow Holder shall not be responsible and shall have no liability for any delay in closing this escrow if the funds deposited in this escrow are not available for immediate withdrawal as a matter of right following deposit in such financial institution.

(ii) You have the opportunity to earn interest on the funds you deposit with us through a deposit account arrangement that Escrow Holder has established with one of its financial institutions. The interest rate for these accounts varies between financial institutions, fluctuates periodically based on market conditions and other factors, and may change prior to or during the time your funds are on deposit. You will not have an opportunity to earn interest on any funds deposited by a lender.

(iii) If you elect to earn interest through this special account arrangement, Escrow Holder will prepare additional instructions and charge you an additional fee of $50.00 for the establishment and maintenance of the account. This fee compensates Escrow Holder for the costs associated with opening and managing the interest-bearing account, preparing correspondence/documentation, transferring funds, maintaining appropriate records for audit/reconciliation purposes and filing any required tax withholding statements. It is important that you consider this costs in your decision since the costs may exceed the interest you earn. If you are interested in having your funds deposited in an interest bearing account, please contact your escrow officer.

(iv) If you do not elect to have your funds deposited in an interest bearing account, your funds (together with any funds deposited by a lender) will be held in Escrow Holder's general escrow trust account. The general escrow trust account is restricted and protected against claims by third parties or creditors of Escrow Holder. Escrow Holder may receive certain direct and indirect financial benefits from the financial institution as a result of maintaining the general escrow trust account. These benefits may include, without limitation, credits allowed by such financial institution on loans to Escrow Holder and earnings on investments made with the proceeds of such loans, as well as accounting, reporting and other services and products of such financial institution. Escrow Holder shall have no obligation to account to the parties to this escrow in any manner for the value of, or to pay to any party, any benefit received by Escrow Holder. Any such benefits

shall be deemed additional compensation of Escrow Holder for its services in connection with this escrow. Some or all of these benefits may be deemed interest due you under California Insurance Code Section 12413.5. As indicated above, you may elect to have your funds placed in a separate, interest bearing account and receive the benefits therefrom, but you will be required to pay Escrow Holder an additional fee for this service. Alternatively, you may leave your funds in the general escrow trust account and thereby authorize Escrow Holder to keep the benefits it receives from the financial institution. In either event, you understand and agree that Escrow Holder may receive and retain for their sole benefit any and all benefits derived from the general escrow trust account prior to the deposit of your funds in an interest bearing account and following the withdrawal of your funds from such interest bearing account (normally two business days prior to the close of escrow).

(v) All parties depositing funds in connection with this escrow are hereby notified that the funds so deposited are insured only to the limited provided by the Federal Deposit Insurance Corporation.

(vi) Funds deposited by a lender are ordinarily deposited to escrow one or two days prior to closing. You should be aware that your lender may begin charging interest on your loan from the date loan funds are deposited into Escrow Holder's escrow trust account.

GOOD FUNDS LAW – CALIFORNIA INSURANCE CODE 12413.1

All parties are aware and understand that California Insurance Code 12413.1 mandates that funds deposited into an escrow must be collected and available for withdrawal PRIOR TO DISBURSEMENT. The determination of the availability of funds is set forth as follows:

(i) CASH AND ELECTRONIC TRANSFERS ("wired funds") are available for SAME DAY disbursement.

(ii) CASHIER'S CHECKS AND CERTIFIED CHECKS are available for disbursement THE NEXT BUSINESS DAY. In order to comply with the Good Funds Law and avoid unnecessary delays of two to seven days, or more, please use wire transfers or California cashier's check whenever possible.

Address: _____ Address: _____

_____ _____

Phone No. _____ Phone No. _____

Email address:

_____ _____

SIGNATURES:

_____ _____

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____

On _____ before me, _____,

A Notary Public personally appeared _____

_____

_____

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

AGREEMENT

THIS AGREEMENT, made this _____ day of _____ 202__, by and between the **EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION** , a non-profit corporation of the State of California, hereinafter called "Owner" and **OC JONES AND SONS, INC** hereinafter called "Contractor."

W I T N E S S E T H:

That the Owner and the Contractor for the considerations stated herein, agree as follows:

ARTICLE I
Scope of Work

The Contractor shall perform everything required to be performed and shall provide and furnish all the labor, materials, necessary tools, equipment, and services required to complete all the work, in accordance with requirements contained in the contract documents therefor entitled, "**EMERY-GO-ROUND FLEET PARKING FACILITY" IN OAKLAND, CALIFORNIA**," Project No. **04-ALA-580 PM 46.33**. Said work to be performed in strict compliance with said plans, specifications and contract documents, which are hereinafter enumerated. It is agreed that said labor, materials, tools, equipment and services shall be furnished and said work performed and completed under the direction and supervision and subject to the approval of the Owner or its authorized representatives.

ARTICLE II
Contract Price

Owner shall pay to Contractor as full consideration for the faithful performance of this contract and subject to any additions or deductions as provided in the contract documents, and in accordance with the schedule of payments contained in the contract documents, the full contract price in accordance with the unit prices set forth in Contractor's accepted proposal.

ARTICLE III
Component Parts of this Contract

This contract consists of all of the following contract documents, all of which are as fully a part thereof as if herein set out in full and if not attached hereto, the same as attached hereto:

1. Notice to Contractors
2. Specifications entitled: NOTICE TO CONTRACTORS
   PROPOSAL, SPECIAL PROVISIONS,
   AND CONTRACT DOCUMENTS FOR
   EMERY-GO-ROUND FLEET PARKING FACILITY
   PROJECT NO.: **04-ALA-580 PM 46.33**
3. Addendums number one (1) and two (2) issued September 23, 2020 and September 24, 2020 respectively, with all attachments and as signed by OC JONES AND SONS, INC.
4. The accepted proposal of Contractor

5. Plans entitled: PLANS FOR THE CONSTRUCTION OF
   ETMA MANDELA PARKWAY YARD
   Plan No. 01 in 2020 (37) sheets.
6. The Following Bonds:
   a) Faithful Performance Bond (100% of the estimated value of City of Oakland Improvements)
   b) Labor and Materials Payment Bond (50% of the estimated value of City of Oakland Improvements)
   c) Maintenance Bond (25% of the estimated value City of Oakland Improvements)
   d) Faithful Performance Bond (100% of the estimated value of Caltrans Property Improvements)
   e) Labor and Materials Payment Bond (50% of the estimated value of Caltrans Property Improvements)
7. This Agreement
8. General Liability, Automobile Liability and Workers' Compensation Insurance; all as required pursuant to specifications, including insurance riders naming additional insureds as specified therein.

IN WITNESS WHEREOF, three identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named on the day and year first above written.

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

_____
Chair, Board of Directors

CONTRACTOR

_____
Authorized Signature

_____
Print Name Title

EMERYVILLE TMA PROJECT NO. 04-ALA-580 PM 46.33

EMERYVILLE TMA PLAN NO. 2020-01

CONTRACT DOCUMENTS INCLUDING:
NOTICE TO CONTRACTORS
PROPOSALS
SPECIAL PROVISIONS
CONTRACT DOCUMENTS

FOR

EMERY-GO-ROUND FLEET PARKING FACILITY

IN
OAKLAND, CALIFORNIA

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
EMERYVILLE, CALIFORNIA

SEPTEMBER 2020

For use in Connection with State of California
Department of Transportation
Standard Specifications Dated 2018 & Standard Plans Dated 2018

PROJECT AUTHORIZATION

EMERY-GO-ROUND FLEET PARKING FACILITY

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION PROJECT NO. 04-ALA-580 PM 46.33
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION PLAN NO. 2020-01

Roni Hattrup
Executive Director, Emeryville Transportation Management Association

---

Geoffrey Sears
Chair of the Board, Emeryville Transportation Management Association

---

Engineer of Record
BKF Engineers

Emeryville Transportation Management Association
Walnut Creek, California

SEPTEMBER 2020

ATTENTION BIDDERS

A. COMPLETENESS OF BID

Bidders should take care to complete all details in a legible manner in the bid documents. Failure to do so may be cause for rejection of the bid.

B. ENVIRONMENTAL CONTROL

The Contractor shall comply with all air pollution and environmental control rules, regulations, ordinances and statutes which apply to the project and any work performed pursuant to the contract.

C. WAGE RATES

The Contractor shall pay Prevailing Wage Rates for Oakland, CA as attached herein.

TABLE OF CONTENTS

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
WALNUT CREEK, CALIFORNIA

NOTICE TO CONTRACTORS

INVITING PROPOSALS OF BIDS
****

Emeryville Transportation Management Association Project No. 2020-01

Proposals will be received by Zoon Engineering on behalf of the Emeryville Transportation Management Association via email to eklock@zoon-eng.com until **3:00 p.m. on Tuesday September 29th, 2020** for the following project:

EMERY-GO-ROUND FLEET PARKING FACILITY

Work shall be done in accordance with official plans and specifications, which are available via email request to eklock@zoon-eng.com. For questions regarding the project, and/or plans & specifications, call Ernest Klock at (415) 533-7582.

Project Description: This project will involve construction of a new bus parking facility, including drainage work, utility work, subgrade preparation, asphalt resurfacing, minor concrete, pavement markings, fencing, lighting and electrical work, and landscaping/irrigation.

Award of contract, if awarded, will be to a responsive bidder whose proposal complies with prescribed requirements, and will be within sixty (60) days after receipt of proposals.

The Emeryville Transportation Management Association reserves the right to reject any or all bids and the right to waive any irregularities.

No prebid meeting is scheduled for this project.

The Contractor shall possess a valid Class "A" License at the time contract is awarded.

Bids are required for the entire work described herein.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates for Oakland, CA where the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project and attached herein. Prevailing Wage Rates are also available at the State of California Division of Labor Statistics and Research website http://www.dir.ca.gov/DLSR/PWD/index.htm

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
WALNUT CREEK, CA

INSTRUCTIONS TO BIDDERS

****

A. INSPECTION OF PLANS - Plans and specifications are being distributed electronically for this project. To request copies, please email eklock@zoon-eng.com.

B. ELIGIBILITY - All bidders must be Contractors holding a valid license to perform the required work as provided by the Business and Professions Code, and may be required to submit evidence to the Emeryville Transportation Management Association as to their ability, financial responsibility, and experience, in order to be eligible for consideration of their proposal.

C. BIDS AND BID OPENING - Bids will be evaluated by Emeryville Transportation Management Association Staff, and award will be considered within 60 days of receipt of proposals. Bids are required for the entire work described herein, and neither partial nor contingent bids will be considered.

D. ADDENDUM - Every interpretation of the specifications, changes, additions or corrections will be in the form of an addendum to the contract documents, and when issued will be on file at Zoon Engineering at least one working day before bids are opened. In addition, all addenda will be emailed to each person-holding contract documents but it shall be the bidder's responsibility to make inquiry as to the addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda.

E. TIME LIMIT AND LIQUIDATED DAMAGES - The Contractor shall commence work on or before the 15th (fifteenth) calendar day following date of transmittal of written notification by the Emeryville Transportation Management Association that the contract has been awarded by the Board of Directors. During this fifteen (15) calendar day interval, the necessary contract documents shall be executed by the Contractor and returned to the Emeryville Transportation Management Association.

1. All work shall be completed within one-hundred twenty (**120) working days** counting from and after the said 15th day.

2. The Contractor shall pay the to the Emeryville Transportation Management Association the sum of **$4,800.00** per each and every calendar days delay in completing the work in excess of the number of days specified above. The Contractor shall pay said amount to the Emeryville Transportation Management Association in accordance with the requirements of Section D, General Provisions, of the specifications. It is understood that additional crews may be needed to complete the work within the timeline specified.

F. LEGAL REQUIREMENTS: See the provisions of the specifications regarding legal relations and responsibility.

G. SPECIFICATIONS: Attention is directed to the correlation of these contract specifications with the Standard Specifications of the State of California, Business, Transportation and Housing Agency,

Department of Transportation (Caltrans), dated 2018 and any amendments, as to materials, methods and workmanship.

The work embraced herein must conform to the provisions in the 2018 Standard Specifications and the 2018 Standard Plans of the California Department of Transportation insofar as the same may apply, and these special provisions. These special provisions incorporate by reference the City of Oakland Standard Details and the City of Oakland Standard Specifications. In case of conflict, the Standard Details of the City of Oakland take precedence over the City of Oakland Standard Specifications, which take precedence over the plans, the Caltrans Standard Plans and the Caltrans Standard Specifications for work in the City of Oakland Right-of-Way. For work in Caltrans Right-of-Way (Bus Yard Site), the Caltrans Standard Plans and the Caltrans Standard Specifications take precedence over the Standard Details of the City of Oakland and the City of Oakland Standard Specifications.

H. CONTRACT BONDS: The Contractor whose bid is accepted shall furnish the following bonds within ten days of the Notice of Award to the Emeryville Transportation Management Association on behalf of the City of Oakland and CALTRANS in accordance with the project permits (at no expense to the City of Oakland, CALTRANS, or the Emeryville Transportation Management Association), executed by a responsible surety in a form acceptable to the City of Oakland/CALTRANS (copies of which are attached to these specifications):

a) Faithful Performance Bond
b) Labor and Materials Payment Bond
c) Maintenance Bond

The Engineer's Estimate of work in the City of Oakland right-of-way is **$153,935.00.**

The Faithful Performance Bond shall be in an amount equal to one hundred percent (100%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$153,935.00.**

The Labor and Materials Payment Bond shall be in an amount equal to one hundred percent (50%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$76,967.50.**

The Maintenance Bond shall be in an amount equal to one hundred percent (25%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$38,483.75.**

Caltrans Encroachment Permit Bonding Requirements to follow via addendum no. 1.

I. PREVAILING WAGES - In compliance with the provisions of Section 1776 of the Labor Code of the State of California, as amended, the Contractor and each of their subcontractors shall keep an accurate payroll record, showing the name, address, social security number, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice or worked employed by them in connection with the Project. Said records shall be available for inspection at all reasonable hours, and copies shall be made available to the employer or their authorized representative, the State Division of Labor Standards Enforcement, the State Division of Apprenticeship Standards, and the Emeryville Transportation Management Association.

See Section 7-1.02K(2) "Wages" of the Standard Specifications.

The general prevailing wage rates determined by the Director of Industrial Relations, for Oakland, CA where the work is to be completed, are available at the Labor Compliance Office at the offices of the District Director for Caltrans District IV, and attached herein. These wage rates are included for reference only and the actual prevailing wage rates at the time of project award shall be used for the project. Changes, if any, to the general prevailing wage rates will be available at the same location. Contractors shall submit certified payroll records to the Department of Industrial Relations in accordance with applicable laws https://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html.

PROPOSAL

TO THE EXECUTIVE DIRECTOR OF THE
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION

WALNUT CREEK, CALIFORNIA
****

FOR: EMERY-GO-ROUND FLEET PARKING FACILITY

This project will involve construction of a new bus parking facility, including drainage work, utility work, subgrade preparation, asphalt resurfacing, minor concrete, pavement markings, fencing, lighting and electrical work, and landscaping/irrigation.

Name of Bidder_____

Business Address_____

Place of Residence_____

TO THE EXECUTIVE DIRECTOR OF THE
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION:

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm or corporations; that he or she has carefully examined the location of the proposed work, plans and specifications; and he or she proposes and agrees, if this proposal is accepted, that he or she will contract with the Emeryville Transportation Management Association to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in this contract in the manner and time prescribed, and according to the requirements of the Engineer as therein set forth; and that he or she will take in full payment therefor an amount based on the unit prices specified herein below for the various items of work, the total value of said work as estimated herein being $_____ and the following being the unit prices bid to-wit:

ETMA MANDELA YARD PROJECT - PLAN NO: 2020-01 PROJECT: 04-ALA-580 PM 46.33
ENGINEERS ESTIMATE AND SCHEDULE OF BID PRICES

BID ITEM	ITEM CODE	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	070030	LEAD COMPLIANCE PLAN	LS	$	1	$
2	120100	TRAFFIC CONTROL SYSTEM	LS	$	1	$
3	130200	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	$	1	$
4	130400A	WATER POLLUTION CONTROL	LS	$	1	$
5	190101	ROADWAY EXCAVATION	CY	$	2,250	$
6	204031A	REMOVE TREE	EA	$	4	$
7	209000A	LANDSCAPE PLANTING	LS	$	1	$
8	209001A	ONE YEAR PLANT ESTABLISHMENT PERIOD	LS	$	1	$
9	209002A	LANDSCAPE IRRIGATION	LS	$	1	$
10	210112A	BIORETENTION SOIL MIX	CY	$	90	$
11	260203	CLASS 2 AGGREGATE BASE	CY	$	2,115	$
12	390132	HOT MIX ASPHALT (TYPE A)	TON	$	1,725	$
13	600029	REMOVE ASPHALT CONCRETE SURFACING	SF	$	11,000	$
14	641100A	8" HDPE PIPE	LF	$	180	$
15	650010	12" REINFORCED CONCRETE PIPE	LF	$	365	$
16	680285	4" PERFORATED PLASTIC PIPE UNDERDRAIN	LF	$	155	$
17	680286A	4" PLASTIC PIPE CLEANOUT	EA	$	5	$
18	682042	CLASS 2 PERMEABLE MATERIAL (BLANKET)	CY	$	65	$
19	707226A	STORM DRAIN MANHOLE (COO TYPE 1)	EA	$	4	$
20	707227A	SEWER MANHOLE (COO TYPE 1)	EA	$	2	$
21	710233A	INLET CONNECTION	EA	$	2	$
22	730011A	MINOR CONCRETE (CURB CT TYPE A1-6)	LF	$	1,630	$
23	731505A	MINOR CONCRETE (CURB AND GUTTER COO TYPE A MOD)	LF	$	95	$
24	731505B	MINOR CONCRETE (CURB AND GUTTER COO TYPE A)	LF	$	105	$
25	731505C	MINOR CONCRETE (CURB AND GUTTER COO TYPE D)	LF	$	20	$
26	731505D	MINOR CONCRETE (CURB AND GUTTER CT TYPE A2-6)	LF	$	365	$
27	731505E	MINOR CONCRETE (DEEPENED CURB)	LF	$	245	$
28	731505F	MINOR CONCRETE (DEEPENED CURB AND GUTTER)	LF	$	125	$
29	731505G	MINOR CONCRETE (LATERAL BRACING)	CY	$	6	$
30	731505H	MINOR CONCRETE (VALLEY GUTTER)	LF	$	55	$
31	731505I	MINOR CONCRETE (SIDEWALK)	SF	$	510	$
32	731517A	MINOR CONCRETE (DRIVEWAY)	SF	$	845	$
33	731710	REMOVE CONCRETE CURB	LF	$	135	$
34	731780	REMOVE CONCRETE SIDEWALK	SY	$	130	$
35	731840	REMOVE CONCRETE (CURB AND GUTTER)	LF	$	275	$
36	731870A	REMOVE CONCRETE PAD	CY	$	950	$
37	750031A	OVERFLOW INLET	EA	$	3	$
38	770001A	ORNAMENTAL METAL FENCE	LF	$	450	$
39	770002A	ORNAMETAL SLIDING GATE	EA	$	2	$
40	770003A	ORNAMENTAL SWINGING GATE	EA	$	1	$
41	770004A	BOLLARD	EA	$	115	$
42	770005A	FIRE PROTECTION SYSTEM	LS	$	1	$
43	770006A	DOMESTIC WATER METER AND SERVICE	LS	$	1	$
44	770007A	SLURRY CAP	LS	$	1	$
45	770008A	LIGHTING/ELECTRICAL SYSTEM	LS	$	1	$
46	803050	REMOVE CHAIN LINK FENCE	LF	$	435	$
47	803051A	REMOVE ORNAMENTAL METAL FENCE AND GATES	LF	$	195	$
48	800360	CHAIN LINK FENCE (TYPE CL-6)	LF	$	285	$
49	800401A	CHAIN LINK FENCE (10' HEIGHT)	LF	$	30	$
50	840000A	SIGNING AND STRIPING	LS	$	1	$
51	999990	MOBILIZATION	LS	$	1	$
52	VARIOUS	24' x 60' TRAILER UTILITY CONNECTIONS	LS	$	1	$

TOTAL BASE BID $ _____

BID ALTERNATE A - 5A &11A REPLACE 5 & 11 ABOVE			UNIT	UNIT PRICE	QUANTITY	AMOUNT
5A	190101	ROADWAY EXCAVATION	CY	$	1410	$
11A	260203	CLASS 2 AGGREGATE BASE	CY	$	1250	$
ENTER TOTAL BASE BID AMOUNT FROM ABOVE LESS BID AMOUNTS FROM ITEMS 5 & 11						$

ALTERNATE TOTAL BASE BID WITH BID ITEMS 5A & 11A IN PLACE OF BASE BID ITEMS 5 & 11 $ _____

The award of contract, if awarded, shall be based on budget requirements at the sole discretion of the Emeryville Transportation Management Association. The contractors attention is directed to bid alternate A in the schedule of bid prices. The award of contract amount will either be the TOTAL BASE BID or the ALTERNATE TOTAL BASE BID WITH BID ITEMS 5A & 11A IN PLACE OF BASE BID ITEMS 5 & 11, but not both. For the alternate base bid calculation, bid items 5 & 11 should be subtracted from the TOTAL BASE BID and the new bid amounts for items 5A & 11A should be added to this amount to arrive at the ALTERNATE TOTAL BASE BID amount.

In case of discrepancy between prices and totals, the unit prices shall prevail.

It is understood and agreed that the quantities of work under each item are approximate only, being given for a basis of comparison of proposals, and the right is reserved to the Emeryville Transportation Management Association to increase or decrease the amount of work under any item as may be required, in accordance with provisions set forth in the specifications for this project. Reference is made to section 9-1.06 of the Standard Specifications.

It is further understood and agreed that the total amount of money set forth for each item of work or as the total amount bid for the project does not constitute an agreement to pay a lump sum for the work unless it specifically so states.

No person, firm or corporation shall be allowed to make, file or be interested in more than one (1) bid for the same project unless such alternate bids are called for. However, a person, firm or corporation who has submitted a sub-proposal to one bidder is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

It is hereby agreed that the undersigned, as bidder, shall furnish bonds as stipulated in section H. of the Instructions to Bidders within three days of the Notice of Award. A Faithful Performance Bond of the total amount (100%) of the value of work in the City of Oakland right-of-way, a Labor and Materials Payment Bond of half (50%) the total amount of the value of work in the City of Oakland right-of-way, and a Maintenance Bond of one quarter (25%) the total amount of the value of work in the City of Oakland right-of-way shall be furnished to the City of Oakland at no expense to the City of Oakland or the Emeryville Transportation Management Association, in the event that this proposal is accepted by said Emeryville Transportation Management Association.

SUBCONTRACTS

The following "Specialty Item" of work is hereby exempted from percentage requirements of work performed by the Contractor’s own organization and workmen under their immediate supervision:

NONE

Attention is directed to the provisions in Section 5-1.13, "Subcontracting," of the Standard Specifications, and Section B, "Proposal Requirements and Conditions," of the General Provisions contained within the Contract Documents.

LIST OF SUBCONTRACTORS

The bidder shall list proposed subcontractors. The information presented below must include the names, addresses, and license numbers of all subcontractors and a description of the work to be performed by each.

SUBCONTRACTOR & ADDRESS	LICENSE NUMBER	DESCRIPTION OF WORK

NOTE:

No substitution or additions may be made without prior approval.

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

_____

_____

_____

_____

ADDENDA: This Proposal is submitted with respect to the changes to the contract included in addenda number(s)_____

(Fill in any addenda numbers if addenda have been received.)

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California that this proposal is made without collusion with any other person, firm or corporations; that he or she has carefully examined the location of the proposed work, plans and specifications; and he or she proposes and agrees, if this proposal is accepted, that he or she will contract with the Emeryville Transportation Management Association to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in this contract in the manner and time prescribed, and according to the requirements of the Engineer as therein set forth; and that he or she will take in full payment therefor an amount based on the unit prices specified herein for the various items of work for the total value of said work as stated above.

Date: _____

SIGN HERE: _____

>>> _____

Signature of Bidder

Business address: _____

Business Phone No._____

Place of business: _____

Place of residence: _____

GENERAL PROVISIONS

A. DEFINITIONS AND TERMS

Whenever the following terms occur in the Caltrans Standard Plans and Caltrans Specifications, the meaning shall be interpreted as follows:

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION: Emeryville Transportation Management Association shall mean the Emeryville Transportation Management Association (hereinafter EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION or ETMA), acting as the entity awarding this contract by action of the Board of Directors sitting as the governing body.

BOARD OF DIRECTORS: Board of Directors shall mean governing body of the EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION, the entity awarding this contract.

CONTRACT DOCUMENTS: The work shall conform to the requirements of all the following contract documents:

Project Plans.
The Standard Specifications, insofar as they may apply.
The Standard Plans, insofar as they may apply.
The Oakland Standard Details, insofar as they may apply.
These specifications, including the Notice to Contractors.
The Proposal and the Contract (or Agreement).
The contract bond(s) required herein.
Any supplemental agreements amending or extending the work.
Any working drawings, sketches, or instructions clarifying or enlarging upon the work specified herein.
Pertinent portions of any other documents included by reference thereto in these specifications, the Standard Specifications, or the Plans.

DEPARTMENT OF TRANSPORTATION: The Engineering Division of the City of Oakland

DIVISION OF HIGHWAYS: The Engineering Division of the City of Oakland

DIRECTOR: The City Engineer of the City of Oakland.

EXECUTIVE DIRECTOR/ASSOCIATION ENGINEER/ENGINEER: Executive Director/Association Engineer/Engineer shall mean the Executive Director of the Emeryville Transportation Management Association acting on behalf of the awarding entity as described under the definition of "Emeryville Transportation Management Association", or the authorized agent acting within the scope of their authority, who shall act as the representative to the awarding entity during the term of the contract, or the City

Engineer of the City of Oakland, acting, either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

OAKLAND STANDARD DETAILS: Oakland Standard Details shall mean the Standard Details for Public Works Construction approved and adopted by the City of Oakland in 2002.

STANDARD SPECIFICATIONS: Standard Specifications shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, dated 2018. Any reference therein to a State Agency or officer shall be interpreted as if the corresponding Emeryville Transportation Management Association Office or officer acting under this contract were so specified.

STANDARD PLANS: Standard Plans shall mean the standard plans of the State of California, Business and Transportation Agency, Department of Transportation, dated 2018.

STATE OF CALIFORNIA: The City of Oakland.

In case of conflict between the Standard Specifications and these following provisions, these provisions shall take precedence over and be used in lieu of such conflicting portions. It is the intent of this contract to obtain a finished, workmanlike job, complete in place.

B. PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder's attention is directed to the provision of Section 2 of the Standard Specifications as modified herein.

Add to section 2-1.06A:

Revised Standard Specifications are available at State of California, Department of Transportation (Caltrans) website at:
http://www.dot.ca.gov/des/oe/construction-contract-standards.html

All proposals shall be made in strict accordance with the Instructions to Bidders.

Unless otherwise required by the Special Provisions, the Contractor shall guarantee all work done under the Contract to be free from faulty materials and workmanship for a period of one (1) year from the date of acceptance, and shall furnish bonds for work in the City of Oakland right-of-way as provided in section “H. Contract Bonds” of the Instructions to Bidders.

The Contractor hereby agrees to repair or replace any and all work, together with any other adjacent work which may be displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or material within the guarantee period specified, without any expense whatsoever to the Emeryville Transportation Management Association.

The Contractor further agrees, that within fifteen (15) calendar days after being notified in writing by the Emeryville Transportation Management Association of any work not in

accordance with the requirements of the Contract or any defects in the work, he or she will commence and prosecute with due diligence all work necessary to fulfill the terms of this guarantee, and to complete the work within a reasonable period of time. In the event the Contractor fails to comply, it does hereby authorize the Emeryville Transportation Management Association to proceed to have such work done at the Contractor's expense and he or she will honor and pay the costs and charges upon demand. The Emeryville Transportation Management Association shall be entitled to all costs and expenses, including reasonable attorney's fees, necessarily incurred upon the Contractor's refusal to honor and pay the above costs and charges.

No person, firm, or corporation shall be allowed to make, file or be interested in more than one (1) bid for the same project unless such alternate bids are called for. However, a person, firm or corporation who has submitted a sub-proposal to one bidder is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

C. AWARD AND EXECUTION OF CONTRACT

The award of the contract, if awarded, shall be based on budget requirements and shall be at the sole discretion of the Emeryville Transportation Management Association based on the base bid plus any additive bid items, where applicable and if awarded.

The Emeryville Transportation Management Association reserves the right to reject any and all bids.

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the Emeryville Transportation Management Association so that it is received within 10 days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so may be just cause for forfeiture of the contract.

Upon execution of the contract by the Contractor and the Emeryville Transportation Management Association, the Contractor shall furnish the Emeryville Transportation Management Association (1) a Certificate of Workers' Compensation Insurance issued by an admitted insurer, or (2) an exact copy or duplicate thereof certified by the Executive Director or the insurer.

D. TIME LIMIT AND LIQUIDATED DAMAGES

The Contractor shall commence work and complete the project, in accordance with the time limits specified in the Instructions to Bidders.

The Contractor shall notify the Emeryville Transportation Management Association Engineer, in writing, three (3) calendar days in advance of the time that he or she plans to commence work.

Should the Contractor prepare to begin work at the regular starting time in the morning of any days on which inclement weather or the condition of the site prevents the work from beginning at the usual starting time, and the crew is dismissed, the Contractor will not be charged for a working day whether or not conditions should change thereafter and the major portion of the day could be considered to be suitable for construction operations.

Reference is made to Section 8 of the Standard Specifications, Section 8-1.05 "Time" and Section 8-1.10 "Liquidated Damages", which provisions, except as modified herein shall apply in case of failure to complete the work within the time limits specified. On the project to be constructed under these specifications, it has been determined that Emeryville Transportation Management Association will be damaged to the extent of the amount specified in the Instruction to Bidders for each day of delay in completing the work in excess of the number of days specified, and the Contractor agrees to pay liquidated damages at that rate per day for any such delay, as provided in said Section 8. However, the Contractor shall not be assessed liquidated damages for delay in completion when such delay was caused by failure of the Emeryville Transportation Management Association or the owner of any utility to provide for removal or relocation of existing utility facilities.

E. SCOPE OF WORK

Reference is made to Section 4 of the Standard Specifications.

F. CONTROL OF WORK

Reference is made to Section 5 of the Standard Specifications.

Add to section 5-1.20A:

Contractor shall coordinate utility connections for the new 60-foot by 24-foot trailer as shown on the plans. New utility connections include a sanitary sewer connection, an electrical connection, a telephone/communications connection, and a water line connection. The sanitary sewer connection shall be 4-inch diameter plastic pipe (PVC, ABS, or approved equal) to connect the trailer to the newly installed sanitary sewer connection in the parking lot, the electrical connection shall be of appropriate diameter (rigid conduit, sch 80 pvc, or approved equal) to convey the conductors from the newly installed electrical connection (note that PG&E will provide conductors to the new service point, but that the contractor is responsible for conduit and conductors from that point to the new trailer as shown on the plans), the telephone/communications connection shall be of appropriate diameter (rigid conduit, sch 80 PVC, or approved equal) to convey the conductors from the telecom service point, and the water line connection is a 1-inch NPT (copper or approved equal).

The utility terminations as shown on the plans are approximate and the contractor shall plan on extending the utility connections with appropriate materials in conformance with all current regulatory codes. The lump sum price paid for bid item 52 - 24' x 60' TRAILER UTILITY CONNECTIONS shall include furnishing all labor and materials necessary to

connect the trailer to the utility terminations as shown on the plans an no additional payment shall be made therefor.

Coordinate with utility companies for service points and points of connection as shown on plans.

Add between the 2nd and 3rd paragraphs of section 5-1.36C(3):

The utilities shown in the following table will not be rearranged. The utilities may interfere with pile driving, drilling activities, or substructure construction.

Utilities Not Rearranged for Pile Driving, Drilling Activities, or Substructure Construction

Utility	Location
2" Gas Line (PG&E)	Site Limits
2" Water Line (EBMUD)	Site Limits
8" Sanitary Sewer (COO)	Site Limits

G. CONTROL OF MATERIALS

Reference is made to Section 6 of the Standard Specifications.

H. LEGAL RELATIONS AND RESPONSIBILITY

In connection with laws to be observed and responsibility of the Contractor, attention is directed to Section 7 of the Standard Specifications, and to the laws therein referred to, all of which are applicable to this contract.

Add to Section 7-1.02K(6)(a) General:

In light of COVID-19, The contractor will comply with all active Alameda County Health Orders and protocols. These protocols may include but are not limited to a site-specific COVID-19 supervisor present on the construction site at all times during construction activities, a daily screening protocol, cleaning and decontamination protocols for workers entering and leaving the jobsite during the work day, social distancing requirements, and the provision of hand washing facilities, hand sanitizer, and sanitizing requirements.

Replace *Reserved* in section 7-1.02K(6)(j)(iii) with:

Section 7-1.02K(6)(j)(iii) includes specifications for handling, removing, and disposing of earth material containing lead.

Lead is present in earth material on the job site. Management of this material exposes workers to health hazards that must be addressed in your lead compliance plan. The average lead concentrations are below 1,000 mg/kg total lead and below 5 mg/L soluble lead. The material on the job site:

1. Is not a hazardous waste
2. Does not require disposal at a permitted landfill or solid waste disposal facility

Contractor's attention is directed to the on-site soils reports included in the appendix with reference to areas of known contamination. Contractor shall make all reasonable efforts to maximize the use via redistribution of on-site soils in areas needing fill. Contractor shall ensure that the lead compliance plan incorporates measures for worker safety including, but not limited to dust control and material handling best practices. Contractor is responsible for material disposal in conformance with the project plans and these specifications. Outside the use of the project site, no additional stockpile areas have been identified. Should additional stockpile areas to perform the work be required, the contractor shall arrange for off-site storage via separate agreement and no additional payments will be made therefor. Material disposal requirements and sampling per the requirements of the receiving landfill and the project documents are the responsibility of the contractor and no additional payments will be made therefore.

Lead has been detected in material to a depth of 30 inches in unpaved areas of the project site. Total lead concentrations ranged from not detected (1.0 mg/kg laboratory reporting limit) to 200 mg/kg with an average detected lead concentrations of 68.79 mg/kg by EPA test method 6010. The 95% Upper Confidence Level for total lead is 90.85 mg/kg. Levels of lead found within the project limits have a predicted average soluble concentration of 3.0 mg/L as analyzed by the California Waste Extraction Test and based upon a 95 percent upper confidence limit.
Handle the material under all applicable laws, rules, and regulations, including those of the following agencies:

1. Cal/OSHA
2. CA RWQCB, Region 2 – San Francisco Bay
3. CA Department of Toxic Substances Control

Manage the material as shown in the following table.

Earth Material Management

Location	Depth	Management requirements
Project Site	36 inches	Stockpile and sample soil to be offhauled

If Contractor chooses to dispose of the material at a commercial landfill:

1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
2. Contractor is responsible for identifying the appropriately permitted landfill to receive the material and for all associated trucking and disposal costs, including any additional sampling and analysis required by the receiving landfill.
3. Contractor is responsible for arranging for suitable on-site or off-site storage of earth material for the duration of construction. This includes managing the material and construction operations such that stockpiles can be sampled and off-hauled so as not to be in conflict with the construction operations.

A contractor or subcontractor shall be a licensed contractor in the State of California.

The contract prices paid for the work shall include full compensation for all taxes which the Contractor is required to pay, whether imposed by Federal, State or local government, including, without being limited to, Federal excise tax and Federal transportation tax. No tax exemption certificate nor any document designed to exempt the Contractor from payment of any tax will be furnished to Contractor by the Emeryville Transportation Management Association, as to any tax on labor, services, materials, transportation or any other items furnished pursuant to this contract.

Reference is made to the list of General Prevailing Wage Rates established by the Director of the Department of Industrial Relations, State of California. Said rates apply to this project. Copies of said Wage Rates are available as specified in the Notice to Contractors.

For any classification not included in the list, the minimum wage shall be the general prevailing rate for the City of Oakland.

The Contractor shall adhere to all labor compliance regulations related to work in excess of eight hours in any single workday, and all other labor related requirements so much as they apply.

In case it becomes necessary for the Contractor or any subcontractor to employ on the work under this contract any person in a trade or occupation not covered on the list of prevailing wage rates, (except executive. supervisory, administrative, clerical, or other non-manual workers as such), the Contractor shall immediately notify the Engineer who will promptly thereafter determine the prevailing rate for such additional trade or occupation applicable to the latest collective bargaining agreements and shall furnish the Contractor with the minimum rate based thereon. The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

The Engineer may request at any time, and the Contractor shall provide, certified payroll records indicating all wages paid to all workmen on the project for the time period requested.

ARBITRATION. – See Section 9-1.22, "Arbitration," of the Standard Specifications.

NOTICE OF POTENTIAL CLAIM. See Section 5-1.43, “Potential Claims and Dispute Resolution,” of the Standard Specifications.

I. PROSECUTION AND PROGRESS

See Section 8 of the Standard Specifications.

The provisions of this section not modified by the Agreement or Contract shall apply to this project.

No subcontractor will be allowed on the project who is not listed in the List of Subcontractors contained in the Proposal, unless approved in advance and in writing by the Engineer.

Neither the contract, nor any monies due, or to become due, under the contract, may be assigned by the Contractor without the prior consent and approval of the Board of Directors, nor in any event without the consent of the Contractor's surety or sureties, unless such surety or sureties have waived their right to notice or assignment.

J. MEASUREMENT AND PAYMENT

FINAL PAY QUANTITIES. – See Section 9-1.02C, "Final Pay Item Quantities," of the Standard Specifications.

See Section 9-1.16E "Withholds," of the Standard Specifications. Section 9-1.07 "Payment Adjustments for Price Index Fluctuations" does not apply unless specifically called out in Section 10 of these specifications.

1. PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS AND PROMPT PAYMENT OF WITHHELD FUNDS TO SUBCONTRACTORS

   Attention is directed to the provisions in Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

   The Emeryville Transportation Management Association shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Engineer, of the contract work and pay retainage to the prime contractor based on these acceptances.

   A prime contractor or subcontractor shall pay to any subcontractor, not later than seven days after receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed the contractor on account of the work performed by the subcontractors, to the extent of each subcontractor's interest therein. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from the prime contractor or subcontractor to a subcontractor, the prime contractor or subcontractor may withhold no more than 150 percent of the disputed amount. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

2. Partial payments shall cover work completed through the 25th calendar day of each month for contracts where the number of working days exceeds twenty (20). No partial payments will be made for contracts having a time limit of twenty (20) days or less, unless completion has been significantly delayed by causes which are clearly not the fault of the Contractor.

When partial payments are to be made, the Engineer shall submit to the Contractor, on Emeryville Transportation Management Association forms, an estimate of the total amount of work accomplished, which will show the computed amount due less a retention which shall be 5% of the value of the work accomplished, unless otherwise indicated in the Special Provisions. No partial payments will be made for materials stored on the job but not yet installed, unless otherwise provided in the Special Provisions.

Upon receipt of the estimate from the Engineer, the Contractor shall submit a covering invoice to the Emeryville Transportation Management Association, and upon receipt of said invoice, the Emeryville Transportation Management Association will promptly schedule payment.

3. Final Payment

See Section 9-1.17 “Payment After Contract Acceptance” of the Standard Specifications.

K. INDEMNITY AND INSURANCE REQUIREMENTS

For the purpose of this Section K, "Indemnity and Insurance Requirements", and this section only, "EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION" shall mean both the Emeryville Transportation Management Association and the entity awarding this contract by action of the Board of Directors sitting as the governing body of such entity.

1. Indemnity

To the maximum extent allowed by law and consistent with Civil Code Section 2782, Contractor shall effectively defend, indemnify, and hold harmless Emeryville Transportation Management Association, its officers, agents, and employees, from any liability as a consequence of any willful act or negligent act or omission by the Contractor, any of the Contractor's employees or agents, or any subcontractor, and shall be responsible for any and all damage, injury, or death to persons, or damage to property. Contractor shall indemnify, defend and hold harmless Emeryville Transportation Management Association, its officers, agents, and employees from any and all claims, suits, actions, costs, and liability ensuing in connection with the performance of the contract, or failure to protect the safety of workers or the general public. The duty to defend shall include, but is not limited to, the payment of court costs, expert witness fees, and attorney’s fees (whether or not handled “in-house” by the Emeryville Transportation Management Association) and shall further include attorney’s fees for separate counsel if there exists an actual or potential conflict between Emeryville Transportation Management Association and Contractor.

Consistent with Civil Code Section 2782, this provision does not impose upon Contractor liability for damages for death or bodily injury to persons, injury to property, or any other loss, damage or expense arising from the sole negligence, or willful misconduct of the Emeryville Transportation Management Association or the Emeryville Transportation Management Association’s agents, servants, or independent

contractors who are directly responsible to the Emeryville Transportation Management Association, or for defects in design furnished by those persons. In addition, consistent with Civil Code Section 2782, this provision neither imposes upon Contractor, nor relieves Emeryville Transportation Management Association of, liability arising from the active negligence of the Emeryville Transportation Management Association.

In those instances where the Emeryville Transportation Management Association has obtained "Rights of Entry" or other legal rights from property owners upon whose property it will be necessary for the Contractor to enter to perform the work to be done under the contract (City of Oakland and the California Department of Transportation – Caltrans), Contractor shall indemnify such property owners in the same manner as the Emeryville Transportation Management Association is indemnified.

2. Insurance Requirements

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his or her agents, representatives, employees or subcontractors.

a. Minimum Scope of Insurance

Coverage shall be at least as broad as:

i. Insurance Services Office Commercial General Liability coverage ("occurrence" form CG 00 01 or equivalent.

ii. Insurance Service Office form number CA 00 01 (Ed. 01/87 or equivalent) covering Automobile Liability, Code 1 "any auto" with endorsement CA 00 29 (auto contractual).

iii. Worker's Compensation insurance as required by the State of California and Employers Liability Insurance.

b. Minimum Limits of Insurance

Contractor shall maintain limits of no less than:

i. General Liability: $2,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If the policy has an annual aggregate limit, the limit of the annual aggregate must be at least twice the required occurrence limit.

ii. Automobile Liability: $2,000,000 per accident for bodily injury and property damage.

iii. Employers' Liability: $1,000,000 per accident for bodily injury or disease.

c. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the Emeryville Transportation Management Association . At the option of the Emeryville Transportation Management Association, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Emeryville Transportation Management Association or the Contractor shall provide a financial guarantee satisfactory to the Emeryville Transportation Management Association guaranteeing payment of losses and related investigations, claim administration and defense expenses.

d. Other Insurance Provisions

The general liability policy is to contain, or be endorsed to contain, the following provisions:

i. The Emeryville Transportation Management Association, the City of Oakland, Caltrans, and their respective officials, employees and volunteers are to be covered as additional insureds with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. This Additional Insured requirement can be provided in the form of an endorsement to the Contractor's insurance (using either the Emeryville Transportation Management Association's prepared form or using ISO form CG 20 10 11 85 or equivalent).

ii. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Emeryville Transportation Management Association, it officials, employees, agents or volunteers. Any insurance or self-insurance maintained by the Emeryville Transportation Management Association shall be excess of the Contractor's insurance and shall not contribute with it.

The workers' compensation policy is to contain or be endorsed to contain the following provision.

iii. The workers' compensation policy shall contain a waiver of subrogation in favor of the Emeryville Transportation Management Association.

iv. Contractor shall advise Emeryville Transportation Management Association in writing if any insurance coverage or policy is suspended, voided, canceled by either party, or reduced in coverage or in limits.

e. Rights of Entry

If applicable, all property owners granting "Rights of Entry" for construction of the work shall be covered as insureds under the same coverage as provided the Emeryville Transportation Management Association as respects their ownership of the property and the work to be done thereon.

f. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII. Carriers not licensed in the State of California should have a current A.M. Best's rating of no less than A:X.

g. Verification of Coverage

Contractor shall furnish the Emeryville Transportation Management Association with proof of insurance and amendatory endorsements effecting coverage required by this clause on an ACORD 25 (2009/09 or later date) or a form acceptable to Emeryville Transportation Management Association. The endorsements must conform to the requirements set forth in section K, "Indemnity and Insurance Requirements" of these general Provisions. All certificates and endorsements are to be received and approved by the Emeryville Transportation Management Association **before work commences**. The Emeryville Transportation Management Association reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

h. Subcontractors

Contractor shall require all its subcontractors name Contractor and Emeryville Transportation Management Association as additional insureds under its general liability policy and Contractor shall require all its subcontractors to furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein with not less than the minimum limits as required by the California Department of Consumer Affairs, Contractors State License Board. Contractor shall be responsible for collecting and verifying the evidence of insurance from its subcontractors.

L. FORCE ACCOUNT AND EQUIPMENT RENTAL

See Section 9-1.04 "Force Account," of the Standard Specifications.

M. SANITARY FACILITIES & STORM WATER POLLUTION PREVENTION

The Contractor shall provide all necessary sanitary disposal (toilet) accommodations for the use of all workmen on the job site and shall maintain the same in a clean and sanitary condition.

The intent of these provisions is to enforce federal, state, and other local agencies regulations designed to eliminate storm water pollution. Storm drains discharge directly to creeks and the Bay without treatment. Storm water pollution due to construction operations shall be controlled by keeping pollution out of storm drain systems, reducing the exposure and discharge of materials and wastes to storm water, and by reducing erosion and sedimentation.

In this section, the term "storm drain system" shall refer to any storm water conduits, storm drain inlets and other storm drain structures, street gutters, channels, watercourses, creeks, lakes and the San Francisco Bay.

Reference is made to Section 13 "Water Pollution Control" of the Standard Specifications**.**

Add to the end of section 13-3.01A:

This project's risk level is 1.

Add between the 4th and 5th paragraphs of section 13-3.01C(2)(a):

The following RWQCBs will review the authorized SWPPP:

1. San Francisco Bay RWQCB

Replace the paragraphs in section 13-3.01D(2) with:

Discharges of stormwater from the job site must comply with the Construction General Permit issued by the State Water Resources Control Board for National Pollutant Discharge Elimination System (NPDES) Order 2009-0009-DWQ (As amended by 2010-0014-DWQ and 2012-0006-DWQ). The Construction General Permit governs stormwater and non-stormwater discharges resulting from construction activities at the job site. The permit may be viewed at https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

1. **Material Storage.** The Contractor shall comply with the following practices for materials storage:

   The Contractor shall propose designated areas of the project site, for approval by the Engineer, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and at least 10′ away from catch basins, gutters, drainage courses, and creeks.

   During wet weather or when rain is forecast within 72 hours, the Contractor shall store materials that can contaminate rainwater or be transported by storm water or other runoff to the storm drain system inside a building or cover them with a tarp or other waterproof material secured in a manner that would prevent any of the materials from contacting the rainwater.

   The storage and disposal of all hazardous materials such as paints, thinners, solvents, and fuels; and all hazardous wastes such as waste oil, must meet all federal, state, and local standards and requirements.

2. **Street Sweeping.** At the end of each working day or as directed by the Engineer, the Contractor shall clean and sweep roadways and on-site paved areas of all materials attributed to or invoiced in the work. The Contractor shall not use water to flush down streets in place of street sweeping.

3. **Hazardous/Waste Management.** The storage and disposal of all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels; and all hazardous wastes, such as waste oil and antifreeze; shall comply with all federal, state, and local standards and requirements. When rain is forecast within 72 hours or during wet weather, the Engineer may prevent the Contractor from applying chemicals in the outside areas.

4. **Spill Prevention and Control.** The Contractor shall take any and all precautions to prevent accidental spills during the work under this contract. The Contractor shall keep a stockpile of spill cleanup materials such as rags or absorbents, readily accessible on-site. In the event of a spill, the Contractor shall immediately contain and prevent leaks and spills from entering the storm drain system, and properly clean up and dispose of the waste and clean up materials. If the waste is hazardous, the Contractor shall comply with all federal, state and local hazardous waste requirements.

   The Contractor shall not wash any spilled material into the streets, gutters, storm drains, or creeks.

5. **De-watering Operations**. All groundwater removed from the trench must be de-silted prior to discharging it into the storm drain system through filtering materials methods meeting the Association of Bay Area Governments (ABAG) Standards For Erosion & Sediment Control Measures and/or through methods and procedures described in the California Storm Water Best Management Practice Handbook – Construction Activity (latest edition).

   The Contractor shall reuse the water for other needs, such as dust control and irrigation, to the maximum extent practicable. The rinse water shall be permitted to infiltrate in dirt area or shall be discharged to the sanitary sewer.

6. **Pavement Saw-cutting Operations.** The Contractor shall prevent any saw-cutting debris from entering the storm drain system. The Contractor, preferably, shall use dry cutting techniques and sweep up residue. If wet methods are used, the Contractor shall vacuum slurry as cutting proceeds or collect all waste water by constructing a sandbag sediment barrier berm. The bermed area shall be of adequate size to collect all waste water and solids. The Contractor shall allow collected water to evaporate if the waste water volume is minimal and if maintaining the ponding area does not interfere with public use of the street area or create a safety hazard. If approved by the Engineer, the Contractor may direct or pump saw-cutting waste water to a dirt area and allow to infiltrate. The dirt area shall be adequate to contain all the waste water. After waste water has infiltrated, all remaining saw-cutting residue must be removed

and disposed of properly. With the approval of the Engineer, de-silted water may be pumped to the sanitary sewer to assist in the evaporation or infiltration process. Remaining silt and debris from the ponding or bermed area shall be removed or vacuumed and disposed of properly. If a suitable dirt area is not available or discharge to the sanitary sewer is not feasible, with the approval of the Engineer, the Contractor shall filter the saw-cutting waste water through filtering materials and methods meeting ABAG Standards for Erosion and Sedimentation Control Measures (latest edition) before discharging to the storm drain.

7. **Pavement Operations.** The Contractor shall prevent the discharge of pollutants from paving operations by using measures to prevent run-on and runoff pollution, properly disposing of wastes, and by implementing the following practices:

   No paving during wet weather.

   Proper Material Storage (refer to previous section one).

   Cover inlets and manholes when applying asphalt, seal coat, tack coat, slurry seal, or fog seal.

   Place drip pans or absorbent materials under paving equipment when not in use. During wet weather, store contaminated paving equipment indoors or cover with tarp or other waterproof covering.

   If paving involves Portland cement concrete, refer to (next section).

8. **Concrete Operations.** The Contractor shall prevent the discharge of pollutants from concrete operations by properly disposing of waste, and by implementing the following practices:

   Store all materials in waterproof containers or under cover away from drain inlets or drainage areas.

   Avoid mixing excess amounts of Portland cement material .

   Do not wash out concrete trucks into storm drains, open ditches, streets, streams, etc. Whenever possible, perform washout of concrete trucks off site where discharge is controlled and not permitted to discharge into the storm drain system. For onsite washout, locate washout area at least 50 feet from storm drains, open ditches or other water bodies, preferably in a dirt area. Control runoff from the area by constructing a temporary pit or bermed area large enough for the liquid and solid waste.

   Wash out concrete wastes into the temporary pit where the concrete can set, be broken up and then disposed of properly. If the volume of water is greater than what will allow concrete to set, allow the water to infiltrate and/or evaporate, if possible. Otherwise, allow water to settle, filter it and then pump to the sanitary sewer with

approval of the Engineer. Remove or vacuum the remaining silt and debris from the pond or bermed area and dispose of it properly.

Dispose of water from washing of exposed aggregate to dirt area. The dirt area shall be adequate to contain all the waste water and once the waste water has infiltrated, any remaining residue must be removed. If a suitable dirt area is not available, then the Contractor shall filter the wash water through straw bales or other filtering materials meeting ABAG Standards for Erosion and Sediment Control Measures before discharging to the sanitary sewer with approval from the Engineer.

Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in trash containers.

9. **Grading and Excavation Operations.** The Contractor shall implement sedimentation and erosion control measures to prevent sediments or excavated material from entering the storm drain system.

   The erosion and sedimentation control materials and methods shall be in accordance with ABAG Standards for Erosion and Sediment Control Measures and/or the procedures and methods described in the California Storm Water Best Management Practice Handbook – Construction Activity (latest edition).

10. **Vehicle/Equipment Cleaning.** The Contractor shall not perform vehicle or equipment cleaning on site or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods. The Contractor shall perform vehicle or equipment cleaning, with water only, in a designated, bermed area that will not allow rinse water to run off-site or into the storm drain system.

    The Contractor shall dispose of wash water from the cleaning of water base paint equipment and tools to the sanitary sewer.

    If using oil based paint, to the maximum extent practicable, the Contractor shall filter the paint thinner and solvents for reuse and dispose of the waste thinner and solvent, and sludge from cleaning of equipment and tools as hazardous waste.

11. **Vehicle/Equipment Maintenance and Fueling.** The Contractor shall perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not allow run-on of storm water or runoff of spills. The Contractor shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured. The Contractor shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste.

    The Contractor shall inspect vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made. The Contractor shall recycle waste oil and

antifreeze, to the maximum extent practicable. The Contractor shall comply with Federal, State and other local agencies for aboveground storage tanks.

12. **Contractor Training and Awareness.** The contractor shall train employees/subcontractors on the water pollution prevention requirements contained in these provisions. The Contractor shall inform all subcontractors of the water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.

The Contractor shall conform to the requirements of Oakland Municipal Code 13.16 which regulates urban run-off pollution.

Full compensation for conforming to the provisions herein specified shall be considered as included in the prices paid for the contract items or work involved in compliance with said provisions and no additional compensation will be allowed therefore unless specified as part of a contract item for implementation of a Water Pollution Control Plan or SWPPP.

N. FINAL CLEANUP

Final cleanup shall conform to the requirements of Section 4-1.13 “Cleanup,” of the Standard Specifications and full compensation therefor will be considered as included in the prices paid for the various contract items of work and no separate payment will be made therefor.

O. AUTHORITY OF ENGINEER AND CONDUCT OF WORK

Attention is directed to the provisions in Section 5, "Control of Work," of the Standard Specifications and these Special Provisions.

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these specifications and the general provisions, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to them as part of the contract, so far as may be consistent with the original specifications; and in the event of any doubt of questions arising regarding the true meaning of the specifications, reference shall be made to the Engineer, whose decision shall be final.

The Contractor is responsible for all construction staking needed to achieve the work as shown on the plans and detailed in these special provisions. The Emeryville Transportation Management Association is not responsible for any undue destruction of stakes.

The Contractor shall be entirely responsible for any damage to roads, driveways, or property due to hauling, excavating, or other causes attributable to the work, and all such damaged portions shall be repaired when directed and as required to place them in as good a condition as existed before commencement of the work.

P. EXCAVATION AND SHORING

Attention is directed to Section 6705 of the California Labor Code concerning shoring. If said Section is found applicable to this project by the Emeryville Transportation Management Association, the clause which follows shall be a part of the contract.

Contractor shall submit in advance of any excavation five feet or greater in depth, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during excavation. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer. No excavation shall begin prior to acceptance by the Emeryville Transportation Management Association Engineer of said plan.

Q. OVERTIME, WEEKEND WORK, AND LEGAL HOLIDAYS

Emeryville Transportation Management Association inspection personnel will be available as required during normal working hours as noted on the schedule. In the event that Contractor wishes to schedule overtime work after 7:00 P.M. or before 7:00 A M. or Emeryville Transportation Management Association holidays, he or she shall request authorization in writing to the Engineer at least forty-eight (48) hours in advance of such overtime work. In the event that the Engineer is unable to schedule the necessary personnel, the Contractor's request may be denied and no work shall be performed outside of normal working hours unless the work is of an emergency nature. Engineer has the sole discretion to approve or deny the contractors request.

Emeryville Transportation Management Association holidays include and offices are closed on January 1 (New Year's Day), the second Monday in February (Lincoln's Birthday), the third Monday in February (Presidents Day), the last Monday in May (Memorial Day), July 4 (Independence Day), the first Monday in September (Labor Day), November 11 (Veterans Day), the fourth Thursday in November (Thanksgiving Day), the day following Thanksgiving Day, December 25 (Christmas Day), the Friday preceding a Saturday holiday, the Monday following a Sunday holiday and every day declared by the President or the Governor to be a legal holiday.

R. PROTECTION OF UNDERGROUND FACILITIES

See in Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications.

S. SOUND CONTROL REQUIREMENTS

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Contractor's attention is directed to the City of Oakland Planning Approval Conditions as stipulated in Section 10 of these special provisions. These requirements in no way relieve the Contractor from responsibility for complying with local ordinances regulating noise level.

Said noise level requirement shall apply to all equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may not be owned by the Contractor. The use of loud signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

T. CONSTRUCTION MATERIALS AND TESTING

Attention is directed to Section 6 "Control of Materials" of the Standard Specifications. The Contractor shall furnish all materials required for this project. The contractor shall arrange and submit for Emeryville Transportation Management Association approval and implement a Quality Assurance Program (QAP) consistent with the requirements of the Standard Specifications. No additional payment will be made therefor and the price for preparing and implementing such QAP shall be included in the various bid items.

All materials incorporated in the project shall meet the requirements of the tests specified in the Standard Specifications and other minimum requirements specified therein or in these specifications. In addition to the amount retained by Emeryville Transportation Management Association from each progress payment, Emeryville Transportation Management Association may withhold additional amounts not to exceed 10% of the total progress payment for Contractor failure to meet these requirements. Emeryville Transportation Management Association will pay Contractor the amount withheld once Emeryville Transportation Management Association has determined that Contractor has satisfactorily complied with the requirements of this section.

The Contractor shall, at no additional expense to the Emeryville Transportation Management Association, furnish certificates of inspection or laboratory reports from a reputable testing or inspection agency as to compliance with the specifications and the composition, durability and performance in accordance with the Special Provisions or Standard Specifications.

Test reports on any material must be submitted and approved by the Engineer before incorporating that material in the work. All materials shall be adequately identified by tags or by other means as that material which has been tested and approved. Lack of proper identification shall be considered adequate cause of rejection of any material which cannot be properly inspected on the job.

The Emeryville Transportation Management Association reserves the right to make such additional inspection or test as it may require prior to acceptance of any material and also reserves the right to reject any material previously approved because of defects or damage discovered subsequent to such approval. Any materials rejected by the Emeryville Transportation Management Association shall immediately be removed from the job site, and no payment will be allowed.

U. EXCAVATIONS DEEPER THAN FOUR FEET AND HAZARDOUS WASTES

That the Contractor shall promptly, and before the following conditions are disturbed, notify the Emeryville Transportation Management Association, in writing, of any:

i. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

ii. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.

iii. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

(b) That the Emeryville Transportation Management Association shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.

(c) That, in the event that a dispute arises between the Emeryville Transportation Management Association and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

V. ARCHAEOLOGICAL DISCOVERIES

All articles of archaeological interest which may be uncovered by the Contractor during the progress of the work shall be reported immediately to the Engineer. The further operations of the Contractor with respect to the find will be decided under the direction of the Engineer.

W. REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance

has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe, and shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In accordance with Section 25914.1 of the Health and Safety Code, all such removal of asbestos or hazardous substances including any exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 9-1.04, "Force Account," of the Standard Specifications.

X. INTEGRATED PEST MANAGEMENT (IPM)

A. Integrated Pest Management

The Contractor shall be required to strictly adhere to the City of Oaklands Resolution 73968 and the Standard Specifications regarding the use of pesticides and integrated pest management. All pesticide applications, regardless of material used, must be applied by a licensed contractor in the State of California. Material for weed eradication and pest control and any pesticides shall be only those listed and approved by the Environmental Protection Agency and California Department of Agriculture and only used in strict accordance with manufacturer's label, recommendations, Federal, State, and local laws. All requests for application must be submitted to the Engineer four calendar days prior to posting. Requests must include a map of the area, material requested to be used and dates of application requested. All applications must be approved by the Engineer in writing and applicators must have a signed Pest Control Recommendation before application. Four (4) days prior to any pesticide application, any area to receive a pesticide application shall be posted to notify the public. Chemical application must use least toxic methods.

B. List of Materials

Within thirty (30) days after award, the successful bidder shall furnish to the Engineer for approval a list of fertilizers, herbicides, insecticides, and other chemicals he or she proposes to use at each work site. The successful bidder shall also furnish a sample label and a MSDS for each product.

C. Records

Contractor is required to maintain records of pest control activities. Contractor shall submit reports on a monthly basis to the Engineer if fertilizers, herbicides, insecticides, and other chemicals were used at the work site. Reports are to include the date, name of the pest, the site/location the work was done, name of technician

performing the work and corrective action taken. If a pesticide was used, the product name, the amount applied and the area treated must also be reported.

D. Laws Governing Work Performed by Contractor

The contractor shall comply with all applicable federal, state and local laws, rules, regulations, and ordinances. These laws include, but are not limited to, bird and nesting laws such as the Federal Migratory Bird Treaty Act of 1918, the California Department of Fish and Wildlife codes 3503, 3503.5, 3513. Contractor is required to be familiar with and in compliance with all bird nesting buffer areas and breeding dates when work may negatively impact birds and nesting areas.

The parties stipulate that this agreement was entered into in the City of Oakland, in the State of California. The parties further stipulate that the City of Oakland is the only appropriate forum for any litigation resulting from a breach hereof or any questions risen here from.

SECTION 10. SPECIAL PROVISIONS

10.01 GENERAL

STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

ABBREVIATIONS, LINES, SYMBOLS, AND LEGEND

A3A	***Abbreviations (Sheet 1 of 3)***
A3B	***Abbreviations (Sheet 2 of 3)***
A3C	***Abbreviations (Sheet 3 of 3)***
A10A	***Legend - Lines and Symbols (Sheet 1 of 5)***
A10B	***Legend - Lines and Symbols (Sheet 2 of 5)***
A10C	***Legend - Lines and Symbols (Sheet 3 of 5)***
A10D	***Legend - Lines and Symbols (Sheet 4 of 5)***
A10E	***Legend - Lines and Symbols (Sheet 5 of 5)***
A24A	***Pavement Markings - Arrows***
A24B	***Pavement Markings - Arrows and Symbols***
A24C	***Pavement Markings - Symbols and Numerals***

CURBS, DRIVEWAYS, DIKES, CURB RAMPS, AND ACCESSIBLE PARKING

A87A	***Curbs and Driveways***

ELECTRICAL SYSTEMS - LIGHTING STANDARDS

ES-6A	***Electrical Systems (Lighting Standard, Types 15 and 21)***

ELECTRICAL SYSTEMS - SIGNAL AND LIGHTING STANDARD DETAILS

ES-7N	***Electrical Systems (Signal and Lighting Standard, Detail No. 2)***

Reference is made to Section 1 "General Provisions" of the Standard Specifications.

Add to section 1-1.01:

Bid Items and Applicable Sections

Item code	Item description	Applicable section
130400A	WATER POLLUTION CONTROL	13
209000A	LANDSCAPE PLANTING	20
204031A	REMOVE TREE	20
209000A	LANDSCAPE PLANTING	20
209001A	ONE YEAR PLANT ESTABLISHMENT PERIOD	20
209002A	LANDSCAPE IRRIGATION	20
210112A	BIORETENTION SOIL MIX	21
641100A	8" HDPE PIPE	64
680286A	4" PLASTIC PIPE CLEANOUT	68
707226A	STORM DRAIN MANHOLE	70
707227A	SEWER MANHOLE	70
710233A	INLET CONNECTION	70
730011A	MINOR CONCRETE (CURB CT TYPE A1-6)	73
731505A	MINOR CONCRETE (CURB AND GUTTER COO TYPE A MOD)	73
731505B	MINOR CONCRETE (CURB AND GUTTER COO TYPE A)	73
731505C	MINOR CONCRETE (CURB AND GUTTER COO TYPE D)	73
731505D	MINOR CONCRETE (CURB AND GUTTER CT TYPE A2-6)	73
731505E	MINOR CONCRETE (DEEPENED CURB)	73
731505F	MINOR CONCRETE (DEEPENED CURB AND GUTTER)	73
731505G	MINOR CONCRETE (LATERAL BRACING)	73
731505H	MINOR CONCRETE (VALLEY GUTTER)	73
731505I	MINOR CONCRETE (SIDEWALK)	73
731517A	MINOR CONCRETE (DRIVEWAY)	73
731870A	REMOVE CONCRETE PAD	73
750031A	OVERFLOW INLET	75
770001A	ORNAMENTAL METAL FENCE	77
770002A	ORNAMENTAL SLIDING GATE	77
770003A	ORNAMENTAL SWINGING GATE	77
770004A	BOLLARD	77
770005A	FIRE PROTECTION SYSTEM	77
770006A	DOMESTIC WATER METER AND SERVICE	77
770007A	SLURRY CAP	77
770008A	LIGHTING/ELECTRICAL SYSTEM	77
803051A	REMOVE ORNAMENTAL METAL FENCE	80
800401A	CHAIN LINK FENCE (10' HEIGHT)	80
840000A	SIGNING AND STRIPING	82, 84

10.02 ORDER OF WORK AND PROGRESS SCHEDULE

See Section 5-1.23B "Action Submittals" of the Standard Specifications and the following Special Provisions concerning the order of work:

1. **Fifteen (15) working days have been allocated for completion of the following critical submittals to be submitted to the Engineer for approval:**

- **Traffic Control Plan (including Detour Plan & Proposed Staging Areas)**
- **Copy of Encroachment Permit Application submitted to City of Oakland**
- **Copy of Encroachment Permit Application submitted to CALTRANS**
- **Copy of Obstruction Permit if applicable**
- **Critical Path Method (CPM) Schedule**
- **Water Pollution Control Plan**
- **Lead Compliance Plan**
- **Material Testing Plan**
- **Long Lead Time Items Materials Order Shop Drawings – Light Standards**
- **Signed Contract, Insurance, and Bonds**
- **Letter of Superintendence and Authorization**
- **Emergency Contact List**

Upon review and approval of the above submittals by the Engineer the Contractor may begin work.

2. Contractor shall forward all other required submittals to the Engineer for approval, including the mix designs, certificates of compliance, and laboratory reports etc.

3. In accordance with any permit restrictions and/or City of Oakland requirements, install all respective advance notice constructions signs, changeable message signs (CMS), and detour signs where applicable. "Signs and Traffic Control" shall conform to Sections 7-1.03 "Public Convenience," 7-1.04 "Public Safety" and Section 12 "Temporary Traffic Control" of the current State of California Department of Transportation Standard Specifications (Standard Specifications), and the "California Manual on Uniform Traffic Control Devices, Temporary Traffic Control," 2012 edition, insofar as they may apply, and the following Special Provisions. The Contractor shall be held solely responsible for complying with the listed reference documents and these Special Provisions for the complete duration of project.

4. Installation of sediment control and all BMPs as shown in the project plans and as stipulated in any permits.

5. Protect foundations and trees as identified on the plans and in accordance with any permits.

6. Perform Utility, Storm Drain, Electrical, Foundations, and other undergrounding work in accordance with the plans.

7. Surface preparation including rough and finish grading in accordance with the plans.

8. Installation of concrete structures.

9. Placement of Asphalt Concrete.

10. Coordination of utility connections for trailer (trailer installation by others).

11. Installation of Landscaping and Irrigation.

12. Installation of permanent traffic striping, pavement markings, bollards, and fencing.

13. Final cleanup, remove temporary sediment control.

The Contractor shall prepare and submit a work plan and progress schedule in accordance with Section 8-1.04 of the Standard Specifications and in a form provided by, or acceptable to, the Engineer and submit information describing the Contractor's proposed procedures and methods of operation and a proposed access plan detailing how access is to be maintained on the roadway. The schedule shall clearly show the demolition and reconstruction of project elements in the City of Oakland Right-of-Way. The time limit for having a demolished pedestrian path-of-travel or obstructed bikeway shall not exceed five (5) working days and/or be in accordance with City of Oakland requirements, whichever is shorter. Phasing and detours shall be detailed in the Traffic Control Plan.

The Contractor shall allow five (5) working days for review and approval of each of these items by the Engineer, which will be counted concurrently if items are submitted simultaneously.

The above items shall clearly disclose the Contractor's proposed procedures and methods of operation, including identifying any special equipment intended for use on this project and his method of handling traffic.

No work may begin under the contract until the progress schedule and description of proposed procedures and methods of operation material have been approved by the Engineer. Time required for review and approval of these items shall not constitute a basis for time extension.

The limits of work will be marked in the field by the Engineer. The Contractor shall notify the Engineer in writing five (5) working days in advance of when to mark the limits of work at the jobsite.

After the commencement of work there shall be weekly Progress Meetings between the Contractor and the Engineer at the jobsite to review the success of the past week’s schedule and to review the following week’s work elements.

Full compensation for complying with the Order of Work and Progress Schedule, and supplying the schedule, including all required updates to the schedule, and coordination shall be considered as included in the contract price for the various bid items, and no separate payment will be made.

Whenever the Specifications permit the substitution of a similar or equivalent material or article, no tests or action relating to the approval of such substitute material will be made until

the request for substitution is made in writing by the Contractor accompanied by complete data as to the equality of the material or article proposed. All requests for substitution shall be submitted to the Engineer within 15 days after the award of contract.

10.03 EXISTING FACILITIES/COOPERATION

See Section 5-1.36 "Property and Facility Preservation" of the Standard Specifications and the following Special Provisions.

It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Engineer and ETMA assume no responsibility therefore. The Contractor is advised that underground utilities may not be shown on the plan drawings. The Contractor shall be responsible for verifying actual location and depth of existing utilities in the field. Where excavation is contemplated, the Contractor shall notify Underground Service Alert at (800) 642-2444 or 811, prior to such excavation.

Where excavations are performed in the vicinity of underground utility mains and/or services the Contractor shall, as necessary, perform initial exploratory excavations to determine their exact depth and location. Payment for exploratory excavation shall be included in the various items of work needed to complete the excavation work. Extreme care shall be exercised to avoid damage, and it will be the Contractor's sole responsibility to have repairs made to existing facilities at his/her expense in the event of damage.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions to protect the health, safety and welfare of the workers and of the public. These facilities include, but are not limited to: irrigation lines and peripherals, parking light electric supply system conductors or conduits, telephone and cable service lines, either directly buried or in duct or conduit and; underground water, gas, sewer, stormwater, and electrical distribution systems.

The Contractor shall not be entitled to any right of way delays associated with the relocation or repair of these utilities and other facilities and shall cooperate fully with the owners of these utilities and other facilities for their relocation and repair work.

Schedule constraints will be discussed at the preconstruction conference and the Contractor shall incorporate such adjustments in their contract scheduling as necessary.

All existing facilities in conflict with the proposed improvements shall be relocated by the Contractor.

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items. No separate payment will be made for compliance with the above specifications.

10.04 PRESERVATION OF PROPERTY

See Section 5-1.36 “Property and Facility Preservation” of the Standard Specifications and the following Special Provisions.

Existing trees, shrubs and other plants, that are not to be removed and are injured or damaged by reason of the Contractor's operations, shall be replaced by the Contractor in accordance with the requirements in Section 20-3.01C(4), “Replacement Plants”, of the Standard Specifications and the following:

The minimum size of replacement shall be as determined by the Engineer.

Replacement planting of injured or damaged trees, shrubs and other plants shall be completed prior to the start of the plant establishment period and shall conform to the provisions in Section 20-4, “Plant Establishment Work”, of the Standard Specifications.

Damaged or injured plants shall be removed and disposed of outside the public right of way in accordance with the provisions in Section 5-1.36B of the Standard Specifications.

Existing utilities encountered during construction shall be protected at all times. Each respective utility company shall operate solely their own utility.
Existing foundations shall be protected during construction at all times.

PAYMENT

Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

10.05 DUST CONTROL, AIR POLLUTION CONTROL, NOISE CONTROL, OAKLAND PERMIT PROVISIONS, CALTRANS PERMIT CONDITIONS

Dust control shall conform to the provisions in Section 14-9, "Air Quality," of the Standard Specifications and these Special Provisions.

Attention is direction to the City of Oakland requirements as stipulated in the attached permits and as described herein.

a. Dust Control

Water all exposed surfaces of active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever feasible.

Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e.. the minimum required space between the lop of the load and the top of the trailer). All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. Limit vehicle speeds on unpaved roads to 15 miles per hour.

All demolition activities (if any) shall be suspended when average wind speeds exceed 20 mph. All trucks and equipment, including tires, shall be washed off prior to leaving the site. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

b. Air Pollution Control

Idling times on all diesel-fueled commercial vehicles over 3 0,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling lime to two minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations). Clear signage to this effect shall be provided for construction workers at all access points.

Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes and fleet operators must develop a written policy as required by Title 23, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations").

All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior lo operation. Equipment check documentation should be kept at the construction site and be available for review by the City of Oakland and the Bay Area Air Quality District as needed. Portable equipment shall be powered by grid electricity if available. If electricity is not available, propane or natural gas generators shall be used if feasible. Diesel engines shall only be used if grid electricity is not available and propane or natural gas generators cannot meet the electrical demand.

Low VOC (i.e., ROG) coatings shall he used that comply with BAAQMD Regulation 8, Rule 3: Architectural Coatings.

All equipment to be used on the construction site shall comply with the requirements of Title 13, Section 2449. of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") and upon request by the Engineer (and the Air District if specifically requested), the contractor shall provide written documentation that fleet requirements have been met.

All off-road diesel equipment shall be equipped with the most effective Verified Diesel Emission Control Strategies (VDECS) available for the engine type (Tier 4 engines automatically meet this requirement) as certified by CARB. The equipment shall be properly maintained and tuned in accordance with manufacturer specifications. This shall be verified through an equipment inventory submittal and Certification Statement that the Contractor agrees to compliance and acknowledges that a significant violation of this requirement shall constitute a material breach of contract.

c. Archeological Resources

Pursuant to CEQA Guidelines section 15064.5(f) and 15064.5(c)(1), in the event that any historic or prehistoric subsurface cultural resources or human skeletal remains are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the contractor shall notify the Engineer.

d. Work Hours

Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday. No construction is allowed on Sunday or federal holidays.

Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non- enclosed area. Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of lime) shall be evaluated on a case- by-case basis with the Engineer, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents Occupants' preferences. The contractor shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above restrictions. When submitting a request to the Engineer to allow construction activity outside of the above restrictions, the contractor shall submit information concerning the type and duration of proposed construction activity and the draft public notice for Engineer/City of Oakland review and approval (allow up to 14 days review/approval time) prior to distribution of the public notice.

e. Noise

The contractor shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following: Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler shall lower noise levels from the exhaust by 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available in order to achieve a reduction of 5 dBA. Quieter procedures shall be used, such as

drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

Contractor shall use temporary power poles instead of generators where feasible. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.

The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA as measured at the property line closest to the noise generating work), the contractor shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for Engineer/City of Oakland review and approval (allow up to 14 days review/approval time) that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The contractor shall implement the approved Plan during construction. Following plan approval, the contractor shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the contractor shall submit to the Engineer/City of Oakland for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.

Attenuation measures included in the Construction Noise Management Plan may include, but are not limited to, the following: Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings; Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; Utilize noise control blankets to reduce noise emission from the site; Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent structures (fences/buildings) by the use of sound blankets and implement such measure if feasible and would noticeably reduce noise impacts; and Monitor the effectiveness of noise attenuation measures by taking noise measurements in order to comply with the requirements of this section.

f. Construction Activity in the Public Right-Of-Way

The contractor shall obtain an obstruction permit from the City of Oakland prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops.

In the event of obstructions to vehicle or bicycle travel lanes, bus stops, or sidewalks, the contractor shall submit a Traffic Control Plan to the Engineer/City of Oakland for review and approval prior to obtaining an obstruction permit. The contractor shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicyclists, and Bus Facilities in Construction Zones found here:

http://www2.oaklandnet.com/oakca1/groups/pwa/documents/memorandum/oak062315.pdf

The contractor shall repair any damage to the public right-of way, including streets and sidewalks, caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

See Sections 2-1.07 "Job Site and Document Examination" and 2-1.06B "Supplemental Project Information" of the Standard Specifications.

The Contractor shall provide a safe continuous path of travel for pedestrian and bicycle traffic during all phases of construction and at all project sites. If pedestrians are directed away from the existing pedestrian travel way due to construction, a suitable alternate path shall be provided. A suitable alternate path may include, but is not limited to, temporary ADA compliant ramps, traffic control, and physical barriers to separate pedestrians from traffic and signage. It is clearly understood that it is the Contractor's responsibility to provide a safe path of travel at all times. Full compensation for providing safe path of travel shall be considered as included in the contract prices paid for the various bid items and no separate payment will be made.

The Contractor shall take all reasonable precautions to restrict his operations to the least area of work possible and shall not disturb property beyond the areas of work. The Contractor shall perform his work so as to maintain access to adjacent properties and shall minimize inconvenience to adjacent private properties and the general public.

The Contractor shall obtain the approval of the Engineer prior to the use of any area within the road right-of-way for storage purposes as approved by the Engineer.

Contractor is required to obtain an encroachment permit with the City of Oakland for project access on their pathway and staging, before work can begin.

Contractor must comply with all environmental permits and permit related correspondence included in Appendix A. For convenience an abbreviated summary of those conditions are provided below but the Contractor is still responsible for any and all conditions:

No separate payment will be made for work performed or material used to control dust resulting from the Contractor's performance of the work, either inside or outside the right of way. Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

g. Summary of City of Oakland Permit Provisions

Contractor's attention is directed to the City of Oakland Permit included in the appendix. The following is a summary of select provisions of the permit. This summary notwithstanding, the Contractor must adhere to all City of Oakland Permit provisions unless otherwise specified within these Special Provisions.

1. Submit Traffic Control Plan to City. Allow a minimum of 4 to 7 working days for City's review and comments on individual submittals.
2. Obstruction/No Parking Placard Signs need to be **UPDATED & POSTED** onsite at **ALL TIMES**.
3. Posting of 24-hour contacts shall be visible from the street at **ALL TIMES.**
4. Any illegal dumping or graffiti shall be removed from the site.
5. Contact the City Inspector directly by email Place in the SUBJECT LINE: **"Request for Inspection – PX18000##."** Provide Address for Job Site and all related Active Permits.
6. Contractor's 24 HR contact info. And 48 HR advance "Request for Inspection" is required.
7. CCTV all storm drain & sewer mains within 15 feet of any excavation.
8. Pavement Condition Index (PCI) and existing sidewalk conditions recorded with photographs before beginning work. Photos should show any defects and have a tape measure next to the defect to show scale.
9. Contractor to verify USA utility markings are a minimum 25 ft. beyond proposed work area as shown on the plans.
10. Obstruction permits for sidewalk and street work required to be posted 72-hours in advance in 100-foot intervals.
11. All Cut Sheets & Material Submittals to be provided to the Senior Inspector. Attach a **SEPARATE COVER SHEET FOR EACH MATERIAL** being submitted (i.e. Concrete, Asphalt Mix Designs, Pipe, Fittings, Aggregates, Precast, etc.)
12. Testing and Special Inspections Reports follow up results for any Compaction Testing, Excavation or Restoration Work, or any special testing that is specific to the project must be submitted to the City Inspector.
13. City Inspector may require **CCTV** report *for connections to SD's on Mandela and Ettie* before acceptance of project

h. Summary of Caltrans Encroachment Permit Provisions

Contractor's attention is directed to the Caltrans Encroachment Permit included in the appendix. The following is a summary of select provisions of the permit. This summary notwithstanding, the Contractor must adhere to all Caltrans Permit provisions unless otherwise specified within these Special Provisions.

1. A pre-job meeting with the State Representative is required at least 7 days prior to the start of any work under this encroachment permit. Failure to do so may result in permit revocation with no prejudice.

2. The permittee must provide the stage construction plans, traffic handling plans, work schedule, and a list of all subcontractors to the State Representative at the time of the pre-job meeting.

3. Notwithstanding General Provision 4, construction must not begin until the contractor performing the work applies for and obtains a separate encroachment permit (referred to as a Double Permit) for the work authorized herein. An initial fee/deposit of$ 492.00 is required at the time of application for permit processing and inspection. Additional inspection hours will be charged at the current State hourly rate.

4. No lane closure is authorized under this permit.

5. The permittee must comply with all requirements of the California Public Resource Code Sections 5024.5 and 5097 .98, California Health and Safety Code Section 7050.5 (both available at https://leginfo.legislature.ca.gov/faces/codes.xhtml), and Volume 2 of the Caltrans Environmental Handbook (available at https://dot.ca.gov/programs/environmentalanaIysis/ standard-environmental-reference-ser/volume-2-cultural-resources).

6. Should ground-disturbing activities take place as part of this project within the State highway right-of-way and there is an inadvertent archaeological or burial discovery, the permittee must cease all construction within 50 feet of the find, notify the County coroner, if necessary, and immediately contact Office of Cultural Resource Studies (OCRS), Caltrans District 4. Upon contact, an OCRS archaeologist will evaluate the find within one business day.

7. Streets and highways in the San Francisco Bay Area contain a significant number of existing underground utilities. This includes traffic signal conduits that are installed 9 inches or less in depth. The permittee is responsible for necessary site investigations for identification of the location and depth of existing underground facilities prior to excavation (e.g., pothole or hand-dig) to avoid damage or disruption in services.

8. Your attention is directed to the 2018 Cal trans Standard Specification, Section 5-1.36, "Property and Facility Preservation" (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications), and Business and Professions Code, Section 8771. Permittee must physically inspect the work site and locate survey monuments before work commencement. Monuments that might be disturbed must be referenced or

reset in accordance with Business and Professions Code. If feasible, monuments should not be set within the traveled way. All monuments that must be set or perpetuated in paved surfaces, must be constructed in accordance with the 2018 Caltrans Standard Specification, Section 78-2, "Survey Monuments" and the 2018 Caltrans Standard Plan A74, Type D, (available at https://dot.ca.gov/programs/design/ccsstandard-plans-and-standard-specifications) or equal with prior approval of the District Surveys Engineer. Copies of Corner Records filed or Record of Surveys recorded in compliance with the Business and Professions Code must be forwarded to the District Surveys Engineer.

9. Trench excavation must comply with the 2018 Caltrans Standard Specifications, Section 19-3, "Structure Excavation and Backfill" (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications). Trench backfill must comply with the attached trench detail and the 2018 Caltrans Standard Specifications, Section l 9.3.02E, "Slurry Cement Backfill", and 19-3.02G, "Controlled Low-Strength Material". Asphalt Concrete (AC) to be removed must be saw cut to the full depth along both sides of the trench. Portland Cement Concrete (PCC) to be removed must be saw cut to a minimum depth of 4 inches along both sides of the trench. No excavation must be left open overnight. Temporary backfilling of excavations in finished surfaces must be capped with a minimum 3 inches Asphalt Concrete (AC). Permittee must reuse the soil within the work limits in the immediate area from which it was excavated. If any excess soil is generated, it becomes the property of the permittee. Permittee must transport all excess soil outside the State highway right-of-way and dispose of it in accordance with all applicable environmental laws and regulations. No materials or waste is to be stockpiled within State right-of-way. All mud, dirt or gravel tracked onto the highway pavement must be immediately and completely removed.

10. Column protection must be lumber at least 2" nominal thickness and at least 4" nominal width with 2" maximum clear space between pieces. The lumber must be strapped to columns with a minimum of three (3) galvanized steel bands. The bottoms of the pieces of lumber must be 2' or less above the ground and tops 8' minimum above the ground.

11. A standard 6' high chain link fence may be installed around the perimeter of the leasing area with gate (s) as designated. Security may be enhanced by the installation of vertical brackets on the fence posts and attaching three (3) strands of barbed wire to the brackets. The use of razor ribbon coils atop the fence is prohibited. Chain link fence must comply with the 2018 Caltrans Standard Plans A85, A85A, and A85B; and with the 2018 Caltrans Standard Specifications, Sections 75- l .02B, "Galvanizing" and 80-3, "Chain Link Fences" (available at https ://dot.ca.gov*Ip*rograms/design/ccs-standard-plans-and-standard-specifications).

12. Changes to the provisions herein require an Encroachment Permit Rider, except for minor changes authorized by the State Representative. Time extension requests must be made a minimum 2 weeks prior to permit expiration. Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with three sets of As-Built plans, in accordance with General Provision 22. Upon completion of work authorized by this permit, the permittee must provide the State Representative with

a completed "Notice of Completion" (form TR-0128) (available at https://dot.ca.gov/programs/traffic-operations/ep/ep-manual, Appendix D "Forms" (PDF)).

No separate payment will be made for work performed or material used to satisfy the City of Oakland and Caltrans Permit provisions resulting from the Contractor's performance of the work, either inside or outside the right of way. Full compensation for complying with the above provisions shall be considered as included in the contract price for the various bid items and no separate payment will be made.

10.06 MOBILIZATION

This item consists of preparatory work and operations as noted in Section 9-1.16D, "Mobilization" of the Standard Specifications.

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site.

PAYMENT

The lump sum price paid for "Mobilization" shall include furnishing all labor, materials, and equipment necessary to facilitate the performance of the contract work as shown on the Plans and specified herein.

10.07 ENVIRONMENTAL STEWARDSHIP

See Section 14 "Environmental Stewardship" of the Standard Specifications and the following Special Provisions.

Add to section 14-6.03B:

A nesting bird survey is required within 72 hours prior to tree removal or construction commencing if those activities occur during the bird nesting season (February 1 – September 30th). Appropriate buffers will be applied if migratory birds and their nests are identified in the tree.

Add to section 14-8.02:

Construct solid plywood fences along the northern and southern construction site boundaries to reduce noise for the hotel and adjacent residences.

10.08 EXISTING FACILITIES

See Section 15 "Existing Facilities" of the Standard Specifications and the following Special Provisions.

Replace the 1st paragraph of section 15-1.03B with:

Remove all concrete pads shown on the Plans to a depth of 4 feet below finished grade.

Replace section 15-1.03D with:

15-1.03D Protection Requirements

Foundations and columns shall be completely protected from damage during construction.
Place orange snow fencing around each foundation before starting work.
Nothing shall be fastened to the bridge proper without prior approval.
Facilities and stored materials must maintain setback of 20 feet from the face of column.
Maintain vertical clearance of at least 6 feet, measured from lowest bridge member (across width of bridge) to the top of any storage material/facility.

10.09 EARTHWORK

See Section 19 "Earthwork" of the Standard Specifications and the following Special Provisions.

Add to the end of section 19-1.01A:

Earthwork activities include clearing and grubbing. Clearing and grubbing must comply with section 17.

Add to the end of section 19-1.03A:

No fill will be permitted above the top of any of the bridge pile caps. Tops of pile caps shall be visible.

10.10 LANDSCAPE

See Section 20 "Landscape" of the Standard Specifications and the following Special Provisions.

Replace section 20-2 with:

20-2 IRRIGATION SYSTEM

20-2.01A GENERAL

20-2.01A(1) Description of Work

Order and furnish all labor, materials, supplies, tools and transportation and perform all operations in connection with and reasonably incidental to the complete installation of the automatic sprinkler irrigation systems as shown on the Drawings.
All work shall be done in conformance to the applicable provisions of the Standard Specifications except as modified herein. Payment for work, equipment and materials not specifically covered herein shall be included in the payment for related items of work. No additional payment will be made for work, equipment or materials not covered in these

Technical Specifications, but necessary to insure a completed project as specified.

All articles and services covered by this Specification shall meet or exceed the safety standards established under the Federal Occupational Safety and Health Act of 1970, together with all amendments in effect as of the date of this Specification.

20-2.01A(2) Codes and Standards

All work and materials shall be in full accordance with the current rules and regulations of the National Electric Code; the Uniform Plumbing Code, published by the Western Plumbing Officials Association; and other applicable State or local laws or regulations. Nothing in these Drawings or Specifications is to be construed to permit work not conforming to these codes. When the Specifications call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, the provision of the Specifications shall take precedence over the requirements of the said rules and regulations.

The subcontractor shall furnish without any extra charge any additional material and labor when required by the compliance with these rules and regulations, though the work be not mentioned in these particular Specifications or shown on the Drawings.

The subcontractor shall erect and maintain barricades, guards, warning signs, and lights as necessary or required by OSHA regulations for the protection of the public or workmen.

Any existing buildings, equipment, piping, pipe covering sewers, sidewalks, landscaping, etc., damaged by the subcontractor during the course of his work shall be replaced or repaired by the subcontractor in a manner satisfactory to the Owner's Agent and at subcontractor's own expense, and before the final payment is made. The subcontractor shall be responsible for damage caused by leaks in the piping systems being installed by him. He shall repair, at his own expense, all damage so caused, in a manner satisfactory to the Owner's Agent.

The subcontractor shall pay for all permits, licenses, and fees required.

The subcontractor, personally or through an authorized and competent representative, shall supervise the work constantly, and shall as far as possible keep the same foreman and workmen on the job from commencement to completion.

20-2.01A(3) Staking

The irrigation contractor shall stake out the irrigation system as shown on the Drawings. Stakes shall be approved by Landscape Architect before construction is started. Any changes, deletions or additions shall be determined at this check.

20-2.01A(4) Submittals

Within 15 days after award of contract and prior to installation, submit six copies of materials list. Include manufacturer, model number, and description of all materials and equipment. Include sealants, cements, lubricants and other proprietary items.

Submit two copies of catalog information on materials which are to be submitted for substitution. No substitution will be permitted without prior written approval by the Owner's Agent. A complete material list shall be submitted prior to performing any work.

20-2.01A(5) Record Drawings and Controller Charts

The subcontractor shall maintain in good order, in the field office, one complete set of blue line prints of all sprinkler drawings which form a part of the Contract, showing all water lines, sprinklers, valves, controllers and stub outs. Any work not installed as indicated on the Drawings, shall be recorded and dimensioned accurately from the building walls on these prints. All as-built markups shall be indicated in red.

All underground stub outs for future connections and valves shall be located and dimensioned accurately from building walls on these record drawings.
Upon completion of the work, obtain reproducible prints from Architect and neatly correct the prints to show the as built conditions.
Record Drawings shall be accepted by Architect before controller charts are prepared. Provide three (3) controller charts for each controller supplied. Charts shall be laminated 11 x 17, showing areas covered by each controller. Chart shall be an electrostatic copy and a different color shall be used to indicate area of coverage for each station. Enlarge valve sequence to be readable when drawing is reduced. After being completed and accepted, seal by plastic laminating. Laminating sheets shall be a minimum of 10 mil thick.

20-2.01A(6) Operations and maintenance manuals

Deliver to owner at least 10 days prior to completion of construction, 2 complete sets of the following data. Data shall be on 8 1/2 inch by 11 inch sheets, in a 3-ring binder.

a. Index sheet stating Contractor's address and telephone number and list of equipment with name and addresses of local manufacturer's representatives.
b. Catalog and parts sheets on all material and equipment installed under this Section.
c. Complete operating and maintenance instructions for all equipment.
d. Complete and dated manufacturer's warranties for all materials used.

Irrigation Maintenance Schedule to include, but not be limited to, routine inspection, adjustment, and repair of the irrigation system and its components. After the system has been installed and approved, subcontractor shall instruct the Owner's representative in complete operation and maintenance of the irrigation system.

20-2.01 MATERIALS

20-2.01B(1) Pipe and Fittings

Main lines (constant pressure) shall be PVC 1120 Schedule 40 solvent weld pipe, Type 1, and shall conform to ASTM D1785. Use Schedule 40 and Schedule 80 PVC solvent weld fittings.
Lateral lines (non-pressure) shall be 1120 Schedule 40 PVC plastic pipe Type 1, and shall conform to ASTM D1785. Use Schedule 40 PVC solvent weld fittings.
Fittings shall be solvent Weld socket fittings: Schedule 40, Type 1, Grade 1, PVC and shall conform to ASTM D2466. Schedule 80, Type 1, Grade 1 PVC and shall conform to ASTM D2467. Solvent cement and primer for PVC solvent-weld pipe and fittings shall be of type recommended by pipe manufacturer. Connections between main lines and remote control valves shall be of Schedule 80 PVC (threaded both ends) nipples and fittings. Risers shall be as follows: Schedule 80 PVC threaded nipples and Schedule 80 PVC ells as shown on the construction details.

20-2.01B(2) Quick Coupling Valves

Quick Coupling valves shall be brass construction, 1-inch connection, two-piece body, locking vinyl top, single slot and lug. Provide one 1-inch single lug key and 1-inch hose swivel for every 5-6 quick couplers.
Quick Coupling valves shall be restrained with cast iron restrainers that attach securely to the base of the valve. Restrainers shall make contact with the hex flats of the valve and be secured by a single bolt.

20-2.01B(3) Isolation Valves

Gate valves 2½ inch and smaller shall be brass construction conforming to ASTM B 62 with screw-in bonnet, non-rising stem, operating wheel and threaded connections.

20-2.01B(4) Remote Control Valves

Remote control valves shall be globe pattern constructed of heavy duty glass-filled nylon and stainless steel with internal and external bleed. Operating pressure shall be 20 to 200 psi and flow range shall be .25-200 gpm. All internal parts shall be removable from the top.

Ball valves shall be Schedule 80 PVC full port design. PVC ball valves to be installed upstream of each remote control valve.

Each valve shall have a plastic tag denoting its controller and station number.

20-2.01B(5) Controller

Controllers shall be as listed on the Drawings and shall have the following features:

1. EPA WaterSense approved.
2. Utilize either evapotranspiration or soil moisture data for irrigation scheduling.
3. UL listed, solid state, capable of automatic or manual operation.
4. Non-volatile memory.
5. Scheduling with 365 day calendar, odd/even watering, and rain delay of 1-14 days.
6. Cycle and soak feature.
7. Compatible with master valve and flow sensor.

Controller cabinet and pedestal shall be stainless steel.

20-2.01B(6) Control Wire

Copper with UL approval for direct burial in ground, size #12-1 for common wire and size #14-1 for control wire. Common ground wire shall have white insulating jacket; control wire shall have insulating jacket of color other than white. Provide a separate ground wire for each controller.

Splices shall be made with 3M DBR/Y-6 connectors.

20-2.01B(7) Valve Boxes

High density polyethylene construction with UV inhibitors. Lid shall be green in color and have stainless steel bolt-down mechanism. Boxes, lids, and bolts shall be from the same manufacturer. Plastic valve boxes shall be by Carson, NDS Pro Series, or equal.

The lid shall be marked as follows:

1. Remote Control Valves – “Irrigation Control Valve” or “ICV” with the station number in one inch (1”) high white enamel or heat branded numbers and letters.
2. All other valves - “Irrigation Control Valve” or “ICV”.

20-2.01B(8) Bubblers

Bubblers shall be as listed on the Drawings and shall be pressure compensating.

20-2.01B(9) Subsurface Drip

Filter shall be Basket type filter pressure rated at 150 psi constructed of glass-filled polypropylene with glass-filled nylon cap. Filter screen shall be 200 mesh stainless steel basket design and reinforced with polypropylene ribs. The unit shall incorporate an indicator window that shows when the filter needs to be cleaned. Pressure regulator shall be built-into the Basket Filter and pre-set at 40 psi.

Dripline tubing and pressure compensating emitters shall be extruded from linear low-density polyethylene. The inline emitter shall have a pressure-regulating diaphragm with spring action

and automatic check valve that will seal the line at 3.5 psi.. Protection from root intrusion shall be by means of a copper chip in the emitter.
Line Flushing Valves shall be manual ball valves located at the end of each independent zone area. Air/Vacuum Relief Valve for each independent irrigation zone shall utilize an air/vacuum relief valve at its high point. The air and vacuum relief valve shall seal effectively from 2 to 10 psi.

20-2.01B(10) Miscellaneous Materials and Equipment

Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as T. Christy Ultra Seal Threaded Sealant T10,000.
Drain rock: 3/4 inch washed pea gravel.
Provide to the Owner, at completion of the Maintenance Period, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valves. Include all wrenches necessary for complete disassembly of all heads and valves. Provide two (2) each of quick coupler keys and hose swivels.

20-2.01C CONSTRUCTION

20-2.01C(1) Preparation

Schedule and coordinate placement of materials and equipment in a manner to effect the earliest completion of work in conformance with construction and progress schedule.
Contractor shall field verify the static water pressure at the project site prior to commencing work or ordering irrigation materials. If contractor fails to verify static water pressure prior to commencing work, contractor shall assume responsibility for all costs required to make system operational.
Examine areas and conditions under which work of this section is to be performed. Do not proceed with work until necessary conditions have been corrected.

20-2.01C(2) Handling and Storage

Protect work and materials from damage during construction and storage as directed by Architect.
Handle plastic pipe carefully; especially protecting it from prolonged exposure to sunlight. Store sub-surface dripline and polyethylene tubing in cool dry place out of sunlight during installation.

20-2.01C(3) Layout

Layout work as accurately as possible in accordance with diagrammatic drawings.
Where site conditions do not permit location of piping, valves and heads where shown, notify Architect immediately and determine relocation in a joint conference.
Run pipelines and automatic control wiring in common trenches whenever practical.

20-2.01C(4) Excavating and Trenching

Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.
Depth of trenches shall be enough to provide minimum cover from finish grade to top of pipe in trenches, as follows:

1. 18 inch minimum cover over main lines to the control valves and quick coupling valves.
2. 18 inch minimum cover over direct burial control wires from controller to

valves.
3. 12 inch minimum cover over the valve controlled lines to sprinkler heads.
4. 24 inch minimum cover over sleeves.

Restore surfaces, existing underground installations, etc., damaged or cut as a result of excavations, to original conditions in a manner approved by the Architect.
Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by Architect.

20-2.01C(5) Assembling Pipelines

All pipes shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.

Solvent Weld Joint

1. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning the pipe and fitting of dirt.
2. Dry-insert pipe into fitting to check for missizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
3. Coat the inside socket surface of the fitting and the external surface of the male end of the pipe with P-70 primer (manufactured by Weld-On), immediately followed by Weld-On 711 cement liberally applied to the male end of the pipe and lightly applied to the inside of the socket. Then, apply a second coat of cement to the pipe end.
4. Insert pipe immediately into fitting and turn it 90° to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
5. Hold joint still for approximately thirty (30) seconds and then wipe the excess cement from the pipe and fitting.
6. Cure joint a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.

Threaded Joint:

1. Field threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.
2. Factory-made nipples shall be used wherever possible.
3. All threaded joints shall be made up with pipe joint compound. Apply compound to male threads only.
4. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tightening.
5. Where assembling soft metal (brass or copper) or plastic pipe, use a strap type friction wrench only; do not use a metal-jawed wrench.

Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstruction.
Remove caps or plugs only when necessary to continue assembly.
Where pipes or control wires pass through sleeves, provide a removable non-decaying plug at ends of sleeve to prevent entrance of earth.

20-2.01C(6) Remote Control Valves and Quick Coupling Valves

Install where shown on Drawings and group together where practical. Limit one remote control valve per box with no exceptions.
Locate valve boxes 12 inches from and perpendicular to walk edges, buildings and walls.
Provide 12 inches between valve boxes where valves are grouped together.
Thoroughly flush main line before installing the valve.
Label control line wire at each valve with a 2½" x 2½" polyurethane I.D. tag, indicating identification number of the valve (controller and station number). Attach a label to control wire.
Install quick coupling valves on double swing-joint assemblies of Schedule 80 PVC risers and fittings.

20-2.01C(7) Valve Boxes

Install one valve box for each type of valve.
Install boxes 12 inches from walk or header and 12 inches apart. Short side of rectangular boxes shall be parallel to walk or header. Install 2 inches above finish grade in groundcover areas.
Install common bricks as shown and as required to keep box stable. Install gravel sump after compaction of all trenches.

20-2.01C(8) Bubblers

Thoroughly flush lines before installing drip tubing or bubblers. Locate bubblers as shown in the Drawings and Detail.

20-2.01C(9) Subsurface Drip

Install dripline per manufacturer's instructions. Lay drip tubing in a grid pattern 2 inches below finish grade and 2" from edge of paving.
Install air/vacuum relief valve at the highest point of each circuit on a line that is perpendicular to the dripline rows (exhaust header or lateral connecting dripline.) Install manual flush valve at a point farthest away from source or along exhaust header Install valves in separate 6 inch round valve boxes.

20-2.01C(10) Automatic Control Wiring

Run lines along mains where practical. Tie wires in bundles with pipe wrapping tape at 10' intervals and allow slack for contraction between strappings. Loop a minimum of three (3) feet of extra wire in each valve box; both control wire and ground wire.
Connections shall be made as shown on plans. Splicing will be permitted only on runs exceeding 2500'. Locate all splices at valve locations within valve boxes.
Where control lines pass under paving, they shall pass through Schedule 40 electrical PVC conduit.
Common wire and control wires shall be tagged with 1/4" wide embossed plastic labeling tape, showing controller and station number designation.

20-2.01C(11) Pipe Testing

Notify City Engineer at least three (3) days in advance of testing. Perform testing at Contractor's own expense.
Center load piping with a small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered. Apply the following tests after weld plastic pipe joints have cured at least 24 hours.

1. Test live (constant pressure) and quick coupling valve lines hydrostatically at 125 PSI minimum. Lines shall be filled with water and pressure gauge connected to the pipe line. After lines have reached the 125 PSI, (use hydraulic pump or other safe method – do not use an air compressor) cut off

the source of pressure. Lines will be approved if test pressure is maintained for six (6) hours. Should leaks develop during the test period, they shall be located and repaired and retested in the same method. The subcontractor shall make tests and repairs as necessary until test conditions are met.

2. Test remote control valve controlled lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.
3. Remake faulty joints with new materials. Do not use cement or caulking to seal leaks.

20-2.01C(12) Cleanup

When work of this section has been completed, and at such other times as may be directed, remove all trash, debris, surplus materials and equipment from the site.

Replace section 20-3 with:

20-3 LANDSCAPE PLANTING

20-3.01A GENERAL

20-3.01A(1) Related Documents

The General and Supplementary Conditions and General Requirements apply to the work herein specified.

20-3.01A(2) Description

Work to be Included:

1. Furnish and place topsoil, stormwater soil, import soil, mulch, fertilizer, organic materials, and all other materials incidental to planting work.
2. Furnish all plant materials (trees, shrubs, seed, ground covers, and plant labels).
3. Furnish all labor, equipment and materials necessary for the installation of plant materials according to these Specifications and the Plans

Related Work Described Elsewhere:

1. Section 20-2 Irrigation: Irrigation system shall be installed, automated, and operative before beginning planting operation.
2. Division VII Storm Drainage Utilities: Contractor shall fully acquaint himself with the existing conditions particularly in reference to underground piping. Any damage caused by the Contractor to work of other trades shall be repaired by him at no cost to the City.
3. Section 19 Earthwork: Close coordination shall be maintained with those Contractors performing rough grading operations and installing utilities and pavement to insure proper timing of the work.

20-3.01A(3) Requirements Of Regulatory Agencies

Perform work in accordance with all applicable laws, codes, and regulations required by the City of Oakland and any other authorities having jurisdiction over such work. Provide for all inspections and permits required by Federal, State, and local authorities in furnishing, transporting, and installing materials.

Certificates of inspection required by law for transportation shall accompany invoice for each shipment of plants. File copies of certificates with Engineer after acceptance of material. Inspection by Federal or State Governments at place of growth does not preclude rejection of plants at project site.

20-3.01A(4) Quality Assurance

Personnel: All planting work shall be performed by personnel familiar with lawn and planting procedures under the supervision of a qualified foreman with 5 years of landscape installation experiences on projects of equal size and scope.

Installing contractor shall have successfully completed within the last 3 years at least 3 planting applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

Codes and Standards: Nursery stock shall meet the standards of the current edition of the "Agricultural Code of California" and the "Regulations of the Director of Agriculture Pertaining to Nursery Stock" as to grading and quality. They shall be true to type and name in accordance with "Standardized Plant Names", Second Edition.

Substitutions: Substitutions of plant materials will not be permitted unless authorized in writing by Engineer. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. Such proof shall be substantiated and submitted in writing to Engineer. A maximum of 10 days after award of contract the Contractor shall submit a list of available plants with a list of all nurseries and plant brokers contacted These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials. Contractor shall secure all materials within 15 days after award of contract in order to guarantee plant availability.

The Engineer reserves the right to require the Contractor to replace at the Contractor's cost any plants which the Contractor has installed without the Engineer's approval.

Plants shall be subject to inspection and approval of the Engineer at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Wherever the terms "approve", "approval" or "approved" are used herein they mean approval of the Engineer in writing. Plants which are contract grown shall meet or exceed all nursery standards for health and size. Plants which do not meet standards shall be rejected and the Contractor shall provide nursery grown stock as required at no additional cost to the contract.

Plant Certification: All plants must meet specifications of Federal, State, and County laws requiring inspection for plant disease and insect infestations. Inspection certifications required by law shall accompany each shipment, invoice and order for stock.

20-3.01A(5) Submittals

Comply with Section 5-1.23 Submittal Procedures.

Furnish 6 copies of manufacturers' literature for the following items:

1. Fertilizer
2. Mulch
3. Certificates of Inspection
4. Root Barrier
5. Tree Stakes
6. Rubber Tree Ties
7. Plant supplier list
8. Delivery tags for all soil amendment, soils compost, and mulch which are delivered to the site
9. Fertilizer Tablets

Provide analysis from an approved testing laboratory for:

1. Imported Topsoil
2. Compost
3. Provide soil analysis report from an approved testing laboratory per Section 20-3.

Submit one (1) quart sample each of all soils, mulches and organic compost.
Foreman's Qualification Statement
All submittal data shall be forwarded in a single package to the Engineer within 60 days of award of the contract.
Contractor shall select and tag all plant material within 10 days of award of contract. Plant material which is not available, or not possible to contract grow shall be noted to the Engineer within 14 days of award of contract so substitutions may be selected. Contractor shall source material from out of state or thru a plant broker if not locally available. Contractor shall submit lists of all nurseries and plant brokers contacted for availability.

20-3.01A(6) Samples And Tests

Engineer reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Engineer. Rejected materials shall be immediately removed from the site at Contractor's expense. Landscape soils which do not meet the recommendations of the original soils tests, shall be re-amended as required at no additional cost to the contract. Cost of testing of materials not meeting specifications shall be paid by Contractor.

20-3.01A(7) Selection And Tagging Of Plant Material

Plants shall be subject to inspection and approval by Engineer at place of growth if the Engineer so chooses, and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material at place of growth to Engineer. Written request shall state the place of growth and quantity of plants to be inspected. The Engineer reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

20-3.01A(7) Job Conditions

Delivery:
Deliver standard products to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade mark and conformance to state law.
Deliver plants with identification labels.

1. Labels should state correct name and size.
2. Use durable, water-proof labels with water resistant ink that will remain legible for at least 60 days.

Protect plant materials during transport to prevent damage to rootball or desiccation of leaves.
Remove unacceptable plant materials immediately from job site.
Contractor shall endeavor to coordinate delivery with installation schedule so that plant material is installed on the same day.

Storage: Contractor shall maintain the plant material properly between delivery and planting. This includes protection from animals and vandals, proper watering, and feeding if necessary.
Shade plants shall be stored in the shade, and sun plants shall be stored in the sun.

Timing: Under no circumstances shall any work be performed if the temperature exceeds 90 degrees or is below 40 degrees. No planting shall be done with the soil saturated with water.

20-3.01A(8) Protection Of Existing Plants To Remain

Do not store materials or equipment, permit burning, or operate or park equipment under the branches of any existing plant to remain except as actually required for construction in those areas.

Provide barricades, fences or other barriers as necessary at the drip line to protect existing plants to remain from damage during construction.

Notify the Engineer in any case where Contractor feels grading or other construction called for by Contract Documents may damage existing plants to remain.

If existing plants to remain are damaged during construction, Contractor shall replace such plants of the same species and size as those damaged at no cost to the contract. Determination of extent of damage and value of damaged plant shall rest solely with Engineer.

20-3.01B MATERIALS

20-3.01B(1) Soil Amendments

The organic amendments, imported soils, and fertilizer rates and quantities listed in 20-3 are to be used for bid basis only. Contractor shall arrange and pay for testing by an accredited soils laboratory approved by Engineer. All of the proposed plantings areas shall be installed with imported topsoil per plan. Imported topsoil shall be tested by a certified soil laboratory. Adjust the quantities of soil amendments and fertilizer per soil lab written report recommendation. After review and written approval by the Engineer, amend the imported topsoil according to said laboratory's recommendations. The approved soils laboratory recommendations shall be considered a part of this specification.

The base bid shall include cost of all testing imported top soils and organic amendments noted in this spec section. Adjustments to project costs resulting from the soil report recommendation shall be submitted as a modification to the base bid.

Within 10 days of award of contract, the landscape Contractor shall submit 4 preliminary soils tests for review of percolation rates, PH, Boron, salinity, and all other standard nutrients. The Engineer reserves the right to adjust plant material specified if the site soil is deemed detrimental to those specified.

Topsoil: Provide topsoil as required to complete landscape work. Topsoil to be furnished shall be fertile and friable, possessing characteristics of representative productive soils on the site. It shall not contain toxic substances which may be harmful to plant growth. If herbicide contamination is suspected then a radish/rye grass growth trial must be performed. Consult with Engineer prior to decision to test. It shall be uniformly textured and free of all objectionable foreign materials, oil, or chemicals which may be injurious to plant growth. Natural topsoil shall possess a pH factor between 5.5 and 7.5, a sodium adsorption ratio (SAR) of less than 8, a boron concentration of the saturation extract of less than 1 ppm, and salinity of the saturation extract at 25 degrees C. of less than 4.0 millimhos per centimeter.

Obtain topsoil from naturally well- drained sites where topsoil occurs in a depth of not less than 4 inches; do not obtain from bogs or marshes. Topsoil from the project stockpile which meets the requirements is acceptable.

Imported Topsoil: Topsoil shall be tested by an approved soils laboratory for compatibility with existing on-site soils and fertility. Contractor shall submit soil laboratory’s analysis and amendment recommendations. Imported topsoil shall be subject to inspection by Engineer at the

project site. Remove rejected topsoil immediately at Contractor's expense. The imported topsoil shall be blended on site with the following ratio:
1 part of compost blended with 2 parts of imported soil.
Compost:
Compost: Feedstock shall be no longer recognizable. Compost shall contain fairly uniform particle size, no weed sprouts. Submit a nutrient analysis and testing data from a third party or soil lab, such as the STA Seal of Testing Assurance by the US Composting Council. Compost shall be Super Humus Compost, available from BFI Organics: 408-945-2836, or approved equal. Compost shall be purchased from local, organic materials such as plant or wood waste.
Compost shall meet the following criteria:

1. Particle size: 100% passing a 1" screen or smaller
2. Salt Concentration: Must be reported; may vary but < 4.0 mmhos/cm preferred. Soil should be test. <2.5 mmhos/cm preferred for soil/compost blend.
3. Feedstock Materials shall be specified and include at one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
4. Nutrient Content: provide analysis detailing nutrient content including N-P-K; Ca; Mg; S; and Bo. Nitrogen content 1% or above preferred.
5. Trace Contaminants Metals (Lead, Mercury, etc.). Product must meet US EPA, 40 CFR 503 regulations.
6. pH: pH shall be between 5.5 and 8.
7. Visible Contaminants: compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 0.1 % by weight or volume.
8. Moisture Content shall be between 35% - 55% of dry solids.
9. Organic Matter Content: 50% - 60% by dry wt. preferred, 30-70% acceptable.
10. Carbon and Nitrogen Ratio: C:N < 20:1
11. Stability/Maturity: shall have a dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable.
12. Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.

Fertilizer: Synthetic, quick-release fertilizers shall not be permitted. Fertilizers prohibited by OMRI are prohibited in the project. Organic fertilizers as recommended by the soils report.
Manufacturer: Growpower or approved equal.
Pesticides: Prohibit the use of pesticides that are prohibited by Organic Materials Research Institute in its generic materials list.
Micorrhizae: MycoApply Soluble MAXX (fine powder/drench) by MycoApply or approved equal.

20-3.01B(2) Recycled Top Mulch

Medium Decorative Mulch (1-1/2 inch grind – all product passes 1-/1-2 inch screen) or approved equal. Available from: BFI Organics 408-945-2836. Recycled mulch shall be purchased from local, organic materials such as plant or wood waste. 3" layer, Color: Brown

20-3.01B(3) Groundcovers, Trees, And Shrubs

All plant materials shall be nursery grown in accordance with the best known horticulture practices and under climatic conditions similar to those in the locality of the project. Container stock shall have grown in the containers in which delivered for at least six (6) months, but not

over two years. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Engineer.
Plants shall be vigorous and shall have a normal habit of growth. Plants shall be free of damage by insects, pests, diseases or wind; burns from insecticides or fertilizer; and stunted growth due to lack of water, lack of food, diseases, or other causes. Plants shall be in conformity with the sizes shown on the drawings.
Trees: Unless otherwise specified, tree trunks shall be straight with leader intact, undamaged, and uncut. All old abrasions and cuts are acceptable only if completely callused over.
Quantities: Quantities necessary to complete the work as shown on the drawings shall be furnished.
Root Systems: All shrubs and trees shall have a normal root system. No plants with roots that have encircled themselves will be accepted. In case of any unsatisfactory root system, a total group of plants may be rejected.

20-3.01B(4) Water Source

Irrigation Water source shall be part of contract. Contractor shall provide transport of additional supply if required.

20-3.01B(5) Root Guards

Deep Root Model UB 24-2 shall be used on all trees 5' or closer to pavement, utilities, curbs, etc. Deep Root: (415) 344-1464 or equivalent. As shown on plan.

20-3.01B(6) Tree Stakes

Per plan.

20-3.01B(7) Tree Ties

Per plan.

20-3.01C CONSTRUCTION

20-3.01C(1) Surface Conditions

Inspections by the Landscape Contractor:

1. Prior to all work in this section, verify grades and carefully inspect the installed work of all other trades. Verify that all such work is complete to the point where the installation may properly commence.
2. In the event of discrepancy, immediately notify the Engineer. Do not proceed with this installation in areas of discrepancies until all such discrepancies have been fully resolved.
3. Inspect trees, shrubs and ground cover plants for injury, insect infestations, and proper pruning.
4. General contractor shall coordinate rough grading of site to ensure the Landscape Contractor receive all planting areas graded to ±0.10 ft. of finish grades shown on the Drawings. Allow for depth of imported soils, soil amendments, and mulch in determining the difference between finished subgrade in groundcover and shrub beds. Verify that subgrades are not compacted. Do not proceed until detrimental conditions are corrected. Contractors shall take precaution during the excavation of all planting areas to not undermine or damage all adjacent pavements, footings and their associated subgrades.

20-3.01C(2) Soil Preparation

The Contractor shall prepare the site for landscaping. In the areas designated for landscaping on the plans, he shall, prior to placing imported material, replacing existing topsoil,, amending soils, or doing any planting, excavate and off haul the existing site soil to the required depth (36" depth for trees and 18" depth for shrubs/groundcover), clear the areas of weeds, roots, debris, rocks,

and underground obstructions, and construction debris to a depth acceptable for planting. Scarify the subgrade to a 12" minimum depth prior to spreading topsoil.
The Contractor shall alleviate compacted soils before planting, for all landscaped areas that cannot be protected during construction.

1. Scarification: Scarify all planting areas prior to fine grading in order to ensure relative compaction of 85% or less. Any planting areas which become compacted in excess of 85% due to construction activities shall be thoroughly cross-ripped to the maximum depth feasible to alleviate that condition, taking care to avoid all existing drainage and subsurface utility lines. See plans.

Cultivation and Placement of Amendment:

1. In areas to be planted with shrubs cultivate to a depth of 12".
2. In groundcover and lawn areas, cultivate soil to a depth of 8".
3. Incorporate 6.25 cubic yards per 1000 square feet of organic compost. Prior to planting incorporate to a depth of 6" the following fertilizers:
4. Per 1000 square feet of shrubs and groundcovers areas:
5. 150 lbs Pure n Natural fertilizer or equivalent.
6. 1 lb per 200 gallons of potable water, drench at rate of 24 oz per gallon size plant material or 2.5 gallons per caliper inch per manufacturer
7. Per 1000 square feet of lawn areas:
8. 0.5 lb of Myco Apply Endo (granular) per manufacturer or equivalent.
9. Areas within the driplines of existing trees shall be hand cultivated.

Soil Mix for Backfill of Shrubs and Trees: The following ingredients shall be tumbled to achieve a homogeneous mix:

Compost	1 cubic yard
Imported Soil/Topsoil	2 cubic yards
Fertilizer	30 lbs.

Finish Grading:

1. Finely finish surfaces by raking smoothly and evenly. Remove all exposed, extraneous matter one inch or larger in size to facilitate natural runoff. Drag to smooth surface.
2. Finish grades will slope to drain, without water pockets or irregularities (humps or hollows). Finish grades will meet all existing controls and shall be 1 ½ inches below adjacent top of paving, curbs, sidewalks and planters, unless otherwise noted on plans. Grades will be of uniform slope between points of fixed elevation. Establish vertical curves or rounding at abrupt changes in slope.
3. All finish grades will be approved by the engineer prior to commencing the planning operations.

Soil mix for Stormwater Treatment Areas: Per Section 21. Scarify subgrade 12” min. Soil mix shall be boot compacted in 6” lifts and graded to drain per the drawings.

20-3.01C(3) Shrubs And Trees

Preparation:

1. Stake out location for plants and outline of planting beds on ground and obtain the approval of Engineer before digging.
2. The Contractor shall protect all utilities, vegetation, and structures during work.

3. Trees shall be located a minimum of 3' from walls, overheads, walks, headers, and other trees within the project. If conflicts arise between size of areas and plans, Contractor shall contact Engineer for resolution. Failure to make such conflicts known to the Engineer will result in Contractor's liability to relocate the materials.

Excavation:

1. All plant pits shall be dug with vertical walls. The sides and bottoms of all planting pits shall be thoroughly scarified.
2. Holes for one (1) gallon size plants: Twelve (12) inches wider than the can and six (6) inches minimum deeper.
3. Holes for (5) gallon size plants: eighteen (18) inches wider than the can or root ball, and eight (8) inches deeper than can or root ball.
4. Holes for fifteen (15) gallon size plants or larger: Twenty-four (24) inches wider than the can or root ball, and twelve (12) inches deeper than the can or root ball. Tree pit shall be prepared at 10'x10' x 36" deep per plan.

Plants in Containers:

1. Plants shall be removed carefully from their containers after the containers have been cut on two sides minimum; fifteen-gallon containers shall be opened in three places. In the case of boxed plant specimens, the wood shall be removed at the sides and at the bottom of the box.
2. After removing plant material from its container, stimulate root growth by making four or five vertical cuts 1" deep around the circumference of the root ball.
3. Do not lift or handle plants by the top, stems, or trunk at any time. All plants shall be lifted in such a manner that the root ball is supported from the underside.
4. The Contractor shall check all plants for adequate root systems. If the root system is defective, he shall remove deficient plants from the site and replace them with new ones.

Planting:

1. Center plant in pit or trench over tamped mound.
2. Face for best effect.
3. Set plant plumb and hold rigidly in position.
4. All plants shall be set in the ground so that the root ball will be flush with the finish grade. All plants that settle below the finish grade within 30 days of acceptance of the work shall be replanted in the proper position. In case a total section of planting area settles, the Contractor shall lift the plants, import additional soil mix, regrade, and replant, at no additional cost to the Contract.
5. Use soil mix only for backfill. Backfill pit with soil mix in 9" layers and water each layer thoroughly to settle soil. The filled pit shall be flush with surrounding grade when complete.
6. When the plant pit has been approximately one half filled, place planting tablets according to the manufacturer's schedule.
7. Apply post-planting organic fertilizer, per soils report.
8. In shrub mass areas, mulch area between plant pits with 3" layer of Pro-Chip manufactured by BFI Organics or equivalent recycled wood chip mulch.
9. Planting operation for plants in raised concrete planters is same as above except that finish grade of soil mix shall be 1 1/2" below top of planter walls. Planters may be backfilled with excess topsoil up to the depth specified for plant pits above which backfill shall be soil mix.
10. Planting operations for plants in precast planters is the same as stated in paragraph 9 above. Fill entire planter with soil mix. Place planters as shown on planting plans.

20-3.01C(4) Groundcover Areas

Planting:

1. Space plants equally and uniformly at spacings indicated on the Drawings, which are the maximum and in a triangular pattern.
2. Plant pits shall be sufficiently large so that the root can be freely suspended in the pit. After backfilling the pit, firm the soil so that there will be no air space around the roots.
3. Apply post-planting organic fertilizer, per soils report.
4. Mulch all ground cover areas with 3" layer of Pro-Chip manufactured by BFI Organics or equivalent recycled wood chip mulch.

20-3.01C(5) Mycorrhizae

For zones where mycorrhizae is not uniformly blended into the soils, provide drench to all plants material per manufacturer application rates.

20-3.01C(6) Tree Staking And Rootball Guying

Stake trees as indicated on the Drawings.

Tying: Find the proper support height by holding the trunk in one hand and pulling the top to one side and releasing it. The lowest height, at which the trunk will return to the upright position when the top is released, is the height at which to attach tree ties.

Rootball Guying: Guy trees per manufacturer's specifications and details. Trees shall be guyed if deemed necessary by City.

20-3.01C(7) Pruning

Tree and Shrub: Pruning shall be performed as required to maintain a natural appearance, promote healthy and vigorous growth, and eliminate diseased or damaged growth.

Trees shall be pruned to thin crown and avoid wind damage, eliminate narrow V-shaped branch forks that lack strength, eliminate sucker growth, and maintain a radial branching pattern to avoid crossing branches.

Under no circumstances will stripping of lower branches ("raising-up") of young trees be permitted. Lower branches shall be retained in a "tipped back" or pinched condition with as much foliage as possible to promote caliper trunk growth (tapered trunk).

Major pruning of trees to compensate for root loss or for aesthetic reasons shall be done only with approval of the Landscape Architect.

Shrubs shall not be clipped into balled or boxed forms, unless such is required by the design and directed by the Landscape Architect.

All pruning shall be made flush to lateral branches, buds, or trunk. "Stubbing" will not be permitted.

Damage: All cuts over 1" resulting from pruning or wind breakage shall be inspected periodically for insect infestation or disease.

20-3.01C(8) Clean Up

Keep all areas of work clean and neat at all times. Upon completion of planting, all cans, boxes, and other debris that is a part of the planting operation shall be removed from the site.

All pavements shall be washed off, and site shall be left in an absolutely clean condition. All planting areas shall be cultivated and weed free before final inspection. Clean-up operations shall take place throughout the course of work so that walks and drives are clean at all times.

20-3.01C(9) Inspections

Notification: The Contractor shall notify Engineer a minimum of 72 hours before requiring a visit by Engineer or his duly appointed representative to the site.

Check Points: The following shall be considered check points and the Contractor shall only proceed with the work after Engineer has visited the site and determined that the work is proceeding satisfactorily.

1. Completion of placement of soil mix and fine grading.
2. When plant material is placed in the configuration shown on the Drawings before planting.
3. A check visit shall be made to begin the maintenance period. At this time the Contractor shall have completed all phases of the Plans and Specifications. Any discrepancies shall be noted at that time and the Contractor shall make appropriate corrections before the acceptance of the work.
4. A conference including the Engineer shall be held at the completion of the work, provided that all deficiencies brought out in the check visit which began the maintenance period have been corrected by this time. The Contractor shall continue to maintain the project at his own expense until all deficiencies have been corrected, at which time the Contractor shall request the Engineer to visit the site and approve the project as complete. The Engineer will accept the landscape project in writing. The date of the acceptance letter shall be the first day of the guarantee period.

Should it be determined at the Final Inspection or Final Acceptance visit that any punchlist item is incomplete, any further review of the site will be terminated until all items are guaranteed, in writing, to be complete by the Contractor. The cost of additional site visits by the Engineer to verify completion of work shall be paid for by the Contractor.

20-3.01C(10) Maintenance

Contractor shall furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 90 days.

Maintenance shall include fertilization, watering, insect and disease control (IPM), and weed control using IPM, weekly trash removal, mulching, restaking trees, tightening of guys, resetting plants to proper grades or upright position, and restoration of watering basins.

Maintenance period shall not start until all elements of construction, planting, and irrigation for the entire project are complete. Project will not be segmented into maintenance phases, unless specifically authorized in writing by Engineer.

The Contractor shall request an inspection to begin the plant maintenance period after all planting and related work has been completed in accordance with the Contract documents. A prime requirement is that all groundcover and lawn areas be planted. If such criterion is met to the satisfaction of Engineer, a field notification will be issued to the Contractor to establish the effective beginning date of the period.

The Contractor's maintenance period will be extended if the provisions required within the plans and specifications are not filled.

Watering:

1. All plants shall be kept watered as often as it is necessary to keep them in optimum, vigorous growth. Watering shall be done preferably during the early morning hours. Check soil moisture levels with a soil probe before watering and adjust watering schedule to match weather conditions.

2. Water shall be controlled so that there will be no excessive run-off, ponding, or overwatering. Check and adjust irrigation system on a weekly basis.
3. Root Growth: Periodically the Contractor shall check the progress of the root growth within the back fill area. As the root growth increases beyond the root ball, the frequency of watering shall be reduced so that the roots are encouraged to grow to a lower soil depth. Watering then shall be less frequent, but applications shall be very slow and the Contractor shall assure himself that water does penetrate to the depth of the former plant pit.
4. Replace broken equipment immediately with equal or superior materials.

Spraying:

1. Utilize IPM practices for plant care.
2. All shrubs and trees shall be inspected at least twice a month during the growing period to determine the need for spraying to control insect damage, fungus development or any other disease that might be attacking the plants. Preventative spraying shall be done only with the approval of Engineer.
3. Operators of spray equipment shall take all reasonable precautions to protect themselves, other people and buildings from spray. The Contractor shall have all permits and licenses required for such an operation. Where applicable, dormant spray shall be applied to shrubs and trees during the winter period.
4. All equipment shall be properly washed before and after use.
5. No spraying shall take place during windy or gusty days.

Staking and Guying: Stakes and guys shall be inspected a minimum of two times a month to assure that the wires and ties are tight and no damage has occurred to the tree trunk or branches.
Weed Control:

1. Weeds shall be kept under control, preferably either by hand or by IPM methods.
2. All equipment used for herbicides, if utilized, shall be properly cleaned before it is used on this project. Herbicides shall be applied at temperatures recommended by the manufacturers. Herbicides shall not be used during windy or gusty days. All possible precautions shall be taken to protect vegetation which is susceptible to damage from the particular herbicides to be used.
3. The bases of all plants shall be kept completely free of weeds. Periodically, the base of the trees and shrubs shall be cultivated in order to allow better penetration of water, but such cultivation shall be carefully done in order not to destroy surface roots.

Fertilization: Contractor shall provide eight additional soils tests prior to the end of the 90 day maintenance period for final fertilization requirements. Contractor shall fertilize all areas as recommended by soils test. Top dress all areas at 45 day intervals from time of planting with organic fertilizer or compost tea as recommended by soils report. 20lbs fertilizer per 1000 s.f..
Litter: The Contractor shall remove promptly after pruning, trimming, and weeding or other work required under the contract, all debris generated by his performance of the work. Immediately after working in the areas of public walks, driveways or paved areas, they shall be vacuumed clean with suitable equipment. All areas covered by this contract shall be kept free of the following items: bottles, cans, paper cardboard or metallic items. Common debris and litter shall be disposed of in an appropriate manner.
Pruning: Prune as necessary to remove injured twigs and branches, dead wood, and suckers. Soil shall not be worked when wet, generally between October and April for on-going maintenance.

20-3.01C(11) Guarantee And Replacement

Guarantee period shall be extended for a period of one year from the date of written acceptance and once a warranty walk has been completed with Engineer. The Contractor shall schedule a one year walk with Engineer for review of all plant material. Failure to schedule a one year maintenance walk will not relieve the Contractor of the guarantee.

All plants shall be guaranteed to be alive and healthy as determined by Engineer at the end of the guarantee period.

Plant materials supplied by City shall be under similar warranty against defective workmanship during the planting operations. Plant material exhibiting conditions which are determined by Engineer as being unacceptable, due to workmanship by the Contractor, shall be replaced at no additional cost to the Contract.

The Contractor shall replace, in accordance with the Drawings and Specifications throughout the guarantee period, any plants that die, or in opinion of the Landscape Architect, are in an unhealthy or unsightly condition, and or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, or any other causes due to the Contractor's negligence. The Contractor shall not be held responsible for acts of vandalism occurring after the beginning of the guarantee period.

10.11 EROSION CONTROL

See Section 21 "Erosion Control" of the Standard Specifications and the following Special Provisions.

Replace Reserved in section 21-2.02L with: 21-2.02L Bioretention Soil Mix
Bioretention Soil Mix must comply with the requirements set forth by the Bay Area Stormwater Management Agencies Association (BASMAA) Specification of Soils for Biotreatment or Bioretention Facilities (Attachment L).
The use of performance specification for alternative bioretention soil mix is not allowed.

Replace Reserved in section 21-2.03K with: 21-2.03K Bioretention Soil Mix

Contractor shall utilize a pre-mixed bioretention soil mix. Place bioretention soil mix in 6 inch lifts and compact each lift with a landscape roller or by lightly wetting. Maintain the planned flow lines, slope gradients and contours of the project site. Allow bioretention soil mix to dry overnight before planting.

Add to section 21-2.03l:

Do not apply mulch in ponding zone just prior to or during rainy season.
Excavations must allow for specified bioretention soil and mulch depths to achieve finished elevations as shown.

10.12 ASPHALT CONCRETE

See Section 39 "Asphalt Concrete" of the Standard Specifications and the following Special Provisions.

Add to section 39-1.01:
Produce and place HMA Type A under the Standard construction process.

Add to section 39-2.01B(4)(a):

Aggregate used in HMA Type A must comply with the 3/4-inch maximum grading for base course and ½-inch maximum grading for surface course HMA Types A gradation.

Replace *Reserved* in section 39-2.02B(3) with:

The grade of asphalt binder for Type A HMA must be PG 64-10.

10.13 SUBSURFACE DRAINS

See Section 68 "Subsurface Drains" of the Standard Specifications and the following Special Provisions.

Replace paragraph 3 of section 68-2.02F(1) with:

Use Class 2 permeable material for underdrains.

10.14 MISCELLANEOUS DRAINAGE FACILITIES

See Section 70 "Miscellaneous Drainage Facilities" of the Standard Specifications and the following Special Provisions.

Replace "Reserved" in section 70-8 with: 70-8 STORM SEWER AND SANITARY SEWER

70-8.01 GENERAL

70-8.01A Summary

Section 70-8 includes specifications for City of Oakland Storm Sewer and Sanitary Sewer. Storm sewer must comply with the City of Oakland Standard Details and Standard Specifications.

70-8.02 MATERIALS

Reinforcement must comply with Section 52.
High-Density Polyethylene (HDPE) pipe must comply with Section 64.
Reinforced Concrete Pipe (RCP) must comply with Section 65.
Precast Concrete overflow inlets must comply with Section 70-4.
All storm drain pipes must have watertight gasketed joints.
Miscellaneous iron and steel must comply with Section 75.
All steel items shall be galvanized. All cast iron items must be painted or dipped in commercial quality, asphalt paint furnished by you. Galvanized must be performed after fabrication.
Frames and covers must be match-marked in pairs before delivery to the work and the covers must fit into their frames without rocking. The faces and seats of manhole covers must be machined finished.
Concrete must comply with Section 90.

70-8.03 CONSTRUCTION

70-8.03A General

Excavation and backfill must comply with section 19 and City of Oakland Standard Details and Standard Specifications.
Provide minor concrete backfill as shown on the plans.

10.15 CONCRETE CURBS AND SIDEWALKS

See Section 73 "Concrete Curbs and Sidewalks" of the Standard Specifications and the following Special Provisions.

Add to section 73-1.02A:
Concrete must be minor concrete complying with section 90-2 and may contain returned plastic concrete complying with section 90-9.

Concrete and base material used for City of Oakland curb and gutter, sidewalk and driveways must comply with the City of Oakland Standard Specifications and Standard Details.

Replace *Reserved* in section 73-5 with:

73-5.01 REMOVE EXISTING CONCRETE

73-5.01A General

Section 73-5.01 includes specifications for removing existing concrete improvements.

73-5.01B Materials

Not Used

73-5.01C Construction

Concrete improvements of various types, including all reinforcement and base courses, where shown on the plans, shall be removed and disposed of to the limits indicated on the plans. Curbs and sidewalks shall be cut straight, clean and square with a power saw or other tools and equipment suitable for the work. Remove improvements to the nearest score mark.

10.16 LOCAL INFRASTRUCTURE

Add to section 77:

77-1 FENCES AND GATES

77-1.01 GENERAL

77-1.01A Summary

Section 77-1 includes specifications for furnishing and installing chain link fencing, ornamental fencing and gates, and sliding gates as shown on the Plans.

77-1.01B Submittals

Submit cut sheet or shop drawing for chain link fence.
Submit fabricator shop drawing for ornamental fence and foundation.
Submit fabricator shop drawing for sliding gate.
Submit catalog cut for gate motor, sensors and electronics.

77-1.02 MATERIALS

Chain link fencing must comply with Section 80 and City of Oakland Standard Specifications and Standard Details.
Ornamental Fencing and Gates must be fabricated to match dimensions, material and finish of existing ornamental fencing around project site.
Sliding gate must match dimensions, material and finish of ornamental fence.

77-1.03 CONSTRUCTION

Construct chain link fencing in compliance with Section 80 and City of Oakland Standard Specifications and Standard Details.
Construct ornamental fencing and gates in compliance with Section 80.
Sliding gate must match dimensions, material and finish of ornamental fence.

77-2 BOLLARDS

77-2.01 GENERAL

77-2.01A Summary

Section 77-2 includes specifications for furnishing and metal bollards as shown on the Plans.

77-2.01B Submittals

Submit shop drawing for galvanized steel pipe and concrete.

77-2.02 MATERIALS

Galvanized steel pipe must comply with Section 20.
Concrete must comply with Section 90.

77-2.03 CONSTRUCTION

Construct as shown on the Plans.

77-3 UTILITY SYSTEMS

77-3.01 GENERAL

77-3.01A Summary

Section 77-3 includes specifications for constructing utility systems as shown in the plans. The scope of work is as shown on the plans, excluding items performed by utility owners, and generally includes the following:

- PG&E Electrical Service – PM 35138278
- High Speed Internet Service
- EBMUD Water Service
- EBMUD Fire Service

Attention is directed to Bid Item 52 - 24' x 60' TRAILER UTILITY CONNECTIONS. Contractor shall coordinate utility connections for the new 60-foot by 24-foot trailer as shown on the plans. New utility connections include a sanitary sewer connection, an electrical connection, a telephone/communications connection, and a water line connection. The sanitary sewer connection shall be 4-inch diameter plastic pipe (PVC, ABS, or approved equal) to connect the trailer to the newly installed sanitary sewer connection in the parking lot, the electrical connection shall be of appropriate diameter (rigid conduit, sch 80 PVC, or approved equal) to convey the conductors from the newly installed electrical connection (note that PG&E will provide conductors to the new service point, but that the contractor is responsible for conduit and conductors from that point to the new trailer as shown on the plans), the Telephone Communications connection shall be of appropriate diameter (rigid conduit, sch 80 PVC, or approved equal) to convey the conductors from the telecom service point, and the water line connection is a 1-inch NPT (copper or approved equal).

The utility terminations as shown on the plans are approximate and the contractor shall plan on extending the utility connections with appropriate materials in conformance with all current regulatory codes. The lump sum price paid for bid item 52 - 24' x 60' TRAILER UTILITY CONNECTIONS shall include furnishing all labor and materials necessary to connect the trailer to the utility terminations as shown on the plans an no additional payment shall be made therefor.

77-3.02 MATERIALS

77-3.02A PG&E Service

Materials must comply with the PG&E Greenbook standards.

77-3.02B EBMUD Water Service

Materials must comply with the EBMUD standards.

77-3.02C EBMUD Fire Service

Materials must comply with the EBMUD standards.

77-3.03 CONSTRUCTION

77-3.03A PG&E Service

Construct service in compliance with the utility owner having jurisdiction, including substructure and boxes from PG&E pole to meter pedestal. Coordinate with PG&E for inspection, approval and activation.
Prior to beginning work, Call 510-437-2088 to schedule pre-construction meeting. Reference PM #35138278 as well as the USA ticket number. Do not enter distribution facilities prior to the pre-construction meeting.

77-3.03B EBMUD Water Service

Coordinate with EBMUD for connection of water service. Construct domestic water system per EBMUD Standards. Cap and abandon existing water system in coordination with EBMUD. Coordinate with EBMUD for inspection, backflow prevention approval, and meter placement.

77-3.03C EBMUD Fire Service

Coordinate with EBMUD for connection of fire service. Construct fire hydrant water system per EBMUD Standards. Coordinate with EBMUD and Oakland Fire Department for inspection, backflow prevention approval and activation.

77-3.03D Slurry Cap

Construct slurry cap over existing gas line when gas line has less than 3 feet of cover. Construct per plan.

77-4 LIGHTING AND ELECTRICAL SYSTEMS

77-4.01A GENERAL

77-4.01A(1) Description

Section 77 - 4 includes specifications for furnishing, constructing and installing the Lighting and Electrical Systems.
The work to be performed includes, but not limited to, furnishing and installing lighting equipment and foundations, installing service cabinet and foundation for lighting and irrigation, electrical gates, pull boxes, conduit, conductors and cables and testing the complete system.
Work or equipment not specified or shown on the Plans which is necessary for the proper operation of the work in this area must be provided and installed at no additional cost.
All electrical systems work shall comply with the 2018 Caltrans Revised Standard Plans and Specifications and these Special Provisions.

77-4.01A(2) Regulations and code

Regulations and Code must comply with Section 86 and 87 of the Caltrans 2018 Revised Standard Specifications. Nothing in these plans or specifications must be construed to permit work not conforming to the most stringent of the applicable codes.

77-4.01A(3) Guarantees and Instruction Sheets

Guarantees and instruction sheets must comply with Section 5-1.47, “Guarantee” of the Caltrans 2018 Revised Standard Specifications.

77-4.01A(4) Warranties

Contractor shall provide warranty documentation prior to acceptance by the Owner.
Warranty for all LED lighting must be provided for the full replacement of the luminaire due to any failure and for the repair or replacement of defective electrical parts (including light source and power supplies/drivers) for a minimum of ten (10) years.
Reduction of lighting output by more than 10% of the LED package within six (6) years constitutes luminaire failure. The respective manufacturers shall not be responsible for damage caused by negligence by others, acts of God, or use of equipment in a manner not originally intended. To obtain service under this warranty the Owner will deliver the equipment to the manufacturer's designated address for repair. The manufacturer will repair and return the equipment to the Owner within thirty (30) calendar days.

77-4.01A(5) Submittals

Submittals must comply with Section 86-1.01C of the Caltrans 2018 Revised Standard Specifications.
All equipment and materials that you propose to install must comply with these specifications and contract plans. A list of substitute equipment and/or materials along with a written descriptive summary, describing the functions of the components must be submitted along with the bid proposal. The list must be complete as to the name of manufacturer, size and identifying number of each item. The list must be supplemented by such other data as may be required. In all cases, the judgment of the Engineer must be final as to whether substitute equipment and/or material complies with the intent of these specifications.
You must furnish final as-built drawings.

77-4.02B MATERIALS

Materials must comply with Section 86 of the Caltrans 2018 Revised Standard Specifications.
You must furnish all materials required to complete the work under this contract.

77-1.04B(1) LED Lighting

LED Lighting must comply with Section 86-1.02K(2), “LED Luminaires” of the Caltrans 2018 Revised Standard Specifications.
All items must be new, unused, and of the manufacturer’s latest design and model unless otherwise specified. All Standard Equipment must be provided. All necessary parts not mentioned, but needed for operation of the items specified must be supplied.
Light fixture Types are shown on the electrical plans.

77-4.02B(2) Pull Boxes

Pull boxes must comply with Section 86-1.02C(2), “Non Traffic Pull Boxes” of the Caltrans 2018 Revised Standard Specifications, except as follows:
Electronic markers are not required in the covers.
Covers must be secured with stainless steel pentahead bolts.
Covers must be marked “Electrical”.

77-4.02B(3) Conduit and Accessories

Conduit and accessories must comply with Section 86-1.02B, "Conduit and Accessories" of the Caltrans 2018 Revised Standard Specifications.

77-4.02B(4) Conductors and Cables

Conductors and cables must comply with Section 86-1.02F, "Conductors and Cables" of the Caltrans 2018 Revised Standard Specifications.

77-4.02B(5) Grounding and Bonding

Grounding and Bonding must comply with Section 86-1.02O, "Grounding Electrodes" of the Caltrans 2015 Revised Standard Specifications.

77-4.02B(6) Service Equipment Enclosures

Service equipment enclosures must comply with Section 86-1.02P(2), "Service Equipment Enclosures" of the Caltrans 2018 Revised Standard Specifications.

77-4.02B(7) Automatic Gate Operators

Provide automatic gate operators that complies with the plans and this Section.
Gates must support keypad access and keycard access.
Gate shall have an override operation where it can be manually opened and closed.
Furnish 35 access remotes compatible with the automatic gate operator.

77-4.02C CONSTRUCTION

77-4.02C(1) Conduit Installation

Conduit installation must comply with Section 87-1.03B, "Conduit Installation" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(2) Installation of Pull Boxes

Pull boxes installation must comply with Section 87-1.03C, "Installation of Pull Boxes" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(3) Excavating and Backfilling for Electrical Systems

Excavating and Backfilling for Electrical Systems must comply with Section 87-1.03E, "Excavating and Backfilling for Electrical Systems" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(4) Concrete Pads, Foundations and Pedestals

Concrete Pads, Foundations and Pedestals must comply with Section 87-1.03E(3), "Concrete Pads, Foundations and Pedestals" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(5) Conductors and Cable Installations

Conductors and Cable Installations must comply with Section 87-1.03F, "Conductors and Cable Installations" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(6) Conductor and Cable Splices

Conductor and Cable Splices must comply with Section 87-1.03H, "Conductor and Cable Splices" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(7) Connectors and Terminals

Connectors and Terminals must comply with Section 87-1.03I, "Connectors and Terminals" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(8) Numbering Parking Lights

Not Used.

77-4.02C(9) Standards, Poles, Pedestals, and Posts

Standards, Poles, Pedestals, and Posts must comply with Section 87-1.03J, "Standards, Poles, Pedestals, and Posts" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(10) Service Equipment Enclosures

Service Equipment Enclosures must comply with Section 87-1.03P, "Service Equipment Enclosures" of the Caltrans 2018 Revised Standard Specifications.

77-4.02C(11) Automatic Gate Operators

Install automatic gate operators per Section 87 and manufacturer instructions.

10.17 MARKINGS

See Section 84 "Markings" of the Standard Specifications and the following Special Provisions.

All striping within bus yard must be paint. Paint must comply with Section 84.

All striping within Mandela Parkway and Ettie Street must be thermoplastic. Thermoplastic must comply with Section 84.

^^

CONTRACT SECTION INCLUDED FOR INFORMATION ONLY AND IS NOT TO BE COMPLETED WITH THE BID

AGREEMENT

THIS AGREEMENT, made this _____ day of _____ 202__, by and between the **EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION** , a non-profit corporation of the State of California, hereinafter called "Owner" and_____. hereinafter called "Contractor."

W I T N E S S E T H:

That the Owner and the Contractor for the considerations stated herein, agree as follows:

ARTICLE I
Scope of Work

The Contractor shall perform everything required to be performed and shall provide and furnish all the labor, materials, necessary tools, equipment, and services required to complete all the work, in accordance with requirements contained in the contract documents therefor entitled, "EMERY-GO-ROUND FLEET PARKING FACILITY" IN OAKLAND, CALIFORNIA," Project No._____. Said work to be performed in strict compliance with said plans, specifications and contract documents, which are hereinafter enumerated. It is agreed that said labor, materials, tools, equipment and services shall be furnished and said work performed and completed under the direction and supervision and subject to the approval of the Owner or its authorized representatives.

ARTICLE II

Contract Price

Owner shall pay to Contractor as full consideration for the faithful performance of this contract and subject to any additions or deductions as provided in the contract documents, and in accordance with the schedule of payments contained in the contract documents, the full contract price in accordance with the unit prices set forth in Contractor's accepted proposal.

ARTICLE III

Component Parts of this Contract

This contract consists of all of the following contract documents, all of which are as fully a part thereof as if herein set out in full and if not attached hereto, the same as attached hereto:

1. Notice to Contractors

2. Specifications entitled: NOTICE TO CONTRACTORS
   PROPOSAL & SPECIAL PROVISIONS
   AND CONTRACT DOCUMENTS FOR
   EMERY-GO-ROUND FLEET PARKING FACILITY
   PROJECT NO.: **04-ALA-580 PM 46.33**

3. The accepted proposal of Contractor

4. Plans entitled: PLANS FOR THE CONSTRUCTION OF
   ETMA MANDELA PARKWAY YARD
   Plan No. 01 in 2020 (37) sheets.

5. The Following Bonds:
   a) Faithful Performance Bond (100% of the estimated value of City of Oakland Improvements)
   b) Labor and Materials Payment Bond (50% of the estimated value of City of Oakland Improvements)
   c) Maintenance Bond (25% of the estimated value City of Oakland Improvements)
   d) Caltrans Encroachment Permit bonds – to be identified via addendum No. 1.

6. This Agreement

7. General Liability, Automobile Liability and Workers' Compensation Insurance; all as required pursuant to specifications.

IN WITNESS WHEREOF, three identical counterparts of this instrument, each of which shall for all purposes be deemed and original thereof, have been duly executed by the parties hereinabove named on the day and year first above written.

EMERYVILLE TRANSPORTATION
MANAGEMENT ASSOCIATION

_____
Chair, Board of Directors

ATTEST:

CONTRACTOR

_____
Secretary

_____
Authorized Signature

_____
Print Name Title

CITY OF OAKLAND BOND FORMS
TO BE FURNISHED BY SUCCESSFUL BIDDER

Surety Bond

Faithful Performance

Public Infrastructure Improvements

BOND No. _____

ADDRESS: 3640 Mandela Pkwy, Oakland, CA OWNER_____(Corporation)
PARCEL No.: _____ PRINCIPAL: _____
PERMIT: PX2000004 AMOUNT: $_____

As required by the Oakland Municipal Code for approval of the permit referred to above and made a part hereof, the City of Oakland ("City"), a California municipal corporation, and _____("Principal"), a California _____(no._____) have entered into an Agreement whereby said Principal will construct certain improvements as specified in said permit. Before commencing said work, said Principal is required to furnish a good and sufficient instrument to secure its **Faithful Performance** of said work. (Amount shall be not less than the cost of construction (100%) of the infrastructure improvement as estimated by the Engineer of Record.)

The Principal and _____, as their Surety and a California corporation authorized to transact such business, are held and firmly bound unto the CITY, in the penal sum of _____ dollars ($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind out heirs, ourselves, successors, executors and administrators, jointly and severally, firmly by these presents for the **performance** of said work.

The condition of this obligation is such that if said Principal and its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the Agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Oakland and its officials, officiers, employees, representatives, agents, and volunteers as therein stipulated, then this obligation shall become null and void. Otherwise, it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Said Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to said work to be performed there under or the plans and specifications accompanying the permit referred to above shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the plans and specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by said Owner and said Surety named above, on the dates indicated below:

OWNER	SURETY
By _____	By _____
Name _____	Name _____
Title _____	Title _____
Date _____	Date _____
(notary seal)	(corporate authorization)

Surety Bond

Payment Labor and Materials

Public Infrastructure Improvements

BOND No. _____

ADDRESS: 3640 Mandela Pkwy, Oakland, CA
PARCEL No.: _____
PERMIT: PX2000004

OWNER_____(Corporation)
PRINCIPAL: _____
AMOUNT: $_____

As required by the Oakland Municipal Code for approval of the permit referred to above and made a part hereof, the City of Oakland ("City"), a California municipal corporation, and _____("Principal"), a California _____(no._____) have entered into an Agreement whereby said Principal will construct certain improvements as specified in said permit. Before commencing said work, said Principal is required to furnish a good and sufficient instrument to secure its **payment of labor and materials** for said work. (Amount shall be not less than one-half of the cost of construction (50%) of the infrastructure improvement as estimated by the Engineer of Record.)

The Principal and _____, as their Surety and a California corporation authorized to transact such business, are held and firmly bound unto the CITY, in the penal sum of _____ dollars ($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind out heirs, ourselves, successors, executors and administrators, jointly and severally, firmly by these presents for the **payment** of said work.

The condition of this obligation is such that if said Principal and its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the Agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Oakland and its officials, officiers, employees, representatives, agents, and volunteers as therein stipulated, then this obligation shall become null and void. Otherwise, it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Said Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to said work to be performed there under or the plans and specifications accompanying the permit referred to above shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the plans and specifications.

It is hereby expressly stipulated and agreed that this surety bond for **payment of labor and materials** shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

IN WITNESS WHEREOF, this instrument has been duly executed by said Owner and said Surety named above, on the dates indicated below:

OWNER	SURETY
By _____	By _____
Name _____	Name _____
Title _____	Title _____
Date _____	Date _____
(notary seal)	(corporate authorization)

Bond No. _____

Premium _____

Surety Bond

Maintenance One (1) Year Warranty

Privately Constructed Public Infrastructure Improvements
P-Job Agreement / PX Permit

WHEREAS, the City of Oakland, ("City"), a municipal corporation of the State of California and _____, as principal ("Principal") have entered into an agreement entitled **P-JOB AGREEMENT** for the privately constructed public infrastructure improvements associated with _ETMA Mandela Parkway Bus Yard_ ("Project") and _PX2000004__ ("PX - Permit Number.") incorporated herein by reference and referred to as the "Agreement," which requires Principal to install and complete certain designated public improvements; and,

WHEREAS, under the terms of the Agreement, Principal is required to furnish a bond to City to make good and protect the City against the results of any work or labor done or materials or equipment furnished which are defective or not in accordance with the terms of the Agreement having been used or incorporated in any part of the work so Agreement for, which shall have appeared or been discovered, within the period of one (1) year from and after the completion and final acceptance of the work done under the Agreement.

NOW, THEREFORE, we the Principal and, a corporation duly authorized and admitted to transact business and issue surety bonds in the State of California ("Surety"), are held firmly bound unto the City in the sum of _____ ($_____.00), for the payment of which sum well and truly to be made, we the Principal and Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is such that, if the Principal shall well and truly make good and protect the City against the results of any work or labor done or materials or equipment furnished which are defective or not in accordance with the terms of the Agreement having been used or incorporated in any part of the work performed under the Agreement, which shall have appeared or been discovered within said one-year period from and after completion of all work under the Agreement and final acceptance by City of said work, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any change, extension of time, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by authorized representatives of the Principal and Surety. SIGNED AND SEALED on _____, 20_____.

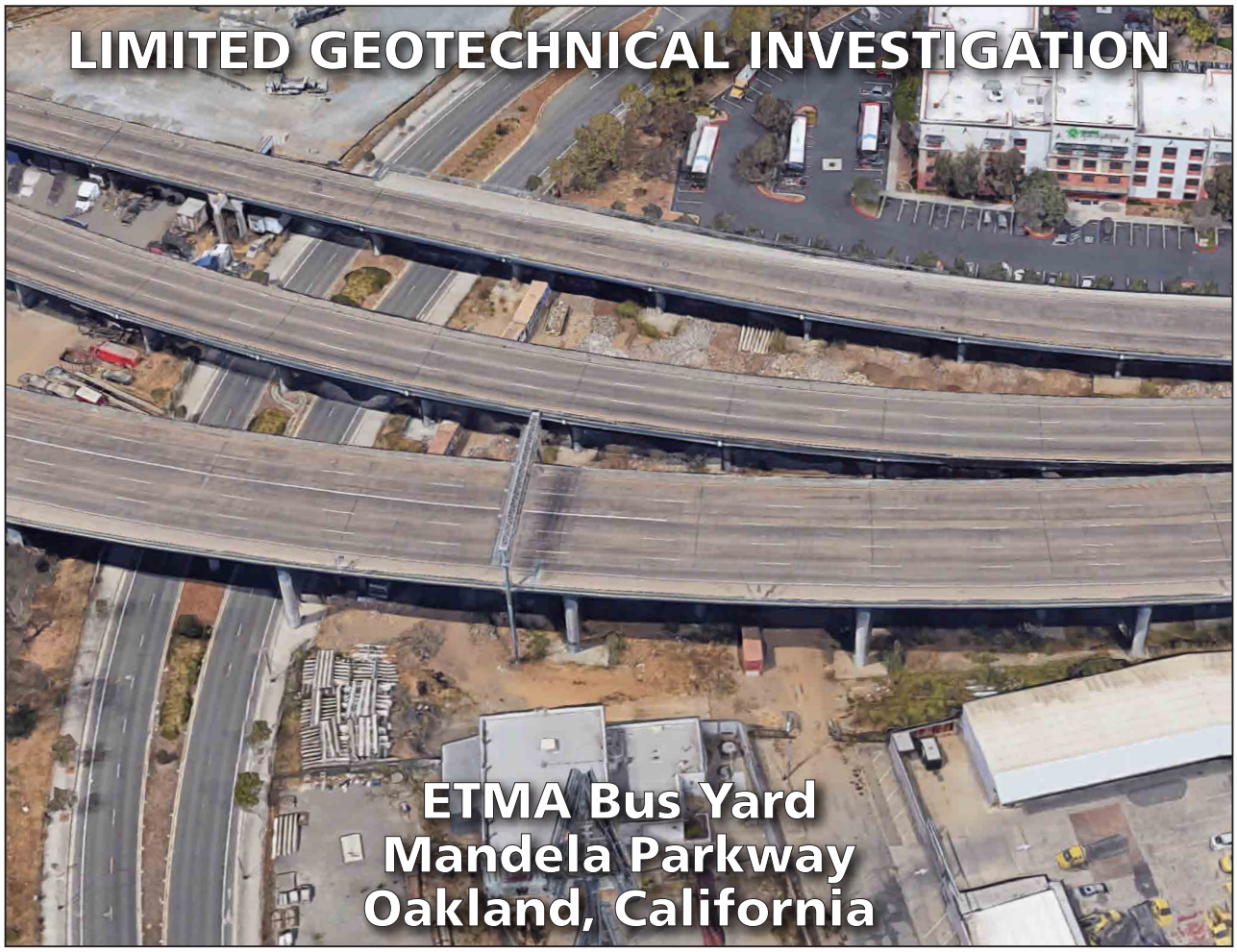
PRINCIPAL:	SURETY:
_____	_____
(Principal name) (Seal)	(Surety name) (Seal)
BY:_____	BY:_____
(Signature)	(Signature)
_____	_____
(Print name and title)	(Print name and title)
Principal address and telephone:	Surety address and telephone:

Affix Corporate Seals
Attach Notary Acknowledgments for All Signatures
Attach Power-of-Attorney if executed by Attorney-in-Fact

APPENDIX

Site Specific Soils Report
Soil Sampling Report
William Scottsman Trailer Floorplan
City of Oakland Permit
Caltrans Encroachment Permit

LIMITED GEOTECHNICAL INVESTIGATION



ETMA Bus Yard
Mandela Parkway
Oakland, California

PREPARED FOR:

BKF ENGINEERS
1730 N. 1ST STREET, SUITE 600
SAN JOSE, CALIFORNIA 95112

BkF
ENGINEERS / SURVEYORS / PLANNERS

PREPARED BY:

GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA 94550

GEOCON

GEOCON PROJECT NO. E9133-04-01

AUGUST 2019

Project No. E9133-04-01
August 26, 2019

BKF Engineers
1730 N. 1st Street, Suite 600
San Jose, California 95112

Attention: Mr. Marcelo Cosentino

Subject: ETMA MANDELA PARKWAY BUS YARD
EAST SIDE OF MANDELA PARKWAY AT I-580 OVERCROSSING
OAKLAND, CALIFORNIA
LIMITED GEOTECHNICAL INVESTIGATION

Dear Mr. Cosentino:

In accordance with your authorization of our proposal dated August 2, 2018, we have performed a limited geotechnical investigation for the subject bus yard in Oakland, California. Our investigation was performed to observe the subsurface conditions that may impact site development for the project. The accompanying report presents the results of our investigation and conclusions and recommendations pertaining to the geotechnical aspects of the proposed project. The findings of this study indicate the site is suitable for development as planned provided the recommendations of this report are implemented during design and construction.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Sincerely,

GEOCON CONSULTANTS, INC.

DRAFT

Shane Rodacker, GE
Senior Engineer

DRAFT

Jacob Bishop-Moser, EIT
Senior Staff Engineer

(1/e-mail) Addressee
(1/e-mail) BKF Engineers
Attention: Mr. Blake Silkwood

TABLE OF CONTENTS

LIMITED GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the proposed Emeryville Transportation Management Association (ETMA) Mandela Parkway Bus Yard in Oakland, California (see Vicinity Map, Figure 1). The purpose of this investigation was to evaluate the subsurface conditions in the areas of planned bus yard and provide conclusions and recommendations pertaining to the geotechnical aspects of project design and construction, based on the conditions encountered during our study.

The scope of this investigation included field exploration, laboratory testing, engineering analysis and the preparation of this report. Our field exploration was performed on May 9, 2019 and included the drilling of 8 exploratory borings to depths of approximately 4 ½ feet or less. The locations of the exploratory borings are depicted on the Site Plan, Figure 2. A detailed discussion of our field investigation and boring logs are presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to evaluate pertinent physical properties for engineering analyses. Appendix B presents the laboratory test results in tabular and graphic format.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described herein, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE CONDITIONS AND PROJECT DESCRIPTION

The project site is an irregularly shaped, approximately 2 ½-acre Caltrans-owned parcel on the east side of Mandela Parkway beneath the I-580 viaducts in Oakland. The southern edge of the property borders an Alameda County Flood Control pump station and an American Automobile Association yard that are separated by the northern terminus of Ettie Street. A hotel property exists to the north. The site currently serves as a storage yard with various dumpsters, storage containers and trucks. This yard continues to the east of the project site. Topographically, the site is relatively flat with web-based mapping indicating ground surface elevations on the order of 10 to 15 feet MSL. Columns that support the overhead I-580 viaducts are present in three east-west rows across the site. The columns connect to concrete pier caps that extend approximately two to three feet above existing grade throughout the yard.

The site will be developed as an ETMA bus yard. A new asphalt parking lot will cover most of the site (where not restricted by existing columns and foundations) and will create 20 employee parking spots and 30 bus parking spots. Ingress traffic will enter from a driveway at the southern end of the Mandela Parkway frontage, and egress traffic will exit via a driveway at the northern end of the Mandela Parkway frontage. The driveway entrance and exit will be concrete pavement. A portion of the Mandela Parkway median will be reconstructed to create a new left turn pocket to facilitate vehicles entering from southbound Mandela Parkway. A 24-foot by 60-foot trailer will be located near the center of the site and will function as administrative/office space. Storm water bio-retention and landscape area are planned primarily along the north and west margins of the site, but additional areas will exist along the southern margin and in isolated areas near the center of the site. Ancillary site improvements such as exterior flatwork and bollards are also anticipated.

3. GEOLOGIC SETTING

Available geologic mapping by the United States Geological Survey (USGS) indicates the site is underlain by artificial fills and on the edge of mapped old tidal flats.

4. SOIL AND GROUNDWATER CONDITIONS

4.1 Undocumented Fill

Undocumented fill was observed in our exploratory borings to the maximum depth explored – approximately 4 ½ feet below existing grade. The undocumented fill was observed as medium stiff to very stiff clays with variable amounts of sand and gravel, medium dense to dense sands with variable amounts of clay and gravel, and loose to dense gravels with trace to few clays and variable amounts of sand. Asphalt concrete (AC) pavement was encountered in our Boring B5 at 4 ¼ feet below existing grade. Buried concrete was encountered in our Boring B3 at a depth of approximately 3 ½ feet below existing grade. An unidentified obstruction was encountered in our Boring B7 at one foot below existing grade.

4.2 Groundwater

Groundwater was not encountered in our soil borings to the maximum depth explored. Historic high groundwater levels for the site vicinity are less than 5 feet below natural grade based on mapping by the California Geological Survey. Actual groundwater levels will fluctuate with variations in rainfall, temperature and other factors and may be higher or lower than observed during our study.

4.3 Soil Corrosion Screening

Soil samples obtained during our field exploration were subjected to laboratory testing for minimum resistivity, pH, and chloride and water-soluble sulfate. The laboratory test results and published screening levels are presented in Appendix B. Soil corrosivity should be considered in the design of buried metal pipes, underground structures, etc.

Water-soluble sulfate test results on selected samples of site soils indicate an S0 exposure classification for sulfate attack on normal portland cement concrete (PCC) as defined in Chapter 318, Table 19.3.1.1 of the ACI *Building Code Requirements for Structural Concrete*. ACI does not set forth requirements for S0 sulfate exposure classification. In addition, none of the three soil samples that we tested would be classified as corrosive to buried metal improvements based on Caltrans criteria.

Geocon does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 General

5.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the project provided the recommendations presented herein are followed and implemented during design and construction.

5.1.2 All references to relative compaction and optimum moisture content in this report are based on ASTM D 1557 (latest edition).

5.1.3 The proposed project redevelops a site with existing undocumented fills and past episodes of development. As such, unknown underground improvements may be present and subsurface conditions may vary from those observed in exploratory borings. Supplemental recommendations will be provided on a case-by-case basis during site development.

5.1.4 We understand that documentation relative to the placement and compaction of the existing fills does not exist, and complete removal and recompaction of the fill materials is not economically feasible for this project. As such, the proposed improvements may not perform as well as would be normally expected. Additional maintenance and repair may be necessary over the life of the project. Alternative recommendations to mitigate potential maintenance and repair costs are provided herein.

5.1.5 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

5.2 Soil and Excavation Characteristics

5.2.1 Based on the soils conditions encountered in our soil borings, the onsite soils can be excavated with moderate effort using conventional excavation equipment. Excavations in the undocumented fills may generate oversize material (greater than 6 inches in nominal dimension).

5.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations to maintain safety and maintain the stability of adjacent existing improvements. Temporary excavations are further discussed in Section 5.5.

5.3 Materials for Fill

5.3.1 Excavated soils generated from cut operations at the site are geotechnically-suitable for use as engineered fill in structural areas provided they do not contain deleterious matter, organic material, or cementations larger than 6 inches in maximum dimension.

5.3.2 Import material should be well-graded with a very low to low expansion potential (Expansion Index less than 50), a Plasticity Index less than 15, be free of organic material and construction debris, and not contain rock larger than 6 inches in greatest dimension.

5.3.3 Environmental characteristics and corrosion potential of import soil materials may also be considered. Proposed import materials should be sampled, tested, and approved by Geocon prior to its transportation to the site.

5.4 Grading

5.4.1 All earthwork should be observed and all fills tested for recommended compaction and moisture content by representatives of Geocon.

5.4.2 Grading and improvement plans should be reviewed by Geocon prior to finalization. Supplemental recommendations may be provided at that time.

5.4.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

5.4.4 Site preparation should commence with the removal of all existing improvements from the area to be graded. All active or inactive utilities within the construction area should be protected, relocated, or abandoned. Any pipelines to be abandoned that are greater than 2 inches and less than 18 inches in diameter should be removed or filled with sand-cement slurry. Utilities larger than 18 inches in diameter should be removed. Excavations or depressions resulting from site clearing operations, or other existing excavations or depressions, should be restored with engineered fill in accordance with the recommendations of this report.

5.4.5 Subgrade soils for new pavements and exterior flatwork should be over-excavated to a depth of at least 1 foot below existing or proposed subgrade (whichever is lower). The resultant bottom surface should be observed by our representatives and then scarified to a depth of 8 to 12 inches. The scarified soils should be moisture conditioned to at least 2% above optimum and recompacted to at least 90% relative compaction. Areas of additional over-excavation and recompaction may be required where soft soils are encountered. Specific recommendations will be provided on a case-by-case basis during grading. The over-excavated soils can be reused as fill provided they do not include oversize material, debris or other deleterious materials.

5.4.6 To mitigate potential maintenance and repairs costs due to the presence of undocumented fills that will remain in-place below the depth of remedial grading recommended above, geosynthetics (geotextile fabric, geogrid, etc.) may be implemented in the planned pavement sections. For example, the use of geogrid reinforcement (Tensar TX140 or similar) at subgrade elevation would improve subgrade support and the pavement system's ability to bridge over localized soft spots. If implemented, the use of geosynthetic reinforcement should consider the potential for future trenching for underground utilities.

5.4.7 All structural fill (including scarified ground surfaces and backfill) should be placed in layers no thicker than will allow for adequate bonding and compaction (typically 8 to 12 inches). Fill soils should be placed, moisture conditioned to at least 2% above optimum moisture content, and compacted to at least 90% relative compaction.

5.4.8 If grading commences in winter or spring, or in periods of precipitation, excavated and in-place soils may be, or become, wet. Earthwork contractors should be aware of moisture sensitivity of fine-grained soils and potential compaction/workability difficulties. The most effective site preparation alternatives will depend on site conditions prior to and during grading operations; we should evaluate site conditions at those times and provide supplemental recommendations, if necessary.

5.5 Temporary Excavations

5.5.1 We anticipate the existing fills will be considered a Type C soil in accordance with Cal-OSHA guidelines. The contractor should have a "competent person" as defined by Cal-OSHA evaluate all excavations.

5.5.2 It is the contractor's responsibility to provide sufficient and safe excavation support as well as protecting nearby utilities, structures, and other improvements which may be damaged by earth movements. All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 2:1 (horizontal:vertical) projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below that projection will require special excavation measures such as sloping and possibly shoring.

5.5.3 Temporary excavations in the existing undocumented fills may encounter sloughing and caving, particularly if sandy soils or groundwater are encountered. Excavations may require sloping or other measures for stability.

5.5.4 Temporary excavations should be protected from rainfall and erosion. Surface runoff should be directed away from excavations or slopes.

5.6 Underground Utilities

5.6.1 Underground utility trenches should be backfilled with properly compacted material. The material excavated from the trenches should be adequate for use as backfill provided it does not contain deleterious matter, vegetation or rock larger than six inches in maximum dimension. Trench backfill should be placed in loose lifts not exceeding 8 inches in thickness and compacted to at least 90% relative compaction at least 2% over optimum moisture content (near optimum where predominantly sands and gravels).

5.6.2 Bedding and pipe zone backfill typically extends from the bottom of the trench excavations to approximately 6 inches above the crown of the pipe. Pipe bedding and backfill material should conform to the requirements of the governing utility agency. If drain rock or similar open-graded materials are used for bedding or pipe zone backfill, we recommend completely wrapping the rock with filter fabric to mitigate the potential for piping in adjacent soils.

5.7 Exterior Slabs

5.7.1 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. We recommend that at least 6 inches of Class 2 Aggregate Base (AB) compacted to at least 95% relative compaction be used below exterior concrete slabs. Prior to placing AB, the subgrade should be moisture conditioned to at least 2% over optimum and properly compacted to at least 90% relative compaction.

5.7.2 Crack control joints should be spaced at intervals not greater than 8 feet for 4-inch-thick slabs and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. Construction joints should be designed by the project structural engineer.

5.7.3 The recommendations of this report are intended to reduce the potential for cracking of slabs due to soil movement. However, even with the incorporation of the recommendations presented herein, slabs-on-grade may exhibit some cracking due to soil movement. This is common for project areas that contain expansive soils since designing to eliminate potential soil movement is cost prohibitive. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

5.8 Pavement Recommendations

5.8.1 The upper 8 to 12 inches of pavement subgrade should be scarified, moisture conditioned to at least 2% above optimum and compacted to at least 95% relative compaction. Prior to placing aggregate base, the finished subgrade should be proof-rolled with a laden water truck (or similar equipment with high contact pressure) to verify stability.

5.8.2 Curb, gutter, driveway encroachments and public streets should be designed and constructed in accordance with City of Oakland requirements, as applicable, and should consider the anticipated bus traffic.

5.8.3 We recommend the following asphalt concrete (AC) pavement sections for design to establish subgrade elevations in pavement areas. The project civil engineer should confirm the listed Traffic Indices (TIs) based on anticipated traffic conditions. We can provide additional sections based on other TIs if necessary.

TABLE 5.8
FLEXIBLE PAVEMENT SECTION RECOMMENDATIONS

Location	Estimated Traffic Index (TI)	AC (inches)	AB (inches)
Employee Parking	4.5	3	6
Bus Parking	8.0	5	14 ½
Drive Aisles	9.0	5 ½	17

Note: The recommended flexible pavement sections are based on the following assumptions:

1. Subgrade soil has an R-Value of 15.
2. AB: Class 2 AB with a minimum R-Value of 78 and meeting the requirements of Section 26 of the latest Caltrans Standard Specifications.
3. AB is compacted to 95% or higher relative compaction at or near optimum moisture content. Prior to placing AB, the subgrade should be proof-rolled with a loaded water truck to verify stability.
4. AC: Asphalt concrete conforming to local agency standards or Section 39 of the latest Caltrans Standard Specifications.

5.8.4 The AC sections in Table 5.8 are final, minimum thicknesses. If staged-pavements are used, the construction bottom AC lift should be at least 2 inches thick. Following construction, the finish top AC lift should be at least 1½ inches thick.

5.8.5 The pavement section recommendations herein are based on the design procedures of Caltrans Highway Design Manual (HDM). It should be noted that most rational pavement design procedures are based on projected street or highway traffic conditions and may not be representative of vehicular

loading that occurs in parking lots and driveways. Pavement proximity to landscape irrigation, reduced traffic speed and short turning radii increase the potential for pavement distress to occur in parking lots even though the volume of traffic is significantly less than that of an adjacent street. The HDM indicates that the resulting pavement sections for parking lots are minimized to keep initial costs down but are reasonable because additional AC surfacing can be added later, if needed, and generally without incurring traffic hazards or traffic handling problems. It is generally not economically feasible to design and construct the entire parking lot and driveways for the unique loading conditions previously described. Periodic maintenance of the pavement in these areas, therefore, should be anticipated.

5.8.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 6 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving. Alternatives such as plastic moisture cut-offs or modified drop-inlets may also be considered in lieu of deepened curbs.

5.9 Surface Drainage

5.9.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change to important engineering properties. Proper drainage should be maintained at all times.

5.9.2 All site drainage should be collected and transferred to the street or bio-retention areas via non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site except bio-retention facilities. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters which are located adjacent to foundations should be sealed or properly drained to prevent moisture intrusion into the materials providing foundation support. Landscape irrigation within five feet of foundations should be kept to a minimum to just support vegetative life.

5.9.3 Positive site drainage should be provided away from pavement, and the tops of slopes to swales or other controlled drainage structures. Pavement areas should be fine graded such that water is not allowed to pond. Final soil grade should slope a minimum of 2% toward drainage devices.

5.9.4 We recommend implemented measures to reduce infiltrating surface water. Such measures may include:

- Selecting drought-tolerant plants that require little or no irrigation especially near slabs-on-grade or pavements.
- Using drip irrigation or low-output sprinklers.
- Using automatic timers for irrigation systems.
- Appropriately spaced area drains.

6. FURTHER GEOTECHNICAL SERVICES

6.1 Plan and Specification Review

6.1.1 We should review project plans and specifications prior to final design submittal to assess whether our recommendations have been properly implemented and evaluate if additional analysis and/or recommendations are required.

6.2 Testing and Observation Services

6.2.1 The recommendations provided in this report are based on the assumption that we will continue as Geotechnical Engineer of Record throughout the construction phase. It is important to maintain continuity of geotechnical interpretation and confirm that field conditions encountered are similar to those anticipated during design. If we are not retained for these services, we cannot assume any responsibility for others interpretation of our recommendations, and therefore the future performance of the project.

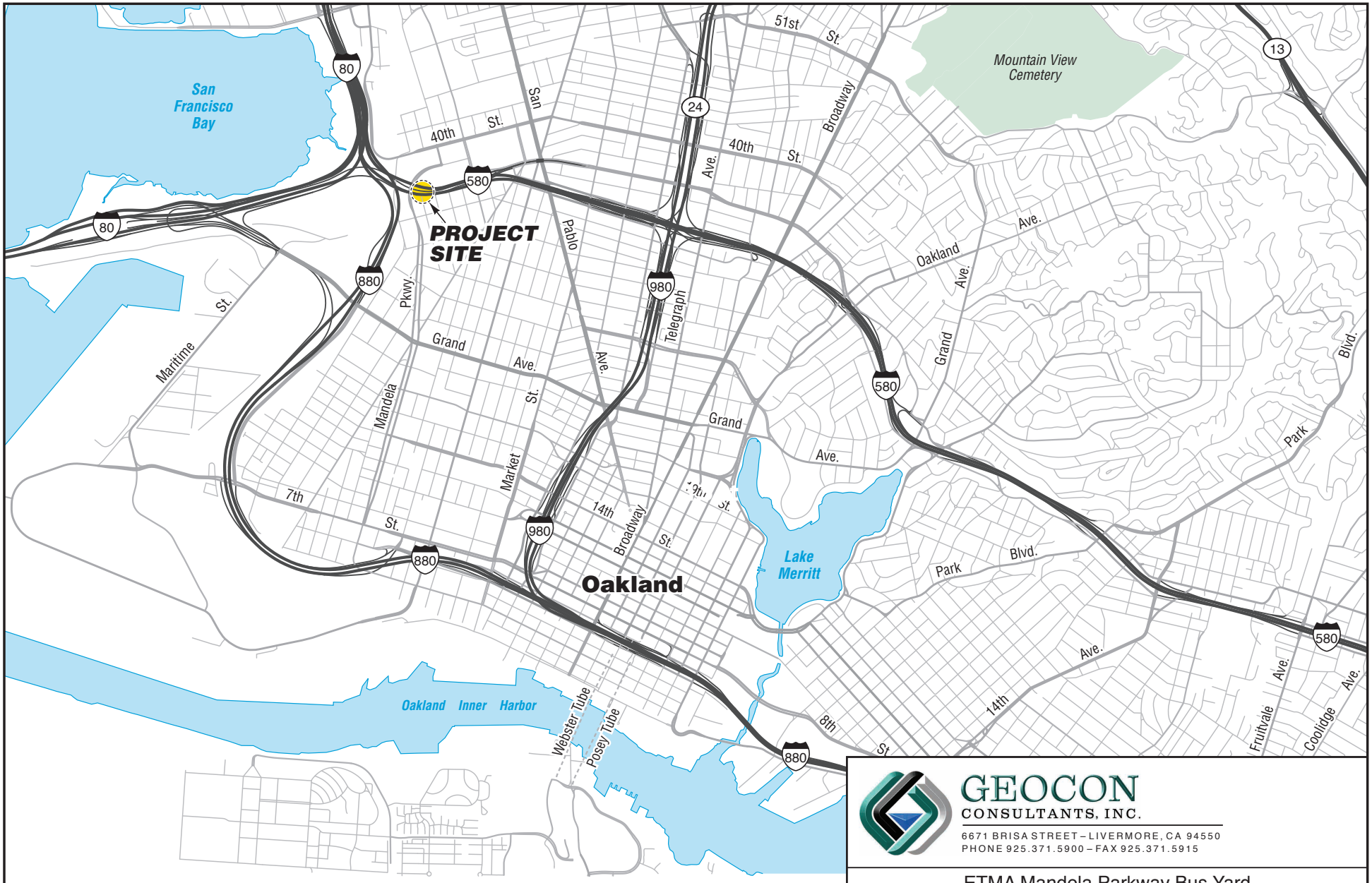
LIMITATIONS AND UNIFORMITY OF CONDITIONS

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon Consultants, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the geotechnical scope of services provided by Geocon Consultants, Inc.

This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices used in the site area at this time. No warranty is provided, express or implied.



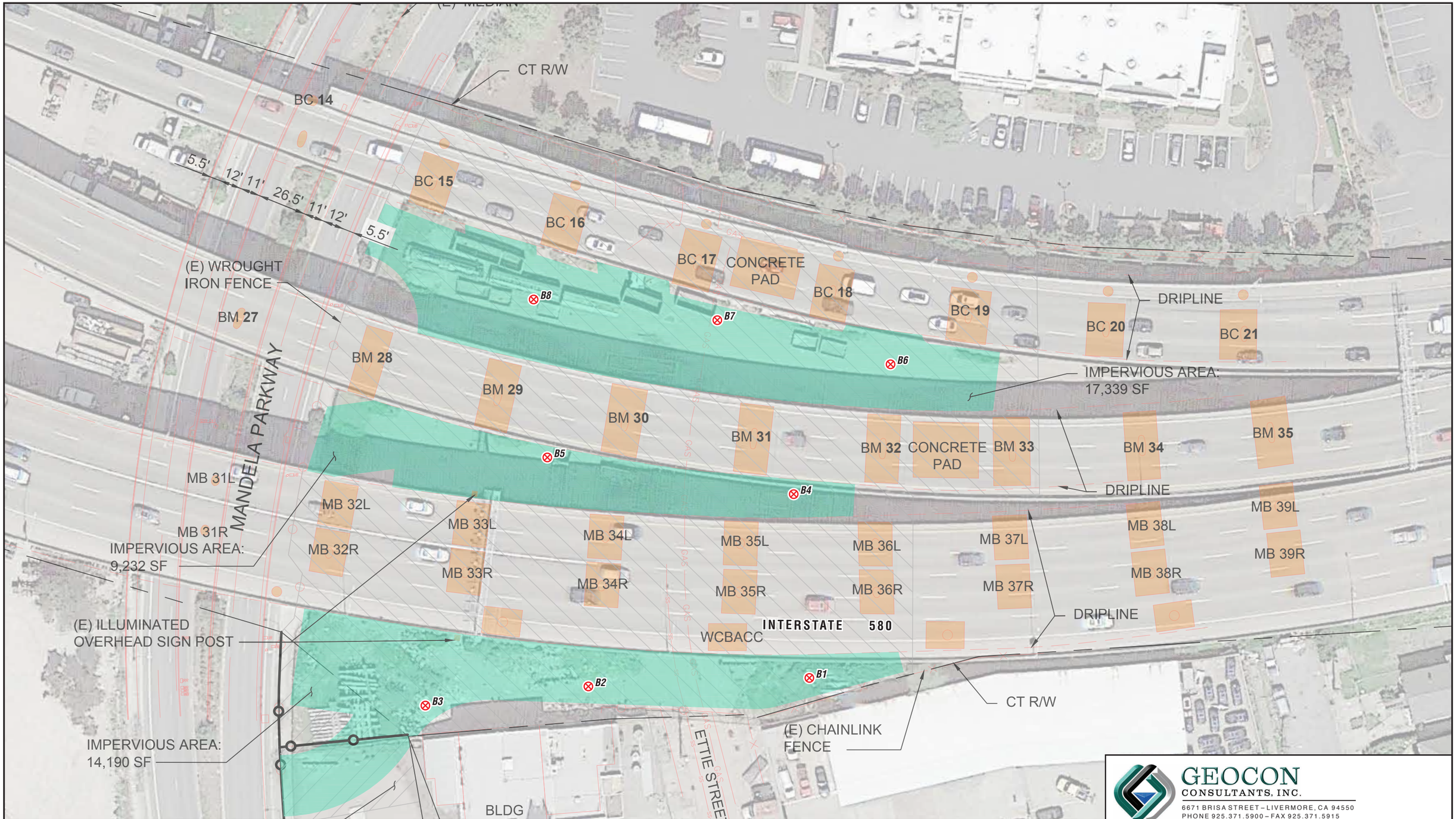
GEOCON
CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

ETMA Mandela Parkway Bus Yard

Oakland,
California

VICINITY MAP

E9133-04-01	August 2019	Figure 1



LEGEND:

B1 ⊗ Approximate Boring Location

N

0 50

Scale in Feet

GEOCON CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

ETMA Mandela Parkway Bus Yard

Oakland, California

SITE PLAN

E9133-04-01	August 2019	Figure 2

APPENDIX A

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS, MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS, MORE THAN HALF COARSE FRACTION IS LARGER THAN NO.4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS, MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS, MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS, LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS, LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
	HIGHLY ORGANIC SOILS		PT		PEAT AND OTHER HIGHLY ORGANIC SOILS

BORING/TRENCH LOG LEGEND

- No Recovery
- Shelby Tube Sample
- Bulk Sample
- SPT Sample
- Modified California Sample
- Groundwater Level (At Completion)
- Groundwater Level (Seepage)

PENETRATION RESISTANCE

SAND AND GRAVEL			SILT AND CLAY			
RELATIVE DENSITY	BLOWS PER FOOT (SPT)*	BLOWS PER FOOT (MOD-CAL)*	CONSISTENCY	BLOWS PER FOOT (SPT)*	BLOWS PER FOOT (MOD-CAL)*	COMPRESSIVE STRENGTH (tsf)
VERY LOOSE	0 - 4	0 - 6	VERY SOFT	0 - 2	0 - 3	0 - 0.25
LOOSE	5 - 10	7 - 16	SOFT	3 - 4	4 - 6	0.25 - 0.50
MEDIUM DENSE	11 - 30	17 - 48	MEDIUM STIFF	5 - 8	7 - 13	0.50 - 1.0
DENSE	31 - 50	49 - 79	STIFF	9 - 15	14 - 24	1.0 - 2.0
VERY DENSE	OVER 50	OVER 79	VERY STIFF	16 - 30	25 - 48	2.0 - 4.0
			HARD	OVER 30	OVER 48	OVER 4.0

*NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE LAST 12 INCHES OF AN 18-INCH DRIVE

MOISTURE DESCRIPTIONS

FIELD TEST	APPROX. DEGREE OF SATURATION, S (%)	DESCRIPTION
NO INDICATION OF MOISTURE; DRY TO THE TOUCH	S<25	DRY
SLIGHT INDICATION OF MOISTURE	25≤S<50	DAMP
INDICATION OF MOISTURE; NO VISIBLE WATER	50≤S<75	MOIST
MINOR VISIBLE FREE WATER	75≤S<100	WET
VISIBLE FREE WATER	100	SATURATED

QUANTITY DESCRIPTIONS

APPROX. ESTIMATED PERCENT	DESCRIPTION
<5%	TRACE
5 - 10%	FEW
11 - 25%	LITTLE
26 - 50%	SOME
>50%	MOSTLY

GRAVEL/COBBLE/BOULDER DESCRIPTIONS

CRITERIA	DESCRIPTION
PASS THROUGH A 3-INCH SIEVE AND BE RETAINED ON A NO. 4 SIEVE (#4 TO 3")	GRAVEL
PASS A 12-INCH SQUARE OPENING AND BE RETAINED ON A 3-INCH SIEVE (3"-12")	COBBLE
WILL NOT PASS A 12-INCH SQUARE OPENING (>12")	BOULDER

BEDDING SPACING DESCRIPTIONS

THICKNESS/SPACING	DESCRIPTOR
GREATER THAN 10 FEET	MASSIVE
3 TO 10 FEET	VERY THICKLY BEDDED
1 TO 3 FEET	THICKLY BEDDED
3 $\frac{3}{8}$-INCH TO 1 FOOT	MODERATELY BEDDED
1 $\frac{1}{4}$-INCH TO 3 $\frac{3}{8}$-INCH	THINLY BEDDED
$\frac{3}{8}$-INCH TO 1 $\frac{1}{4}$-INCH	VERY THINLY BEDDED
LESS THAN $\frac{3}{8}$-INCH	LAMINATED

STRUCTURE DESCRIPTIONS

CRITERIA	DESCRIPTION
ALTERNATING LAYERS OF VARYING MATERIAL OR COLOR WITH LAYERS AT LEAST $\frac{1}{4}$-INCH THICK	STRATIFIED
ALTERNATING LAYERS OF VARYING MATERIAL OR COLOR WITH LAYERS LESS THAN $\frac{1}{4}$-INCH THICK	LAMINATED
BREAKS ALONG DEFINITE PLANES OF FRACTURE WITH LITTLE RESISTANCE TO FRACTURING	FISSURED
FRACTURE PLANES APPEAR POLISHED OR GLOSSY, SOMETIMES STRIATED	SLICKENSIDED
COHESIVE SOIL THAT CAN BE BROKEN DOWN INTO SMALLER ANGULAR LUMPS WHICH RESIST FURTHER BREAKDOWN	BLOCKY
INCLUSION OF SMALL POCKETS OF DIFFERENT SOIL, SUCH AS SMALL LENSES OF SAND SCATTERED THROUGH A MASS OF CLAY	LENSED
SAME COLOR AND MATERIAL THROUGHOUT	HOMOGENOUS

CEMENTATION/INDURATION DESCRIPTIONS

FIELD TEST	DESCRIPTION
CRUMBLES OR BREAKS WITH HANDLING OR LITTLE FINGER PRESSURE	WEAKLY CEMENTED/INDURATED
CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE	MODERATELY CEMENTED/INDURATED
WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE	STRONGLY CEMENTED/INDURATED

IGNEOUS/METAMORPHIC ROCK STRENGTH DESCRIPTIONS

FIELD TEST	DESCRIPTION
MATERIAL CRUMBLES WITH BARE HAND	WEAK
MATERIAL CRUMBLES UNDER BLOWS FROM GEOLOGY HAMMER	MODERATELY WEAK
$\frac{1}{8}$-INCH INDENTATIONS WITH SHARP END FROM GEOLOGY HAMMER	MODERATELY STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **ONE** BLOW FROM GEOLOGY HAMMER	STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **COUPLE** BLOWS FROM GEOLOGY HAMMER	VERY STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **MANY** BLOWS FROM GEOLOGY HAMMER	EXTREMELY STRONG

IGNEOUS/METAMORPHIC ROCK WEATHERING DESCRIPTIONS

DEGREE OF DECOMPOSITION	FIELD RECOGNITION	ENGINEERING PROPERTIES
SOIL	DISCOLORED, CHANGED TO SOIL, FABRIC DESTROYED	EASY TO DIG
COMPLETELY WEATHERED	DISCOLORED, CHANGED TO SOIL, FABRIC MAINLY PRESERVED	EXCAVATED BY HAND OR RIPPING (Saprolite)
HIGHLY WEATHERED	DISCOLORED, HIGHLY FRACTURED, FABRIC ALTERED AROUND FRACTURES	EXCAVATED BY HAND OR RIPPING, WITH SLIGHT DIFFICULTY
MODERATELY WEATHERED	DISCOLORED, FRACTURES, INTACT ROCK-NOTICEABLY WEAKER THAN FRESH ROCK	EXCAVATED WITH DIFFICULTY WITHOUT EXPLOSIVES
SLIGHTLY WEATHERED	MAY BE DISCOLORED, SOME FRACTURES, INTACT ROCK-NOT NOTICEABLY WEAKER THAN FRESH ROCK	REQUIRES EXPLOSIVES FOR EXCAVATION, WITH PERMEABLE JOINTS AND FRACTURES
FRESH	NO DISCOLORATION, OR LOSS OF STRENGTH	REQUIRES EXPLOSIVES

IGNEOUS/METAMORPHIC ROCK JOINT/FRACTURE DESCRIPTIONS

FIELD TEST	DESCRIPTION
NO OBSERVED FRACTURES	UNFRACTURED/UNJOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 1 TO 3 FOOT INTERVALS	SLIGHTLY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 4-INCH TO 1 FOOT INTERVALS	MODERATELY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 1-INCH TO 4-INCH INTERVALS WITH SCATTERED FRAGMENTED INTERVALS	INTENSELY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT LESS THAN 1-INCH INTERVALS; MOSTLY RECOVERED AS CHIPS AND FRAGMENTS	VERY INTENSELY FRACTURED/JOINTED

GEOCON
CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

KEY TO LOGS

APPENDIX A
FIELD EXPLORATION

Fieldwork for our investigation included a site visit, subsurface exploration, and soil sampling. The locations of the exploratory boring locations are shown on the Site Plan, Figure 2. Exploratory boring logs for our exploration are presented in figures following the text in this appendix. Exploratory borings were located in the field by pacing from existing reference points. Therefore, actual boring locations may deviate slightly from those shown on Figure 2.

Our subsurface exploration was performed on May 9, 2019 and included the drilling and sampling of existing soils using a truck-mounted Mobile B-53 drill rig equipped with 8-inch hollow-stem augers. Sampling in the borings was accomplished using a 140-pound hammer with a 30-inch drop. Samples were obtained with a 3-inch outside-diameter (OD), split spoon (California Modified) sampler, and a 2-inch OD, Standard Penetration Test (SPT) sampler. The number of blows required to drive the sampler the last 12 inches (or fraction thereof) of the 18-inch sampling interval were recorded on the boring logs. The blow counts shown on the boring logs should not be interpreted as standard SPT "N" values; corrections have not been applied.

Subsurface conditions encountered in the exploratory borings were visually examined, classified and logged in general accordance with the American Society for Testing and Materials (ASTM) Practice for Description and Identification of Soils (Visual-Manual Procedure D2488). This system uses the Unified Soil Classification System (USCS) for soil designations. The logs depict soil and geologic conditions encountered and depths at which samples were obtained. The logs also include our interpretation of the conditions between sampling intervals. Therefore, the logs contain both observed and interpreted data. We determined the lines designating the interface between soil materials on the logs using visual observations, excavation characteristics and other factors. The transition between materials may be abrupt or gradual. Where applicable, the field logs were revised based on subsequent laboratory testing.

Upon completion, our boreholes were backfilled with compacted soil cuttings.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B1

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					Approximately 3 inches of GRAVEL			
				CL	FILL Stiff, damp to moist, dark brown to black CLAY with little (f-c) sand sand trace (f) gravels	17		
1								
2								
3	B1-3				-buried concrete encountered at 3½ feet	25/0"		
					END OF BORING AT APPROXIMATELY 3½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS			

Figure A2, Log of Boring B1, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B2

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					Approximately 3 inches of GRAVEL			
				SC	FILL Medium dense, damp, orange-brown (f-c) Gravelly (f-c) SAND with few clays; gravels subangular to angular			
1	B2-1.5			CL	Stiff, moist, black with orange and gray CLAY with few (f) gravels and (f-c) sands	20		
2	B2-2						105.5	18.7
3					-medium stiff, no gravels			
	B2-3.5					10		
4	B2-4				-pp=1-1½		88.5	29.9
					END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS			

Figure A3, Log of Boring B2, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B3

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	B3-0-4			CL	Approximately 1 inch of AC			
1	B3-1				FILL Very stiff, damp to moist, black and brown CLAY with (f-c) sand and (f) gravels	28		
2				SC	Medium dense, damp, orange brown (f-c) Gravelly SAND with few clays			
3	B3-3.5			CL	Stiff, damp to moist, black CLAY with little (f-c) sand	17		
4	B3-4				END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS			

Figure A4, Log of Boring B3, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B4

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					Approximately 6 inches of GRAVEL			
1	B4-0.5-4.5			CL	FILL Stiff, damp to moist, black CLAY with little (f-c) sand and few (f) gravels	22		
2	B4-1.5				-less gravel -pp=4-4½			
3								
4	B4-3.5 B4-4			CH	Stiff, moist, black, fat CLAY with few (f-c) sands	14	86.8	21.5
					END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS AND CAPPED WITH CONCRETE			

Figure A5, Log of Boring B4, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B5

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					Approximately 1½ inches of AC			
					Approximately 6 inches of AB			
1	B5-1-5			CL	FILL Very stiff, damp to moist, black with gray and orange CLAY with few (f-c) sands and (f-c) gravels			
	B5-1.5					31	106.3	16.9
2					-pieces of degraded AC			
3				GW-GC	Dense, damp to moist, black with gray and orange (f-c) Sandy (f-c) rounded to sub-rounded GRAVEL with few clays			
	B5-3.5					51		
4	B5-4						111.1	5.7
					AC			
					END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS AND CAPPED WITH CONCRETE			

Figure A6, Log of Boring B5, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

▨ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B6

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					Approximately 3 inches of GRAVEL			
					Approximately 12 inches of AB			
1	B6-1					42		
				CL	FILL Very stiff, damp to moist, black CLAY with few (f-c) sands and (f) gravels -pp=4-4½			
2								
3					-stiff			
	B6-3.5					16		
4	B6-4			GP-GC	Loose, damp to moist, black (f-c) GRAVEL with little (f-c) sand and clay			
					END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS AND CAPPED WITH CONCRETE			

Figure A7, Log of Boring B6, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B7

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0								
	B7-0.5			SC	Approximately 1 inch of AC FILL Dense, damp, orange-brown Clayey (f-c) SAND with few (f) (rounded) gravels -metal or other obstruction encountered at 1 foot	50/0"		
1					END OF BORING AT APPROXIMATELY 1 FOOT NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS AND CAPPED WITH CONCRETE			

Figure A8, Log of Boring B7, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **E9133-04-01** PROJECT NAME: **ETMA Mandela Pkwy Bus Yard**

BORING B8

ELEV. (MSL.) _____ DATE COMPLETED **5/9/2019**

ENG./GEO. **JBM** DRILLER **EGI**

EQUIPMENT **Mobile B53 w/ 8" HSA** HAMMER TYPE **Downhole-Wireline**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0								
	B8-0.5-4.5			SW-SC	Approximately 1½ inches of AC			
1	B8-1				FILL Medium dense, varicolored (f-c) SAND with (f-c) angular gravels and trace to few clays	31		
2								
3				GW-GC	Medium dense, damp, black with gray (f-c) Sandy (f-c) GRAVEL with few clays			
	B8-3.5					47		
4	B8-4						122.3	6.6
					END OF BORING AT APPROXIMATELY 4½ FEET NO FREE WATER ENCOUNTERED BACKFILLED WITH COMPACTED CUTTINGS AND CAPPED WITH CONCRETE			

Figure A9, Log of Boring B8, Page 1 of 1

GEOCON BORING LOG E9133-04-01 BORING LOGS.GPJ 08/26/19

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◥ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

APPENDIX B

APPENDIX B
LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the American Society for Testing and Materials (ASTM) or other suggested procedures. Selected samples were tested for plasticity, R-value, soil corrosion parameters, in-situ dry density and moisture content, grain size distribution, and unconfined compressive strength. The results of the laboratory tests are summarized in tabular format below and the following figures.

TABLE B-I
SUMMARY OF LABORATORY ATTERBERG LIMITS TEST RESULTS
ASTM D 4318

Sample No.	Liquid Limit	Plastic Limit	Plasticity Index
B2-3.5	26	18	8
B3-1	41	15	26
B4-4	60	19	41
B6-3.5	49	22	27

TABLE B-II
SUMMARY OF SOIL CORROSION PARAMETERS
(CTM 643, CTM 417, CTM 422)

Boring No. (sample depth in feet)	Soil Type (USCS Classification)	Resistivity (ohm-cm)	pH	Chloride (ppm)	Sulfate (ppm)
B2 (1.5)	CLAY with sand and gravel (CL)	2,900	8.0	61	2
B4 (1.5)	CLAY with sand and gravel (CL)	1,100	8.2	108	40
B8 (1)	SAND with clay and gravel (SW-SC)	3,000	8.0	79	10

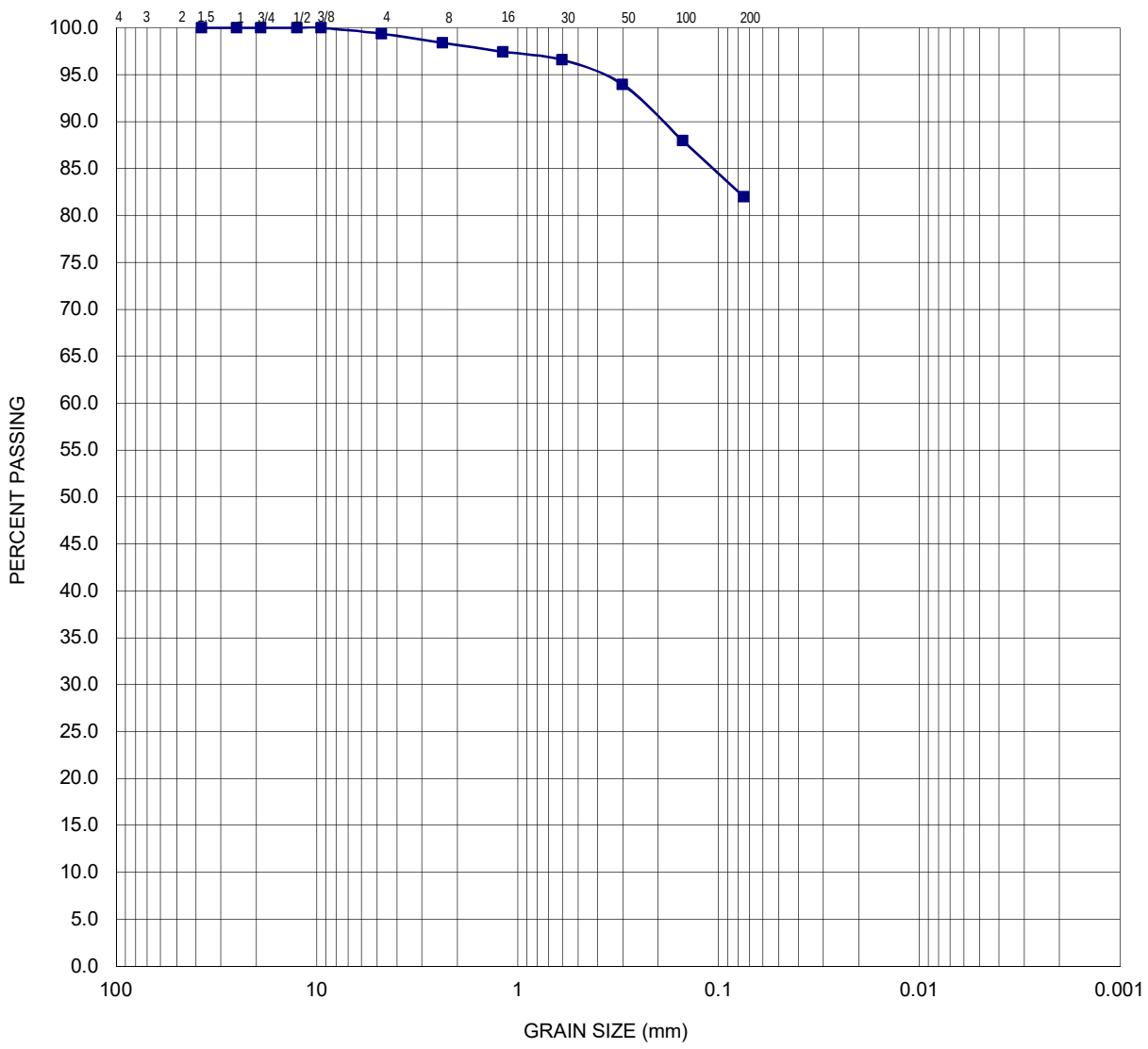
*Caltrans considers a site corrosive to foundation elements if one or more of the following conditions exist for the representative soil samples at the site:

- The pH is equal to or less than 5.5.
- Chloride concentration is equal to or greater than 500 parts per million (ppm) or 0.05%.
- Sulfate concentration is equal to or greater than 1,500 ppm (0.15%)

**According to the American Concrete Institute 318 Chapter 19, Type II cement may be used where sulfate levels are below 2,000 ppm (0.2%)

TABLE B-III
SUMMARY OF LABORATORY R-VALUE TEST RESULTS
ASTM D 2844

Sample No.	Soil Type (USCS Classification)	R-Value
B3-0-4.5	CLAY with sand and gravel (CL)	17
B4-0-4.5	CLAY with sand and gravel (CL)	33
B5-0-4.5	CLAY with sand and gravel (CL)	30
B8-0-4.5	SAND with clay and gravel (SW-SC)	29



Boring: B1

Depth To Sample: 3'

Sieve Date: 5/30/19

Tested and Computed by: AC

Test Data

Sieve Number	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	100	100	100	100	99.3	98.4	97.4	96.6	94.0	88.0	82.0

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

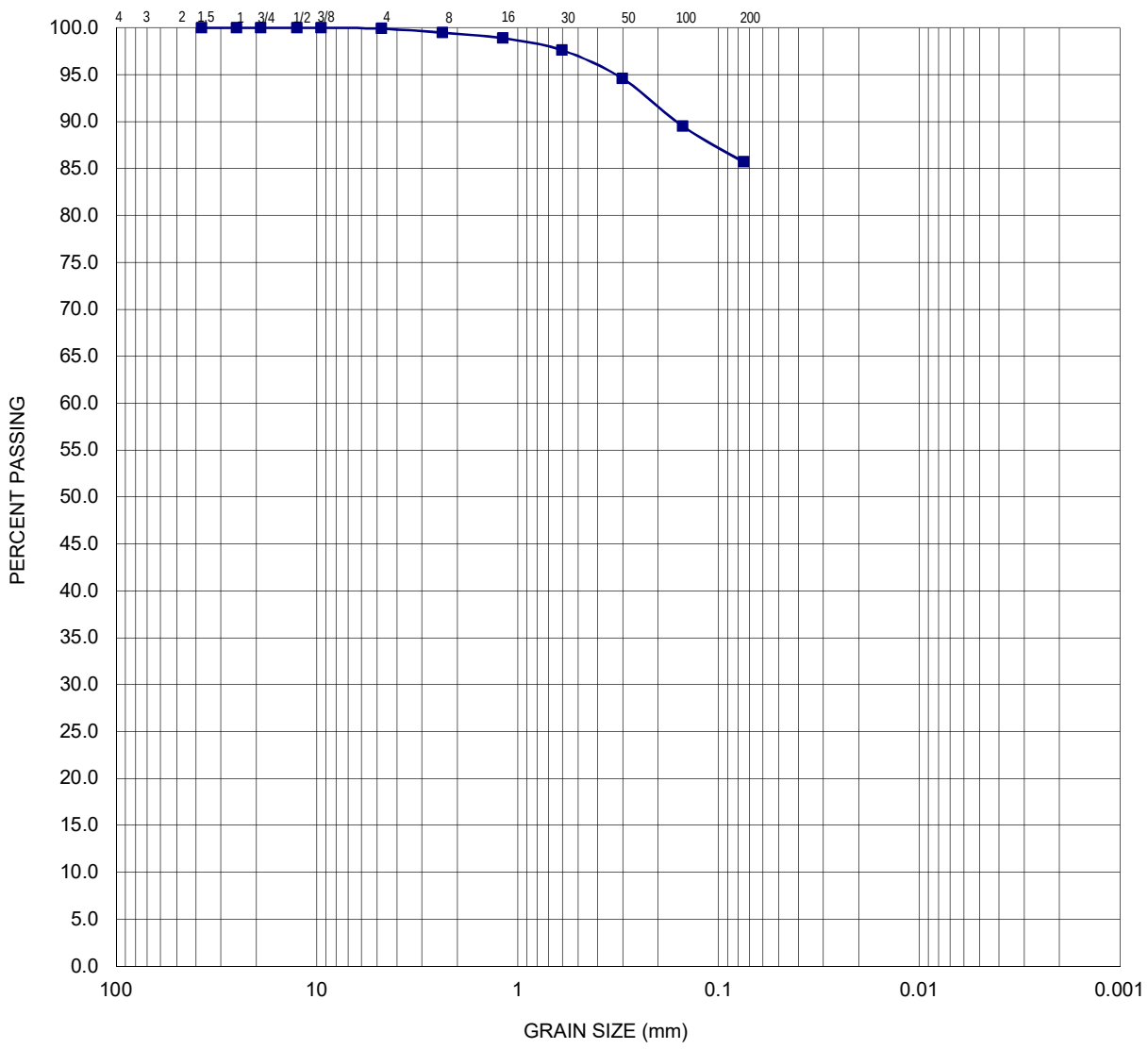
Particle Size Analysis - ASTM D422

Project: ETMA Mandela Pkwy Bus Yard

Location: Emeryville, CA

Project No.: E9133-04-01

Figure B1



Boring: B3

Depth To Sample: 3.5'

Sieve Date: 5/30/19

Tested and Computed by: AC

Test Data

Sieve Number	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	100	100	100	100	99.9	99.5	98.9	97.6	94.6	89.5	85.7

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

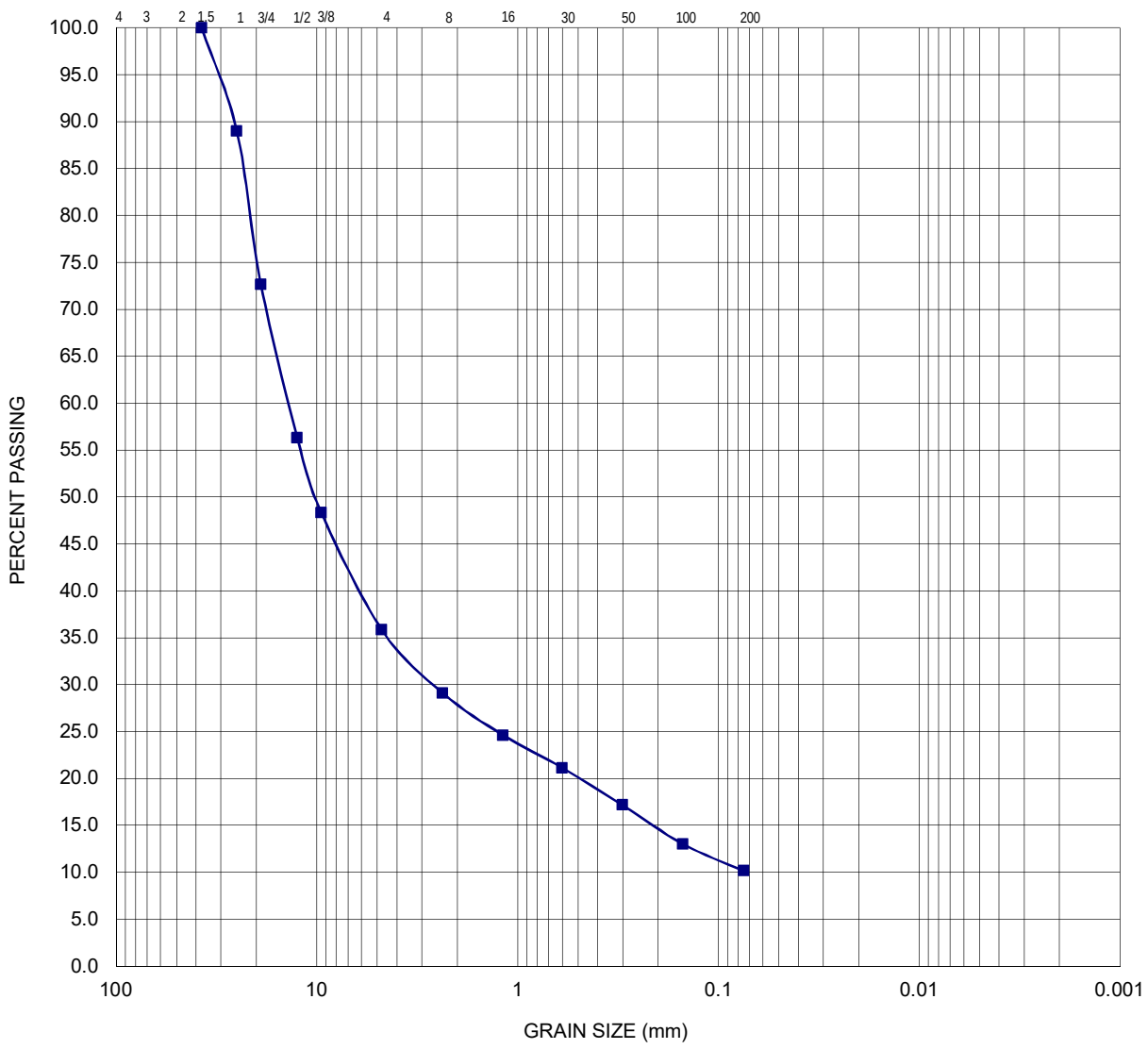
Particle Size Analysis - ASTM D422

Project: ETMA Mandela Pkwy Bus Yard

Location: Emeryville, CA

Project No.: E9133-04-01

Figure B2



Boring: B5

Depth To Sample: 3.5'

Sieve Date: 5/29/19

Tested and Computed by: AC

Test Data

Sieve Number	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	89.0	72.6	56.3	48.3	35.8	29.1	24.6	21.1	17.2	13.0	10.2

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

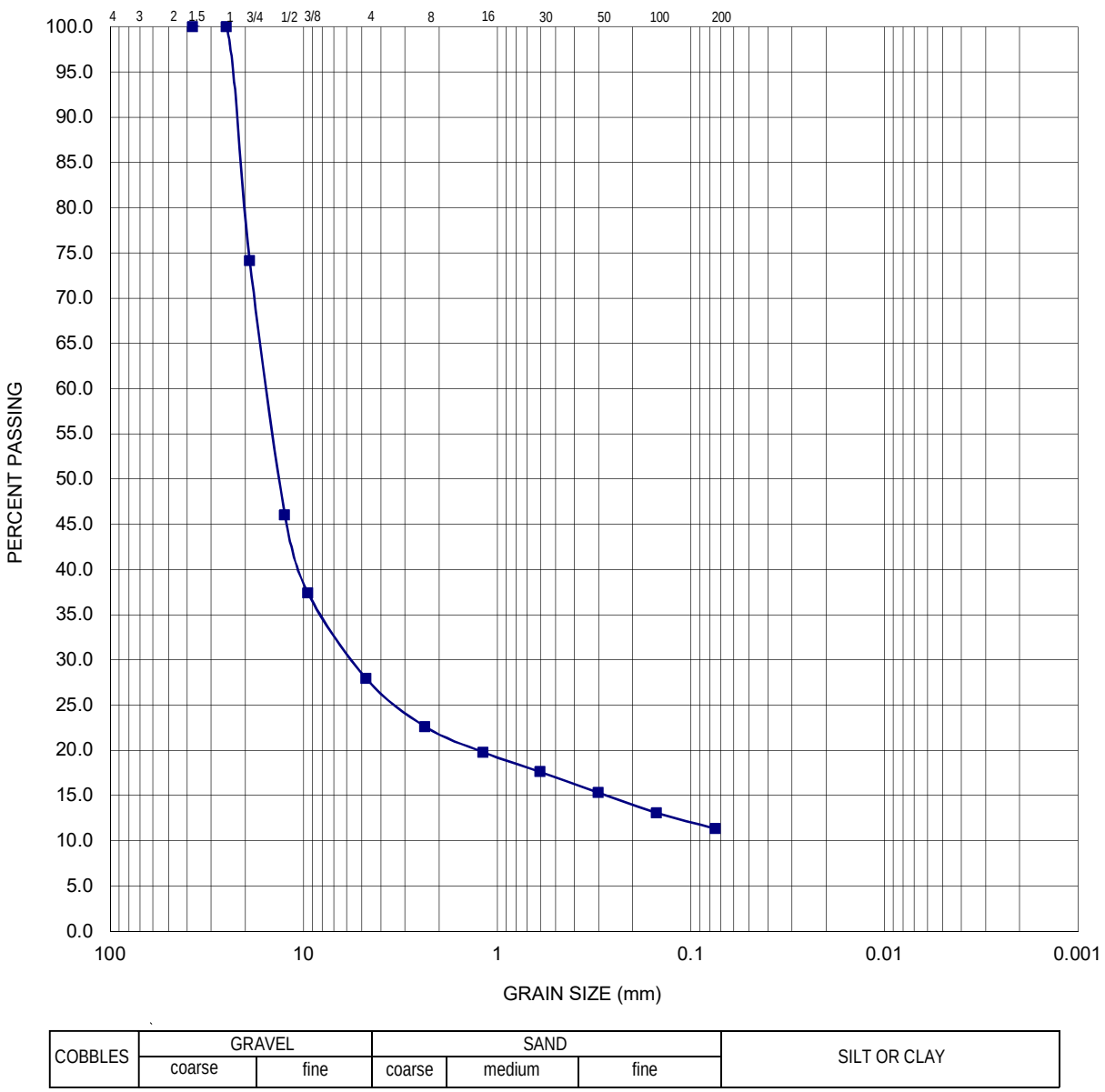
Particle Size Analysis - ASTM D422

Project: ETMA Mandela Pkwy Bus Yard

Location: Emeryville, CA

Project No.: E9133-04-01

Figure B3



Boring: B6

Depth To Sample: 4'

Sieve Date: 5/24/19

Tested and Computed by: AC

Test Data

Sieve Number	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	100	100	74.2	46.0	37.4	27.9	22.6	19.8	17.6	15.3	13.1	11.4

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

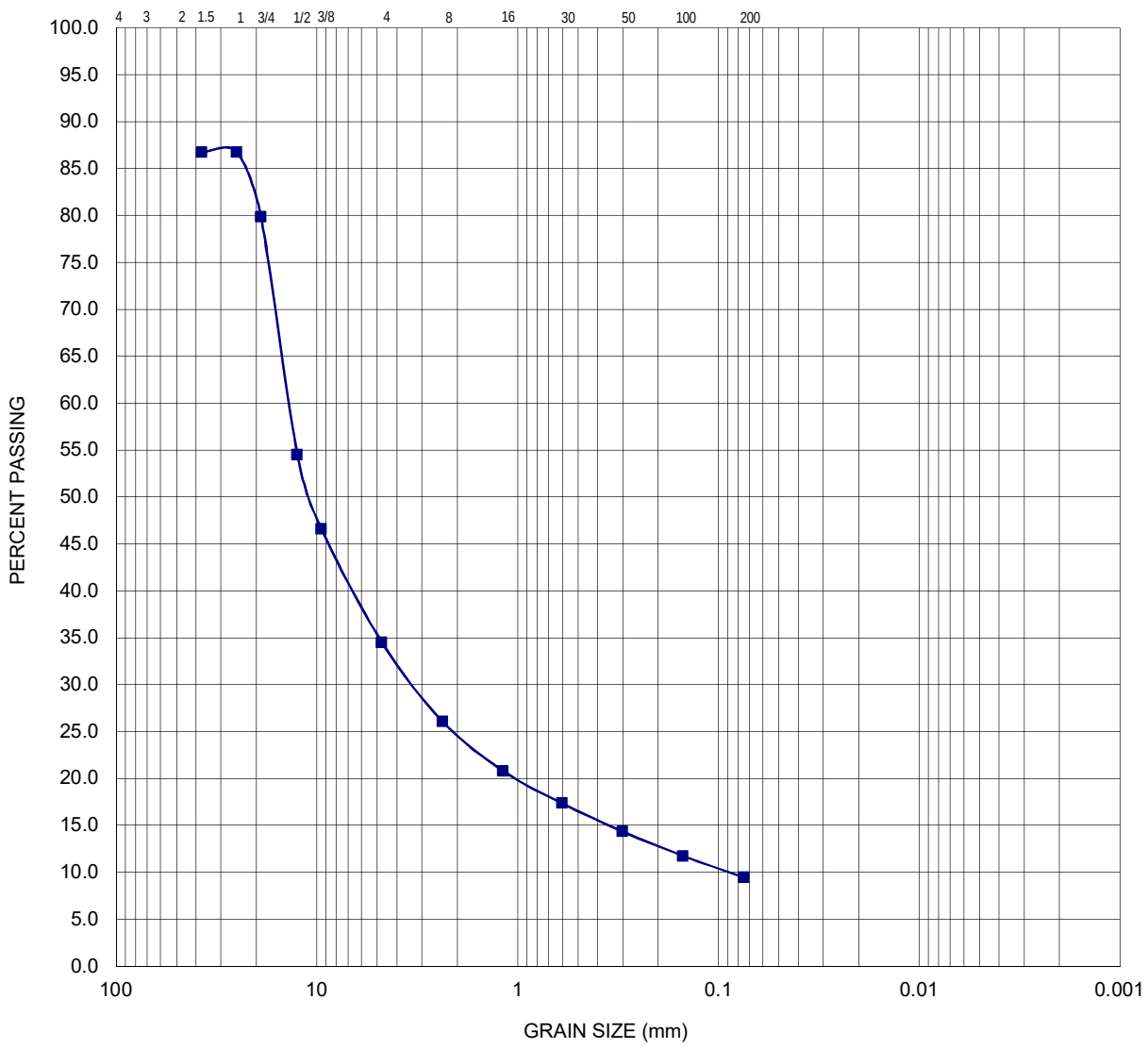
Particle Size Analysis - ASTM D422

Project: ETMA Mandela Pkwy Bus Yard

Location: Emeryville, CA

Project No.: E9133-04-01

Figure B4



Boring: B8

Depth To Sample: 3.5'

Sieve Date: 5/24/19

Tested and Computed by: AC

Test Data

Sieve Number	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200
% Passing	86.7	86.7	79.9	54.5	46.6	34.5	26.1	20.8	17.4	14.4	11.8	9.5

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

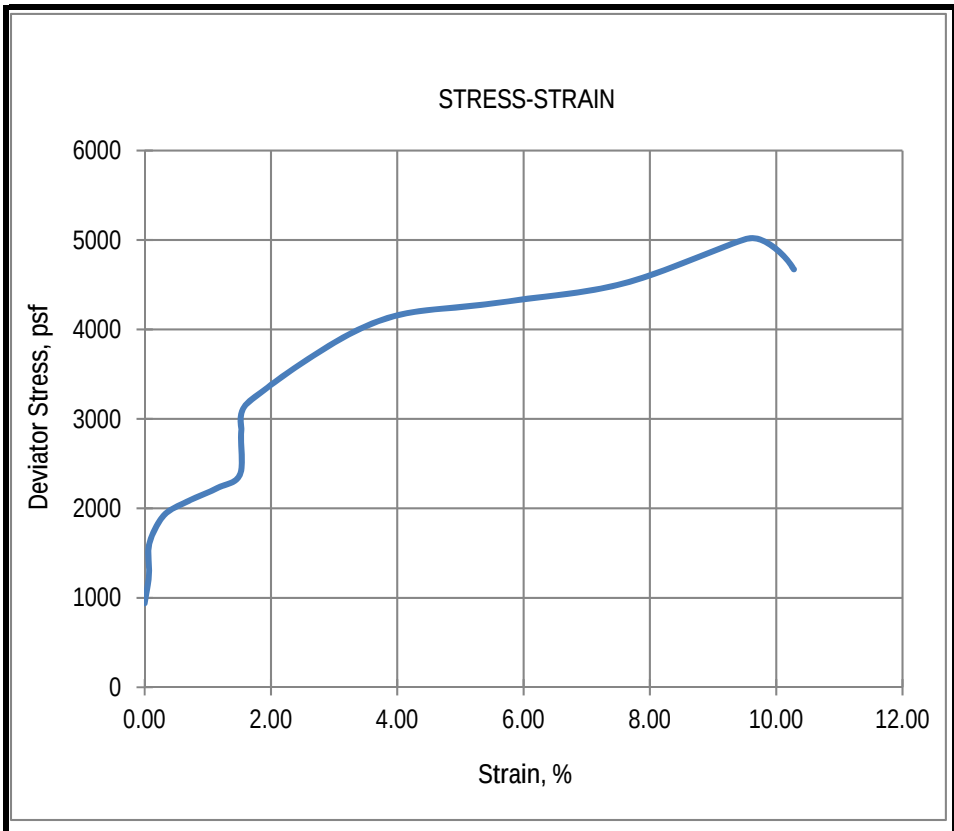
Particle Size Analysis - ASTM D422

Project: ETMA Mandela Pkwy Bus Yard

Location: Emeryville, CA

Project No.: E9133-04-01

Figure B5



Failure Photo

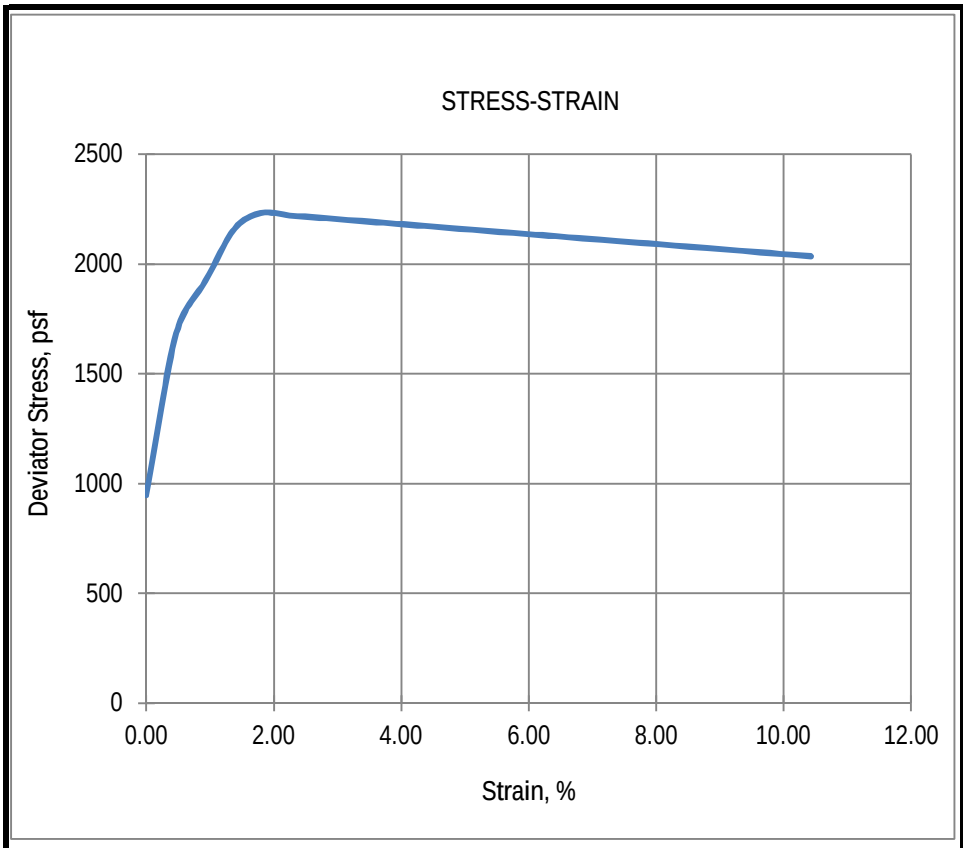
Sample Description	
Boring Number	B2
Sample Depth (feet)	4'
Material Description	Black CLAY
Initial Conditions at Start of Test	
Height (inch) average of 3	5.37
Diameter (inch) average of 3	2.40
Moisture Content (%)	29.9
Dry Density (pcf)	88.5
Estimated Specific Gravity	2.7
Saturation (%)	89.3
Shear Test Conditions	
Strain Rate (%/min)	0.7923
Major Principal Stress at Failure (psf)	5010
Strain at Failure (%)	9.5
Test Results	
Unconfined Compressive Strength (tons/ft^2)	2.5
Unconfined Compressive Strength (lbs/ft^2)	5009
Shear Strength (tons/ft^2)	1.3
Shear Strength (lbs/ft^2)	2505

Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Telephone: 925-371-5900
Fax: 925-371-5915

Unconfined Compressive Strength (ASTM D2166)

Project: ETMA Mandela Bus Yard - Geotech
Location: Emeryville, CA
Proj. No.: E9133-04-01

Figure B6



Failure Photo

Sample Description	
Boring Number	B5
Sample Depth (feet)	1.5'
Material Description	Black with gray and orange CLAY with few (f-c) sands a
Initial Conditions at Start of Test	
Height (inch) average of 3	5.16
Diameter (inch) average of 3	2.39
Moisture Content (%)	16.9
Dry Density (pcf)	106.3
Estimated Specific Gravity	2.7
Saturation (%)	77.9
Shear Test Conditions	
Strain Rate (%/min)	0.8696
Major Principal Stress at Failure (psf)	2230
Strain at Failure (%)	1.8
Test Results	
Unconfined Compressive Strength (tons/ft^2)	1.1
Unconfined Compressive Strength (lbs/ft^2)	2232
Shear Strength (tons/ft^2)	0.6
Shear Strength (lbs/ft^2)	1116

Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Telephone: 925-371-5900
Fax: 925-371-5915

Unconfined Compressive Strength (ASTM D2166)

Project: ETMA Mandela Pkwy Bus Yard
Location: Emeryville, CA
Proj. No.: E9133-04-01

Figure B7

LIST OF REFERENCES

American Concrete Institute, *Building Code Requirements for Structural Concrete and Commentary, ACI 318-14,* 2014.

California Department of Transportation, *Corrosion Guidelines,* Version 3.0*,* March 2018.

California Department of Transportation, *Highway Design Manual*, Sixth Edition, 2017.

California Geological Survey (CGS), *Seismic Hazard Zone Report for the Oakland West 7.5-Minute Quadrangle, Alameda County, California*, Seismic Hazard Zone Report 081, 2003.

Radbruch, D.H., *Areal and Engineering Geology of the Oakland West Quadrangle, California*, U.S. Geological Survey Map I-239, 1957.

PRELIMINARY SITE INVESTIGATION REPORT

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
MANDELA PARKWAY BUS YARD
OAKLAND, CALIFORNIA

PREPARED FOR

BKF ENGINEERS
1730 N. FIRST STREET, SUITE 600
SAN JOSE, CALIFORNIA

GEOCON PROJECT NO. E9133-02-02

AUGUST 2019

GEOCON
CONSULTANTS, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

TABLE OF CONTENTS

PRELIMINARY SITE INVESTIGATION REPORT Page

REPORT LIMITATIONS

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

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 Consultants, Inc. 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. This report does not constitute a standard, specification, or regulation.

GEOCON CONSULTANTS, INC.

Suzanne Nase
Project Geologist

Richard Day, CEG, CHG
Senior Geologist

PRELIMINARY SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This *Preliminary Site Investigation (PSI) Report* for the proposed Emeryville Transportation Management Association (ETMA) Mandela Parkway Bus Yard Project in the City of Emeryville in Alameda County, California was prepared by Geocon Consultants, Inc (Geocon) for BKF Engineers (BKF).

1.1 Project Description and Proposed Improvements

The project proposes to construct a new bus yard on Caltrans-owned parcels beneath the Interstate 580 (I-580) viaducts, east of Mandela Parkway. The new facility will accommodate approximately 30 buses and 20 passenger vehicles with driveway access to/from Mandela Parkway near the northwest and southwest corners of the site. New parking stalls and interior driveways will be constructed throughout the site, around column foundations for the overhead I-580 viaducts.

The project area is depicted on the Site Location Map, Figure 1.

1.2 General Objectives

The purpose of the investigation was to evaluate concentrations of California Assessment Manual 17 (CAM 17) metals; total petroleum hydrocarbons (TPH) as diesel (TPHd), as motor oil (TPHmo), and as gasoline (TPHg); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and semi-volatile organic compounds (SVOCs) in soil within the project limits.

The information obtained from this investigation will be used to evaluate soil handling practices, disposal options, worker health and safety, and soil reuse options.

2.0 BACKGROUND

2.1 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as California hazardous for handling and disposal purposes are contained in the CCR, Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as Resource, Conservation, and Recovery Act (RCRA) hazardous are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

For waste containing metals, the waste is classified as California hazardous when: 1) the representative total metal content equals or exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the representative soluble metal content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste has the potential of exceeding the STLC when the waste's total metal content is greater than or equal to 10 times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to 10 times the respective STLC, and assuming that 100 percent of

the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the representative soluble metal content equals or exceeds the Federal regulatory level 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 and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative 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.

2.2 Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has published Environmental Screening Levels (ESLs) for commonly found contaminants in soil, groundwater, soil gas, and surface water, to assist in evaluating sites impacted by releases of hazardous chemicals. The ESLs are commonly used by contractors, soil trucking companies, and private and commercial land owners as default acceptance criteria to evaluate suitability of import soil material. The respective ESLs are listed at the end of Tables 2 and 3 for comparative purposes.

3.0 SCOPE OF SERVICES

The scope of services included the following:

3.1 Pre-field Activities

- Notified Underground Service Alert (USA) at least 72 hours prior to drilling activities.
- Retained the services of Exploration Geoservices, Inc (EGI) in San Jose, California, a California-licensed driller, to advance the auger borings.
- Retained the services of Advanced Technology Laboratories (ATL) in Signal Hill, California, a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples.

3.2 Field Activities

Our field investigation was performed on May 9, 2019. A total of six borings were advanced using hollow stem auger drilling techniques and soil samples were collected from various depth intervals within the top 2.5 feet. Groundwater was not encountered during boring advancement.

4.0 INVESTIGATIVE METHODS

4.1 Sampling Procedures

Soil samples were collected using hollow stem auger drilling techniques advanced in soil in the unpaved lot under the I-580 viaducts.

Soil samples were collected into stainless steel sleeves and capped with Teflon tape and plastic end caps. Sample containers were labeled, placed in a chest cooled with ice, and transported to ATL using standard chain-of-custody documentation. The shallow soil borings were backfilled with soil cuttings and surrounding native material.

4.2 Laboratory Analyses

Laboratory analyses were performed by ATL under standard turnaround times. The laboratory reports and COC documentation are included in Appendix A.

All samples were analyzed as follows:

- CAM 17 total metals using EPA Test Methods 6010B/7471A.
- TPHd and TPHmo using EPA Test Method 8015B.
- TPHg using EPA Test Method 8015B (Modified)
- BTEX using EPA Test Method 8260B.
- SVOCs using EPA Test Method 8270C.

Based on the total metal results, soluble metal analysis was performed as follows:

- 1 sample for WET chromium and 5 samples for WET lead using EPA Test Method 6010B.
- 1 sample for TCLP lead using EPA Test Method 6010B.

4.3 Laboratory QA/QC

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every 10 samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every 10 samples, batch of samples or type of matrix; whichever was more frequent, with the spike made at 10 times the detection limit or at the analyte level.

Prior to submitting the samples to the laboratories, the COC documentation was reviewed for accuracy and completeness.

5.0 INVESTIGATIVE RESULTS

5.1 Subsurface Conditions

The subsurface soils consisted of brown sand/clay with trace gravels to a depth of one to two feet, underlain by dark brown to black and brown-orange moist, medium stiff clay to a depth of 4.5 feet in most borings. Trace gravels and sands were observed in some locations. Groundwater was not encountered during boring advancement.

5.2 Laboratory Analytical Results

The analytical results are presented in Tables 1 through 3 and summarized below:

- The following metals were not detected above their respective laboratory reporting limits: antimony, beryllium, cadmium, molybdenum, selenium, silver, and thallium.
- Total chromium was reported at concentrations ranging from 18 mg/kg to 81 mg/kg.
- WET chromium was not detected at or above the reporting limit of 1.0 mg/l.
- Total lead was reported at concentrations ranging from not detected (laboratory reporting limit of 1.0 mg/kg) to 200 mg/kg.
- WET lead was reported at concentrations ranging from 1.9 mg/l to 11 mg/l.
- TCLP lead was reported at concentrations of not detected (laboratory reporting limit of 0.25 mg/l).
- Remaining CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs.
- TPHd was reported at concentrations ranging from 2.1 mg/kg to 3,200 mg/kg.
- TPHmo was reported at concentrations ranging from 4.2 mg/kg to 7,400 mg/kg.
- TPHg was not detected at or above the laboratory reporting limit of 1.0 mg/kg to 100 mg/kg.
- BTEX compounds were not detected at or above the laboratory reporting limits.
- SVOCs compounds were not detected at or above the laboratory reporting limits, although the laboratory reporting limits in some samples were increased due to sample dilution as noted on the analytical laboratory report.

5.3 Laboratory Quality Assurance/Quality Control

We reviewed the QA/QC results provided with the laboratory analytical reports (Appendix A). Based on this limited data review, no additional qualifications of the soil data are necessary, and the data are of sufficient quality for the purposes of this report.

5.4 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable

correlation between total and WET lead concentrations exists that would allow the prediction of WET lead concentrations based on calculated UCLs.

5.4.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 95% UCL of the arithmetic mean is defined as the value that, when calculated repeatedly for randomly drawn subsets of site data, equals or exceeds the true mean 95% of the time. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

ProUCL (ver 5.1) was used to calculate the 95% UCLs. The ProUCL output is included in Appendix B. The following tables present the calculated UCL and statistics for the site:

Total Lead 95% UCL (mg/kg)	Total Lead Mean (mg/kg)	Total Lead Minimum (mg/kg)	Total Lead Maximum (mg/kg)
90.85	57.5	<1.0	200

5.4.2 Correlation of Total and WET Lead

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET lead concentrations based on the 95% UCL total lead concentrations for the site.

To estimate the degree of interrelation between total and corresponding WET lead values (*x* and *y*, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for 5 (*x, y*) data points (i.e., soil samples analyzed for both total lead [*x*] and WET lead [*y*]) from the site. The resulting *coefficient of determination* (r^2) equaled 0.7600, which yields a corresponding *correlation coefficient* (*r*) of 0.8718.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line).

The equation of the regression line was determined to be $y = 0.0565(x)-2.0839$, where x represents total lead concentrations, y represents predicted WET lead concentrations, and -2.0839 represents the y-intercept.

This equation was used to predict an expected WET lead concentration of 3.05 mg/l for site soils as a whole.

Regression analysis results and a scatter plot depicting the (x, y) data points along with the regression line are included in Appendix B.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CAM 17 Metals in Soil

Site soil site excavated to a depth of 2.5 feet is expected to be classified as non-hazardous based on lead content because the maximum total lead concentration of 200 mg/kg is less than the TTLC of 1,000 mg/kg and the 95% UCL-predicted WET lead concentration for site soil as a whole of 3.05 mg/l is less than the STLC of 5.0 mg/l. Site soil excavated to a depth of 2.5 feet would also be classified as non-hazardous based on chromium content. Other CAM 17 metals were reported in the samples at total concentrations below 10 times their respective STLCs. Accordingly, soil to a depth of 2.5 feet would be classified as non-hazardous based on CAM 17 metal content.

The CAM 17 metals concentrations in site soil were compared to ESLs. Arsenic, lead, and nickel were reported at concentrations greater than one or more ESL value. Because concentrations of arsenic, lead, and nickel exceeded one or more ESL, statistical methods were used to calculate the 95% UCL for total arsenic, lead, and nickel. The test results are included in Appendix B. ESLs, UCLs, and published background concentrations for arsenic, lead, and nickel are summarized in the following table.

Metal	Maximum	95% UCL	Tier 1 ESL	Shallow Soil Residential ESL	Shallow Soil Commercial/ Industrial ESL	Worker Direct Exposure ESL	Published Background Mean[1]	Published Background Range[1]
Arsenic	3.9	2.985	0.067	0.067	0.31	0.98	3.5	0.6 to 11
Lead	200	90.85	80	80	320	160	23.9	12.4 to 97.1
Nickel	88	43.24	86	820	11,000	86	57	9.0 to 509

Concentrations reported in mg/kg
[1] Kearney Foundation of Soil Science, March 1996

Based on the maximum and/or the 95% UCL concentrations for arsenic, lead, and nickel, offsite reuse or disposal of excavated soil may be restricted depending on proposed use.

Metals results for soil samples are summarized in Tables 1 and 2.

6.2 Petroleum Hydrocarbons in Soil

TPHg was reported in one sample at 100 mg/kg, below residential and commercial/industrial direct exposure ESLs. TPHg was not detected at or above the laboratory reporting limit of 1.0 mg/kg in the other samples.

TPHd was reported at concentrations ranging from 2.1 mg/kg to 3,200 mg/kg, above the residential and commercial/industrial direct exposure ESLs.

TPHmo was reported at concentrations ranging from 4.2 mg/kg to 7,400 mg/kg, below the residential NS commercial/industrial direct exposure ESLs.

Based on the reported TPHd concentrations, offsite reuse or disposal of excavated soil may be restricted depending on proposed use.

A summary of petroleum hydrocarbons compounds concentrations in site soil is presented in Table 3.

6.3 Organic Compounds in Soil

BTEX and SVOC compounds were not detected at or above the laboratory reporting limits.

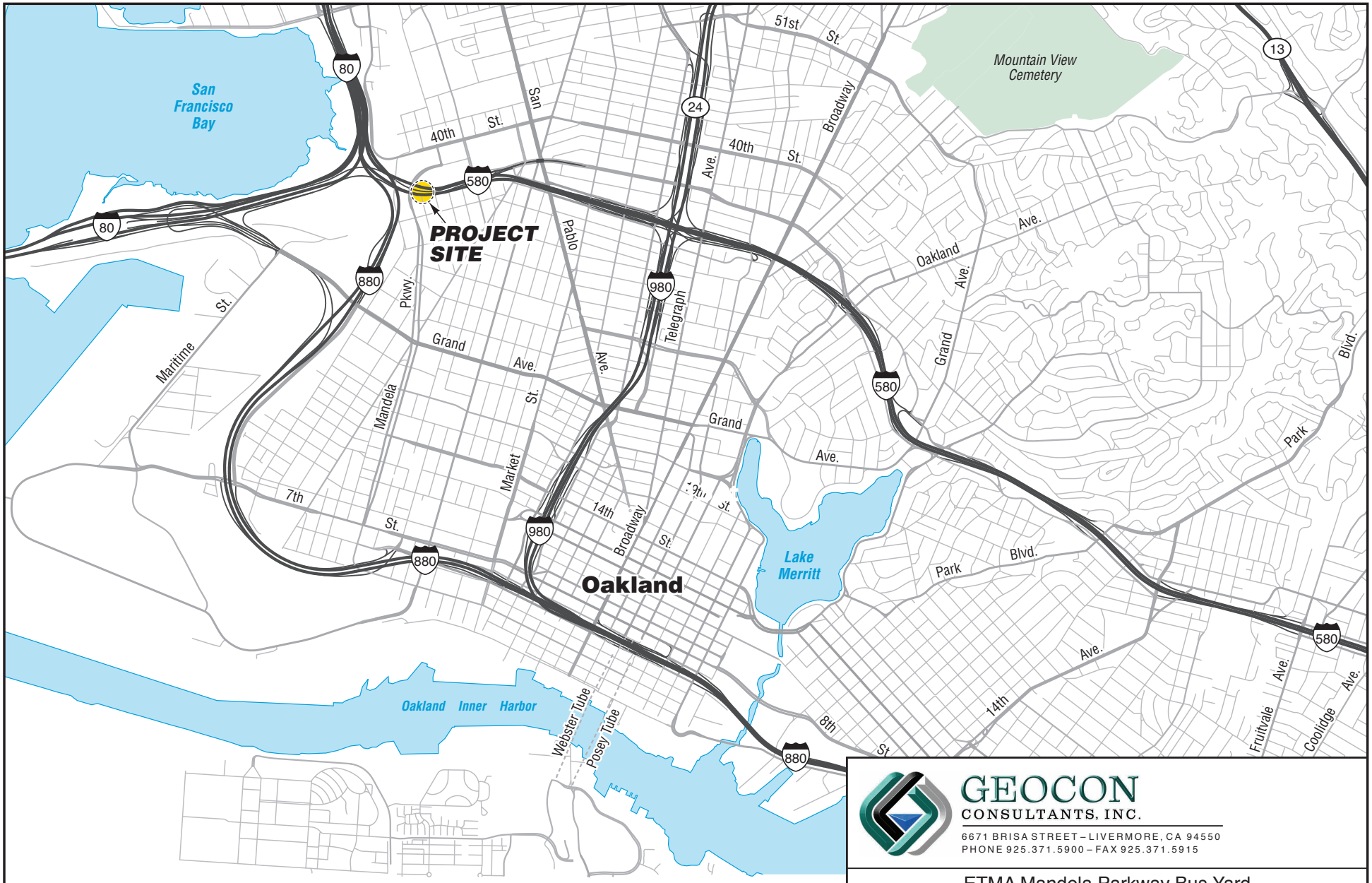
A summary of organic compounds concentrations in site soil is presented in Table 3.

6.4 Worker Protection

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals and petroleum hydrocarbons in soil. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of soil.

6.5 Excess Soil Disposal

Geocon anticipates that excess soil would not be classified as a hazardous waste (based on metal content), would not be accepted at offsite reuse sites (based on metal and petroleum hydrocarbon content), and will require disposal at a Class II landfill facility. Geocon recommends stockpiling and sampling of excess soil in accordance with the designated Class II landfill waste profiling requirements.



GEOCON
CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

ETMA Mandela Parkway Bus Yard

Oakland,
California

VICINITY MAP

E9133-04-02	June 2019	Figure 1

LEGEND:

B1 ⊗ Approximate Boring Location

N

0 50

Scale in Feet

GEOCON
CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

ETMA Mandela Parkway Bus Yard

Oakland,
California

SITE PLAN

E9133-02-02	June 2019	Figure 2

TABLE 1
Summary of Lead Results
ETMA Mandela Parkway Bus Yard
Oakland, California

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	TCLP Lead (mg/l)
H1-0	0 to 0.5	130	4.1	---
H1-1	1 to 1.5	20	---	---
H2-0.5	0.5 to 1.0	28	---	---
H2-1.5	1.5 to 2	27	---	---
H3-0.5	0.5 to 1.0	6.9	---	---
H3-1	1 to 1.5	71	3.1	---
H4-1	1 to 1.5	200	11	<0.25
H4-2	2 to 2.5	18	---	---
H5-0.5	0.5 to 1.0	57	1.9	---
H5-1.5	1.5 to 2	130	2.7	---
H6-0.5	0.5 to 1.0	<1.0	---	---
H6-1.5	1.5 to 2	<1.0	---	---
Hazardous Waste Criteria				
	TTLC (mg/kg)	1,000	---	---
	STLC (mg/l)	---	5.0	---
	TCLP (mg/l)	---	---	5.0

Notes:
mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
--- = Not analyzed or no standard
< = Not detected above the laboratory reporting limit
WET = Waste Extraction Test using citric acid as the extraction fluid
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration

TABLE 2
Summary of CAM 17 Metals Results
ETMA Mandela Parkway Bus Yard
Oakland, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
H1-0	0 to 0.5	<2.0	3.7	140	<1.0	<1.0	23	6.2	20	130	0.13	<1.0	23	<1.0	<1.0	<1.0	20	81
H1-1	1 to 1.5	<2.0	2.5	120	<1.0	<1.0	18	5.6	14	20	0.14	<1.0	24	<1.0	<1.0	<1.0	16	36
H2-0.5	0.5 to 1.0	<2.0	3.6	48	<1.0	<1.0	29	7.4	27	28	0.13	<1.0	18	<1.0	<1.0	<1.0	36	59
H2-1.5	1.5 to 2	<2.0	2.2	130	<1.0	<1.0	33	9.7	19	27	<0.10	<1.0	51	<1.0	<1.0	<1.0	25	44
H3-0.5	0.5 to 1.0	<2.0	<1.0	33	<1.0	<1.0	24	13	33	6.9	<0.10	<1.0	25	<1.0	<1.0	<1.0	43	23
H3-1	1 to 1.5	<2.0	3.5	120	<1.0	<1.0	18	6.8	30	71	0.62	<1.0	26	<1.0	<1.0	<1.0	21	79
H4-1	1 to 1.5	<2.0	2.0	73	<1.0	<1.0	20	5.6	22	200	0.14	<1.0	24	<1.0	<1.0	<1.0	20	58
H4-2	2 to 2.5	<2.0	3.4	58	<1.0	<1.0	39	13	16	18	<0.10	<1.0	88	<1.0	<1.0	<1.0	43	33
H5-0.5	0.5 to 1.0	<2.0	1.1	48	<1.0	<1.0	26	8.8	39	57	<0.10	<1.0	26	<1.0	<1.0	<1.0	26	39
H5-1.5	1.5 to 2	<2.0	3.9	160	<1.0	<1.0	26	8.0	54	130	0.66	<1.0	38	<1.0	<1.0	<1.0	22	95
H6-0.5	0.5 to 1.0	<2.0	<1.0	2.7	<1.0	<1.0	81 *<1.0*	15	64	<1.0	0.13	<1.0	34	<1.0	<1.0	<1.0	29	13
H6-1.5	1.5 to 2	<2.0	<1.0	1.8	<1.0	<1.0	43	16	61	<1.0	0.14	<1.0	22	<1.0	<1.0	<1.0	45	12
Hazardous Waste Criteria																		
TTLC (mg/kg)		500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
STLC (mg/l)		15	5.0	100	0.75	1.0	5.0	80	25	5.0	0.2	350	20	1.0	5.0	7.0	24	250
TCLP (mg/l)		---	5.0	100	---	1.0	5.0	---	---	5.0	0.2	---	---	1.0	5.0	---	---	---
ESLs																		
Residential Direct Exposure		11	0.067	15,000	16	78	120,000	23	3,100	80	13	390	820	390	390	0.78	390	23,000
Commercial/Industrial Direct Exposure		160	0.31	220,000	230	1,100	1,800,000	350	47,000	320	190	5,800	11,000	5,800	5,800	12	5,800	350,000
Background Concentrations [2]																		
Minimum		0.15	0.6	133	0.25	0.05	23	2.7	9.1	12.4	0.10	0.1	9.0	0.015	0.10	0.17	39	88
Mean		0.60	3.5	509	1.28	0.36	122	14.9	28.7	23.9	0.26	1.3	57	0.058	0.80	0.56	112	149
Maximum		1.95	11	1,400	2.70	1.70	1,579	46.9	96.4	97.1	0.90	9.6	509	0.430	8.30	1.10	288	236

Notes:

Results are shown in milligrams per kilogram (mg/kg)

< = not detected at or above laboratory reporting limit

Results shown in italics are soluble results in milligrams per liter (mg/l)

ESLs = Environmental Screening Levels, SFRWQCB, 2019 (Rev 2)

[1] = Value listed is for Chromium III, as there is no construction exposure standard for total chromium

[2] = Background Concentrations of Trace and Major Elements in California Soils (Kearney Foundation of Soil Science, Division of Agricultural and Natural Resources, University of California, March 1996)

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

TCLP = Toxicity Characteristic Leaching Procedure

TABLE 3
Summary of Petroleum Hydrocarbons and Semi-Volatile Organic Componds Results
ETMA Mandela Parkway Bus Yard
Oakland, California

Sample ID	Sample Depth (ft)	TPHg (mg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)	BTEX (mg/kg)	SVOCs (mg/kg)
H1-0	0 to 0.5	<1.0	120	550	ND	ND
H1-1	1 to 1.5	<1.0	3.4	5.9	ND	ND
H2-0.5	0.5 to 1.0	<1.0	1,000	3,700	ND	ND
H2-1.5	1.5 to 2	<1.0	25	44	ND	ND
H3-0.5	0.5 to 1.0	100	3,200	7,400	ND	ND
H3-1	1 to 1.5	<1.0	210	860	ND	ND
H4-1	1 to 1.5	<1.0	280	1,100	ND	ND
H4-2	2 to 2.5	<1.0	20	39	ND	ND
H5-0.5	0.5 to 1.0	<1.0	82	250	ND	ND
H5-1.5	1.5 to 2	<1.0	520	2,200	ND	ND
H6-0.5	0.5 to 1.0	<1.0	30	67	ND	ND
H6-1.5	1.5 to 2	<1.0	2.1	4.2	ND	ND
ESLs						
Residential Direct Exposure		430	260	12,000	---	---
Commercial/Industrial Direct Exposure		2,000	1,200	180,000	---	---

Notes:
BTEX = Benzene, Toluene, Ethylbenzene, Xlyenes
mg/kg = milligrams per kilogram
ND = No detections above the laboratory reporting limit for the suite of analytes
SVOCs = Semi-Volatile Organic Compounds
TPHd = Total petroleum hydrocarbons as diesel
TPHmo = Total petroleum hydrocarbons as motor oil
TPHg = Total petroleum hydrocarbons as gasoline
< = Not detected above the stated laboratory reporting limit
ESLs = Environmental Screening Levels, SFRWQCB, 2019 (Rev 2)

APPENDIX A

ADVANCED TECHNOLOGY LABORATORIES

May 21, 2019

Rick Day
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 961-5270
Fax:(925) 371-5915

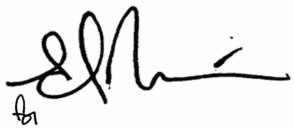
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1901964
Client Reference : ETMA Bus Yard, E9133-02-02

Enclosed are the results for sample(s) received on May 14, 2019 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,



Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
H1-0	1901964-01	Soil	5/09/19 9:00	5/14/19 9:18
H1-1	1901964-02	Soil	5/09/19 9:00	5/14/19 9:18
H2-0.5	1901964-03	Soil	5/09/19 9:30	5/14/19 9:18
H2-1.5	1901964-04	Soil	5/09/19 9:30	5/14/19 9:18
H3-0.5	1901964-05	Soil	5/09/19 11:00	5/14/19 9:18
H3-1	1901964-06	Soil	5/09/19 11:00	5/14/19 9:18
H4-1	1901964-07	Soil	5/09/19 10:30	5/14/19 9:18
H4-2	1901964-08	Soil	5/09/19 10:30	5/14/19 9:18
H5-0.5	1901964-09	Soil	5/09/19 12:30	5/14/19 9:18
H5-1.5	1901964-10	Soil	5/09/19 12:30	5/14/19 9:18
H6-0.5	1901964-11	Soil	5/09/19 11:30	5/14/19 9:18
H6-1.5	1901964-12	Soil	5/09/19 11:30	5/14/19 9:18

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-0

Lab ID: 1901964-01

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Arsenic	**3.7**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Barium	**140**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Chromium	**23**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Cobalt	**6.2**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Copper	**20**	2.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Lead	**130**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Nickel	**23**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Vanadium	**20**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	
Zinc	**81**	1.0	1	B9E0656	05/20/2019	05/21/19 09:16	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.13**	0.10	1	B9E0659	05/20/2019	05/20/19 17:24	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 09:39	
Surrogate: 4-Bromofluorobenzene	*98.5 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 09:39*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**120**	10	10	B9E0616	05/17/2019	05/18/19 01:54	
ORO	**550**	10	10	B9E0616	05/17/2019	05/18/19 01:54	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-0

Lab ID: 1901964-01

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 01:54*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 08:51	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 08:51	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 08:51	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 08:51	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 08:51	
Surrogate: 1,2-Dichloroethane-d4	*110 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 08:51*	
Surrogate: 4-Bromofluorobenzene	*92.7 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 08:51*	
Surrogate: Dibromofluoromethane	*106 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 08:51*	
Surrogate: Toluene-d8	*104 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 08:51*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
1,2-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
1,3-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
1,4-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4,5-Trichlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4,6-Trichlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4-Dichlorophenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4-Dimethylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4-Dinitrophenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,4-Dinitrotoluene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2,6-Dinitrotoluene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Chloronaphthalene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Chlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Methylnaphthalene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Methylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
2-Nitrophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-0

Lab ID: 1901964-01

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
3-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4,6-Dinitro-2-methyphenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Bromophenyl-phenylether	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Chloro-3-methylphenol	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Chloroaniline	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Chlorophenyl-phenylether	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Methylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
4-Nitrophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Acenaphthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Acenaphthylene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzidine (M)	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzo(a)anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzo(a)pyrene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzo(b)fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzo(g,h,i)perylene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzo(k)fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzoic acid	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Benzyl alcohol	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
bis(2-chloroethoxy)methane	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
bis(2-Chloroethyl)ether	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
bis(2-chloroisopropyl)ether	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
bis(2-ethylhexyl)phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Butylbenzylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Chrysene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Di-n-butylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Di-n-octylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Dibenz(a,h)anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Dibenzofuran	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Diethyl phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Dimethyl phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Fluorene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Hexachlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Hexachlorobutadiene	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-0

Lab ID: 1901964-01

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	13000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Hexachloroethane	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Indeno(1,2,3-cd)pyrene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Isophorone	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
N-Nitroso-di-n propylamine	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
N-Nitrosodiphenylamine	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Naphthalene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Nitrobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Pentachlorophenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Phenanthrene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Phenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Pyrene	ND	6600	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Pyridine	ND	33000	20	B9E0623	05/17/2019	05/17/19 18:48	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: 2-Chlorophenol-d4	*0%*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: 2-Fluorophenol	*0%*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: 4-Terphenyl-d14	*0%*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: Nitrobenzene-d5	*0%*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 18:48*	S4
Surrogate: Phenol-d6	*0%*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 18:48*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-1
Lab ID: 1901964-02

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Arsenic	**2.5**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Barium	**120**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Chromium	**18**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Cobalt	**5.6**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Copper	**14**	2.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Lead	**20**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Nickel	**24**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Vanadium	**16**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	
Zinc	**36**	1.0	1	B9E0656	05/20/2019	05/21/19 09:20	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.14**	0.10	1	B9E0659	05/20/2019	05/20/19 17:31	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 09:58	
Surrogate: 4-Bromofluorobenzene	*94.6 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 09:58*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3.4**	1.0	1	B9E0616	05/17/2019	05/18/19 00:32	
ORO	**5.9**	1.0	1	B9E0616	05/17/2019	05/18/19 00:32	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-1

Lab ID: 1901964-02

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*113 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 00:32*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:06	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:06	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 10:06	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:06	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:06	
Surrogate: 1,2-Dichloroethane-d4	*110 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 10:06*	
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 10:06*	
Surrogate: Dibromofluoromethane	*111 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 10:06*	
Surrogate: Toluene-d8	*96.1 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 10:06*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
1,2-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
1,3-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
1,4-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4,5-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4,6-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4-Dichlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4-Dimethylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4-Dinitrophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
2,4-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2,6-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Chloronaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Chlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Methylnaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
2-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-1

Lab ID: 1901964-02

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	
3-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Bromophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Chloro-3-methylphenol	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Chloroaniline	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Chlorophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
4-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Acenaphthene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Acenaphthylene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzidine (M)	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzo(a)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzo(a)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzo(b)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzo(g,h,i)perylene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzo(k)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzoic acid	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
Benzyl alcohol	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	
bis(2-chloroethoxy)methane	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
bis(2-Chloroethyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
bis(2-chloroisopropyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
bis(2-ethylhexyl)phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Butylbenzylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Chrysene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Di-n-butylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Di-n-octylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Dibenz(a,h)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Dibenzofuran	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Diethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Dimethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Fluorene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Hexachlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Hexachlorobutadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H1-1

Lab ID: 1901964-02

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 19:14	
Hexachloroethane	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Isophorone	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
N-Nitroso-di-n propylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
N-Nitrosodiphenylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Naphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Nitrobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Pentachlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
Phenanthrene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Phenol	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 19:14	
Pyridine	ND	1600	1	B9E0623	05/17/2019	05/17/19 19:14	
Surrogate: 1,2-Dichlorobenzene-d4	*84.7 %*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: 2,4,6-Tribromophenol	*139 %*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: 2-Chlorophenol-d4	*78.6 %*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: 2-Fluorobiphenyl	*99.6 %*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: 2-Fluorophenol	*72.0 %*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: 4-Terphenyl-d14	*111 %*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: Nitrobenzene-d5	*79.0 %*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 19:14*	
Surrogate: Phenol-d6	*77.8 %*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 19:14*	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-0.5

Lab ID: 1901964-03

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Arsenic	**3.6**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Barium	**48**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Chromium	**29**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Cobalt	**7.4**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Copper	**27**	2.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Lead	**28**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Nickel	**18**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Vanadium	**36**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	
Zinc	**59**	1.0	1	B9E0656	05/20/2019	05/21/19 09:21	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.13**	0.10	1	B9E0659	05/20/2019	05/20/19 17:37	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 10:16	
Surrogate: 4-Bromofluorobenzene	*94.1 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 10:16*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**1000**	100	100	B9E0616	05/17/2019	05/18/19 03:16	
ORO	**3700**	100	100	B9E0616	05/17/2019	05/18/19 03:16	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-0.5

Lab ID: 1901964-03

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 03:16*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:25	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:25	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 10:25	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:25	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:25	
Surrogate: 1,2-Dichloroethane-d4	*106 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 10:25*	
Surrogate: 4-Bromofluorobenzene	*95.9 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 10:25*	
Surrogate: Dibromofluoromethane	*110 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 10:25*	
Surrogate: Toluene-d8	*92.8 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 10:25*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
1,2-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
1,3-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
1,4-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4,5-Trichlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4,6-Trichlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4-Dichlorophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4-Dimethylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4-Dinitrophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,4-Dinitrotoluene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2,6-Dinitrotoluene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Chloronaphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Chlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Methylnaphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Methylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
2-Nitrophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-0.5

Lab ID: 1901964-03

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
3-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4,6-Dinitro-2-methyphenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Bromophenyl-phenylether	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Chloro-3-methylphenol	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Chloroaniline	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Chlorophenyl-phenylether	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Methylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
4-Nitrophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Acenaphthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Acenaphthylene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzidine (M)	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzo(a)anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzo(a)pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzo(b)fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzo(g,h,i)perylene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzo(k)fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzoic acid	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Benzyl alcohol	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
bis(2-chloroethoxy)methane	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
bis(2-Chloroethyl)ether	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
bis(2-chloroisopropyl)ether	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
bis(2-ethylhexyl)phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Butylbenzylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Chrysene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Di-n-butylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Di-n-octylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Dibenz(a,h)anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Dibenzofuran	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Diethyl phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Dimethyl phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Fluorene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Hexachlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Hexachlorobutadiene	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-0.5

Lab ID: 1901964-03

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	66000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Hexachloroethane	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Indeno(1,2,3-cd)pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Isophorone	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
N-Nitroso-di-n propylamine	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
N-Nitrosodiphenylamine	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Naphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Nitrobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Pentachlorophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Phenanthrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Phenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Pyridine	ND	160000	100	B9E0623	05/17/2019	05/17/19 19:40	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: 2-Chlorophenol-d4	*0%*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: 2-Fluorophenol	*0%*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: 4-Terphenyl-d14	*0%*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: Nitrobenzene-d5	*0%*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 19:40*	S4
Surrogate: Phenol-d6	*0%*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 19:40*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-1.5

Lab ID: 1901964-04

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Arsenic	**2.2**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Barium	**130**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Chromium	**33**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Cobalt	**9.7**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Copper	**19**	2.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Lead	**27**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Nickel	**51**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Vanadium	**25**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	
Zinc	**44**	1.0	1	B9E0656	05/20/2019	05/21/19 09:22	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9E0659	05/20/2019	05/20/19 17:39	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 10:35	
Surrogate: 4-Bromofluorobenzene	*97.6 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 10:35*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**25**	1.0	1	B9E0616	05/17/2019	05/18/19 00:48	
ORO	**44**	1.0	1	B9E0616	05/17/2019	05/18/19 00:48	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-1.5

Lab ID: 1901964-04

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*105 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 00:48*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:43	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:43	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 10:43	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:43	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 10:43	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 10:43*	
Surrogate: 4-Bromofluorobenzene	*94.4 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 10:43*	
Surrogate: Dibromofluoromethane	*105 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 10:43*	
Surrogate: Toluene-d8	*105 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 10:43*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
1,2-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
1,3-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
1,4-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4,5-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4,6-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4-Dichlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4-Dimethylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4-Dinitrophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
2,4-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2,6-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Chloronaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Chlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Methylnaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
2-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-1.5

Lab ID: 1901964-04

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	
3-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Bromophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Chloro-3-methylphenol	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Chloroaniline	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Chlorophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
4-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Acenaphthene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Acenaphthylene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzidine (M)	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzo(a)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzo(a)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzo(b)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzo(g,h,i)perylene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzo(k)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzoic acid	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
Benzyl alcohol	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	
bis(2-chloroethoxy)methane	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
bis(2-Chloroethyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
bis(2-chloroisopropyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
bis(2-ethylhexyl)phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Butylbenzylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Chrysene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Di-n-butylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Di-n-octylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Dibenz(a,h)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Dibenzofuran	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Diethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Dimethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Fluorene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Hexachlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Hexachlorobutadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H2-1.5

Lab ID: 1901964-04

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 20:06	
Hexachloroethane	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Isophorone	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
N-Nitroso-di-n propylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
N-Nitrosodiphenylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Naphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Nitrobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Pentachlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
Phenanthrene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Phenol	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 20:06	
Pyridine	ND	1600	1	B9E0623	05/17/2019	05/17/19 20:06	
Surrogate: 1,2-Dichlorobenzene-d4	*83.7 %*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: 2,4,6-Tribromophenol	*134 %*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: 2-Chlorophenol-d4	*79.4 %*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: 2-Fluorobiphenyl	*99.5 %*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: 2-Fluorophenol	*72.4 %*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: 4-Terphenyl-d14	*115 %*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: Nitrobenzene-d5	*78.9 %*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 20:06*	
Surrogate: Phenol-d6	*79.4 %*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 20:06*	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-0.5

Lab ID: 1901964-05

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Arsenic	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Barium	**33**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Chromium	**24**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Cobalt	**13**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Copper	**33**	2.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Lead	**6.9**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Nickel	**25**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Vanadium	**43**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	
Zinc	**23**	1.0	1	B9E0656	05/20/2019	05/21/19 09:23	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9E0659	05/20/2019	05/20/19 17:41	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**100**	50	50	B9E0619	05/18/2019	05/18/19 13:04	
Surrogate: 4-Bromofluorobenzene	*97.8 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 13:04*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**3200**	100	100	B9E0616	05/17/2019	05/18/19 03:00	
ORO	**7400**	100	100	B9E0616	05/17/2019	05/18/19 03:00	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-0.5

Lab ID: 1901964-05

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 03:00*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	250	50	B9E0588	05/17/2019	05/17/19 13:14	D2
Ethylbenzene	ND	250	50	B9E0588	05/17/2019	05/17/19 13:14	D2
m,p-Xylene	ND	500	50	B9E0588	05/17/2019	05/17/19 13:14	D2
o-Xylene	ND	250	50	B9E0588	05/17/2019	05/17/19 13:14	D2
Toluene	ND	250	50	B9E0588	05/17/2019	05/17/19 13:14	D2
Surrogate: 1,2-Dichloroethane-d4	*95.9 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 13:14*	
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 13:14*	
Surrogate: Dibromofluoromethane	*97.8 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 13:14*	
Surrogate: Toluene-d8	*99.4 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 13:14*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
1,2-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
1,3-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
1,4-Dichlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4,5-Trichlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4,6-Trichlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4-Dichlorophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4-Dimethylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4-Dinitrophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,4-Dinitrotoluene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2,6-Dinitrotoluene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Chloronaphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Chlorophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Methylnaphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Methylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
2-Nitrophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-0.5

Lab ID: 1901964-05

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
3-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4,6-Dinitro-2-methyphenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Bromophenyl-phenylether	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Chloro-3-methylphenol	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Chloroaniline	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Chlorophenyl-phenylether	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Methylphenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Nitroaniline	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
4-Nitrophenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Acenaphthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Acenaphthylene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzidine (M)	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzo(a)anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzo(a)pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzo(b)fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzo(g,h,i)perylene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzo(k)fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzoic acid	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Benzyl alcohol	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
bis(2-chloroethoxy)methane	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
bis(2-Chloroethyl)ether	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
bis(2-chloroisopropyl)ether	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
bis(2-ethylhexyl)phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Butylbenzylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Chrysene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Di-n-butylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Di-n-octylphthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Dibenz(a,h)anthracene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Dibenzofuran	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Diethyl phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Dimethyl phthalate	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Fluoranthene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Fluorene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Hexachlorobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Hexachlorobutadiene	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-0.5

Lab ID: 1901964-05

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	66000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Hexachloroethane	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Indeno(1,2,3-cd)pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Isophorone	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
N-Nitroso-di-n propylamine	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
N-Nitrosodiphenylamine	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Naphthalene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Nitrobenzene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Pentachlorophenol	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Phenanthrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Phenol	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Pyrene	ND	33000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Pyridine	ND	160000	100	B9E0623	05/17/2019	05/17/19 20:32	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: 2-Chlorophenol-d4	*0%*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: 2-Fluorobiphenyl	*0%*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: 2-Fluorophenol	*0%*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: 4-Terphenyl-d14	*0%*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: Nitrobenzene-d5	*0%*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 20:32*	S4
Surrogate: Phenol-d6	*0%*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 20:32*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-1
Lab ID: 1901964-06

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Arsenic	**3.5**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Barium	**120**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Chromium	**18**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Cobalt	**6.8**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Copper	**30**	2.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Lead	**71**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Nickel	**26**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Vanadium	**21**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	
Zinc	**79**	1.0	1	B9E0656	05/20/2019	05/21/19 09:24	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.62**	0.10	1	B9E0659	05/20/2019	05/20/19 17:43	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 10:54	
Surrogate: 4-Bromofluorobenzene	*97.8 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 10:54*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**210**	10	10	B9E0616	05/17/2019	05/18/19 02:11	
ORO	**860**	10	10	B9E0616	05/17/2019	05/18/19 02:11	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-1

Lab ID: 1901964-06

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 02:11*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:02	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:02	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 11:02	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:02	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:02	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 11:02*	
Surrogate: 4-Bromofluorobenzene	*90.5 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 11:02*	
Surrogate: Dibromofluoromethane	*109 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 11:02*	
Surrogate: Toluene-d8	*104 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 11:02*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
1,2-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
1,3-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
1,4-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4,5-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4,6-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4-Dichlorophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4-Dimethylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4-Dinitrophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,4-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2,6-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Chloronaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Chlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Methylnaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
2-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-1

Lab ID: 1901964-06

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
3-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4,6-Dinitro-2-methyphenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Bromophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Chloro-3-methylphenol	ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Chloroaniline	ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Chlorophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
4-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Acenaphthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Acenaphthylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzidine (M)	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzo(a)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzo(a)pyrene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzo(b)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzo(g,h,i)perylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzo(k)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzoic acid	ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Benzyl alcohol	ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
bis(2-chloroethoxy)methane	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
bis(2-Chloroethyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
bis(2-chloroisopropyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
bis(2-ethylhexyl)phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Butylbenzylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Chrysene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Di-n-butylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Di-n-octylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Dibenz(a,h)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Dibenzofuran	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Diethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Dimethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Fluorene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Hexachlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Hexachlorobutadiene	ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H3-1

Lab ID: 1901964-06

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene		ND	33000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Hexachloroethane		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Indeno(1,2,3-cd)pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Isophorone		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
N-Nitroso-di-n propylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
N-Nitrosodiphenylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Naphthalene		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Nitrobenzene		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Pentachlorophenol		ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Phenanthrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Phenol		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Pyridine		ND	82000	50	B9E0623	05/17/2019	05/17/19 20:57	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*16 - 87*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*		*0 - 148*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: 2-Chlorophenol-d4	*0%*		*17 - 96*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*16 - 107*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: 2-Fluorophenol	*0%*		*16 - 86*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: 4-Terphenyl-d14	*0%*		*3 - 156*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: Nitrobenzene-d5	*0%*		*16 - 99*		B9E0623	05/17/2019	*05/17/19 20:57*	S4
Surrogate: Phenol-d6	*0%*		*17 - 90*		B9E0623	05/17/2019	*05/17/19 20:57*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-1

Lab ID: 1901964-07

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Arsenic	**2.0**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Barium	**73**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Chromium	**20**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Cobalt	**5.6**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Copper	**22**	2.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Lead	**200**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Nickel	**24**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Vanadium	**20**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	
Zinc	**58**	1.0	1	B9E0656	05/20/2019	05/21/19 09:25	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.14**	0.10	1	B9E0659	05/20/2019	05/20/19 17:45	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 11:12	
Surrogate: 4-Bromofluorobenzene	*96.1 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 11:12*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**280**	25	25	B9E0616	05/17/2019	05/18/19 02:27	
ORO	**1100**	25	25	B9E0616	05/17/2019	05/18/19 02:27	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-1

Lab ID: 1901964-07

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 02:27*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:21	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:21	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 11:21	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:21	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:21	
Surrogate: 1,2-Dichloroethane-d4	*99.5 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 11:21*	
Surrogate: 4-Bromofluorobenzene	*91.4 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 11:21*	
Surrogate: Dibromofluoromethane	*104 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 11:21*	
Surrogate: Toluene-d8	*102 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 11:21*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
1,2-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
1,3-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
1,4-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4,5-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4,6-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4-Dichlorophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4-Dimethylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4-Dinitrophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,4-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2,6-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Chloronaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Chlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Methylnaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
2-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-1

Lab ID: 1901964-07

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
3-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4,6-Dinitro-2-methyphenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Bromophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Chloro-3-methylphenol	ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Chloroaniline	ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Chlorophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
4-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Acenaphthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Acenaphthylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzidine (M)	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzo(a)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzo(a)pyrene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzo(b)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzo(g,h,i)perylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzo(k)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzoic acid	ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Benzyl alcohol	ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
bis(2-chloroethoxy)methane	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
bis(2-Chloroethyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
bis(2-chloroisopropyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
bis(2-ethylhexyl)phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Butylbenzylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Chrysene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Di-n-butylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Di-n-octylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Dibenz(a,h)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Dibenzofuran	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Diethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Dimethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Fluorene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Hexachlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Hexachlorobutadiene	ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-1

Lab ID: 1901964-07

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene		ND	33000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Hexachloroethane		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Indeno(1,2,3-cd)pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Isophorone		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
N-Nitroso-di-n propylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
N-Nitrosodiphenylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Naphthalene		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Nitrobenzene		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Pentachlorophenol		ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Phenanthrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Phenol		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Pyridine		ND	82000	50	B9E0623	05/17/2019	05/17/19 21:23	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*16 - 87*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*		*0 - 148*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: 2-Chlorophenol-d4	*0%*		*17 - 96*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*16 - 107*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: 2-Fluorophenol	*0%*		*16 - 86*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: 4-Terphenyl-d14	*0%*		*3 - 156*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: Nitrobenzene-d5	*0%*		*16 - 99*		B9E0623	05/17/2019	*05/17/19 21:23*	S4
Surrogate: Phenol-d6	*0%*		*17 - 90*		B9E0623	05/17/2019	*05/17/19 21:23*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-2

Lab ID: 1901964-08

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Arsenic	**3.4**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Barium	**58**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Chromium	**39**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Cobalt	**13**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Copper	**16**	2.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Lead	**18**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Nickel	**88**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Vanadium	**43**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	
Zinc	**33**	1.0	1	B9E0656	05/20/2019	05/21/19 09:26	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9E0659	05/20/2019	05/20/19 17:47	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 11:31	
Surrogate: 4-Bromofluorobenzene	*93.7 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 11:31*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**20**	1.0	1	B9E0616	05/17/2019	05/18/19 01:05	
ORO	**39**	1.0	1	B9E0616	05/17/2019	05/18/19 01:05	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-2

Lab ID: 1901964-08

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*111 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 01:05*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:40	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:40	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 11:40	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:40	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:40	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 11:40*	
Surrogate: 4-Bromofluorobenzene	*94.2 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 11:40*	
Surrogate: Dibromofluoromethane	*105 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 11:40*	
Surrogate: Toluene-d8	*99.7 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 11:40*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
1,2-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
1,3-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
1,4-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4,5-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4,6-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4-Dichlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4-Dimethylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4-Dinitrophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
2,4-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2,6-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Chloronaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Chlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Methylnaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
2-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-2

Lab ID: 1901964-08

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	
3-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Bromophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Chloro-3-methylphenol	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Chloroaniline	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Chlorophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
4-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Acenaphthene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Acenaphthylene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzidine (M)	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzo(a)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzo(a)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzo(b)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzo(g,h,i)perylene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzo(k)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzoic acid	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
Benzyl alcohol	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	
bis(2-chloroethoxy)methane	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
bis(2-Chloroethyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
bis(2-chloroisopropyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
bis(2-ethylhexyl)phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Butylbenzylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Chrysene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Di-n-butylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Di-n-octylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Dibenz(a,h)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Dibenzofuran	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Diethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Dimethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Fluorene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Hexachlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Hexachlorobutadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H4-2

Lab ID: 1901964-08

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 21:49	
Hexachloroethane	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Isophorone	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
N-Nitroso-di-n propylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
N-Nitrosodiphenylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Naphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Nitrobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Pentachlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
Phenanthrene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Phenol	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 21:49	
Pyridine	ND	1600	1	B9E0623	05/17/2019	05/17/19 21:49	
Surrogate: 1,2-Dichlorobenzene-d4	*79.0 %*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: 2,4,6-Tribromophenol	*125 %*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: 2-Chlorophenol-d4	*79.2 %*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: 2-Fluorobiphenyl	*97.7 %*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: 2-Fluorophenol	*71.0 %*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: 4-Terphenyl-d14	*102 %*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: Nitrobenzene-d5	*78.3 %*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 21:49*	
Surrogate: Phenol-d6	*77.6 %*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 21:49*	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-0.5

Lab ID: 1901964-09

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Arsenic	**1.1**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Barium	**48**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Chromium	**26**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Cobalt	**8.8**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Copper	**39**	2.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Lead	**57**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Nickel	**26**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Vanadium	**26**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	
Zinc	**39**	1.0	1	B9E0656	05/20/2019	05/21/19 09:30	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.10	1	B9E0659	05/20/2019	05/20/19 17:49	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 11:50	
Surrogate: 4-Bromofluorobenzene	*93.5 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 11:50*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**82**	5.0	5	B9E0616	05/17/2019	05/18/19 01:38	
ORO	**250**	5.0	5	B9E0616	05/17/2019	05/18/19 01:38	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-0.5

Lab ID: 1901964-09

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*113 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 01:38*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:59	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:59	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 11:59	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:59	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 11:59	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 11:59*	
Surrogate: 4-Bromofluorobenzene	*92.5 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 11:59*	
Surrogate: Dibromofluoromethane	*103 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 11:59*	
Surrogate: Toluene-d8	*100 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 11:59*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
1,2-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
1,3-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
1,4-Dichlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4,5-Trichlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4,6-Trichlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4-Dichlorophenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4-Dimethylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4-Dinitrophenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,4-Dinitrotoluene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2,6-Dinitrotoluene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Chloronaphthalene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Chlorophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Methylnaphthalene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Methylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
2-Nitrophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-0.5

Lab ID: 1901964-09

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
3-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4,6-Dinitro-2-methyphenol	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Bromophenyl-phenylether	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Chloro-3-methylphenol	ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Chloroaniline	ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Chlorophenyl-phenylether	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Methylphenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Nitroaniline	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
4-Nitrophenol	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Acenaphthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Acenaphthylene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzidine (M)	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzo(a)anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzo(a)pyrene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzo(b)fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzo(g,h,i)perylene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzo(k)fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzoic acid	ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Benzyl alcohol	ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
bis(2-chloroethoxy)methane	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
bis(2-Chloroethyl)ether	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
bis(2-chloroisopropyl)ether	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
bis(2-ethylhexyl)phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Butylbenzylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Chrysene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Di-n-butylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Di-n-octylphthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Dibenz(a,h)anthracene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Dibenzofuran	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Diethyl phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Dimethyl phthalate	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Fluoranthene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Fluorene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Hexachlorobenzene	ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Hexachlorobutadiene	ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-0.5

Lab ID: 1901964-09

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene		ND	13000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Hexachloroethane		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Indeno(1,2,3-cd)pyrene		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Isophorone		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
N-Nitroso-di-n propylamine		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
N-Nitrosodiphenylamine		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Naphthalene		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Nitrobenzene		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Pentachlorophenol		ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Phenanthrene		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Phenol		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Pyrene		ND	6600	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Pyridine		ND	33000	20	B9E0623	05/17/2019	05/17/19 22:15	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*16 - 87*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*		*0 - 148*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: 2-Chlorophenol-d4	*0%*		*17 - 96*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*16 - 107*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: 2-Fluorophenol	*0%*		*16 - 86*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: 4-Terphenyl-d14	*0%*		*3 - 156*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: Nitrobenzene-d5	*0%*		*16 - 99*		B9E0623	05/17/2019	*05/17/19 22:15*	S4
Surrogate: Phenol-d6	*0%*		*17 - 90*		B9E0623	05/17/2019	*05/17/19 22:15*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-1.5

Lab ID: 1901964-10

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Arsenic	**3.9**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Barium	**160**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Chromium	**26**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Cobalt	**8.0**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Copper	**54**	2.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Lead	**130**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Nickel	**38**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Vanadium	**22**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	
Zinc	**95**	1.0	1	B9E0656	05/20/2019	05/21/19 09:31	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.66**	0.10	1	B9E0659	05/20/2019	05/20/19 17:50	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 12:08	
Surrogate: 4-Bromofluorobenzene	*93.2 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 12:08*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**520**	50	50	B9E0616	05/17/2019	05/18/19 02:44	
ORO	**2200**	50	50	B9E0616	05/17/2019	05/18/19 02:44	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-1.5

Lab ID: 1901964-10

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*0%*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 02:44*	S4

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:17	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:17	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 12:17	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:17	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:17	
Surrogate: 1,2-Dichloroethane-d4	*104 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 12:17*	
Surrogate: 4-Bromofluorobenzene	*86.7 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 12:17*	
Surrogate: Dibromofluoromethane	*104 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 12:17*	
Surrogate: Toluene-d8	*98.3 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 12:17*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
1,2-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
1,3-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
1,4-Dichlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4,5-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4,6-Trichlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4-Dichlorophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4-Dimethylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4-Dinitrophenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,4-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2,6-Dinitrotoluene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Chloronaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Chlorophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Methylnaphthalene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
2-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-1.5

Lab ID: 1901964-10

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
3-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4,6-Dinitro-2-methyphenol	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Bromophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Chloro-3-methylphenol	ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Chloroaniline	ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Chlorophenyl-phenylether	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Methylphenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Nitroaniline	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
4-Nitrophenol	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Acenaphthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Acenaphthylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzidine (M)	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzo(a)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzo(a)pyrene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzo(b)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzo(g,h,i)perylene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzo(k)fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzoic acid	ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Benzyl alcohol	ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
bis(2-chloroethoxy)methane	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
bis(2-Chloroethyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
bis(2-chloroisopropyl)ether	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
bis(2-ethylhexyl)phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Butylbenzylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Chrysene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Di-n-butylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Di-n-octylphthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Dibenz(a,h)anthracene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Dibenzofuran	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Diethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Dimethyl phthalate	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Fluoranthene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Fluorene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Hexachlorobenzene	ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Hexachlorobutadiene	ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H5-1.5

Lab ID: 1901964-10

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte		Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene		ND	33000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Hexachloroethane		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Indeno(1,2,3-cd)pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Isophorone		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
N-Nitroso-di-n propylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
N-Nitrosodiphenylamine		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Naphthalene		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Nitrobenzene		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Pentachlorophenol		ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Phenanthrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Phenol		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Pyrene		ND	16000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Pyridine		ND	82000	50	B9E0623	05/17/2019	05/17/19 22:41	D1
Surrogate: 1,2-Dichlorobenzene-d4	*0%*		*16 - 87*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: 2,4,6-Tribromophenol	*0%*		*0 - 148*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: 2-Chlorophenol-d4	*0%*		*17 - 96*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: 2-Fluorobiphenyl	*0%*		*16 - 107*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: 2-Fluorophenol	*0%*		*16 - 86*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: 4-Terphenyl-d14	*0%*		*3 - 156*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: Nitrobenzene-d5	*0%*		*16 - 99*		B9E0623	05/17/2019	*05/17/19 22:41*	S4
Surrogate: Phenol-d6	*0%*		*17 - 90*		B9E0623	05/17/2019	*05/17/19 22:41*	S4

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-0.5

Lab ID: 1901964-11

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Arsenic	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Barium	**2.7**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Chromium	**81**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Cobalt	**15**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Copper	**64**	2.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Lead	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Nickel	**34**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Vanadium	**29**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	
Zinc	**13**	1.0	1	B9E0656	05/20/2019	05/21/19 09:32	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.13**	0.10	1	B9E0659	05/20/2019	05/20/19 17:52	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 12:27	
Surrogate: 4-Bromofluorobenzene	*93.2 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 12:27*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**30**	1.0	1	B9E0616	05/17/2019	05/18/19 01:21	
ORO	**67**	1.0	1	B9E0616	05/17/2019	05/18/19 01:21	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-0.5

Lab ID: 1901964-11

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*105 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 01:21*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:36	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:36	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 12:36	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:36	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:36	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 12:36*	
Surrogate: 4-Bromofluorobenzene	*83.8 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 12:36*	
Surrogate: Dibromofluoromethane	*105 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 12:36*	
Surrogate: Toluene-d8	*104 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 12:36*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
1,2-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
1,3-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
1,4-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4,5-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4,6-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4-Dichlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4-Dimethylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4-Dinitrophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
2,4-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2,6-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Chloronaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Chlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Methylnaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
2-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-0.5

Lab ID: 1901964-11

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	
3-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Bromophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Chloro-3-methylphenol	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Chloroaniline	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Chlorophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
4-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Acenaphthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Acenaphthylene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzidine (M)	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzo(a)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzo(a)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzo(b)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzo(g,h,i)perylene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzo(k)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzoic acid	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
Benzyl alcohol	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	
bis(2-chloroethoxy)methane	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
bis(2-Chloroethyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
bis(2-chloroisopropyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
bis(2-ethylhexyl)phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Butylbenzylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Chrysene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Di-n-butylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Di-n-octylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Dibenz(a,h)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Dibenzofuran	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Diethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Dimethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Fluorene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Hexachlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Hexachlorobutadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-0.5

Lab ID: 1901964-11

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 23:07	
Hexachloroethane	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Isophorone	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
N-Nitroso-di-n propylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
N-Nitrosodiphenylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Naphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Nitrobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Pentachlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
Phenanthrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Phenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:07	
Pyridine	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:07	
Surrogate: 1,2-Dichlorobenzene-d4	*77.4 %*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: 2,4,6-Tribromophenol	*129 %*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: 2-Chlorophenol-d4	*74.4 %*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: 2-Fluorobiphenyl	*91.5 %*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: 2-Fluorophenol	*67.5 %*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: 4-Terphenyl-d14	*104 %*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: Nitrobenzene-d5	*74.9 %*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 23:07*	
Surrogate: Phenol-d6	*75.5 %*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 23:07*	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-1.5

Lab ID: 1901964-12

Title 22 Metals by ICP-AES EPA 6010B

Analyst: GO

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Arsenic	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Barium	**1.8**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Beryllium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Cadmium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Chromium	**43**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Cobalt	**16**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Copper	**61**	2.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Lead	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Molybdenum	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Nickel	**22**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Selenium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Silver	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Thallium	ND	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Vanadium	**45**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	
Zinc	**12**	1.0	1	B9E0656	05/20/2019	05/21/19 09:33	

Mercury by AA (Cold Vapor) EPA 7471A

Analyst: KEK

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.14**	0.10	1	B9E0659	05/20/2019	05/20/19 17:54	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: JBL

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	1	B9E0619	05/18/2019	05/18/19 12:45	
Surrogate: 4-Bromofluorobenzene	*95.3 %*	*45 - 149*		B9E0619	05/18/2019	*05/18/19 12:45*	

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**2.1**	1.0	1	B9E0616	05/17/2019	05/18/19 00:15	
ORO	**4.2**	1.0	1	B9E0616	05/17/2019	05/18/19 00:15	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-1.5

Lab ID: 1901964-12

Diesel Range Organics by EPA 8015B

Analyst: HT

Analyte	Result (mg/kg)	PQL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: p-Terphenyl	*116 %*	*34 - 158*		B9E0616	05/17/2019	*05/18/19 00:15*	

Volatile Organic Compounds by EPA 8260B

Analyst: VW

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Benzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:55	
Ethylbenzene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:55	
m,p-Xylene	ND	10	1	B9E0588	05/17/2019	05/17/19 12:55	
o-Xylene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:55	
Toluene	ND	5.0	1	B9E0588	05/17/2019	05/17/19 12:55	
Surrogate: 1,2-Dichloroethane-d4	*107 %*	*60 - 145*		B9E0588	05/17/2019	*05/17/19 12:55*	
Surrogate: 4-Bromofluorobenzene	*87.8 %*	*68 - 121*		B9E0588	05/17/2019	*05/17/19 12:55*	
Surrogate: Dibromofluoromethane	*104 %*	*65 - 137*		B9E0588	05/17/2019	*05/17/19 12:55*	
Surrogate: Toluene-d8	*105 %*	*82 - 119*		B9E0588	05/17/2019	*05/17/19 12:55*	

Semivolatile Organic Compounds by EPA 8270C

Analyst: SP

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,2,4-Trichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
1,2-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
1,3-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
1,4-Dichlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4,5-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4,6-Trichlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4-Dichlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4-Dimethylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4-Dinitrophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
2,4-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2,6-Dinitrotoluene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Chloronaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Chlorophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Methylnaphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
2-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-1.5

Lab ID: 1901964-12

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
3,3′-Dichlorobenzidine	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	
3-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
4,6-Dinitro-2-methyphenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Bromophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Chloro-3-methylphenol	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Chloroaniline	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Chlorophenyl-phenylether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Methylphenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Nitroaniline	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
4-Nitrophenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Acenaphthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Acenaphthylene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzidine (M)	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzo(a)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzo(a)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzo(b)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzo(g,h,i)perylene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzo(k)fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzoic acid	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
Benzyl alcohol	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	
bis(2-chloroethoxy)methane	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
bis(2-Chloroethyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
bis(2-chloroisopropyl)ether	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
bis(2-ethylhexyl)phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Butylbenzylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Chrysene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Di-n-butylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Di-n-octylphthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Dibenz(a,h)anthracene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Dibenzofuran	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Diethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Dimethyl phthalate	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Fluoranthene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Fluorene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Hexachlorobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Hexachlorobutadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Client Sample ID H6-1.5

Lab ID: 1901964-12

Semivolatile Organic Compounds by EPA 8270C **Analyst: SP**

Analyte	Result (ug/kg)	PQL (ug/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorocyclopentadiene	ND	660	1	B9E0623	05/17/2019	05/17/19 23:33	
Hexachloroethane	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Indeno(1,2,3-cd)pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Isophorone	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
N-Nitroso-di-n propylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
N-Nitrosodiphenylamine	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Naphthalene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Nitrobenzene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Pentachlorophenol	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
Phenanthrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Phenol	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Pyrene	ND	330	1	B9E0623	05/17/2019	05/17/19 23:33	
Pyridine	ND	1600	1	B9E0623	05/17/2019	05/17/19 23:33	
Surrogate: 1,2-Dichlorobenzene-d4	*80.8 %*	*16 - 87*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: 2,4,6-Tribromophenol	*130 %*	*0 - 148*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: 2-Chlorophenol-d4	*78.9 %*	*17 - 96*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: 2-Fluorobiphenyl	*95.1 %*	*16 - 107*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: 2-Fluorophenol	*70.8 %*	*16 - 86*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: 4-Terphenyl-d14	*108 %*	*3 - 156*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: Nitrobenzene-d5	*78.0 %*	*16 - 99*		B9E0623	05/17/2019	*05/17/19 23:33*	
Surrogate: Phenol-d6	*78.3 %*	*17 - 90*		B9E0623	05/17/2019	*05/17/19 23:33*	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0656 - EPA 3050B_S										
Blank (B9E0656-BLK1)					Prepared: 5/20/2019 Analyzed: 5/21/2019					
Antimony	ND	2.0	0.51							
Arsenic	ND	1.0	0.12							
Barium	ND	1.0	0.12							
Beryllium	ND	1.0	0.03							
Cadmium	ND	1.0	0.14							
Chromium	ND	1.0	0.26							
Cobalt	ND	1.0	0.07							
Copper	ND	2.0	0.19							
Lead	ND	1.0	0.18							
Molybdenum	ND	1.0	0.12							
Nickel	ND	1.0	0.18							
Selenium	ND	1.0	0.40							
Silver	ND	1.0	0.12							
Thallium	ND	1.0	0.38							
Vanadium	ND	1.0	0.06							
Zinc	ND	1.0	0.15							
LCS (B9E0656-BS1)					Prepared: 5/20/2019 Analyzed: 5/21/2019					
Antimony	43.9557	2.0	0.51	50.0000		87.9	80 - 120			
Arsenic	43.7753	1.0	0.12	50.0000		87.6	80 - 120			
Barium	46.1043	1.0	0.12	50.0000		92.2	80 - 120			
Beryllium	45.1959	1.0	0.03	50.0000		90.4	80 - 120			
Cadmium	43.4241	1.0	0.14	50.0000		86.8	80 - 120			
Chromium	46.0249	1.0	0.26	50.0000		92.0	80 - 120			
Cobalt	45.0746	1.0	0.07	50.0000		90.1	80 - 120			
Copper	46.6357	2.0	0.19	50.0000		93.3	80 - 120			
Lead	44.2980	1.0	0.18	50.0000		88.6	80 - 120			
Molybdenum	45.8589	1.0	0.12	50.0000		91.7	80 - 120			
Nickel	44.7095	1.0	0.18	50.0000		89.4	80 - 120			
Selenium	41.5998	1.0	0.40	50.0000		83.2	80 - 120			
Silver	44.0735	1.0	0.12	50.0000		88.1	80 - 120			
Thallium	45.3220	1.0	0.38	50.0000		90.6	80 - 120			
Vanadium	46.6509	1.0	0.06	50.0000		93.3	80 - 120			
Zinc	42.7566	1.0	0.15	50.0000		85.5	80 - 120			
Matrix Spike (B9E0656-MS1)				**Source: 1901964-01**	Prepared: 5/20/2019 Analyzed: 5/21/2019					
Antimony	75.2439	2.0	0.51	124.378	0.935644	59.7	21 - 102			
Arsenic	88.9474	1.0	0.12	124.378	3.70476	68.5	49 - 96			
Barium	228.007	1.0	0.12	124.378	139.539	71.1	26 - 121			
Beryllium	89.3885	1.0	0.03	124.378	0.220934	71.7	51 - 96			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0656 - EPA 3050B_S (continued)										
Matrix Spike (B9E0656-MS1) - Continued			**Source: 1901964-01**			Prepared: 5/20/2019 Analyzed: 5/21/2019				
Cadmium	82.6850	1.0	0.14	124.378	0.379155	66.2	46 - 93			
Chromium	112.267	1.0	0.26	124.378	22.6857	72.0	44 - 107			
Cobalt	97.2023	1.0	0.07	124.378	6.21536	73.2	49 - 100			
Copper	116.762	2.0	0.19	124.378	20.4955	77.4	46 - 115			
Lead	240.431	1.0	0.18	124.378	125.230	92.6	29 - 126			
Molybdenum	87.4176	1.0	0.12	124.378	ND	70.3	48 - 99			
Nickel	110.834	1.0	0.18	124.378	23.4778	70.2	37 - 108			
Selenium	80.8419	1.0	0.40	124.378	ND	65.0	48 - 95			
Silver	90.8559	1.0	0.12	124.378	ND	73.0	53 - 99			
Thallium	82.9958	1.0	0.38	124.378	ND	66.7	38 - 93			
Vanadium	114.883	1.0	0.06	124.378	20.3880	76.0	48 - 104			
Zinc	168.389	1.0	0.15	124.378	81.4886	69.9	24 - 111			
Matrix Spike Dup (B9E0656-MSD1)			**Source: 1901964-01**			Prepared: 5/20/2019 Analyzed: 5/21/2019				
Antimony	76.8084	2.0	0.51	124.378	0.935644	61.0	21 - 102	2.06	20	
Arsenic	88.6126	1.0	0.12	124.378	3.70476	68.3	49 - 96	0.377	20	
Barium	226.758	1.0	0.12	124.378	139.539	70.1	26 - 121	0.550	20	
Beryllium	91.1597	1.0	0.03	124.378	0.220934	73.1	51 - 96	1.96	20	
Cadmium	83.9403	1.0	0.14	124.378	0.379155	67.2	46 - 93	1.51	20	
Chromium	116.092	1.0	0.26	124.378	22.6857	75.1	44 - 107	3.35	20	
Cobalt	96.8466	1.0	0.07	124.378	6.21536	72.9	49 - 100	0.367	20	
Copper	121.118	2.0	0.19	124.378	20.4955	80.9	46 - 115	3.66	20	
Lead	259.248	1.0	0.18	124.378	125.230	108	29 - 126	7.53	20	
Molybdenum	88.8161	1.0	0.12	124.378	ND	71.4	48 - 99	1.59	20	
Nickel	112.851	1.0	0.18	124.378	23.4778	71.9	37 - 108	1.80	20	
Selenium	83.4129	1.0	0.40	124.378	ND	67.1	48 - 95	3.13	20	
Silver	93.2115	1.0	0.12	124.378	ND	74.9	53 - 99	2.56	20	
Thallium	83.7274	1.0	0.38	124.378	ND	67.3	38 - 93	0.878	20	
Vanadium	115.714	1.0	0.06	124.378	20.3880	76.6	48 - 104	0.720	20	
Zinc	172.399	1.0	0.15	124.378	81.4886	73.1	24 - 111	2.35	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0659 - EPA 7471_S										
Blank (B9E0659-BLK1)					Prepared: 5/20/2019 Analyzed: 5/20/2019					
Mercury	ND	0.10	0.007							
LCS (B9E0659-BS1)					Prepared: 5/20/2019 Analyzed: 5/20/2019					
Mercury	0.410631	0.10	0.007	0.416667		98.6	80 - 120			
Matrix Spike (B9E0659-MS1)			**Source: 1901964-01**		Prepared: 5/20/2019 Analyzed: 5/20/2019					
Mercury	1.04244	0.10	0.007	0.819672	0.125175	112	70 - 130			
Matrix Spike Dup (B9E0659-MSD1)			**Source: 1901964-01**		Prepared: 5/20/2019 Analyzed: 5/20/2019					
Mercury	1.09390	0.10	0.007	0.847458	0.125175	114	70 - 130	4.82	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Mercury by AA (Cold Vapor) EPA 7471A - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0659 - EPA 7471_S									
Post Spike (B9E0659-PS1)			**Source: 1901964-01**	Prepared: 5/20/2019 Analyzed: 5/20/2019					
Mercury	0.004253		2.00000E-3	1.5021E-3	138	85 - 115			M1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0619 - GCVOA_S										
Blank (B9E0619-BLK1)						Prepared: 5/18/2019 Analyzed: 5/18/2019				
Gasoline Range Organics	ND	1.0	0.20							
Surrogate: 4-Bromofluorobenzene	*0.1859*			*0.200000*		*93.0*	*45 - 149*			
LCS (B9E0619-BS1)						Prepared: 5/18/2019 Analyzed: 5/18/2019				
Gasoline Range Organics	4.16500	1.0	0.20	5.00000		83.3	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1896*			*0.200000*		*94.8*	*45 - 149*			
Matrix Spike (B9E0619-MS1)			**Source: 1901964-01**			Prepared: 5/18/2019 Analyzed: 5/18/2019				
Gasoline Range Organics	3.10300	1.0	0.20	5.00000	ND	62.1	24 - 129			
Surrogate: 4-Bromofluorobenzene	*0.2007*			*0.200000*		*100*	*45 - 149*			
Matrix Spike Dup (B9E0619-MSD1)			**Source: 1901964-01**			Prepared: 5/18/2019 Analyzed: 5/18/2019				
Gasoline Range Organics	2.58900	1.0	0.20	5.00000	ND	51.8	24 - 129	18.1	20	
Surrogate: 4-Bromofluorobenzene	*0.1920*			*0.200000*		*96.0*	*45 - 149*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0616 - GCSEMI_DRO_LL_S										
Blank (B9E0616-BLK1)						Prepared: 5/17/2019 Analyzed: 5/17/2019				
DRO	ND	1.0	1.0							
ORO	ND	1.0	1.0							
Surrogate: p-Terphenyl	*2.186*			*2.66667*		*82.0*	*34 - 158*			
LCS (B9E0616-BS1)						Prepared: 5/17/2019 Analyzed: 5/17/2019				
DRO	28.8330	1.0	1.0	33.3333		86.5	47 - 152			
Surrogate: p-Terphenyl	*2.409*			*2.66667*		*90.3*	*34 - 158*			
Matrix Spike (B9E0616-MS1)			**Source: 1901964-12**			Prepared: 5/17/2019 Analyzed: 5/17/2019				
DRO	24.3083	1.0	1.0	33.3333	2.14533	66.5	34 - 130			
Surrogate: p-Terphenyl	*3.108*			*2.66667*		*117*	*34 - 158*			
Matrix Spike Dup (B9E0616-MSD1)			**Source: 1901964-12**			Prepared: 5/17/2019 Analyzed: 5/17/2019				
DRO	27.0383	1.0	1.0	33.3333	2.14533	74.7	34 - 130	10.6	20	
Surrogate: p-Terphenyl	*3.279*			*2.66667*		*123*	*34 - 158*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0588 - MSVOA_S										
Blank (B9E0588-BLK1)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	ND	5.0	0.64							
Ethylbenzene	ND	5.0	0.91							
m,p-Xylene	ND	10	1.5							
o-Xylene	ND	5.0	0.87							
Toluene	ND	5.0	0.94							
Surrogate: 1,2-Dichloroethane-d4	*51.86*			*50.0000*		*104*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*46.24*			*50.0000*		*92.5*	*68 - 121*			
Surrogate: Dibromofluoromethan	*50.19*			*50.0000*		*100*	*65 - 137*			
Surrogate: Toluene-d8	*50.34*			*50.0000*		*101*	*82 - 119*			
Blank (B9E0588-BLK2)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	ND	5.0	0.64							
Ethylbenzene	ND	5.0	0.91							
m,p-Xylene	ND	10	1.5							
o-Xylene	ND	5.0	0.87							
Toluene	ND	5.0	0.94							
Surrogate: 1,2-Dichloroethane-d4	*51.47*			*50.0000*		*103*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*46.66*			*50.0000*		*93.3*	*68 - 121*			
Surrogate: Dibromofluoromethan	*50.14*			*50.0000*		*100*	*65 - 137*			
Surrogate: Toluene-d8	*52.35*			*50.0000*		*105*	*82 - 119*			
LCS (B9E0588-BS1)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	92.1300	5.0	0.64	100.000		92.1	78 - 112			
Ethylbenzene	90.1600	5.0	0.91	100.000		90.2	82 - 121			
m,p-Xylene	94.3300	10	1.5	100.000		94.3	85 - 118			
o-Xylene	88.9500	5.0	0.87	100.000		89.0	86 - 118			
Toluene	95.2900	5.0	0.94	100.000		95.3	79 - 114			
Surrogate: 1,2-Dichloroethane-d4	*53.62*			*50.0000*		*107*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*49.11*			*50.0000*		*98.2*	*68 - 121*			
Surrogate: Dibromofluoromethan	*52.85*			*50.0000*		*106*	*65 - 137*			
Surrogate: Toluene-d8	*52.19*			*50.0000*		*104*	*82 - 119*			
LCS Dup (B9E0588-BSD1)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	88.6700	5.0	0.64	100.000		88.7	78 - 112	3.83	20	
Ethylbenzene	89.1600	5.0	0.91	100.000		89.2	82 - 121	1.12	20	
m,p-Xylene	93.7100	10	1.5	100.000		93.7	85 - 118	0.659	20	
o-Xylene	91.3700	5.0	0.87	100.000		91.4	86 - 118	2.68	20	
Toluene	93.3900	5.0	0.94	100.000		93.4	79 - 114	2.01	20	
Surrogate: 1,2-Dichloroethane-d4	*54.04*			*50.0000*		*108*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*50.61*			*50.0000*		*101*	*68 - 121*			
Surrogate: Dibromofluoromethan	*54.55*			*50.0000*		*109*	*65 - 137*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)		Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0588 - MSVOA_S (continued)										
LCS Dup (B9E0588-BSD1) - Continued					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Surrogate: Toluene-d8	*50.01*			*50.0000*		*100*	*82 - 119*			
Matrix Spike (B9E0588-MS1)			**Source: 1901964-01**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	82.1900	5.0	0.64	100.000	ND	82.2	48 - 117			
Ethylbenzene	75.5900	5.0	0.91	100.000	ND	75.6	38 - 131			
m,p-Xylene	77.7500	10	1.5	100.000	ND	77.8	38 - 130			
o-Xylene	76.7900	5.0	0.87	100.000	ND	76.8	41 - 129			
Toluene	81.6200	5.0	0.94	100.000	ND	81.6	45 - 122			
Surrogate: 1,2-Dichloroethane-d4	*55.25*			*50.0000*		*110*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*47.54*			*50.0000*		*95.1*	*68 - 121*			
Surrogate: Dibromofluoromethan	*52.36*			*50.0000*		*105*	*65 - 137*			
Surrogate: Toluene-d8	*49.98*			*50.0000*		*100*	*82 - 119*			
Matrix Spike Dup (B9E0588-MSD1)			**Source: 1901964-01**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
Benzene	82.7000	5.0	0.64	100.000	ND	82.7	48 - 117	0.619	20	
Ethylbenzene	74.7700	5.0	0.91	100.000	ND	74.8	38 - 131	1.09	20	
m,p-Xylene	77.0800	10	1.5	100.000	ND	77.1	38 - 130	0.865	20	
o-Xylene	75.2000	5.0	0.87	100.000	ND	75.2	41 - 129	2.09	20	
Toluene	82.1000	5.0	0.94	100.000	ND	82.1	45 - 122	0.586	20	
Surrogate: 1,2-Dichloroethane-d4	*55.15*			*50.0000*		*110*	*60 - 145*			
Surrogate: 4-Bromofluorobenzene	*48.87*			*50.0000*		*97.7*	*68 - 121*			
Surrogate: Dibromofluoromethan	*52.92*			*50.0000*		*106*	*65 - 137*			
Surrogate: Toluene-d8	*51.98*			*50.0000*		*104*	*82 - 119*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S										
Blank (B9E0623-BLK1)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
1,2,4-Trichlorobenzene	ND	330	71							
1,2-Dichlorobenzene	ND	330	60							
1,3-Dichlorobenzene	ND	330	65							
1,4-Dichlorobenzene	ND	330	60							
2,4,5-Trichlorophenol	ND	330	61							
2,4,6-Trichlorophenol	ND	330	220							
2,4-Dichlorophenol	ND	1600	120							
2,4-Dimethylphenol	ND	330	120							
2,4-Dinitrophenol	ND	1600	86							
2,4-Dinitrotoluene	ND	330	46							
2,6-Dinitrotoluene	ND	330	49							
2-Chloronaphthalene	ND	330	59							
2-Chlorophenol	ND	330	120							
2-Methylnaphthalene	ND	330	67							
2-Methylphenol	ND	330	67							
2-Nitroaniline	ND	1600	200							
2-Nitrophenol	ND	330	110							
3,3´-Dichlorobenzidine	ND	660	280							
3-Nitroaniline	ND	1600	44							
4,6-Dinitro-2-methyphenol	ND	1600	300							
4-Bromophenyl-phenylether	ND	330	50							
4-Chloro-3-methylphenol	ND	660	110							
4-Chloroaniline	ND	660	53							
4-Chlorophenyl-phenylether	ND	330	48							
4-Methylphenol	ND	330	66							
4-Nitroaniline	ND	1600	290							
4-Nitrophenol	ND	330	150							
Acenaphthene	ND	330	48							
Acenaphthylene	ND	330	51							
Anthracene	ND	330	49							
Benzidine (M)	ND	1600	1400							
Benzo(a)anthracene	ND	330	39							
Benzo(a)pyrene	ND	330	45							
Benzo(b)fluoranthene	ND	330	55							
Benzo(g,h,i)perylene	ND	330	38							
Benzo(k)fluoranthene	ND	330	52							
Benzoic acid	ND	1600	890							
Benzyl alcohol	ND	660	67							
bis(2-chloroethoxy)methane	ND	330	59							
bis(2-Chloroethyl)ether	ND	330	57							
bis(2-chloroisopropyl)ether	ND	330	65							

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Blank (B9E0623-BLK1) - Continued					Prepared: 5/17/2019 Analyzed: 5/17/2019					
bis(2-ethylhexyl)phthalate	ND	330	83							
Butylbenzylphthalate	ND	330	250							
Chrysene	ND	330	43							
Di-n-butylphthalate	ND	330	230							
Di-n-octylphthalate	ND	330	48							
Dibenz(a,h)anthracene	ND	330	43							
Dibenzofuran	ND	330	55							
Diethyl phthalate	ND	330	47							
Dimethyl phthalate	ND	330	46							
Fluoranthene	ND	330	47							
Fluorene	ND	330	49							
Hexachlorobenzene	ND	330	41							
Hexachlorobutadiene	ND	660	61							
Hexachlorocyclopentadiene	ND	660	64							
Hexachloroethane	ND	330	71							
Indeno(1,2,3-cd)pyrene	ND	330	44							
Isophorone	ND	330	57							
N-Nitroso-di-n propylamine	ND	330	65							
N-Nitrosodiphenylamine	ND	330	48							
Naphthalene	ND	330	60							
Nitrobenzene	ND	330	67							
Pentachlorophenol	ND	1600	190							
Phenanthrene	ND	330	46							
Phenol	ND	330	130							
Pyrene	ND	330	53							
Pyridine	ND	1600	270							
Surrogate: 1,2-Dichlorobenzene-d	*2456*			*3333.33*		*73.7*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*3636*			*3325.00*		*109*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2318*			*3325.00*		*69.7*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2885*			*3333.33*		*86.6*	*16 - 107*			
Surrogate: 2-Fluorophenol	*2274*			*3325.00*		*68.4*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*3205*			*3333.33*		*96.2*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2384*			*3333.33*		*71.5*	*16 - 99*			
Surrogate: Phenol-d6	*2360*			*3325.00*		*71.0*	*17 - 90*			
LCS (B9E0623-BS1)					Prepared: 5/17/2019 Analyzed: 5/17/2019					
1,2,4-Trichlorobenzene	2828.67	330	71	3333.33		84.9	48 - 92			
1,2-Dichlorobenzene	2511.67	330	60	3333.33		75.4	40 - 86			
1,3-Dichlorobenzene	2506.00	330	65	3333.33		75.2	39 - 82			
1,4-Dichlorobenzene	2467.00	330	60	3333.33		74.0	40 - 82			
2,4,5-Trichlorophenol	3400.33	330	61	3333.33		102	70 - 111			

Geocon Consultants, Inc.
6671 Brisa Street
Livermore , CA 94550

Project Number : ETMA Bus Yard, E9133-02-02
Report To : Rick Day
Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
LCS (B9E0623-BS1) - Continued					Prepared: 5/17/2019 Analyzed: 5/17/2019					
2,4,6-Trichlorophenol	3159.33	330	220	3333.33		94.8	54 - 121			
2,4-Dichlorophenol	2852.00	1600	120	3333.33		85.6	49 - 111			
2,4-Dimethylphenol	2810.00	330	120	3333.33		84.3	43 - 116			
2,4-Dinitrophenol	3497.00	1600	86	3333.33		105	48 - 138			
2,4-Dinitrotoluene	3369.00	330	46	3333.33		101	62 - 112			
2,6-Dinitrotoluene	3389.67	330	49	3333.33		102	59 - 114			
2-Chloronaphthalene	3058.67	330	59	3333.33		91.8	57 - 92			
2-Chlorophenol	2511.00	330	120	3333.33		75.3	43 - 94			
2-Methylnaphthalene	3003.00	330	67	3333.33		90.1	49 - 109			
2-Methylphenol	2525.67	330	67	3333.33		75.8	50 - 95			
2-Nitroaniline	3351.33	1600	200	3333.33		101	57 - 120			
2-Nitrophenol	2691.00	330	110	3333.33		80.7	48 - 110			
3,3´-Dichlorobenzidine	2903.33	660	280	3333.33		87.1	38 - 115			
3-Nitroaniline	3304.67	1600	44	3333.33		99.1	62 - 110			
4,6-Dinitro-2-methyphenol	3004.67	1600	300	3333.33		90.1	57 - 136			
4-Bromophenyl-phenylether	3117.00	330	50	3333.33		93.5	64 - 106			
4-Chloro-3-methylphenol	2843.67	660	110	3333.33		85.3	54 - 114			
4-Chloroaniline	3098.33	660	53	3333.33		93.0	60 - 103			
4-Chlorophenyl-phenylether	3363.33	330	48	3333.33		101	57 - 106			
4-Methylphenol	2738.33	330	66	3333.33		82.2	53 - 96			
4-Nitroaniline	3353.67	1600	290	3333.33		101	69 - 111			
4-Nitrophenol	3243.00	330	150	3333.33		97.3	51 - 141			
Acenaphthene	2952.00	330	48	3333.33		88.6	61 - 105			
Acenaphthylene	2968.00	330	51	3333.33		89.0	62 - 103			
Anthracene	2844.33	330	49	3333.33		85.3	68 - 113			
Benzidine (M)	ND	1600	1400	3333.33		NR	25 - 109			L4
Benzo(a)anthracene	2909.67	330	39	3333.33		87.3	66 - 110			
Benzo(a)pyrene	3041.00	330	45	3333.33		91.2	68 - 118			
Benzo(b)fluoranthene	2957.67	330	55	3333.33		88.7	64 - 117			
Benzo(g,h,i)perylene	2989.00	330	38	3333.33		89.7	68 - 114			
Benzo(k)fluoranthene	3086.67	330	52	3333.33		92.6	62 - 121			
Benzoic acid	2112.33	1600	890	3333.33		63.4	23 - 115			
Benzyl alcohol	2696.33	660	67	3333.33		80.9	47 - 99			
bis(2-chloroethoxy)methane	2766.33	330	59	3333.33		83.0	41 - 90			
bis(2-Chloroethyl)ether	2547.00	330	57	3333.33		76.4	38 - 84			
bis(2-chloroisopropyl)ether	2544.00	330	65	3333.33		76.3	20 - 100			
bis(2-ethylhexyl)phthalate	3070.33	330	83	3333.33		92.1	57 - 111			
Butylbenzylphthalate	3101.67	330	250	3333.33		93.1	54 - 109			
Chrysene	2973.00	330	43	3333.33		89.2	61 - 113			
Di-n-butylphthalate	3186.00	330	230	3333.33		95.6	65 - 113			
Di-n-octylphthalate	3219.67	330	48	3333.33		96.6	54 - 111			
Dibenz(a,h)anthracene	2937.67	330	43	3333.33		88.1	63 - 126			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
LCS (B9E0623-BS1) - Continued					Prepared: 5/17/2019 Analyzed: 5/17/2019					
Dibenzofuran	3401.33	330	55	3333.33		102	67 - 103			
Diethyl phthalate	3154.33	330	47	3333.33		94.6	62 - 108			
Dimethyl phthalate	3202.00	330	46	3333.33		96.1	65 - 103			
Fluoranthene	3038.00	330	47	3333.33		91.1	66 - 117			
Fluorene	3214.67	330	49	3333.33		96.4	65 - 112			
Hexachlorobenzene	3165.33	330	41	3333.33		95.0	59 - 117			
Hexachlorobutadiene	2790.33	660	61	3333.33		83.7	44 - 99			
Hexachlorocyclopentadiene	3283.67	660	64	3333.33		98.5	44 - 102			
Hexachloroethane	2346.67	330	71	3333.33		70.4	38 - 85			
Indeno(1,2,3-cd)pyrene	3042.33	330	44	3333.33		91.3	63 - 123			
Isophorone	2782.67	330	57	3333.33		83.5	46 - 98			
N-Nitroso-di-n propylamine	2497.33	330	65	3333.33		74.9	45 - 98			
N-Nitrosodiphenylamine	3034.00	330	48	3333.33		91.0	67 - 101			
Naphthalene	2610.00	330	60	3333.33		78.3	54 - 92			
Nitrobenzene	2732.33	330	67	3333.33		82.0	45 - 94			
Pentachlorophenol	2854.33	1600	190	3333.33		85.6	45 - 137			
Phenanthrene	2882.00	330	46	3333.33		86.5	68 - 113			
Phenol	2550.67	330	130	3333.33		76.5	40 - 95			
Pyrene	2990.33	330	53	3333.33		89.7	62 - 124			
Pyridine	407.000	1600	270	3333.33		12.2	3 - 93			
Surrogate: 1,2-Dichlorobenzene-d	*2367*			*3333.33*		*71.0*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*3349*			*3325.00*		*101*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2377*			*3325.00*		*71.5*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2948*			*3333.33*		*88.4*	*16 - 107*			
Surrogate: 2-Fluorophenol	*2233*			*3325.00*		*67.2*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2974*			*3333.33*		*89.2*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2546*			*3333.33*		*76.4*	*16 - 99*			
Surrogate: Phenol-d6	*2504*			*3325.00*		*75.3*	*17 - 90*			
Matrix Spike (B9E0623-MS1)			**Source: 1901996-05**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
1,2,4-Trichlorobenzene	2668.00	330	71	3333.33	ND	80.0	27 - 96			
1,2-Dichlorobenzene	2488.00	330	60	3333.33	ND	74.6	25 - 87			
1,3-Dichlorobenzene	2506.67	330	65	3333.33	ND	75.2	24 - 84			
1,4-Dichlorobenzene	2451.33	330	60	3333.33	ND	73.5	25 - 85			
2,4,5-Trichlorophenol	3198.67	330	61	3333.33	ND	96.0	29 - 122			
2,4,6-Trichlorophenol	2978.67	330	220	3333.33	ND	89.4	21 - 127			
2,4-Dichlorophenol	2677.33	1600	120	3333.33	ND	80.3	24 - 115			
2,4-Dimethylphenol	2548.33	330	120	3333.33	ND	76.4	19 - 124			
2,4-Dinitrophenol	3342.67	1600	86	3333.33	ND	100	0 - 118			
2,4-Dinitrotoluene	3328.67	330	46	3333.33	ND	99.9	35 - 112			
2,6-Dinitrotoluene	3167.33	330	49	3333.33	ND	95.0	15 - 137			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike (B9E0623-MS1) - Continued			**Source: 1901996-05**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
2-Chloronaphthalene	2984.00	330	59	3333.33	ND	89.5	35 - 95			
2-Chlorophenol	2408.00	330	120	3333.33	ND	72.2	22 - 100			
2-Methylnaphthalene	2792.00	330	67	3333.33	ND	83.8	17 - 123			
2-Methylphenol	2490.33	330	67	3333.33	ND	74.7	28 - 100			
2-Nitroaniline	3287.33	1600	200	3333.33	ND	98.6	34 - 120			
2-Nitrophenol	2574.00	330	110	3333.33	ND	77.2	22 - 116			
3,3′-Dichlorobenzidine	2556.00	660	280	3333.33	ND	76.7	9 - 117			
3-Nitroaniline	3234.33	1600	44	3333.33	ND	97.0	29 - 116			
4,6-Dinitro-2-methyphenol	2931.33	1600	300	3333.33	ND	87.9	21 - 126			
4-Bromophenyl-phenylether	3024.67	330	50	3333.33	ND	90.7	36 - 108			
4-Chloro-3-methylphenol	2684.00	660	110	3333.33	ND	80.5	32 - 116			
4-Chloroaniline	2895.67	660	53	3333.33	ND	86.9	22 - 115			
4-Chlorophenyl-phenylether	3131.67	330	48	3333.33	ND	94.0	36 - 104			
4-Methylphenol	2672.67	330	66	3333.33	ND	80.2	32 - 98			
4-Nitroaniline	3259.67	1600	290	3333.33	ND	97.8	37 - 116			
4-Nitrophenol	3103.67	330	150	3333.33	ND	93.1	0 - 148			
Acenaphthene	2847.67	330	48	3333.33	ND	85.4	35 - 108			
Acenaphthylene	2886.67	330	51	3333.33	ND	86.6	35 - 108			
Anthracene	2882.67	330	49	3333.33	ND	86.5	40 - 114			
Benzidine (M)	ND	1600	1400	3333.33	ND	NR	0 - 161			
Benzo(a)anthracene	2848.00	330	39	3333.33	ND	85.4	42 - 113			
Benzo(a)pyrene	2916.67	330	45	3333.33	ND	87.5	38 - 117			
Benzo(b)fluoranthene	2857.33	330	55	3333.33	ND	85.7	35 - 117			
Benzo(g,h,i)perylene	2804.67	330	38	3333.33	ND	84.1	32 - 121			
Benzo(k)fluoranthene	2875.67	330	52	3333.33	ND	86.3	34 - 119			
Benzoic acid	2085.33	1600	890	3333.33	ND	62.6	19 - 133			
Benzyl alcohol	2693.67	660	67	3333.33	ND	80.8	24 - 102			
bis(2-chloroethoxy)methane	2652.33	330	59	3333.33	ND	79.6	27 - 88			
bis(2-Chloroethyl)ether	2549.33	330	57	3333.33	ND	76.5	26 - 82			
bis(2-chloroisopropyl)ether	2522.67	330	65	3333.33	ND	75.7	15 - 92			
bis(2-ethylhexyl)phthalate	3130.33	330	83	3333.33	ND	93.9	21 - 128			
Butylbenzylphthalate	3091.00	330	250	3333.33	ND	92.7	14 - 136			
Chrysene	2974.67	330	43	3333.33	ND	89.2	37 - 113			
Di-n-butylphthalate	3172.67	330	230	3333.33	ND	95.2	40 - 112			
Di-n-octylphthalate	3161.67	330	48	3333.33	ND	94.9	8 - 137			
Dibenz(a,h)anthracene	2750.33	330	43	3333.33	ND	82.5	29 - 128			
Dibenzofuran	3219.33	330	55	3333.33	ND	96.6	40 - 109			
Diethyl phthalate	3111.67	330	47	3333.33	ND	93.4	38 - 108			
Dimethyl phthalate	3099.00	330	46	3333.33	ND	93.0	38 - 106			
Fluoranthene	2917.00	330	47	3333.33	ND	87.5	37 - 118			
Fluorene	3021.33	330	49	3333.33	ND	90.6	38 - 114			
Hexachlorobenzene	3058.00	330	41	3333.33	ND	91.7	35 - 115			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike (B9E0623-MS1) - Continued			**Source: 1901996-05**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
Hexachlorobutadiene	2637.33	660	61	3333.33	ND	79.1	31 - 101			
Hexachlorocyclopentadiene	3057.00	660	64	3333.33	ND	91.7	28 - 99			
Hexachloroethane	2330.00	330	71	3333.33	ND	69.9	27 - 87			
Indeno(1,2,3-cd)pyrene	2890.00	330	44	3333.33	ND	86.7	29 - 125			
Isophorone	2696.33	330	57	3333.33	ND	80.9	26 - 97			
N-Nitroso-di-n propylamine	2534.00	330	65	3333.33	ND	76.0	27 - 97			
N-Nitrosodiphenylamine	2964.00	330	48	3333.33	ND	88.9	19 - 123			
Naphthalene	2457.33	330	60	3333.33	ND	73.7	26 - 103			
Nitrobenzene	2668.00	330	67	3333.33	ND	80.0	24 - 99			
Pentachlorophenol	2755.67	1600	190	3333.33	ND	82.7	13 - 130			
Phenanthrene	2849.33	330	46	3333.33	ND	85.5	40 - 116			
Phenol	2475.67	330	130	3333.33	ND	74.3	23 - 96			
Pyrene	2901.67	330	53	3333.33	ND	87.1	36 - 122			
Pyridine	1621.33	1600	270	3333.33	ND	48.6	7 - 87			
Surrogate: 1,2-Dichlorobenzene-d	*2087*			*3333.33*		*62.6*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2961*			*3325.00*		*89.1*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2173*			*3325.00*		*65.4*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2713*			*3333.33*		*81.4*	*16 - 107*			
Surrogate: 2-Fluorophenol	*2035*			*3325.00*		*61.2*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2789*			*3333.33*		*83.7*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2301*			*3333.33*		*69.0*	*16 - 99*			
Surrogate: Phenol-d6	*2325*			*3325.00*		*69.9*	*17 - 90*			
Matrix Spike (B9E0623-MS2)			**Source: 1901964-12**		Prepared: 5/17/2019 Analyzed: 5/20/2019					
1,2,4-Trichlorobenzene	3023.33	330	71	3333.33	ND	90.7	27 - 96			
1,2-Dichlorobenzene	2716.00	330	60	3333.33	ND	81.5	25 - 87			
1,3-Dichlorobenzene	2762.67	330	65	3333.33	ND	82.9	24 - 84			
1,4-Dichlorobenzene	2726.67	330	60	3333.33	ND	81.8	25 - 85			
2,4,5-Trichlorophenol	3705.33	330	61	3333.33	ND	111	29 - 122			
2,4,6-Trichlorophenol	3473.67	330	220	3333.33	ND	104	21 - 127			
2,4-Dichlorophenol	3040.33	1600	120	3333.33	ND	91.2	24 - 115			
2,4-Dimethylphenol	2874.00	330	120	3333.33	ND	86.2	19 - 124			
2,4-Dinitrophenol	3503.33	1600	86	3333.33	ND	105	0 - 118			
2,4-Dinitrotoluene	3791.67	330	46	3333.33	ND	114	35 - 112			M2
2,6-Dinitrotoluene	3638.67	330	49	3333.33	ND	109	15 - 137			
2-Chloronaphthalene	3439.67	330	59	3333.33	ND	103	35 - 95			M2
2-Chlorophenol	2650.67	330	120	3333.33	ND	79.5	22 - 100			
2-Methylnaphthalene	3307.00	330	67	3333.33	ND	99.2	17 - 123			
2-Methylphenol	2801.00	330	67	3333.33	ND	84.0	28 - 100			
2-Nitroaniline	3592.67	1600	200	3333.33	ND	108	34 - 120			
2-Nitrophenol	2898.33	330	110	3333.33	ND	87.0	22 - 116			

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike (B9E0623-MS2) - Continued			**Source: 1901964-12**		Prepared: 5/17/2019 Analyzed: 5/20/2019					
3,3′-Dichlorobenzidine	3054.33	660	280	3333.33	ND	91.6	9 - 117			
3-Nitroaniline	3595.00	1600	44	3333.33	ND	108	29 - 116			
4,6-Dinitro-2-methyphenol	3327.33	1600	300	3333.33	ND	99.8	21 - 126			
4-Bromophenyl-phenylether	3481.00	330	50	3333.33	ND	104	36 - 108			
4-Chloro-3-methylphenol	3134.00	660	110	3333.33	ND	94.0	32 - 116			
4-Chloroaniline	3350.00	660	53	3333.33	ND	100	22 - 115			
4-Chlorophenyl-phenylether	3561.00	330	48	3333.33	ND	107	36 - 104			M2
4-Methylphenol	3099.33	330	66	3333.33	ND	93.0	32 - 98			
4-Nitroaniline	3662.67	1600	290	3333.33	ND	110	37 - 116			
4-Nitrophenol	3458.00	330	150	3333.33	ND	104	0 - 148			
Acenaphthene	3228.33	330	48	3333.33	ND	96.8	35 - 108			
Acenaphthylene	3246.33	330	51	3333.33	ND	97.4	35 - 108			
Anthracene	3132.33	330	49	3333.33	ND	94.0	40 - 114			
Benzidine (M)	2859.67	1600	1400	3333.33	ND	85.8	0 - 161			
Benzo(a)anthracene	3157.33	330	39	3333.33	ND	94.7	42 - 113			
Benzo(a)pyrene	3319.00	330	45	3333.33	ND	99.6	38 - 117			
Benzo(b)fluoranthene	3354.33	330	55	3333.33	ND	101	35 - 117			
Benzo(g,h,i)perylene	3043.00	330	38	3333.33	ND	91.3	32 - 121			
Benzo(k)fluoranthene	3276.00	330	52	3333.33	ND	98.3	34 - 119			
Benzoic acid	1217.00	1600	890	3333.33	ND	36.5	19 - 133			
Benzyl alcohol	3108.00	660	67	3333.33	ND	93.2	24 - 102			
bis(2-chloroethoxy)methane	3021.33	330	59	3333.33	ND	90.6	27 - 88			M2
bis(2-Chloroethyl)ether	2921.00	330	57	3333.33	ND	87.6	26 - 82			M2
bis(2-chloroisopropyl)ether	2867.00	330	65	3333.33	ND	86.0	15 - 92			
bis(2-ethylhexyl)phthalate	3629.33	330	83	3333.33	ND	109	21 - 128			
Butylbenzylphthalate	3743.67	330	250	3333.33	ND	112	14 - 136			
Chrysene	3353.67	330	43	3333.33	ND	101	37 - 113			
Di-n-butylphthalate	3704.33	330	230	3333.33	ND	111	40 - 112			
Di-n-octylphthalate	4133.00	330	48	3333.33	ND	124	8 - 137			
Dibenz(a,h)anthracene	3050.67	330	43	3333.33	ND	91.5	29 - 128			
Dibenzofuran	3773.33	330	55	3333.33	ND	113	40 - 109			M2
Diethyl phthalate	3651.00	330	47	3333.33	ND	110	38 - 108			M2
Dimethyl phthalate	3640.33	330	46	3333.33	ND	109	38 - 106			M2
Fluoranthene	3370.67	330	47	3333.33	ND	101	37 - 118			
Fluorene	3421.67	330	49	3333.33	ND	103	38 - 114			
Hexachlorobenzene	3473.67	330	41	3333.33	ND	104	35 - 115			
Hexachlorobutadiene	2938.33	660	61	3333.33	ND	88.2	31 - 101			
Hexachlorocyclopentadiene	3584.33	660	64	3333.33	ND	108	28 - 99			M2
Hexachloroethane	2598.00	330	71	3333.33	ND	77.9	27 - 87			
Indeno(1,2,3-cd)pyrene	3175.00	330	44	3333.33	ND	95.3	29 - 125			
Isophorone	3059.00	330	57	3333.33	ND	91.8	26 - 97			
N-Nitroso-di-n propylamine	2959.33	330	65	3333.33	ND	88.8	27 - 97			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike (B9E0623-MS2) - Continued			**Source: 1901964-12**			Prepared: 5/17/2019 Analyzed: 5/20/2019				
N-Nitrosodiphenylamine	3391.33	330	48	3333.33	ND	102	19 - 123			
Naphthalene	2816.00	330	60	3333.33	ND	84.5	26 - 103			
Nitrobenzene	2925.33	330	67	3333.33	ND	87.8	24 - 99			
Pentachlorophenol	3287.67	1600	190	3333.33	ND	98.6	13 - 130			
Phenanthrene	3219.67	330	46	3333.33	ND	96.6	40 - 116			
Phenol	2767.33	330	130	3333.33	ND	83.0	23 - 96			
Pyrene	3167.67	330	53	3333.33	ND	95.0	36 - 122			
Pyridine	2430.00	1600	270	3333.33	ND	72.9	7 - 87			
Surrogate: 1,2-Dichlorobenzene-d	*2564*			*3333.33*		*76.9*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*3494*			*3325.00*		*105*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2595*			*3325.00*		*78.0*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*3208*			*3333.33*		*96.2*	*16 - 107*			
Surrogate: 2-Fluorophenol	*2429*			*3325.00*		*73.1*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*3408*			*3333.33*		*102*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2668*			*3333.33*		*80.0*	*16 - 99*			
Surrogate: Phenol-d6	*2667*			*3325.00*		*80.2*	*17 - 90*			
Matrix Spike Dup (B9E0623-MSD1)			**Source: 1901996-05**			Prepared: 5/17/2019 Analyzed: 5/17/2019				
1,2,4-Trichlorobenzene	2473.00	330	71	3333.33	ND	74.2	27 - 96	7.59	20	
1,2-Dichlorobenzene	2283.67	330	60	3333.33	ND	68.5	25 - 87	8.56	20	
1,3-Dichlorobenzene	2282.33	330	65	3333.33	ND	68.5	24 - 84	9.37	20	
1,4-Dichlorobenzene	2282.33	330	60	3333.33	ND	68.5	25 - 85	7.14	20	
2,4,5-Trichlorophenol	3033.67	330	61	3333.33	ND	91.0	29 - 122	5.29	20	
2,4,6-Trichlorophenol	2863.00	330	220	3333.33	ND	85.9	21 - 127	3.96	20	
2,4-Dichlorophenol	2515.33	1600	120	3333.33	ND	75.5	24 - 115	6.24	20	
2,4-Dimethylphenol	2492.67	330	120	3333.33	ND	74.8	19 - 124	2.21	20	
2,4-Dinitrophenol	3327.33	1600	86	3333.33	ND	99.8	0 - 118	0.460	20	
2,4-Dinitrotoluene	3229.67	330	46	3333.33	ND	96.9	35 - 112	3.02	20	
2,6-Dinitrotoluene	3179.33	330	49	3333.33	ND	95.4	15 - 137	0.378	20	
2-Chloronaphthalene	2897.67	330	59	3333.33	ND	86.9	35 - 95	2.94	20	
2-Chlorophenol	2257.33	330	120	3333.33	ND	67.7	22 - 100	6.46	20	
2-Methylnaphthalene	2688.33	330	67	3333.33	ND	80.6	17 - 123	3.78	20	
2-Methylphenol	2349.00	330	67	3333.33	ND	70.5	28 - 100	5.84	20	
2-Nitroaniline	3193.33	1600	200	3333.33	ND	95.8	34 - 120	2.90	20	
2-Nitrophenol	2484.33	330	110	3333.33	ND	74.5	22 - 116	3.55	20	
3,3´-Dichlorobenzidine	2417.67	660	280	3333.33	ND	72.5	9 - 117	5.56	20	
3-Nitroaniline	3181.33	1600	44	3333.33	ND	95.4	29 - 116	1.65	20	
4,6-Dinitro-2-methyphenol	2892.33	1600	300	3333.33	ND	86.8	21 - 126	1.34	20	
4-Bromophenyl-phenylether	2930.67	330	50	3333.33	ND	87.9	36 - 108	3.16	20	
4-Chloro-3-methylphenol	2659.00	660	110	3333.33	ND	79.8	32 - 116	0.936	20	
4-Chloroaniline	2754.00	660	53	3333.33	ND	82.6	22 - 115	5.02	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike Dup (B9E0623-MSD1) - Continued			**Source: 1901996-05**		Prepared: 5/17/2019 Analyzed: 5/17/2019					
4-Chlorophenyl-phenylether	3050.67	330	48	3333.33	ND	91.5	36 - 104	2.62	20	
4-Methylphenol	2507.67	330	66	3333.33	ND	75.2	32 - 98	6.37	20	
4-Nitroaniline	3304.67	1600	290	3333.33	ND	99.1	37 - 116	1.37	20	
4-Nitrophenol	2961.33	330	150	3333.33	ND	88.8	0 - 148	4.69	20	
Acenaphthene	2790.00	330	48	3333.33	ND	83.7	35 - 108	2.05	20	
Acenaphthylene	2774.67	330	51	3333.33	ND	83.2	35 - 108	3.96	20	
Anthracene	2737.67	330	49	3333.33	ND	82.1	40 - 114	5.16	20	
Benzidine (M)	ND	1600	1400	3333.33	ND	NR	0 - 161	NR	20	
Benzo(a)anthracene	2741.67	330	39	3333.33	ND	82.3	42 - 113	3.80	20	
Benzo(a)pyrene	2802.67	330	45	3333.33	ND	84.1	38 - 117	3.99	20	
Benzo(b)fluoranthene	2798.33	330	55	3333.33	ND	84.0	35 - 117	2.09	20	
Benzo(g,h,i)perylene	2738.33	330	38	3333.33	ND	82.2	32 - 121	2.39	20	
Benzo(k)fluoranthene	2780.00	330	52	3333.33	ND	83.4	34 - 119	3.38	20	
Benzoic acid	2170.00	1600	890	3333.33	ND	65.1	19 - 133	3.98	20	
Benzyl alcohol	2520.67	660	67	3333.33	ND	75.6	24 - 102	6.64	20	
bis(2-chloroethoxy)methane	2550.33	330	59	3333.33	ND	76.5	27 - 88	3.92	20	
bis(2-Chloroethyl)ether	2381.00	330	57	3333.33	ND	71.4	26 - 82	6.83	20	
bis(2-chloroisopropyl)ether	2381.67	330	65	3333.33	ND	71.5	15 - 92	5.75	20	
bis(2-ethylhexyl)phthalate	3021.67	330	83	3333.33	ND	90.7	21 - 128	3.53	20	
Butylbenzylphthalate	3034.00	330	250	3333.33	ND	91.0	14 - 136	1.86	20	
Chrysene	2911.33	330	43	3333.33	ND	87.3	37 - 113	2.15	20	
Di-n-butylphthalate	3127.33	330	230	3333.33	ND	93.8	40 - 112	1.44	20	
Di-n-octylphthalate	3165.67	330	48	3333.33	ND	95.0	8 - 137	0.126	20	
Dibenz(a,h)anthracene	2707.00	330	43	3333.33	ND	81.2	29 - 128	1.59	20	
Dibenzofuran	3180.33	330	55	3333.33	ND	95.4	40 - 109	1.22	20	
Diethyl phthalate	3117.00	330	47	3333.33	ND	93.5	38 - 108	0.171	20	
Dimethyl phthalate	3085.67	330	46	3333.33	ND	92.6	38 - 106	0.431	20	
Fluoranthene	2914.33	330	47	3333.33	ND	87.4	37 - 118	0.0915	20	
Fluorene	2987.67	330	49	3333.33	ND	89.6	38 - 114	1.12	20	
Hexachlorobenzene	2896.67	330	41	3333.33	ND	86.9	35 - 115	5.42	20	
Hexachlorobutadiene	2403.67	660	61	3333.33	ND	72.1	31 - 101	9.27	20	
Hexachlorocyclopentadiene	2914.33	660	64	3333.33	ND	87.4	28 - 99	4.78	20	
Hexachloroethane	2182.67	330	71	3333.33	ND	65.5	27 - 87	6.53	20	
Indeno(1,2,3-cd)pyrene	2787.00	330	44	3333.33	ND	83.6	29 - 125	3.63	20	
Isophorone	2638.67	330	57	3333.33	ND	79.2	26 - 97	2.16	20	
N-Nitroso-di-n propylamine	2436.33	330	65	3333.33	ND	73.1	27 - 97	3.93	20	
N-Nitrosodiphenylamine	2844.33	330	48	3333.33	ND	85.3	19 - 123	4.12	20	
Naphthalene	2321.67	330	60	3333.33	ND	69.7	26 - 103	5.68	20	
Nitrobenzene	2545.00	330	67	3333.33	ND	76.4	24 - 99	4.72	20	
Pentachlorophenol	2628.00	1600	190	3333.33	ND	78.8	13 - 130	4.74	20	
Phenanthrene	2754.33	330	46	3333.33	ND	82.6	40 - 116	3.39	20	
Phenol	2327.33	330	130	3333.33	ND	69.8	23 - 96	6.18	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike Dup (B9E0623-MSD1) - Continued			**Source: 1901996-05**			Prepared: 5/17/2019 Analyzed: 5/17/2019				
Pyrene	2872.00	330	53	3333.33	ND	86.2	36 - 122	1.03	20	
Pyridine	1395.67	1600	270	3333.33	ND	41.9	7 - 87	15.0	20	
Surrogate: 1,2-Dichlorobenzene-d	*1856*			*3333.33*		*55.7*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*2888*			*3325.00*		*86.9*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*1948*			*3325.00*		*58.6*	*17 - 96*			
Surrogate: 2-Fluorobiphenyl	*2536*			*3333.33*		*76.1*	*16 - 107*			
Surrogate: 2-Fluorophenol	*1832*			*3325.00*		*55.1*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*2742*			*3333.33*		*82.3*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2168*			*3333.33*		*65.0*	*16 - 99*			
Surrogate: Phenol-d6	*2039*			*3325.00*		*61.3*	*17 - 90*			
Matrix Spike Dup (B9E0623-MSD2)			**Source: 1901964-12**			Prepared: 5/17/2019 Analyzed: 5/20/2019				
1,2,4-Trichlorobenzene	3188.33	330	71	3333.33	ND	95.6	27 - 96	5.31	20	
1,2-Dichlorobenzene	2838.00	330	60	3333.33	ND	85.1	25 - 87	4.39	20	
1,3-Dichlorobenzene	2834.00	330	65	3333.33	ND	85.0	24 - 84	2.55	20	M2
1,4-Dichlorobenzene	2829.33	330	60	3333.33	ND	84.9	25 - 85	3.70	20	
2,4,5-Trichlorophenol	4046.67	330	61	3333.33	ND	121	29 - 122	8.81	20	
2,4,6-Trichlorophenol	3701.33	330	220	3333.33	ND	111	21 - 127	6.35	20	
2,4-Dichlorophenol	3290.33	1600	120	3333.33	ND	98.7	24 - 115	7.90	20	
2,4-Dimethylphenol	3108.33	330	120	3333.33	ND	93.2	19 - 124	7.83	20	
2,4-Dinitrophenol	3757.67	1600	86	3333.33	ND	113	0 - 118	7.01	20	
2,4-Dinitrotoluene	4249.00	330	46	3333.33	ND	127	35 - 112	11.4	20	M2
2,6-Dinitrotoluene	4100.00	330	49	3333.33	ND	123	15 - 137	11.9	20	
2-Chloronaphthalene	3696.00	330	59	3333.33	ND	111	35 - 95	7.18	20	M2
2-Chlorophenol	2809.00	330	120	3333.33	ND	84.3	22 - 100	5.80	20	
2-Methylnaphthalene	3644.67	330	67	3333.33	ND	109	17 - 123	9.71	20	
2-Methylphenol	2982.00	330	67	3333.33	ND	89.5	28 - 100	6.26	20	
2-Nitroaniline	3925.67	1600	200	3333.33	ND	118	34 - 120	8.86	20	
2-Nitrophenol	3170.00	330	110	3333.33	ND	95.1	22 - 116	8.95	20	
3,3´-Dichlorobenzidine	3408.67	660	280	3333.33	ND	102	9 - 117	11.0	20	
3-Nitroaniline	3973.33	1600	44	3333.33	ND	119	29 - 116	10.0	20	M2
4,6-Dinitro-2-methyphenol	3635.67	1600	300	3333.33	ND	109	21 - 126	8.86	20	
4-Bromophenyl-phenylether	3742.00	330	50	3333.33	ND	112	36 - 108	7.23	20	M2
4-Chloro-3-methylphenol	3475.00	660	110	3333.33	ND	104	32 - 116	10.3	20	
4-Chloroaniline	3612.00	660	53	3333.33	ND	108	22 - 115	7.53	20	
4-Chlorophenyl-phenylether	3985.67	330	48	3333.33	ND	120	36 - 104	11.3	20	M2
4-Methylphenol	3261.00	330	66	3333.33	ND	97.8	32 - 98	5.08	20	
4-Nitroaniline	4128.67	1600	290	3333.33	ND	124	37 - 116	12.0	20	M2
4-Nitrophenol	3945.00	330	150	3333.33	ND	118	0 - 148	13.2	20	
Acenaphthene	3570.00	330	48	3333.33	ND	107	35 - 108	10.1	20	
Acenaphthylene	3515.67	330	51	3333.33	ND	105	35 - 108	7.97	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	MDL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)										
Matrix Spike Dup (B9E0623-MSD2) - Continued			**Source: 1901964-12**		Prepared: 5/17/2019 Analyzed: 5/20/2019					
Anthracene	3313.00	330	49	3333.33	ND	99.4	40 - 114	5.61	20	
Benzidine (M)	2852.00	1600	1400	3333.33	ND	85.6	0 - 161	0.268	20	
Benzo(a)anthracene	3408.33	330	39	3333.33	ND	102	42 - 113	7.65	20	
Benzo(a)pyrene	3563.67	330	45	3333.33	ND	107	38 - 117	7.11	20	
Benzo(b)fluoranthene	3579.67	330	55	3333.33	ND	107	35 - 117	6.50	20	
Benzo(g,h,i)perylene	3347.33	330	38	3333.33	ND	100	32 - 121	9.52	20	
Benzo(k)fluoranthene	3699.67	330	52	3333.33	ND	111	34 - 119	12.1	20	
Benzoic acid	1033.33	1600	890	3333.33	ND	31.0	19 - 133	16.3	20	
Benzyl alcohol	3224.33	660	67	3333.33	ND	96.7	24 - 102	3.67	20	
bis(2-chloroethoxy)methane	3317.67	330	59	3333.33	ND	99.5	27 - 88	9.35	20	M2
bis(2-Chloroethyl)ether	3018.67	330	57	3333.33	ND	90.6	26 - 82	3.29	20	M2
bis(2-chloroisopropyl)ether	3091.67	330	65	3333.33	ND	92.8	15 - 92	7.54	20	M2
bis(2-ethylhexyl)phthalate	4015.67	330	83	3333.33	ND	120	21 - 128	10.1	20	
Butylbenzylphthalate	4038.33	330	250	3333.33	ND	121	14 - 136	7.57	20	
Chrysene	3525.00	330	43	3333.33	ND	106	37 - 113	4.98	20	
Di-n-butylphthalate	4033.00	330	230	3333.33	ND	121	40 - 112	8.50	20	M2
Di-n-octylphthalate	4619.33	330	48	3333.33	ND	139	8 - 137	11.1	20	M2
Dibenz(a,h)anthracene	3306.67	330	43	3333.33	ND	99.2	29 - 128	8.05	20	
Dibenzofuran	4050.33	330	55	3333.33	ND	122	40 - 109	7.08	20	M2
Diethyl phthalate	4069.00	330	47	3333.33	ND	122	38 - 108	10.8	20	M2
Dimethyl phthalate	3999.67	330	46	3333.33	ND	120	38 - 106	9.41	20	M2
Fluoranthene	3474.33	330	47	3333.33	ND	104	37 - 118	3.03	20	
Fluorene	3844.00	330	49	3333.33	ND	115	38 - 114	11.6	20	M2
Hexachlorobenzene	3586.00	330	41	3333.33	ND	108	35 - 115	3.18	20	
Hexachlorobutadiene	3075.33	660	61	3333.33	ND	92.3	31 - 101	4.56	20	
Hexachlorocyclopentadiene	3823.00	660	64	3333.33	ND	115	28 - 99	6.44	20	M2
Hexachloroethane	2765.67	330	71	3333.33	ND	83.0	27 - 87	6.25	20	
Indeno(1,2,3-cd)pyrene	3425.00	330	44	3333.33	ND	103	29 - 125	7.58	20	
Isophorone	3382.67	330	57	3333.33	ND	101	26 - 97	10.0	20	M2
N-Nitroso-di-n propylamine	3236.67	330	65	3333.33	ND	97.1	27 - 97	8.95	20	M2
N-Nitrosodiphenylamine	3575.33	330	48	3333.33	ND	107	19 - 123	5.28	20	
Naphthalene	2985.33	330	60	3333.33	ND	89.6	26 - 103	5.84	20	
Nitrobenzene	3130.33	330	67	3333.33	ND	93.9	24 - 99	6.77	20	
Pentachlorophenol	3518.33	1600	190	3333.33	ND	106	13 - 130	6.78	20	
Phenanthrene	3442.33	330	46	3333.33	ND	103	40 - 116	6.68	20	
Phenol	2859.67	330	130	3333.33	ND	85.8	23 - 96	3.28	20	
Pyrene	3342.00	330	53	3333.33	ND	100	36 - 122	5.36	20	
Pyridine	2427.67	1600	270	3333.33	ND	72.8	7 - 87	0.0961	20	
Surrogate: 1,2-Dichlorobenzene-d	*2661*			*3333.33*		*79.8*	*16 - 87*			
Surrogate: 2,4,6-Tribromophenol	*3869*			*3325.00*		*116*	*0 - 148*			
Surrogate: 2-Chlorophenol-d4	*2723*			*3325.00*		*81.9*	*17 - 96*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Semivolatile Organic Compounds by EPA 8270C - Quality Control (cont'd)

Analyte	Result (ug/kg)	PQL (ug/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E0623 - MSSEMI_S (continued)									
Matrix Spike Dup (B9E0623-MSD2) - Continued			**Source: 1901964-12**		Prepared: 5/17/2019 Analyzed: 5/20/2019				
Surrogate: 2-Fluorobiphenyl	*3427*		*3333.33*		*103*	*16 - 107*			
Surrogate: 2-Fluorophenol	*2506*		*3325.00*		*75.4*	*16 - 86*			
Surrogate: 4-Terphenyl-d14	*3675*		*3333.33*		*110*	*3 - 156*			
Surrogate: Nitrobenzene-d5	*2912*		*3333.33*		*87.4*	*16 - 99*			
Surrogate: Phenol-d6	*2791*		*3325.00*		*83.9*	*17 - 90*			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 05/21/2019

Notes and Definitions

S4	Surrogate was diluted out.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
D2	Sample required dilution due to high concentration of non-target analyte.
D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

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.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

P.O.#: _____ Quote #: _____

As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.

Submitter (Print): Jacob Bishop-Moser

Signature:

Submitter - Please complete all SHADED areas and include QUOTE # above to ensure proper invoicing.

Method of Transport
☐ Client ☐ ATL
☐ FedEx ☐ OnTrac
☒ GSO
☐ Other: _____

FOR LABORATORY USE ONLY:

Sample Condition Upon Receipt
1. CHILLED 4.2 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 Consultant, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900
City: Livermore State: CA Zip Code: 94550 FAX: (925) 371-5915

Project Name: ETMA Bus Yard Project #: E9133-02-02 Sampler: (Printed Name) Jacob Bishop-Moser (Signature)

Relinquished by: (Signature and Printed Name) Jacob Bishop-Moser	Date: 5/13/19	Time: 1300	Received by: (Signature and Printed Name)	Date: 5/14/19	Time: 918
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

Bill To:
Attn: Rick Day E-mail: day@geoconinc.com
Company: SAME AS ABOVE
Address:
City: State: Zip:

Send Report To:
Attn: Rick Day E-mail: day@geoconinc.com
Company: SAME AS ABOVE
Addrress:
City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all Samples and Hardcopy will be disposed Forty-five(45) days after generation of report - electronic copies retained for five(5) years.
Storage Fees (applies when storage is requested):
■ Sample : Forty-five(45) Days Complimentary - $2.00 / sample / mo thereafter.
Hardcopy Reports $17.50 per report.

CIRCLE or Write IN Analyses Needed

CIRCLE APPROPRIATE MATRIX: SOIL/SEDIMENT/SLUDGE; SOLIDS/WIPES/FILTERS; WATER-DRINKING/GROUND; WATER-STORM/WASTE; AQUEOUS/LAYERED-OIL

ITEM	BUSINESS HOURS 8:30 am to 5:30 pm Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8260-624 (Volatiles)	8015B (GRO) 8021 (BTEX)	TO-15 / TO-14 / TO-3 / RSK-175	8270B-625(BNA) / 8310(PAHs)	8015B(DRO)/8015B(HCID)	8081 OrgCl / 8141 OrgPO4 Pest	8082 PCBs	6010B / 7471-CAM Metals	6010B-200.7 Metals	6020B-200.8-1640 Metals	7199-218.6 (Hex. Chromium)	300(Anions) / 314 (Perchlorate)	TPH-g/d/mo	5 VOCs @ 270	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
1	1901964 -01	H1-0	5/9/19	0900		X					X					X	X			1	1	3	4	
2	-02	H1-1		0900		X					X					X	X			1	1	3	4	
3	-03	~~H2-1/2~~ H2-0.5		0930		X					X					X	X			1	1	3	4	
4	-04	H2-1.5		0930		X					X					X	X			1	1	3	4	
5	-05	~~H3-1/2~~ H3-0.5		1100		X					X					X	X			1	1	3	4	
6	-06	H3-1		1100		X					X					X	X			1	1	3	4	
7	-07	H4-1		1030		X					X					X	X			1	1	3	4	
8	-08	H4-2		1030		X					X					X	X			1	1	3	4	
9	-09	~~H5-1/2~~ H5-0.5		1230		X					X					X	X			1	1	3	4	
10	-10	~~H5-1/2~~ H5-1.5		1230		X					X					X	X			1	1	3	4	

Q A / Q C
RTNE ☐ CT ☐ Legal ☐ SWRCB ☐ Logcode ____ OTHER ____

Samples Submitted AFTER 3:30 PM, are considered received the following business day at 8:30 AM.

Weekend, Holiday, Off Hours Work ASK for QUOTE

Container Types: 1=Tube 2=VOA 3=Liter 4=Pint 5=Jar 6=Tedlar 7=Canister

Material: 1=Glass 2=Plastic 3=Metal

Preservatives: 1=HCl, 2=HNO_3 3=H_2SO_4 4=4°C 5=$Zn(Ac)_2$ 6=NaOH 7=$NA_2S_2O_4$

TAT 0	TAT 1	TAT 2	TAT 3	TAT 4	TAT 5	TAT 10
% SURCHARGE E BUSINESS DAY CV'D BY 9:00 AM	100% SURCHARGE NEXT BUSINESS DAY 5:30 PM	50% SURCHARGE 2ND BUSINESS DAY 5:30 PM	30% SURCHARGE 3RD BUSINESS DAY 5:30 PM	20% SURCHARGE 4TH BUSINESS DAY 5:30 PM	NO SURCHARGE 5 -7 BUSINESS DAYS 5:30 PM	10% DISCOUNT 10th BUSINESS DAY 5:30 PM

For RUSH TCLP/STLC, add 2 days to respective TAT.

Subcon. TAT is 10-15 business days, Dioxin and Furans 21 business days.

Rev. 2012-0416

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

CHAIN OF CUSTODY RECORD

ADVANCED ATECHNOLOGY LABORATORIES
3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

P.O.#: _____ Quote #: _____

As the authorized agent of the below named company, I hereby purchase testing services from ATL as dictated below and guarantee payment in full.

Submitter (Print): Jacob Bishop-Moser

Signature:

Submitter - Please complete all SHADED areas and include QUOTE # above to ensure proper invoicing.

FOR LABORATORY USE ONLY:

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other: _____

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 Consultant, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900
City: Livermore State: CA Zip Code: 94550 FAX: (925) 371-5915

Project Name: ETMA Bus Yard Project #: E9133-02-02 Sampler: (Printed Name) Jacob Bishop-Moser (Signature)

Relinquished by: (Signature and Printed Name) Jacob Bishop-Moser Date: 5/13/19 Time: 1300 Received by: (Signature and Printed Name) Date: 5/14/19 Time: 918

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

Bill To: Attn: Rick Day E-mail: dayegeocon inc.com Company: SAME AS ABOVE Address: City: State: Zip:

Send Report To: Attn: Rick Day E-mail: dayegeocon inc.com Company: SAME AS ABOVE Addrress: City: State: Zip:

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all Samples and Hardcopy will be disposed Forty-five(45) days after generation of report - electronic copies retained for five(5) years.
Storage Fees (applies when storage is requested):
■ Sample : Forty-five(45) Days Complimentary - $2.00 / sample / mo thereafter.
Hardcopy Reports $17.50 per report.

CIRCLE or Write IN Analyses Needed

CIRCLE APPROPRIATE MATRIX: SOIL/SEDIMENT/SLUDGE; SOLIDS/WIPES/FILTERS; WATER-DRINKING/GROUND; WATER-STORM/WASTE; AQUEOUS/LAYERED-OIL

ITEM	BUSINESS HOURS 8:30 am to 5:30 pm Lab No.	Sample Description Sample I.D. / Location	Date	Time	8260-624 (Volatiles)	8015B (GRO) / 8021 (BTEX)	TO-15 / TO-14 / TO-3 / RSK-175	8270B-625(BNA) / 8310(PAHs)	8015B(DRO)/8015B(HCID)	8081 OrgCl / 8141 OrgPO4 Pest	8082 PCBs	6010B / 7471 CAM Metals	6010B-200.7 Metals	6020B-200.8-1640 Metals	7199-218.6 (Hex. Chromium)	300(Anions) / 314 (Perchlorate)	TPH 8015 mo	2VOA's 8270	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
1	1901964 - 4	H6-Y2 H6-0.5	5/9/19	1130	X	X					X				X		X	X		1	1	3 4
2	(..c	H6-1.5	↓	1130	X						X				X		X	X		1	1	3 4
3																						
4																						
5																						
6																						
7																						
8																						

Q A / Q C: RTNE ☐ CT ☐ Legal ☐ SWRCB ☐ Logcode: OTHER

Samples Submitted AFTER 3:30 PM, are considered received the following business day at 8:30 AM. Weekend, Holiday, Off Hours Work ASK for QUOTE

Container Types: 1=Tube 2=VOA 3=Liter 4=Pint 5=Jar 6=Tedlar 7= Canister

Material: 1=Glass 2=Plastic 3=Metal

Preservatives: 1=HCl, 2=HNO_3 3=H_2SO_4 4=4°C 5=$Zn(Ac)_2$ 6=NaOH 7=$NA_2S_2O_4$

TAT 0	TAT 1	TAT 2	TAT 3	TAT 4	TAT 5	TAT 10
% SURCHARGE E BUSINESS DAY CV'D BY 9:00 AM	100% SURCHARGE NEXT BUSINESS DAY 5:30 PM	50% SURCHARGE 2ND BUSINESS DAY 5:30 PM	30% SURCHARGE 3RD BUSINESS DAY 5:30 PM	20% SURCHARGE 4TH BUSINESS DAY 5:30 PM	NO SURCHARGE 5 -7 BUSINESS DAYS 5:30 PM	10% DISCOUNT 10th BUSINESS DAY 5:30 PM

For RUSH TCLP/STLC, add 2 days to respective TAT.

Subcon. TAT is 10-15 business days, Dioxin and Furans 21 business days.

Rev. 2012-0416

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

ADVANCED TECHNOLOGY LABORATORIES

June 05, 2019

Rick Day
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 961-5270
Fax:(925) 371-5915

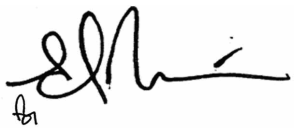
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1901964
Client Reference : ETMA Bus Yard, E9133-02-02

Enclosed are the results for sample(s) received on May 14, 2019 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,



Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
H1-0	1901964-01	Soil	5/09/19 9:00	5/14/19 9:18
H3-1	1901964-06	Soil	5/09/19 11:00	5/14/19 9:18
H4-1	1901964-07	Soil	5/09/19 10:30	5/14/19 9:18
H5-0.5	1901964-09	Soil	5/09/19 12:30	5/14/19 9:18
H5-1.5	1901964-10	Soil	5/09/19 12:30	5/14/19 9:18
H6-0.5	1901964-11	Soil	5/09/19 11:30	5/14/19 9:18

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H1-0

Lab ID: 1901964-01

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**4.1**	1.0	20	B9E1029	06/03/2019	06/03/19 14:22	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H3-1

Lab ID: 1901964-06

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**3.1**	1.0	20	B9E1029	06/03/2019	06/03/19 14:32	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H4-1

Lab ID: 1901964-07

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**11**	1.0	20	B9E1029	06/03/2019	06/03/19 14:36	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H5-0.5

Lab ID: 1901964-09

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**1.9**	1.0	20	B9E1029	06/03/2019	06/03/19 14:37	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H5-1.5

Lab ID: 1901964-10

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	**2.7**	1.0	20	B9E1029	06/03/2019	06/03/19 14:38	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Client Sample ID H6-0.5

Lab ID: 1901964-11

STLC Metals by ICP-AES by EPA 6010B **Analyst: GO**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chromium	ND	1.0	20	B9E1029	06/03/2019	06/03/19 14:40	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

QUALITY CONTROL SECTION

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

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9E1029 - STLC_S Extraction										
Blank (B9E1029-BLK1)					Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	ND	1.0	0.039							
Lead	ND	1.0	0.094							
LCS (B9E1029-BS1)					Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	1.92184			2.00000		96.1	80 - 120			
Lead	1.83071			2.00000		91.5	80 - 120			
Duplicate (B9E1029-DUP1)			**Source: 1901964-01**		Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	ND	1.0	0.039		ND			NR	20	
Lead	3.75717	1.0	0.094		4.05874			7.72	20	
Duplicate (B9E1029-DUP2)			**Source: 1902078-15**		Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	0.057577	1.0	0.039		0.056367			2.12	20	
Lead	6.20907	1.0	0.094		6.30928			1.60	20	
Matrix Spike (B9E1029-MS1)			**Source: 1901964-01**		Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	2.35320			2.50000	0.031829	92.9	70 - 130			
Lead	6.20976			2.50000	4.05874	86.0	70 - 130			
Matrix Spike (B9E1029-MS2)			**Source: 1902078-15**		Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	2.26460			2.50000	0.056367	88.3	70 - 130			
Lead	8.21351			2.50000	6.30928	76.2	70 - 130			
Matrix Spike Dup (B9E1029-MSD1)			**Source: 1901964-01**		Prepared: 6/3/2019 Analyzed: 6/3/2019					
Chromium	2.31888			2.50000	0.031829	91.5	70 - 130	1.47	20	
Lead	6.10806			2.50000	4.05874	82.0	70 - 130	1.65	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/05/2019

Notes and Definitions

D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

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.
(3) Results are wet unless otherwise specified.

Carmen Aguila

From: Rick Day <day@geoconinc.com>
Sent: Wednesday, May 29, 2019 1:56 PM
To: Carmen Aguila
Cc: customer.relations@atlglobal.com
Subject: RE: Results/ Invoice - ETMA Bus Yard, E9133-02-02, ATL# 1901964

Hi, Carmen.

Please analyze the following for STLC on standard TAT:

1901964-01	H1-0	Lead
1901964-06	H3-1	Lead
1901964-07	H4-1	Lead
1901964-09	H5-0.5	Lead
1901964-10	H5-1.5	Lead
1901964-11	H6-0.5	Chromium

Thanks,
Rick.

http://www.geoconinc.com/" style='position:absolute;margin-left:0;margin-top:0;width:96pt;height:67.5pt;z-index:251661312;visibility:visible;mso-wrap-style:square;mso-width-percent:0;mso-height-percent:0;mso-wrap-distance-left:0;mso-wrap-distance-top:0;mso-wrap-distance-right:0;mso-wrap-distance-bottom:0;mso-position-horizontal:left;mso-position-horizontal-relative:text;mso-position-vertical:absolute;mso-position-vertical-relative:line;mso-width-percent:0;mso-height-percent:0;mso-width-relative:page;mso-height-relative:page' o:allowoverlap="f" o:button="t">
Richard Day, CEG, CHG | ***President***
GEOCON CONSULTANTS, INC.
6671 Brisa Street, Livermore, California 94550
P|925.371.5900 ext. 401 M|925.872.5860
day@geoconinc.com / www.geoconinc.com / Facebook / Linkedin

Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Coachella Valley ~ San Diego

Geotechnical Engineering Environmental Services Engineering Geology Construction Inspection
Land Development Transportation Infrastructure Institutional Brownfields/Redevelopment Natural Resources

From: Carmen Aguila <Carmen.Aguila@atlglobal.com>
Sent: Tuesday, May 21, 2019 3:49 PM
To: Rick Day <day@geoconinc.com>

Cc: customer.relations@atlglobal.com
Subject: Results/ Invoice - ETMA Bus Yard, E9133-02-02, ATL# 1901964

Good afternoon Rick,

Please find your results for the above project attached. If I can further assist, please let me know.

Thank you,

Carmen Aguila | Project Manager
ADVANCED TECHNOLOGY LABORATORIES
3275 Walnut Avenue, Signal Hill CA 90755
O: 562.989.4045 ext 245 |F: 562.989-6348 |M: 562.715.8770
http://www.atlglobal.com
Laboratory Excellence Defined

ADVANCED TECHNOLOGY LABORATORIES

June 07, 2019

Rick Day
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 961-5270
Fax:(925) 371-5915

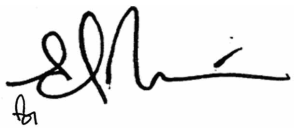
ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1901964
Client Reference : ETMA Bus Yard, E9133-02-02

Enclosed are the results for sample(s) received on May 14, 2019 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,



Edgar Caballero
President & Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/07/2019

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
H4-1	1901964-07	Soil	5/09/19 10:30	5/14/19 9:18

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/07/2019

Client Sample ID H4-1

Lab ID: 1901964-07

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

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	ND	0.25	5	B9F0183	06/07/2019	06/07/19 14:59	D1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/07/2019

QUALITY CONTROL SECTION

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

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B9F0183 - EPA 3010A_S										
Blank (B9F0183-BLK1)					Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	ND	0.050	0.0047							
LCS (B9F0183-BS1)					Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	0.813963	0.050	0.0047	1.00000		81.4	80 - 120			
Duplicate (B9F0183-DUP1)			**Source: 1901964-07**		Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	ND	0.25	0.024		ND			NR	20	
Duplicate (B9F0183-DUP2)			**Source: 1902078-15**		Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	ND	0.25	0.024		ND			NR	20	
Matrix Spike (B9F0183-MS1)			**Source: 1901964-07**		Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	2.18870	0.25	0.024	2.50000	ND	87.5	59 - 123			
Matrix Spike Dup (B9F0183-MSD1)			**Source: 1901964-07**		Prepared: 6/7/2019 Analyzed: 6/7/2019					
Lead	2.18784	0.25	0.024	2.50000	ND	87.5	59 - 123	0.0390	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : ETMA Bus Yard, E9133-02-02
6671 Brisa Street	Report To : Rick Day
Livermore , CA 94550	Reported : 06/07/2019

Notes and Definitions

D1	Sample required dilution due to possible matrix interference.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

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.
(3) Results are wet unless otherwise specified.

Carmen Aguila

From: Rick Day <day@geoconinc.com>
Sent: Wednesday, June 5, 2019 6:08 PM
To: Carmen Aguila
Cc: customer.relations@atlglobal.com
Subject: RE: Add'l Results/ Invoice - ETMA Bus Yard, E9133-02-02, ATL# 1901964

Hi, Carmen.

Please analyze sample H4-1 (1901964-07) for TCLP Lead.

48-hr TAT please.

Thanks,
Rick.

http://www.geoconinc.com/" style='position:absolute;margin-left:0;margin-top:0;width:96pt;height:67.5pt;z-index:251661312;visibility:visible;mso-wrap-style:square;mso-width-percent:0;mso-height-percent:0;mso-wrap-distance-left:0;mso-wrap-distance-top:0;mso-wrap-distance-right:0;mso-wrap-distance-bottom:0;mso-position-horizontal:left;mso-position-horizontal-relative:text;mso-position-vertical:absolute;mso-position-vertical-relative:line;mso-width-percent:0;mso-height-percent:0;mso-width-relative:page;mso-height-relative:page' o:allowoverlap="f" o:button="t">
Richard Day, CEG, CHG | *President*
GEOCON CONSULTANTS, INC.
6671 Brisa Street, Livermore, California 94550
P|925.371.5900 ext. 401 M|925.872.5860
day@geoconinc.com / www.geoconinc.com / Facebook / Linkedin

Bay Area ~ Sacramento ~ Fairfield ~ Los Angeles ~ Orange County ~ Riverside County ~ Coachella Valley ~ San Diego

Geotechnical Engineering Environmental Services Engineering Geology Construction Inspection
Land Development Transportation Infrastructure Institutional Brownfields/Redevelopment Natural Resources

---

From: Carmen Aguila <Carmen.Aguila@atlglobal.com>
Sent: Wednesday, June 05, 2019 5:56 PM
To: Rick Day <day@geoconinc.com>
Cc: customer.relations@atlglobal.com
Subject: Add'l Results/ Invoice - ETMA Bus Yard, E9133-02-02, ATL# 1901964

Good afternoon Rick,

Please find your results for the above project attached. If I can further assist, please let me know.

APPENDIX B

1	**UCL Statistics for Data Sets with Non-Detects**											
2												
3	User Selected Options											
4	Date/Time of Computation	ProUCL 5.16/19/2019 3:10:30 PM										
5	From File	WorkSheet.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	mber of Bootstrap Operations	2000										
9												
10	**Lead**											
11												
12	**General Statistics**											
13	Total Number of Observations	12	Number of Distinct Observations	10								
14	Number of Detects	10	Number of Non-Detects	2								
15	Number of Distinct Detects	9	Number of Distinct Non-Detects	1								
16	Minimum Detect	6.9	Minimum Non-Detect	1								
17	Maximum Detect	200	Maximum Non-Detect	1								
18	Variance Detects	4117	Percent Non-Detects	16.67%								
19	Mean Detects	68.79	SD Detects	64.16								
20	Median Detects	42.5	CV Detects	0.933								
21	Skewness Detects	1.099	Kurtosis Detects	0.261								
22	Mean of Logged Detects	3.778	SD of Logged Detects	1.066								
23												
24	**Normal GOF Test on Detects Only**											
25	Shapiro Wilk Test Statistic	0.853	**Shapiro Wilk GOF Test**									
26	5% Shapiro Wilk Critical Value	0.842	Detected Data appear Normal at 5% Significance Level									
27	Lilliefors Test Statistic	0.238	**Lilliefors GOF Test**									
28	5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level									
29	**Detected Data appear Normal at 5% Significance Level**											
30												
31	**Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs**											
32	KM Mean	57.49	KM Standard Error of Mean	18.57								
33	KM SD	61.04	95% KM (BCA) UCL	89.33								
34	95% KM (t) UCL	90.85	95% KM (Percentile Bootstrap) UCL	88.75								
35	95% KM (z) UCL	88.04	95% KM Bootstrap t UCL	104.8								
36	90% KM Chebyshev UCL	113.2	95% KM Chebyshev UCL	138.5								
37	97.5% KM Chebyshev UCL	173.5	99% KM Chebyshev UCL	242.3								
38												
39	**Gamma GOF Tests on Detected Observations Only**											
40	A-D Test Statistic	0.326	**Anderson-Darling GOF Test**									
41	5% A-D Critical Value	0.744	Detected data appear Gamma Distributed at 5% Significance Leve									
42	K-S Test Statistic	0.21	**Kolmogorov-Smirnov GOF**									
43	5% K-S Critical Value	0.272	Detected data appear Gamma Distributed at 5% Significance Leve									
44	**Detected data appear Gamma Distributed at 5% Significance Level**											
45												
46	**Gamma Statistics on Detected Data Only**											
47	k hat (MLE)	1.245	k star (bias corrected MLE)	0.938								
48	Theta hat (MLE)	55.25	Theta star (bias corrected MLE)	73.32								
49	nu hat (MLE)	24.9	nu star (bias corrected)	18.76								
50	Mean (detects)	68.79										
51												
52	**Gamma ROS Statistics using Imputed Non-Detects**											
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58	Minimum	0.01	Mean	57.33								
59	Maximum	200	Median	27.5								
60	SD	63.92	CV	1.115								
61	k hat (MLE)	0.395	k star (bias corrected MLE)	0.352								
62	Theta hat (MLE)	145	Theta star (bias corrected MLE)	162.8								
63	nu hat (MLE)	9.489	nu star (bias corrected)	8.45								
64	Adjusted Level of Significance (β)	0.029										
65	Approximate Chi Square Value (8.45, α)	2.998	Adjusted Chi Square Value (8.45, β)	2.525								

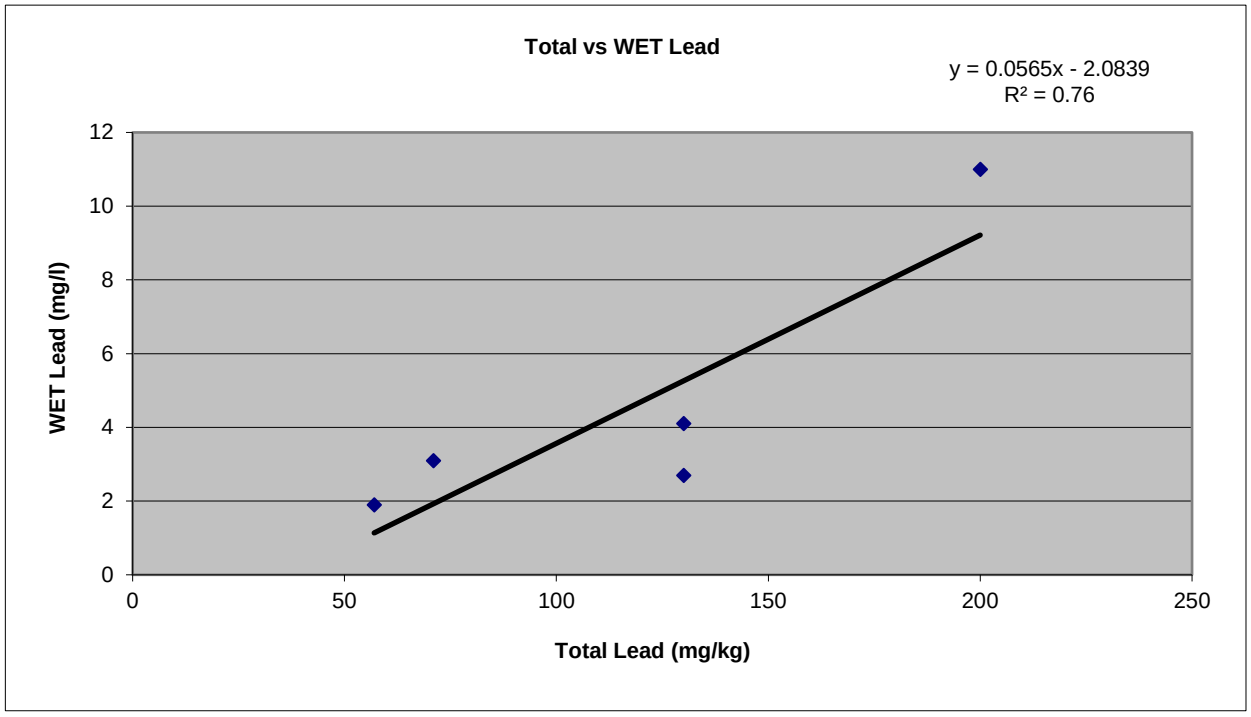
	A	B	C	D	E	F	G	H	I	J	K	L
66	95% Gamma Approximate UCL (use when n>=50)					161.6	95% Gamma Adjusted UCL (use when n<50)					191.9
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69	Mean (KM)					57.49	SD (KM)					61.04
70	Variance (KM)					3726	SE of Mean (KM)					18.57
71	k hat (KM)					0.887	k star (KM)					0.721
72	nu hat (KM)					21.29	nu star (KM)					17.3
73	theta hat (KM)					64.81	theta star (KM)					79.75
74	80% gamma percentile (KM)					94.41	90% gamma percentile (KM)					143.3
75	95% gamma percentile (KM)					193.6	99% gamma percentile (KM)					313.4
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78	Approximate Chi Square Value (17.30, α)					8.887	Adjusted Chi Square Value (17.30, β)					7.983
79	5% Gamma Approximate KM-UCL (use when n>=50)					111.9	95% Gamma Adjusted KM-UCL (use when n<50)					124.6
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82	Shapiro Wilk Test Statistic					0.958	**Shapiro Wilk GOF Test**					
83	5% Shapiro Wilk Critical Value					0.842	Detected Data appear Lognormal at 5% Significance Level					
84	Lilliefors Test Statistic					0.162	**Lilliefors GOF Test**					
85	5% Lilliefors Critical Value					0.262	Detected Data appear Lognormal at 5% Significance Level					
86	**Detected Data appear Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89	Mean in Original Scale					57.91	Mean in Log Scale					3.352
90	SD in Original Scale					63.36	SD in Log Scale					1.392
91	95% t UCL (assumes normality of ROS data)					90.76	95% Percentile Bootstrap UCL					88.08
92	95% BCA Bootstrap UCL					91.5	95% Bootstrap t UCL					105.5
93	95% H-UCL (Log ROS)					351.3						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96	KM Mean (logged)					3.149	KM Geo Mean					23.31
97	KM SD (logged)					1.684	95% Critical H Value (KM-Log)					4.281
98	KM Standard Error of Mean (logged)					0.512	95% H-UCL (KM -Log)					845.6
99	KM SD (logged)					1.684	95% Critical H Value (KM-Log)					4.281
100	KM Standard Error of Mean (logged)					0.512						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**						**DL/2 Log-Transformed**					
104	Mean in Original Scale					57.41	Mean in Log Scale					3.033
105	SD in Original Scale					63.84	SD in Log Scale					1.99
106	95% t UCL (Assumes normality)					90.5	95% H-Stat UCL					2913
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Detected Data appear Normal Distributed at 5% Significance Level**											
111												
112	**Suggested UCL to Use**											
113	95% KM (t) UCL					90.85						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician											
119												

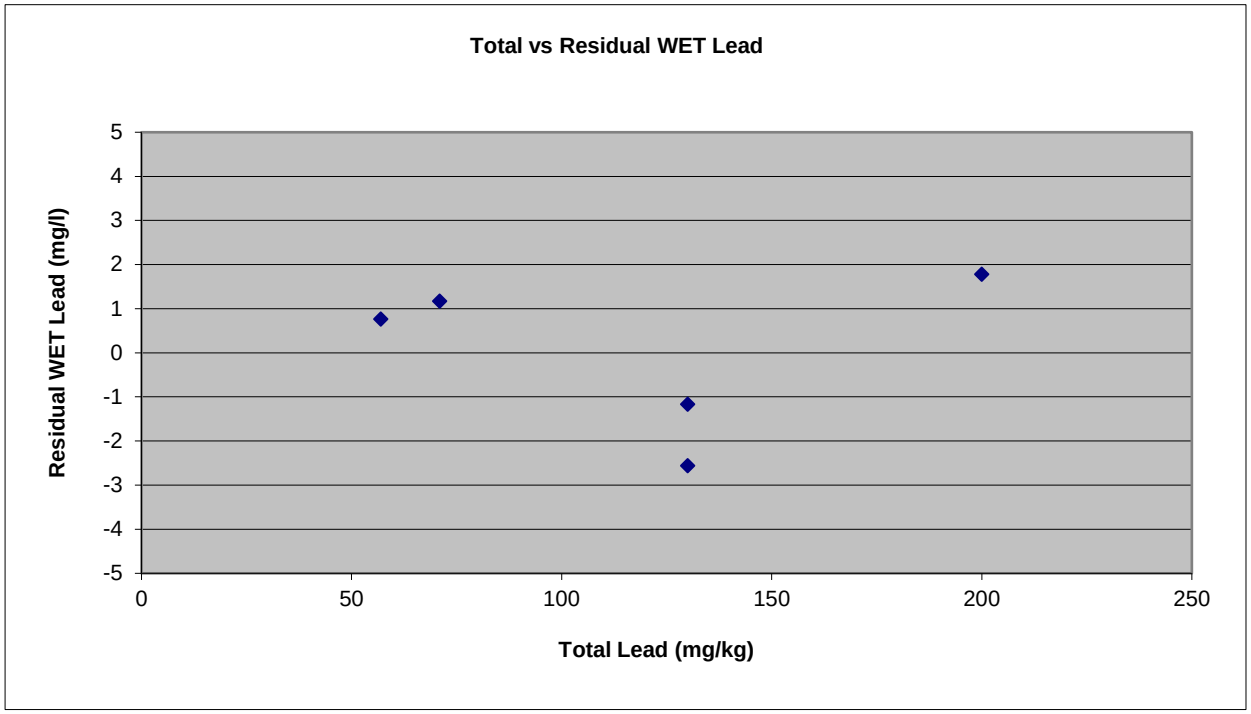
1	**UCL Statistics for Uncensored Full Data Sets**												
2													
3	User Selected Options												
4	Date/Time of Computation			ProUCL 5.16/20/2019 2:49:38 PM									
5	From File			E9133-02-02 ProUCL Output AS and Ni.xls									
6	Full Precision			OFF									
7	Confidence Coefficient			95%									
8	per of Bootstrap Operations			2000									
9													
10													
11	**Arsenic**												
12													
13						General Statistics							
14						Total Number of Observations	12				Number of Distinct Observations	10	
15											Number of Missing Observations	1	
16						Minimum	0.5				Mean	2.283	
17						Maximum	3.9				Median	2.35	
18						SD	1.354				Std. Error of Mean	0.391	
19						Coefficient of Variation	0.593				Skewness	-0.27	
20													
21						Normal GOF Test							
22						Shapiro Wilk Test Statistic	0.863				Shapiro Wilk GOF Test		
23	**5% Shapiro Wilk Critical Value**												
24	**Lilliefors Test Statistic**												
25						5% Lilliefors Critical Value	0.243				**Data appear Normal at 5% Significance Level**		
26	Data appear Normal at 5% Significance Level												
27													
28						Assuming Normal Distribution							
29	**95% Normal UCL**												
30	**95% Student's-t UCL**												
31													
32													
33						Gamma GOF Test							
34						A-D Test Statistic	0.891				Anderson-Darling Gamma GOF Test		
35						5% A-D Critical Value	0.741				Not Gamma Distributed at 5% Significance Level		
36						K-S Test Statistic	0.217				Kolmogorov-Smirnov Gamma GOF Test		
37						5% K-S Critical Value	0.248				pear Gamma Distributed at 5% Significance Level		
38	**Detected data follow Appr. Gamma Distribution at 5% Significance Level**												
39													
40						Gamma Statistics							
41						k hat (MLE)	2.108				k star (bias corrected MLE)		
42						Theta hat (MLE)	1.083				**Theta star (bias corrected MLE)**		
43						nu hat (MLE)	50.59				nu star (bias corrected)		
44	**MLE Mean (bias corrected)**												
45													
46	**Adjusted Level of Significance**												
47													
48						Assuming Gamma Distribution							
49						%) Approximate Gamma UCL (use when n>=50))	3.46				95% Adjusted Gamma UCL (use when n<50)	3.695	
50													
51	**Lognormal GOF Test**												
52	**Shapiro Wilk Test Statistic**												
53	5% Shapiro Wilk Critical Value												
54	Lilliefors Test Statistic												
55	5% Lilliefors Critical Value												
56	Data appear Approximate Lognormal at 5% Significance Level												
57													
58						Lognormal Statistics							
59						Minimum of Logged Data	-0.693				Mean of logged Data	0.57	
60						Maximum of Logged Data	1.361				SD of logged Data	0.84	
61													
62						Assuming Lognormal Distribution							
63						95% H-UCL	4.907				90% Chebyshev (MVUE) UCL	4.287	
64						95% Chebyshev (MVUE) UCL	5.131				97.5% Chebyshev (MVUE) UCL	6.301	
65						99% Chebyshev (MVUE) UCL	8.601						
66													
67	**Nonparametric Distribution Free UCL Statistics**												
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**												
69													
70						Nonparametric Distribution Free UCLs							
71						95% CLT UCL	2.926				95% Jackknife UCL	2.985	
72						95% Standard Bootstrap UCL	2.893				95% Bootstrap-t UCL	2.93	

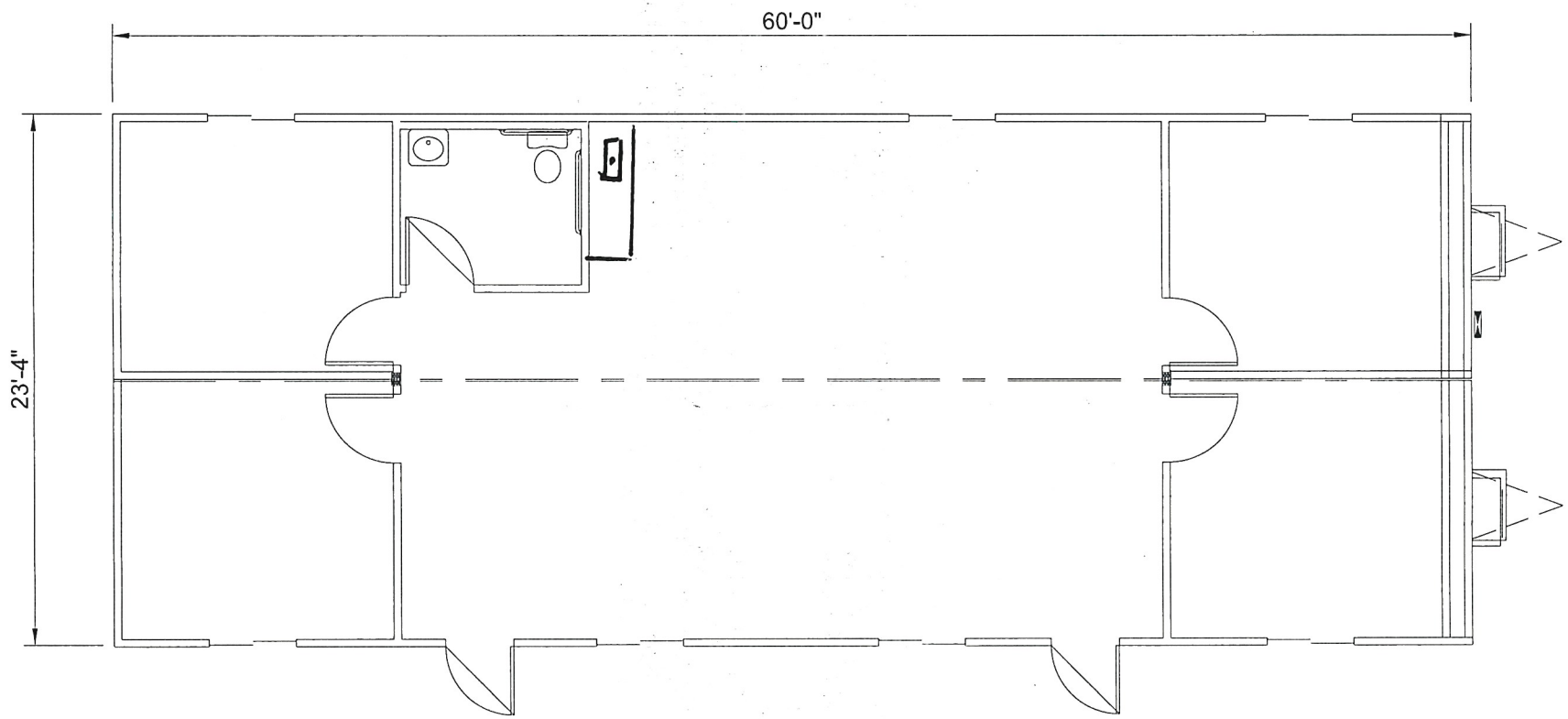
	A	B	C	D	E	F	G	H	I	J	K	L	M
73				95% Hall's Bootstrap UCL		2.852				95% Percentile Bootstrap UCL		2.892	
74				95% BCA Bootstrap UCL		2.883							
75				90% Chebyshev(Mean, Sd) UCL		3.456				95% Chebyshev(Mean, Sd) UCL		3.987	
76						**97.5% Chebyshev(Mean, Sd) UCL**								
77													
78				Suggested UCL to Use									
79				95% Student's-t UCL		2.985							
80													
81	**Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95%**												
82	l upon data size, data distribution, and skewness.												
83	s summarized in Singh, Maichle, and Lee (2006).												
84	nsight the user may want to consult a statistician.												
85													
86	**lote: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not b**												
87	**reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.**												
88													
89													
90	**Nickel**												
91													
92				General Statistics									
93				Total Number of Observations		12				Number of Distinct Observations		10	
94													
95						**Minimum**							
96				Maximum		88				Median		25.5	
97				SD		19.41				Std. Error of Mean		5.603	
98				Coefficient of Variation		0.584				Skewness		2.4	
99													
100				Normal GOF Test									
101						**Shapiro Wilk Test Statistic**								
102						**5% Shapiro Wilk Critical Value**								
103				**Lilliefors Test Statistic**						**Lilliefors GOF Test**			
104				5% Lilliefors Critical Value		0.243				Data Not Normal at 5% Significance Level			
105				Data Not Normal at 5% Significance Level									
106													
107						**Assuming Normal Distribution**								
108						**95% Normal UCL**								
109						**95% Student's-t UCL**								
110													
111													
112						**Gamma GOF Test**								
113				A-D Test Statistic		1.095				Anderson-Darling Gamma GOF Test			
114						**5% A-D Critical Value**								
115						K-S Test Statistic							
116						5% K-S Critical Value							
117						Data Not Gamma Distributed at 5% Significance Level								
118													
119						**Gamma Statistics**								
120	k hat (MLE)					4.894	k star (bias corrected MLE)					3.726	
121	Theta hat (MLE)					6.793	Theta star (bias corrected MLE)					8.923	
122	nu hat (MLE)					117.5	nu star (bias corrected)					89.43	
123	MLE Mean (bias corrected)					33.25	MLE Sd (bias corrected)					17.22	
124							Approximate Chi Square Value (0.05)					68.63	
125	Adjusted Level of Significance					0.029	Adjusted Chi Square Value					65.85	
126													
127	Assuming Gamma Distribution												
128	95% Approximate Gamma UCL (use when n>=					43.33	95% Adjusted Gamma UCL (use when n<50)					45.16	
129													
130	Lognormal GOF Test												
131	Shapiro Wilk Test Statistic					0.837	Shapiro Wilk Lognormal GOF Test						
132	5% Shapiro Wilk Critical Value					0.859	Data Not Lognormal at 5% Significance Level						
133	Lilliefors Test Statistic					0.292	Lilliefors Lognormal GOF Test						
134	5% Lilliefors Critical Value					0.243	Data Not Lognormal at 5% Significance Level						
135	Data Not Lognormal at 5% Significance Level												
136													
137	Lognormal Statistics												
138	Minimum of Logged Data					2.89	Mean of logged Data					3.398	
139	Maximum of Logged Data					4.477	SD of logged Data					0.438	
140													
141	Assuming Lognormal Distribution												
142	95% H-UCL					43.28	90% Chebyshev (MVUE) UCL					45.27	
143	95% Chebyshev (MVUE) UCL					50.99	97.5% Chebyshev (MVUE) UCL					58.93	
144	99% Chebyshev (MVUE) UCL					74.52							

	A	B	C	D	E	F	G	H	I	J	K	L	M
145													
146	Nonparametric Distribution Free UCL Statistics												
147	Data do not follow a Discernible Distribution (0.05)												
148													
149	Nonparametric Distribution Free UCLs												
150	95% CLT UCL					42.47	95% Jackknife UCL					43.31	
151	95% Standard Bootstrap UCL					42.12	95% Bootstrap-t UCL					61.48	
152	95% Hall's Bootstrap UCL					79.55	95% Percentile Bootstrap UCL					43.08	
153	95% BCA Bootstrap UCL					46.75							
154	90% Chebyshev(Mean, Sd) UCL					50.06	95% Chebyshev(Mean, Sd) UCL					57.67	
155	97.5% Chebyshev(Mean, Sd) UCL					68.24	99% Chebyshev(Mean, Sd) UCL					89	
156													
157	Suggested UCL to Use												
158	95% Student's-t UCL					43.31	or 95% Modified-t UCL					43.96	
159													
160	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
161	Recommendations are based upon data size, data distribution, and skewness.												
162	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).												
163	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												
164													

Sample ID	Total Lead (mg/kg)	WET Lead (mg/l)	Predicted WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
H1-0	130	4.1	5.3	-1.16	1.35
H3-1	71	3.1	1.9	1.17	1.38
H4-1	200	11	9.2	1.78	3.19
H5-0.5	57	1.9	1.1	0.76	0.58
H5-1.5	130	2.7	5.3	-2.56	6.56







SPACE BY

WILLIAMS SCOTSMAN

www.willscot.com

SACRAMENTO BRANCH
4911 ALLISON PARKWAY
VACAVILLE, CA 95688
FAX: 707-451-4000

800.782.1500

PROJECT

MODULAR BUILDING
FLOOR PLAN

REP: TOMMY COBB		DATE: 02/23/11	CUSTOMER APPROVAL
FILE#: WS2011-0146		SCALE: 1/8"=1'	
DRFT: CJP	REV.#: 0	DWG: A-1	SIGN: _____
SERIAL#: .			DATE _____

MODULES

- (2) 12' X 60' Outrigger Chassis with M10X9.0 Mainrails, Crossmembers: 96"O/C, and Outriggers: 96"O/C. (4) New Axles and Detachable Hitch

FLOOR

- 2x8 joists at 16" O/C with 2x8 Double Rim Joist (12' X 60' Modules)
- R-30 Unfaced Insulation
- 3/4" Tongue and Groove Plywood Decking
- Reinforced Plastic Bottom Board Weather/Rodent Barrier

EXTERIOR WALLS

-

Endwall Type 1: 2x6 at 16"O/C, R-26 Unfaced Insulation, 15/32" Duratemp

- Sidewall Type 1: 2x6 at 16"O/C, R-26 Unfaced Insulation, 15/32" Duratemp
  WITH BUILDING WRAP UNDER SIDING
- 1/2" VCG
- 4"X7/16" Factory Standard Trim
  (top & center band, doors, windows, corners, and modlines)
- 8"X7/16" Factory Standard Trim
  (bottom band)

INTERIOR WALLS

- Vinyl Inside Corner Trim
- Vinyl Outside Corner Trim

ROOF

- Roof Rafters: 2x6 at 24"O/C (12' X 60' Modules)
- 1440 SF of R-30 Unfaced Insulation
- 1440 SF 2x4 Armstrong 755B Ceiling with HD Prelude XL Ceiling Grid - Room to Room
  (8' nominal ceiling height)
- 1/2" OSB Roof Decking
- .045" White EPDM With 1/4" Densdeck
- (2) 20# 60' Dual Sloped Clearspan Truss
- (4) 3x3x3/16 TubeSteel Roof Beam Support Posts
- 48 LF End Wall Self-Leveling 6" Non-Rated Parapet
- 120 LF Side Wall Self-Leveling 6" Non-Rated Parapet
- 48 LF End Wall Ship Loose 24" Non-Rated Parapet
- 120 LF Side Wall Ship Loose 24" Non-Rated Parapet

EXTERIOR DOORS

- (1) 3070 18 GA. Steel Door w/ 16 GA. KD Frame
- (1) Tell Heavy Duty Commercial Grade 2 Passage Leverset - LC2475CTL 26D
- (1) Tell Standard Duty Grade 2 Single Cylinder Deadbolt - DB205132D
- (1) Yale 2701 Closer

WINDOWS

- (4) 4030 Dual Glazed Low E Horizontal Sliding Window with White Vinyl Frame
  Interior Window Coverings Excluded.
  Exterior Security Screens And/Or Window Bars Excluded

ELECTRICAL

- (2) 125 Amp 1 Phase Ext. Mounted Panel w/ MCB
- EMT Conduit Raceway
- (12) Duplex 15A Receptacle - for Conduit
- (1) Duplex GFCI Recept - for Conduit
- (1) Weather Proof Exterior GFCI Recept w/ In-Use Cover
- (16) 2x4 LED Recessed Troffer
- (1) Exterior LED Wallpack 30W 2000lm w/ photocell
- (6) 4x4 J-Box w/ conduit stub and pull string to attic space
- (1) 6x6x6 Telephone/Data Inlet Box (w/ 2 runs of 3/4" conduit and pull string to
- (1) Lighting Controls Package

MECHANICAL

- (2) 3 Ton Wall Mount Heat Pump - 230v 1 Phase with 5kw Heating, Ducted Supply, Ducted Return, and Standard Single Stage Programmable Backlit T-stat - Braeburn #2200NC.
  CRV included with unit
- With 24 LF Plenum Wall
- (2) Smoke Duct Detector

MISCELLANEOUS

- (120) Closeup
- (6) Shipping Walls

City of Oakland Permit for Public Improvement by Private Contract (P-JOB)

Application is hereby made to construct all public improvements included in the plans and specifications prepared by:				
C. E. License No.	Date	Project Title:		
Applicant	Address	City	State	Zip
Phone	Email	Site Address	Related Appl:	
Contractor	State License No.	Class	Expiration Date	
Address	City	State	Zip	
Phone	Oakland Business Tax No	Expiration Date		

This permit issued pursuant to all provisions of Chapter 8, Article 2 of the Oakland Municipal Code.

This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to, defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance.

Permittee shall comply with requirements of the latest edition of Work Area Traffic Control Handbook or California Manual on Uniform Traffic Control (MUTCD).

NOTE: You are notified that Section 6500 of the Labor Code requires the issuance of a permit by the Division of Industrial Safety of the State of California prior to the construction of any trench or excavation which is five feet or deeper and into which a person is required to descend. Obtain permit at Elihu Harris State Building, Auditorium; 1515 Clay Street, Oakland, CA

Prior to excavation contractor must contact

UNDERGROUND SERVICE ALERT (USA)
800-227-2600 or 811
48 hours prior to start work

Number: _____

Date: _____

Approximate Start Date _____

Approximate End Date _____

2020 P X **2 0** 0 0 **0** _ _

Area for Plan Check Reviewer – City Engineer in Charge

Plans Checked By: _____

Record Agreement? _____Yes _____No

Record Subdivision Improvement Agreement? ____Yes ____No

Bond(s) Required? _____Yes _____No

Bond Processing Fee Invoiced? ____Yes ____No ____N/A

Surety Bonds Approved by _____ Date _____

P-Job documents scanned into Accela? _____Yes _____No

If working within 25' feet of a monument you must comply with State Law 8771, contact the Inspector prior to starting excavation: minimum $5,800.00 fine for non-compliance. Do not cut into pavement until ready to commence work.

Schedule inspection 72 hours prior to construction by sending notice to: 510 238-6381

This permit is valid for up to one year from issuance unless otherwise stated in Special Provisions.

I hereby agree to strictly comply with the conditions under which this permit is granted. I hereby certify that I am the applicant for a public improvement permit and that in the performance if the work for which such permit is issued, I will not employ any person or persons in any manner so as to become subject to the provisions of the Labor Code of the State of California relating to workers compensation insurance.

_____ _____

Contractor/Developer Signature Date

CONSTRUCTION LENDER (If none, write "none")

Name: _____

Branch: _____Street Address: _____

City: _____ State: _____ Zip: _____

Special Provisions _____

_____

Related to parcel or tract map? __No __Yes Map No: _____

Minor/Major Encroachment application required? __No __Yes

Permission is hereby granted to do the work described in this application in accordance with the provisions of the Oakland Municipal Code, related ordinances and specifications.

Approved: By _____ Print Name _____ Date _____

Maintenance Bond Amount: $_____ Issued: _____Yes _____No

Project Completion & Acceptance by _____Print Name _____

Date _____ Release Bond(s)? _____Yes _____No

As-Built Drawings submitted? _____Yes _____No

Documents returned to Right-of-Way Division? _____Yes _____No

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA SUITE 4344 OAKLAND, CALIFORNIA 94612–2033
Department of Transportation - DOT Inspection and Engineering Services

PRE-CONSTRUCTION MEETING AGENDA FOR PX-PERMIT

DATE: _____
PROJECT / PX#: PX **City Inspector:** _____
LOCATION: _____ **Engineer for City:** _____

A. Permits/Plans/TCP/OB/General Conditions:

1) Two (2) sets of reduced size 11X17 **Stamped & Approved PX plans** delivered to City Inspectors.
2) PX Permit will expire in Accela on the date provided in CMP as approved by the Engineer for City. CMP END DATE: _____.
3) **INITIAL TCP,** Traffic Control Plan, must be obtained from Transportation Services BEFORE implementing any traffic control measures and/or beginning any work.
4) TCP must be modified as site conditions change. Minor changes may be modified in the field and approved by City Inspector.
5) Major changes to TCP must be prepared and submitted by the Contractor to DOT Permit Counter. (i.e. sequencing, demo to grading permit, new lane closure or new detours)
6) TCP questions contact Tabin Chung, Traffic Engineer, at TChung@oaklandca.gov.
7) Obstruction/No Parking Placard Signs need to be **UPDATED & POSTED** onsite at **ALL TIMES**.
8) OB permits expire on date shown on City Approved Placard. Contractor MUST renew before the expiration date. Vehicle will not be towed away with expired Placard.
9) Contractor, Owner, Developer is responsible for maintaining Permits current and up to date and record keeping.
10) All Corrections Notices to be maintained on the job-site.
11) Any parking meter or kiosk removal requires an Obstruction Permit. Must include Pole Numbers (#'s) and locations existing and proposed as shown on the PX Plans.
12) **Any Revisions to the Approved Plans** require separate review and approval by the Engineer. Contact the Design Engineer and Engineer for City about any plan revisions needed.
13) Joint Trench Plans require separate Pre-Con meeting with PG&E when plans are approved by PG&E and ready for construction.
14) Contractor shall comply with Cal-OSHA requirements at **ALL TIMES**.
15) Posting of 24 hour contacts shall be visible from the street at **ALL TIMES**. Check with the Building Department approved construction management plan CMP for specifications.
16) All debris and trash shall be properly disposed from in and around the project site.
17) Any illegal dumping or graffiti shall be removed from the site.
18) Any damages to existing perimeter fencing or City right-of-way shall be repaired or replaced to the satisfaction of the City Inspector. (i.e. sidewalk, curb, gutter, paving, landscaping etc.)
19) Contractor must obtain a separate Sewer Lateral (SL) Permit for each new or abandoned sewer lateral, A PSL certificate from EBMUD is also required for each SL.

B. Inspection Scheduling / Coordination

1) Contact the City Inspector directly by email Place in the SUBJECT LINE: **"Request for Inspection – PX18000##."** Provide Address for Job Site and all related Active Permits.
2) Hours of operation must comply with Planning & Zoning Conditions of Approval.
3) Contractor's 24 HR contact info. And 48 HR advance "Request for Inspection" is required.
4) For any Inspections requested outside of City's regular business hours,HRS, weekends or City recognized Holidays Contractor must email the City Inspector no less than 3 working days. Contractorcomplete OT form & approval by the City Inspection supervisor.

5) Joint Trench plans for PG&E's services must be submitted to the Engineer for the City when complete.;
6) Separate Excavation Permit(s) (X) may be required for joint trench and/or utility work (i.e cable, telecommunications and water service (EBMUD)).
7) If separate Excavation Permit (X) is required for the Joint Trench PG&E work the Contractor must call to schedule Inspections as shown on the Issued Excavation X-Permit.
8) For PX Plans that do not require a separate X-Permit the Contractor will contact the City Inspector directly by email. **Place in the SUBJECT LINE: "Request for Joint Trench Inspection – PX18000##."** (NOTE: PX numbers PX1800035 and later (i.e. PX1800036, PX1800037, etc.), will generally NOT require a separate X-Permit for the PG&E Joint Trench work. Permits numbered PX1800035 and earlier will require a separate X-Permit and separate call for Joint Trench inspections.)
9) Verify with City Inspector. Is a separate X-Permit Required for PG&E Joint Trench?
    - **Check:** ___YES or ___ NO.

C. Pre & Post Construction Survey w/Notes & Photos.

1) Pre-construction survey to verify utility locations and show profiles.
2) Provide the distance from any **Tie-Backs** to all utilities SD & SS: Info provided to the Design Engineer.
3) CCTV all storm drain & sewer mains within 15 feet of any excavation.
4) Pavement Condition Index (PCI) and existing sidewalk conditions recorded with photographs before beginning work.
5) If a **Moratorium Street** is within the project boundary, expansion of the paving limits is required by the City. The City Inspector must approve limits after trenching work is complete and in advance of scheduling paving work.
6) Photos should show any defects and have a tape measure next to the defect to show scale.

D. Utility Locations / POTHOLE

1) Contractor to verify USA utility markings are a minimum 25 ft. beyond proposed work area as shown on the plans. USA #'s_____, _____, _____.
Underground Service Alert (USA) Website: www.usanorth.org
2) Strongly recommend that Contractor Pothole for utility conflicts prior to beginning excavation.
3) A separate Excavation Permit (X) is NOT required for potholing if the PX permit has been issued. However, a separate Obstruction Permit (OB) and Traffic Control Plan (TCP) may be required.
4) **Monuments** in and adjacent to the work zone: Corner record is required for all monuments within 25 feet of any excavation. No excavation until surveyed by the Owner's Licensed Surveyor. Submit surveying documents / records to the City Inspector.

E. Cut Sheets & Material Submittals:

1) All Cut Sheets & Material Submittals to be provided to the Senior Inspector. Attach a **SEPARATE COVER SHEET FOR EACH MATERIAL** being submitted (i.e. Concrete, Asphalt Mix Designs, Pipe, Fittings, Aggregates, Precast etc,)
2) Street lights & traffic signal lights cut sheets must be additionally reviewed and approved by City's Traffic Engineering Division (TVZ) and Public Works Agency (PWA) Maintenance Division - Electrical Services. For all Electrical Submittals provide to James Womack, Electrician Supervisor, DOT, jwomack@oaklandca.gov, telephone: ((510) 615-5435 and copy City Inspector.
3) Pavers, special sidewalk treatments, bike racks, furniture, benches, planter boxes, bio-retention systems and any other features on the PX Plans designed for the project within the right-of-way, or designated public easement, and approved by Planning & Zoning must be approved by the Planner and the Engineer for the City that approved and signed-off on the PX Plans.
4) Bike Rack placement must be approved by the City's Bicycle Coordinator.
5) Do Not send any submittals for PG&E or EBMUD, fire hydrants etc., to the City Inspector. Provide directly to PG&E and EBMUD.

6) City Inspector will NOT reply to misdirected submittals that must be delivered to the correct recipient.
7) Allow a minimum of 4 to 7 working days for City's review and comments on individual submittals.
8) Urgent review requests will require overtime charges by the City Inspector pre-approved by Supervisor.

F. Testing & Special Inspections performed by the Owner/Developer:

1) Reports, follow up results for any Compaction Testing, Excavation or Restoration Work, or any special testing that is specific to the project must be submitted to the City Inspector.
2) Any soil testing related to grading work performed under an issued Grading Permit must be submitted to the Building Department.
3) **SDMH/SSMH Vacuum or Hydrostatic Testing** is required for all new manholes per City Standards and Greenbook.
4) If Contractor prefers to use an alternate Testing Method, then the Contractor shall submit request in writing to Inspector with Cut Sheets prior to construction of any new manholes.
5) City Inspector may require **CCTV** report before acceptance of project.
6) Failure to provide testing reports and results in a timely manner may result in delays to Certificate of Occupancy (CO), Final Sign-off on the PX Permit and release of sureties. "Timely Manner" is considered no more than 2 working days from the date the Contractor receives report or testing results. Contractor to provide full and complete copies of reports by email, pdf format, to the City Inspector.
7) Test results and reports delivered to the City Inspector that are dated older than 3 months may be rejected by the City Inspector and additional retesting may be required.

G. SWPPP / Noise & Dust Control / Record Keeping

1) Ground water or construction site runoff disposal must comply with Planning & Zoning Conditions of Approval.
2) Storm Water Treatment and all approved BMP's must be maintained at ALLTIMES.
3) Failure to maintain treatment measures, BMP's, may result in a STOP WORK ORDER by the City and a formal report to the Regional Water Quality Control Board.
4) Permit set of documents, SWPPP event log, shall be updated and maintained at ALLTIMES
5) Complaint Log & Emergency List must be the job on-site and available for review by the City Inspector at ALLTIMES.

H. Final Acceptance / Closeout

1) Contractor must notify Architect and Civil Engineer-of-Record in writing for Final Inspection and ensure attendance on date and time of Final Inspection with the City Inspector.
2) All documented Punch-List Items must be satisfactorily completed and signed-off by City Inspector, and All Testing and Final Reports must be received by the City Inspector. prior to the authorized release of PX (P-Job or Subdivision Improvement Agreement (SIA) sureties (bonds, cashier's check, or letter of credit).
3) As-Built (As-Build) PX Plans must be submitted hard copy, pdf copy and electronic AUTOCAD Files to the Engineer for the City prior to final sign-off by the City Inspector.
4) As-builts; updated, prepared & submitted by the Design Engineer-of-Record to the Engineer for the City. Design Engineer must verify plans are accurate prior to final sign-off by the Inspector at the end of construction.
5) Letter, statement by the Engineer-of-Record must be submitted on Company Letterhead to the Engineer for the City prior to final sign-off by the City Inspector.
6) A Completed City Form; Request for bond/security/release, must be submitted directly to City Cashier located on the 2nd Floor, and copy to the Engineer for City for processing. Refunds and Release letters will take 4 to 8 weeks to process from date of receipt to the Cashier.

7) NOTE: Any outstanding fees, liens, or monies owed to the City, or shown in Accela, that are affiliated to the subject Parcel, Assessor's Parcel Number(s), must be resolved prior to release of the sureties.
8) Owner/Developer and Contractor are solely responsible for all sub-contractor(s) and supplier(s) and upon submission of the Request for Release of sureties attests that no liens or monies are owed related to the sureties and work permitted.

(END)

NOTES:

ALL TIMES: This means 24 hours a day, 7 days a week, and all holidays.

My attendance and participation at the Pre-Con Meeting for *PX # _____ is acknowledged by Initializing below:

GENERAL Contractor's Initials: ____ Date:_____.

*And other conditions as required.

Pre-Con Meeting Sign-In Sheet

CITY STAFF

Name	Title	Phone	Email
Ed McNair	Senior Construction Inspector, PWA, City of Oakland	(510) 238-6381	EMcNair@oaklandca.gov
Erik Yslas	Construction Inspector, PWA, City of Oakland	(510) 238-2115	EYslas@oaklandca.gov
Joe Watson	Construction Inspector	(510) 238-6268	JWatson@oaklandca.gov
Joseph Palacio	ENGINEER FOR CITY	(510) 238-7256	jpalacio@oaklandca.gov

CONTRACTOR / OWNER / DEVELOPER'S REPRESENTATIVES

Name	Company	Phone	Email

Use other side if needed.

Material Submittal

Supplier/Manufacturer: _____

Address: _____

Telephone: _____ Fax: _____

Item Description: _____ Spec #: _____

Use of Item: _____

Note to Supplier: The attached project special provisions modify the 2015 Standard Specifications for Public Works Construction (Green Book). These special provisions detail the requirements for the proposed material. Please review the special provisions, the Green Book and the text in the box below to ensure that the proposed materials meets the project specifications. Include this signed form with all necessary documents for the material submittal

I certify that the proposed material is in compliance with the contract specifications

□ with no exceptions

□ with exceptions as noted

Number_____ **Submittal** **Item**

(Use numbering system from Attachment 1)

Signature of Supplier's Representative: _____ Date: _____

Signature of Contractor's Representative: _____ Date: _____

Submittal Review

□ No exceptions taken □ Exceptions taken as noted □ Reviewed
□ Rejected □ Revise and Resubmit
□ Review Not required □ Submit Specified Item
□ _____

Review is only for the general conformance with the project design concept and general compliance with the information provided in the Contract Documents. The Contractor is responsible for conformance with all requirements of the Contract Documents, including but not limited to, dimensions that shall be field verified, fabrication processes and construction techniques, coordination of work, and satisfactory performance of all work. Deviations from the Contract Documents are not reviewed unless specifically requested by the Contractor in writing. Review and resubmission will only cover designated changes on this submittal and other changes specifically identified by the Contractor.

CITY OF OAKLAND, Department of Transportation, ENGINEERING SERVICES

Comments:

Reviewer: **Date:**

September 23, 2020

Zoon Engineering
2334 Merced Street
San Leandro CA 94577

To:
All Planholders

Attention: Estimators/Project Managers

Project Specifications: Emery-Go-Round Fleet Parking Facility

Plans Entitled: ETMA Mandela Parkway Yard

Contract Addendum No. 1

Your attention is directed to the following changes to the contract plans, specifications, and estimate for the Emery-Go-Round Fleet Parking Facility at the Mandela Parkway Yard. Any questions regarding the contract documents, including this addendum, shall be directed to Ernest Klock at (415) 533-7582 or eklock@zoon-eng.com. Contractors must include a signed copy of this addendum with submission of your bid due on September 29, 2020 by 3pm via email to Ernest Klock at the above-referenced email address.

1. The following Plan Sheets shall be replaced in their entirety and are included as attachments to this addendum. Changes to those sheets are highlighted by red revision clouds thereon.
   Sheet DM-1 (page 4 of 37)
   Sheet CD-5 (page 14 of 37)
   Sheet E-2 (page 34 of 37)
   Sheet E-3 (page 35 of 37)

2. Section H. of the Instructions to Bidders on page 6 of the project specifications shall be replaced in its entirety with the text below and amended as shown in red text herein:

   H. CONTRACT BONDS: The Contractor whose bid is accepted shall furnish the following bonds within ten days of the Notice of Award to the Emeryville Transportation Management Association on behalf of the City of Oakland and CALTRANS in accordance with the project permits (at no expense to the City of Oakland, CALTRANS, or the Emeryville Transportation Management Association), executed by a responsible surety in a form acceptable to the City of Oakland/CALTRANS (copies of which are attached to these specifications). Caltrans bond forms can be obtained by following the links provided in the attached executed EP:

   a) Faithful Performance Bond
   b) Labor and Materials Payment Bond
   c) Maintenance Bond (only for City of Oakland)

   The Engineer's Estimate of work in the City of Oakland right-of-way is **$153,935.00.**

   The Faithful Performance Bond shall be in an amount equal to one hundred percent (100%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$153,935.00.**

The Labor and Materials Payment Bond shall be in an amount equal to ~~one hundred~~ fifty percent (50%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$76,967.50.**

The Maintenance Bond shall be in an amount equal to ~~one hundred~~ twenty-five percent (25%) of the Engineer's Estimate of work in the City of Oakland right-of-way which is **$38,483.75.**

~~**Caltrans Encroachment Permit Bonding Requirements to follow via addendum no. 1.**~~
The Caltrans Faithful Performance Bond shall be in an amount equal to fifty percent (50%) of the value of work in the Caltrans right-of-way which shall be determined by subtracting $153,935.00 (City of Oakland value of work) from the Contractor's Total Base Bid price.

The Caltrans Labor and Materials Payment Bond shall be in an amount equal to one hundred percent (100%) of the value of work in the Caltrans right-of-way which shall be determined by subtracting $153,935.00 (City of Oakland value of work) from the Contractor's Total Base Bid.

As an example, with a theoretical base bid amount of $1,000,000.00, the Caltrans bond amounts would be determined as follows:

Total Base Bid: $1,000,000.00 less $153,935.00 = $846,065.00 (100% of the value of work in Caltrans right-of-way – Payment Bond amount), of which 50% ($423,032.50) would be the value of the required performance bond to be provided. These amounts are illustrative only and the final bond amounts shall be confirmed with the Engineer prior to issuance.

3. Paragraph 6 on page 11 in the Proposal Section of the project specifications shall be amended as shown in red text herein:

   It is hereby agreed that the undersigned, as bidder, shall furnish bonds as stipulated in section H. of the Instructions to Bidders within three days of the Notice of Award. A Faithful Performance Bond of the total amount (100%) of the value of work in the City of Oakland right-of-way, a Labor and Materials Payment Bond of half (50%) the total amount of the value of work in the City of Oakland right-of-way, and a Maintenance Bond of one quarter (25%) the total amount of the value of work in the City of Oakland right-of-way shall be furnished to the City of Oakland at no expense to the City of Oakland or the Emeryville Transportation Management Association, in the event that this proposal is accepted by said Emeryville Transportation Management Association. A Faithful Performance Bond of half (50%) of the total amount of the value of work in the Caltrans right-of-way and a Labor and Materials Payment Bond of the total amount (100%) of the value of work in the Caltrans right-of-way shall be furnished to Caltrans at no expense to Caltrans or the Emeryville Transportation Management Association, in the event that this proposal is accepted by said Emeryville Transportation Management Association.

4. Section H of the General Provisions on page 18 of the project specifications, paragraph 3, item 2. shall be removed and replaced as follows:

   ~~2. Does not require disposal at a permitted landfill or solid waste disposal facility.~~
   2. Shall be assumed to be a Class 2 material for bid purposes and shall be disposed of accordingly. Contractor's shall arrange for material testing in accordance with the waste disposal facility requirements at no cost to the Emeryville Transportation Management Association or Caltrans. If job site materials are found to be Class 1, revised pricing for material disposal shall be negotiated.

5. The Engineers Estimate and Schedule of Bid Prices on page 10 of the Project Specifications is hereby replaced in its entirety and the form attached to this addendum shall be filled out completely with the contractor bid. Bid Item quantities for item 13 "REMOVE ASPHALT CONCRETE SURFACING" and item 36 "REMOVE CONCRETE PAD" have been revised and highlighted in red.

    a. Regarding Remove Concrete Pads – Sheet DM-1 has been updated with additional areas of concrete pad removal and bid quantity 36 has been revised accordingly. Concrete pads are assumed to be 15" thick on average and may have abandoned utilities connected to them. Care shall be taken during demolition to minimize underground disturbance of connected abandoned utilities and they shall be terminated appropriately (i.e., filled with CLSM or equal).

    b. Regarding Asphalt Concrete Removal - Sheet DM-1 has been updated with note 6. indicating asphalt concrete removal for approximately one-half of the project site and bid quantity 13 has been revised accordingly. On-site asphalt identified for removal shall be assumed to be two to four inches thick on average.

Clarifications

6. For bidding purposes, contractor shall assume that the following materials will be removed from the site prior to the start of construction: concrete barrier rail, shipping containers, vehicles, above ground storage tanks, trailers, and miscellaneous pipe materials. All other items in conflict with the proposed improvements as shown on the plans shall be removed under the various "REMOVE" items in the Schedule of Bid Prices.

7. All Caltrans Permit conditions shall be implemented including protection of existing bridge columns on the project site as stipulated on Page 48, item 10 of the Special Provisions section of the project specifications. Special attention is directed to the executed Caltrans Encroachment Permit and its provisions included as attached to this addendum.

8. The HMA full depth 12" section within the City of Oakland on Mandela Parkway for the new turn pocket is confirmed per the legend on Sheet CD-1. Since this area is reconstructing existing landscaping, the intention is for the removal to be included in the lump sum costs for Landscape Planting and Landscape Irrigation. Per Section 17 of the project specifications, the contractor shall clear and grub to the proposed subgrade plane for the new pavement section.

9. Sheet CD-5 has been updated to reflect AB sections and sheet CD-2 indicates base rock sections for curb, gutter, and sidewalk.

10. Sewer and Storm Drain trenching shall be performed per City of Oakland Standards, Water Line trenching shall be performed per East Bay Municipal Utility District Standards, and Electrical Line trenching shall be performed per the Electrical Plans.

11. Site Grading – grades are shown on sheet GD-1. No other grade information is available. For bid purposes, contractors should assume straight grades between provided elevations.

12. Bioretention Areas – section A on CD-5 shows a drop configuration and section B on CD-5 shows a side slope configuration. The top of grate (TG) elevation shall be as shown on sheet GD-1 for each retention area and shall be two (2) inches below the flow line elevation of the curb cut leading to each bioretention area. The top of the three (3) inch compost layer shall be eight (8) inches below the flow line grade per section A on CD-5.

_____

Contractor Signature confirming receipt of Addendum 1 and Attachments per below

Attachments:

Attachment 1 – Revised Sheet DM-1
Attachment 2 – Revised Sheet CD-5
Attachment 3 – Revised Sheet E-2
Attachment 4 – Revised Sheet E-3
Attachment 5 – Revised Engineers Estimate and Schedule of Bid Prices
Attachment 6 – Caltrans Encroachment Permit Executed with Additional Conditions (4 pgs).

FAILURE TO SIGN AND SUBMIT THIS FORM WITH CONTRACTOR BID MAY BE CAUSE TO CONSIDER BID NON-RESPONSIVE

PLAN

NOTES:

1. PAVEMENT, AGGREGATE BASE AND SUBGRADE MATERIAL SHALL BE REMOVED TO THE LINES AND GRADES SHOWN ON THESE PLANS.
2. FACILITIES AND STORED MATERIALS MUST MAINTAIN SETBACK OF 20 FEET FROM FACE OF COLUMN.
3. NOTHING SHALL BE FASTENED TO THE BRIDGE PROPER WITHOUT PRIOR APPROVAL.
4. MAINTAIN VERTICAL CLEARANCE OF AT LEAST 6 FEET, MEASURED FROM LOWEST BRIDGE MEMBER (ACROSS WIDTH OF BRIDGE) TO THE TOP OF ANY STORAGE MATERIAL/FACILITY.
5. FOUNDATIONS AND COLUMNS SHALL BE COMPLETELY PROTECTED FROM DAMAGE DURING CONSTRUCTION. PLACE ORANGE SNOW FENCING AROUND EACH FOUNDATION BEFORE STARTING WORK.
6. CONTRACTOR SHALL ASSUME ASPHALT REMOVAL OF 2"–4" OVER HALF OF THE PROJECT SITE.

ITEMS OF WORK:

1. REMOVE CURB AND GUTTER
2. REMOVE CURB
3. REMOVE CHAIN LINK FENCE
4. REMOVE CONCRETE SIDEWALK
5. REMOVE CONCRETE PAD. REMOVE TO 4' BELOW GRADE.
6. REMOVE ORNAMENTAL METAL FENCE
7. PROTECT–IN–PLACE LIGHT POLE
8. PROTECT–IN–PLACE UTILITY BOXES
9. PROTECT–IN–PLACE TREE
10. REMOVE IRRIGATION VALVES AND BOXES, SEE IRRIGATION PLAN
11. PROTECT–IN–PLACE INLET
12. PROTECT–IN–PLACE UTILITY LINE
13. PROTECT–IN–PLACE CALTRANS OVERHEAD SIGN STRUCTURE
14. PROTECT–IN–PLACE ACFCD ACCESS DOOR.

LEGEND

- RAISED FOUNDATIONS OR COLUMNS (PROTECT–IN–PLACE) (SEE NOTE 5)
- ROADWAY EXCAVATION/REMOVE ASPHALT PAVEMENT AND BASE (SEE NOTE 6)
- REMOVE ASPHALT PAVEMENT AND BASE
- REMOVE CONCRETE SIDEWALK
- REMOVE CONCRETE PAD AND BASE
- REMOVE PLANTING AND IRRIGATION SEE LANDSCAPING PLANS FOR RESTORATION
- REMOVE TREE, SEE LANDSCAPE PLAN
- REMOVE CURB AND GUTTER
- REMOVE CURB
- REMOVE ORNAMENTAL FENCE
- REMOVE CHAIN LINK FENCE
- SAWCUT (3 / CD–2)
- EXISTING FREEWAY VIADUCT
- EXISTING ORNAMENTAL FENCE
- EXISTING WALL
- RIGHT OF WAY
- EASEMENT

GRAPHIC SCALE
0 10 20 40 60
(IN FEET)
1 INCH = 20 FT.

BkF ENGINEERS / SURVEYORS / PLANNERS
1730 N. FIRST STREET
SUITE 600
SAN JOSE, CA 95112
408–467–9100
408–467–9199 (FAX)

CHECKED BY	M.COSENTINO
DESIGNED BY	B.SILKWOOD
DRAWN BY	W.LANDRETH

REGISTERED PROFESSIONAL ENGINEER
M. COSENTINO
No. C69063
Exp. 06/30/20
CIVIL
STATE OF CALIFORNIA

ETMA
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
1211 NEWELL AVE, SUITE 200
WALNUT CREEK, CA 94596
(510) 451-3862

ETMA MANDELA PARKWAY YARD
04-ALA-580 PM 46.33
CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA
PX2000004

No.	DATE	BY	REFERENCE
1	6/21/19		DRAFT SUBMITTAL
2	11/25/19		FINAL SUBMITTAL
3	7/10/20		3RD FINAL SUBMITTAL

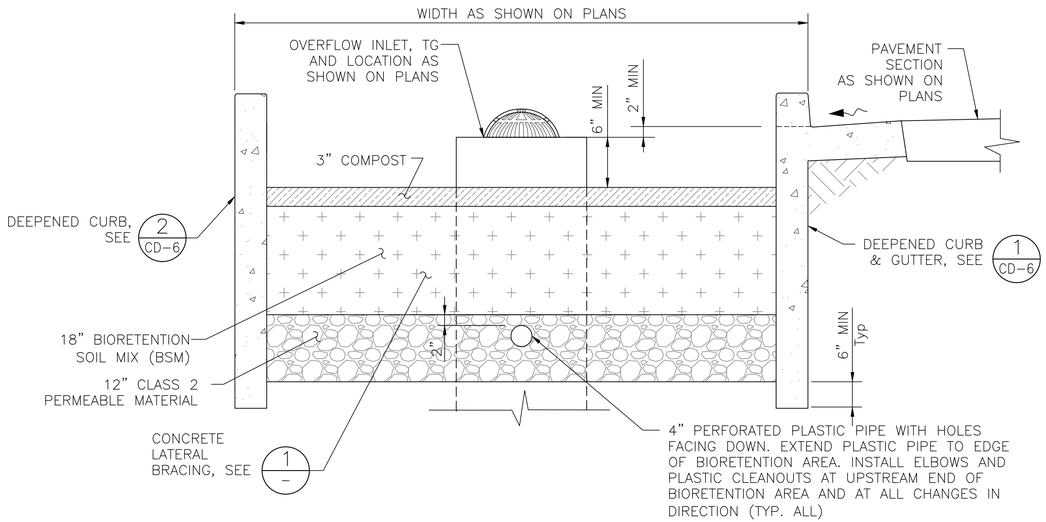
DEMOLITION PLAN

PROJECT NO.
20176196

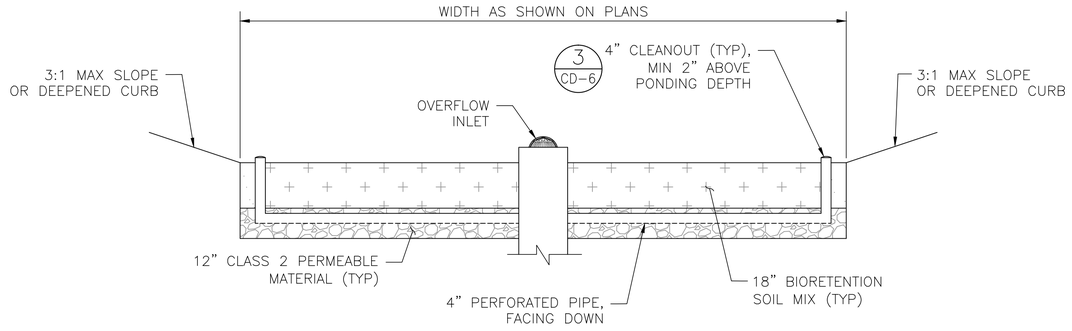
SCALE: 1"=20'
HOR: 1"=20'
VERT: N/A
DATE: 06/07/2019

SHEET NO.
DM-1
4 OF 37

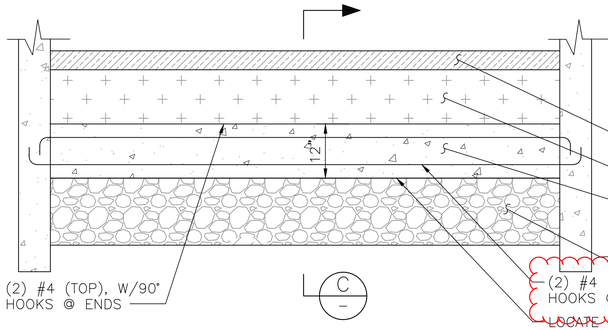
Sep 22, 2020 - 8:51am \\BKF-Sv1\vol4\2017\176196_Emery_Bus_Yard\ENG\SHEETS\Mandela Parkway\04_DM-01.dwg



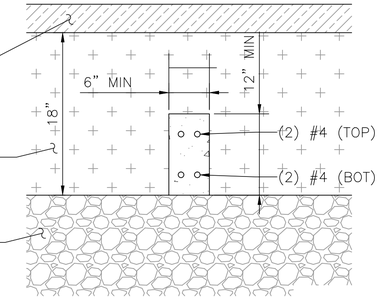
BIORETENTION AREA
SECTION
NTS
A CD-5 CD-4



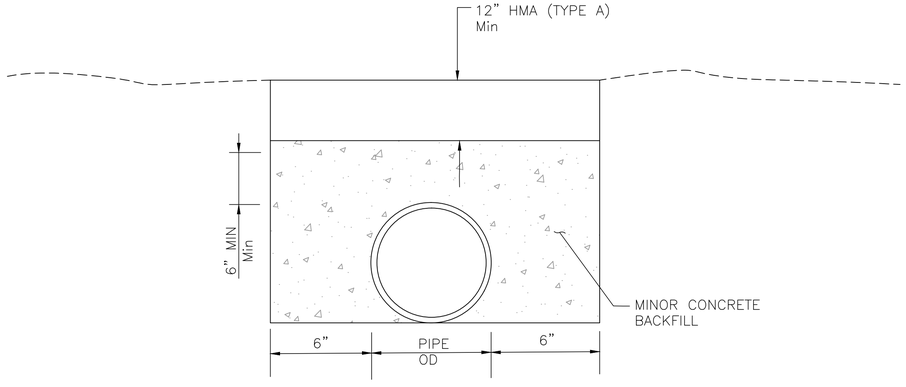
BIORETENTION AREA
SECTION
NTS
B CD-5 CD-4



LATERAL BRACING
DETAIL
NTS
1 CD-5



SECTION
NTS
C –



MINOR CONCRETE BACKFILL
NTS
2 CD-5

NOTES:

1. CONCRETE LATERAL BRACING SHALL BE CONTINUOUS (NO JOINTS).
2. LATERAL BRACING SHALL BE PROVIDED:
   – EVERY 6 FEET (MAX) FOR WALLS UP TO 4 FEET IN HEIGHT
   – EVERY 4 FEET (MAX) FOR WALLS BETWEEN 4 AND 6 FEET IN HEIGHT.
   – AT BEGINNING END OF DEEPENED CURBS.

BKF ENGINEERS / SURVEYORS / PLANNERS
1730 N. FIRST STREET
SUITE 600
SAN JOSE, CA 95112
408-467-9100
408-467-9199 (FAX)

CHECKED BY	M.COSENTINO
DESIGNED BY	B.SILKWOOD
DRAWN BY	W.LANDRETH

REGISTERED PROFESSIONAL ENGINEER
M. COSENTINO
No. C69063
Exp. 06/30/20
CIVIL
STATE OF CALIFORNIA

ETMA
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
1211 NEWELL AVE, SUITE 200
WALNUT CREEK, CA 94596
(510) 451-3862

ETMA MANDELA PARKWAY YARD
04-ALA-580 PM 46.33
CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA
PX2000004

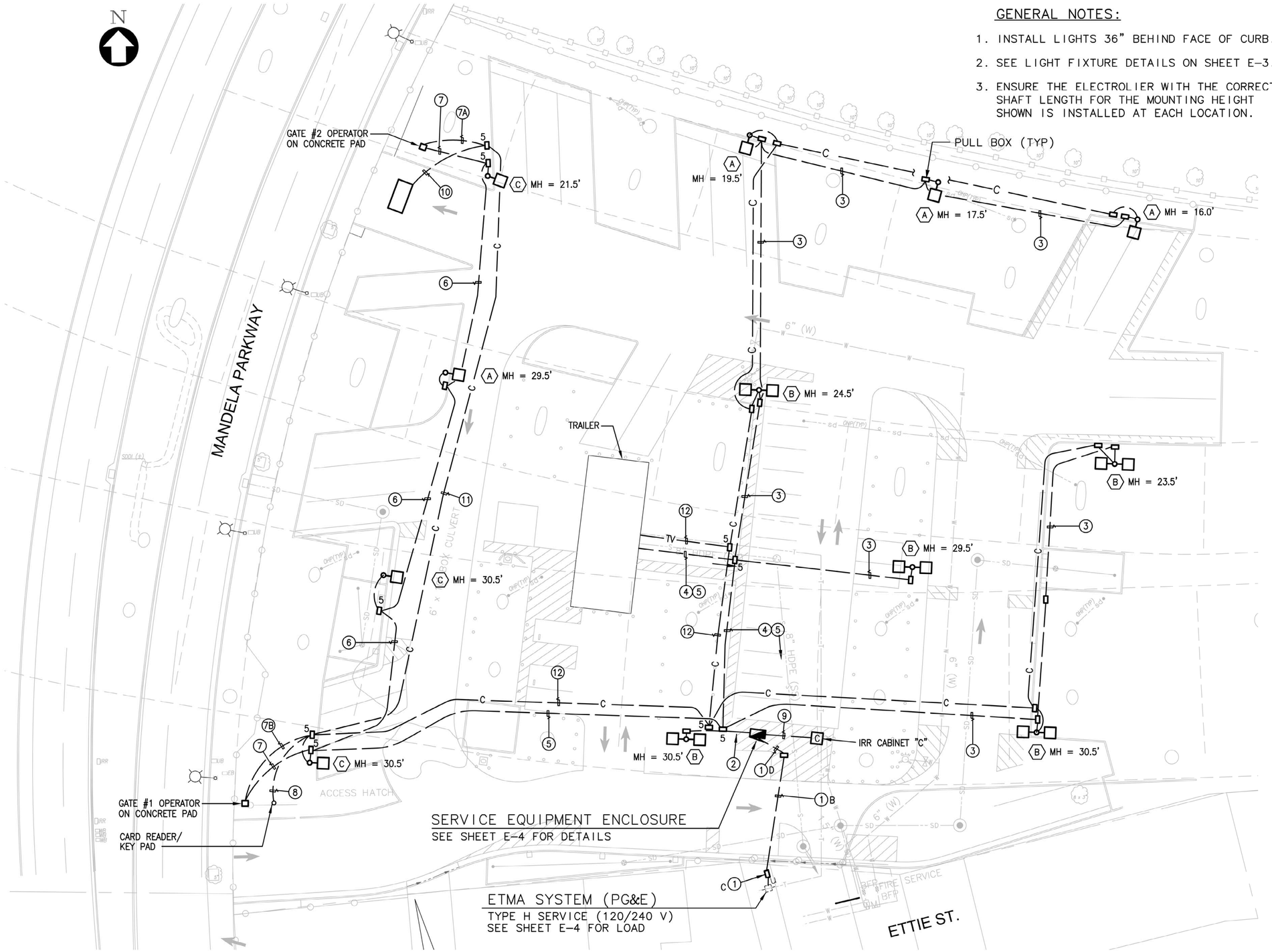
No.	DATE	BY	REFERENCE
1	6/21/19		DRAFT SUBMITTAL
2	11/25/19		FINAL SUBMITTAL
3	7/10/20		3RD FINAL SUBMITTAL

CONSTRUCTION DETAILS

PROJECT NO.
20176196

SCALE: AS SHOWN
HOR: NTS
VERT: N/A
DATE: 06/07/2019

SHEET NO.
CD-5
14 OF 37



GENERAL NOTES:

1. INSTALL LIGHTS 36" BEHIND FACE OF CURB.
2. SEE LIGHT FIXTURE DETAILS ON SHEET E-3.
3. ENSURE THE ELECTROLIER WITH THE CORRECT SHAFT LENGTH FOR THE MOUNTING HEIGHT SHOWN IS INSTALLED AT EACH LOCATION.

SHEET NOTES:

(1) PG&E COORDINATE
A) COORDINATE NEW ELECTRIC SERVICE WORK WITH PG&E.
B) INSTALL 3"C, PT (CONDUCTORS BY PG&E)
C) INSTALL PG&E #2 PULL BOX
D) INSTALL 3"C, 3#3/0

(2) INSTALL 2"C, 2 #8 (LTG, 240V)
4 #8 (GATE #1&2, 240V)
3 #14 (PEU)
1 #8 (G)
2 1/2"C, 3 #2 (TRAILER, 120/240V)
1 #8 (G)
2"C, PT (SPARE)

(3) INSTALL 2"C, 2 #8 (LTG, 240V)
1 #8 (G)

(4) INSTALL 2"C, 3 #2 (TRAILER, 120/240V)
1 #8 (G)
CONFIRM TRAILER SERVICE POINT BEFORE INSTALLATION.

(5) INSTALL 2"C, 2 #8 (LTG, 240V)
4 #8 (GATES, 240V)
1 #8 (G)

(6) INSTALL 2"C, 2 #8 (LTG, 240V)
2 #8 (GATE, 240V)
1 #8 (G)

(7) INSTALL 1"C, 2 #8 (GATE, 120V)
1 #8 (G)

(7A) INSTALL 1 1/2"C, 2 #14 (GATE OPEN)
2 #14 (COMM LINK), 1 DLC

(7B) INSTALL 1 1/2"C, 2 #14 (GATE OPEN)
2 #14 (COMM LINK)
6 #22 (CARD READER/KEY PAD)

(8) INSTALL 1"C, 6 #22 (CARD READER/KEY PAD)

(9) INSTALL 1"C, 2 #10 (IRRIGATION, 120V)
1 #10 (G)

(10) INSTALL 1"C, 1 DLC

(11) INSTALL 1 1/2"C, PT (FUTURE CCTV)
1 1/2"C, 4 #14 (GATE COMM)

(12) INSTALL 2"C, PT (FUTURE CCTV)
1 1/2"C, PT (SPARE)

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

Alliance Engineering Consultants, Inc.
4701 Patrick Henry Drive, Bldg. 10
Santa Clara, CA 95054
phone (408) 970-9888
fax (408) 970-9316
www.aec-engineers.com
PROJECT NO. 205-18-04

CHECKED BY	K.NGAI
DESIGNED BY	D.CLOW
DRAWN BY	C.BASUKI

REGISTERED PROFESSIONAL ENGINEER
DAVID W. CLOW
No. 12883
Exp. 12/31/20
ELECT
STATE OF CALIFORNIA

ETMA
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
1211 NEWELL AVE, SUITE 200
WALNUT CREEK, CA 94596
(510) 451-3862

ETMA MANDELA PARKWAY YARD
04-ALA-580 PM 46.33
CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA

No.	DATE	BY	REFERENCE

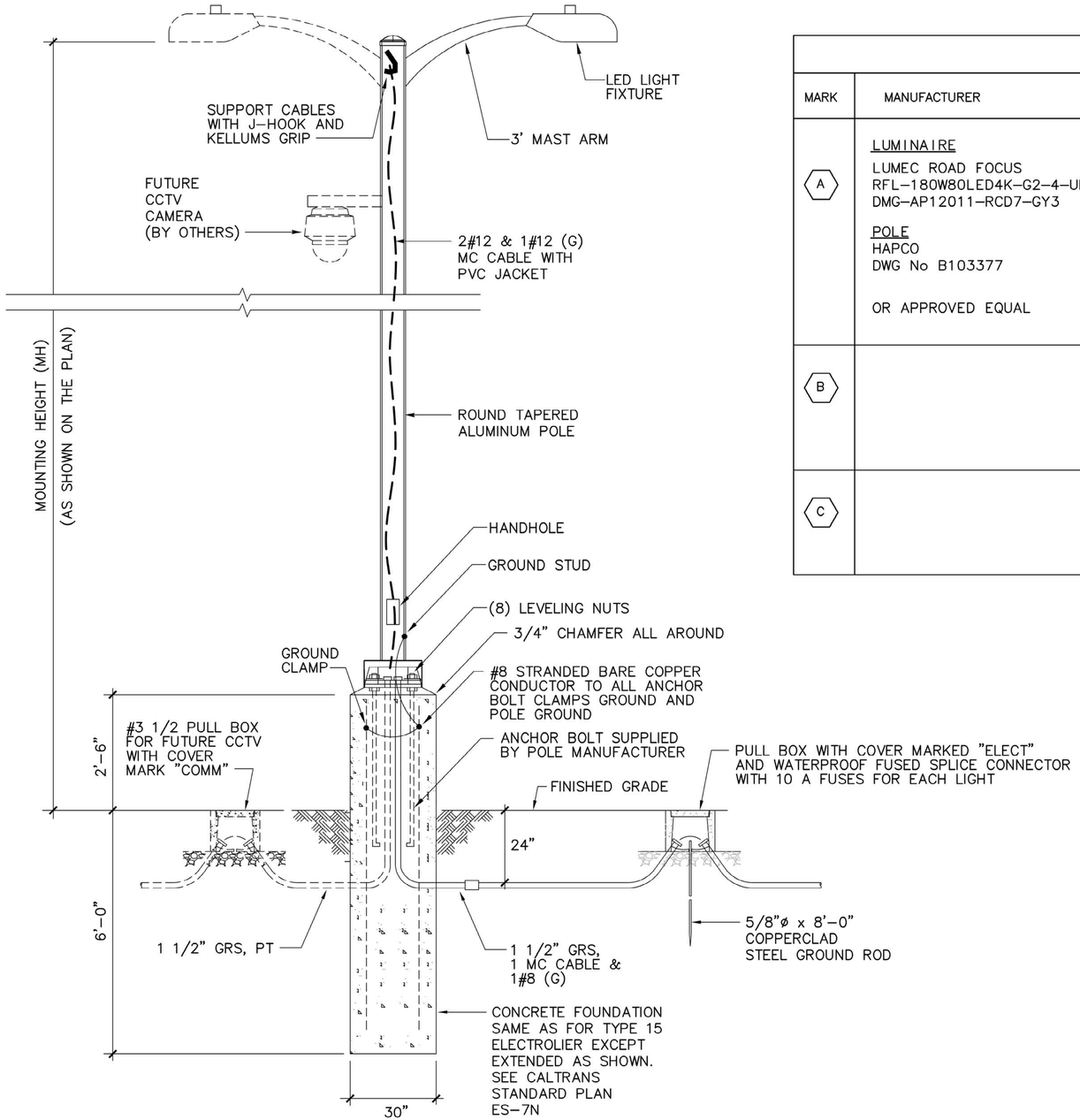
ELECTRICAL SITE PLAN

PROJECT NO. 20176196

SCALE: 1"=20'-0"
HOR: N/A
VERT: N/A
DATE: 9/11/2020

SHEET NO. E-2
34 OF 37

Sep 14, 2020 - 4:10pm M:\205-18-04 Mandela Bus York\0452.dwg



1 / – PARKING LIGHT TYPES "A", "B" AND "C"
NO SCALE

LIGHT FIXTURE SCHEDULE

MARK	MANUFACTURER	FIXTURE	TOTAL WATTS	VOLTS	MOUNTING	DESCRIPTION
A	LUMINAIRE LUMEC ROAD FOCUS RFL-180W80LED4K-G2-4-UNV-DMG-AP12011-RCD7-GY3 POLE HAPCO DWG No B103377 OR APPROVED EQUAL	LED	174	120 TO 277	MOUNTING HEIGHT AS SHOWN ON THE PLAN SEE 1/E-3	PARKING LIGHT – CAST ALUMINUM HOUSING – TYPE 4 LIGHT DISTRIBUTION – GREY FINISH – DIMMER SWITCH NOTES: 1. TAPERED ALUMINUM TUBE, STAINLESS STEEL HARDWARE AND 3' MAST ARM 2. SHAFT LENGTH = MOUNTING HEIGHT PER PLAN – FOUNDATION HEIGHT AND LUMINAIRE ARM RISE (1'-7")
B			2-174			PARKING LIGHT SAME AS TYPE "A" EXCEPT WITH 2 LUMINAIRES AND HAPCO ALUMINUM POLE PER DWG No B103376
C						PARKING LIGHT SAME AS TYPE "A" EXCEPT WITH TYPE 5 LIGHT DISTRIBUTION

Alliance Engineering Consultants, Inc.
4701 Patrick Henry Drive, Bldg. 10, Santa Clara, CA 95054
phone (408) 970-9288 fax (408) 970-9316
www.aec-engineers.com

PROJECT NO. 205-18-04

CHECKED BY	K.NGAI
DESIGNED BY	D.CLOW
DRAWN BY	C.BASUKI

REGISTERED PROFESSIONAL ENGINEER
DAVID W. CLOW
No. 12883
Exp. 12/31/20
ELECT
STATE OF CALIFORNIA

ETMA
EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION
1211 NEWELL AVE, SUITE 200
WALNUT CREEK, CA 94596
(510) 451-3862

ETMA MANDELA PARKWAY YARD
04-ALA-580 PM 46.33
CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA

No.	DATE	BY	REFERENCE

LIGHTING DETAILS

PROJECT NO. 20176196

SCALE: 1"=20'-0"
HOR: N/A
VERT: N/A
DATE: 9/11/2020

SHEET NO. E-3
35 OF 37

Sep 14, 2020 - 4:13pm M:\205-18-04 Mandela Bus Yard\04E3.dwg chris

ETMA MANDELA YARD PROJECT - PLAN NO: 2020-01 PROJECT: 04-ALA-580 PM 46.33
REVISED PER ADDENDUM 1 - ENGINEERS ESTIMATE AND SCHEDULE OF BID PRICES

BID ITEM	ITEM CODE	ITEM DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
1	070030	LEAD COMPLIANCE PLAN	LS	$	1	$
2	120100	TRAFFIC CONTROL SYSTEM	LS	$	1	$
3	130200	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	$	1	$
4	130400A	WATER POLLUTION CONTROL	LS	$	1	$
5	190101	ROADWAY EXCAVATION	CY	$	2,250	$
6	204031A	REMOVE TREE	EA	$	4	$
7	209000A	LANDSCAPE PLANTING	LS	$	1	$
8	209001A	ONE YEAR PLANT ESTABLISHMENT PERIOD	LS	$	1	$
9	209002A	LANDSCAPE IRRIGATION	LS	$	1	$
10	210112A	BIORETENTION SOIL MIX	CY	$	90	$
11	260203	CLASS 2 AGGREGATE BASE	CY	$	2,115	$
12	390132	HOT MIX ASPHALT (TYPE A)	TON	$	1,725	$
13	600029	REMOVE ASPHALT CONCRETE SURFACING	SF	$	30,000	$
14	641100A	8" HDPE PIPE	LF	$	180	$
15	650010	12" REINFORCED CONCRETE PIPE	LF	$	365	$
16	680285	4" PERFORATED PLASTIC PIPE UNDERDRAIN	LF	$	155	$
17	680286A	4" PLASTIC PIPE CLEANOUT	EA	$	5	$
18	682042	CLASS 2 PERMEABLE MATERIAL (BLANKET)	CY	$	65	$
19	707226A	STORM DRAIN MANHOLE (COO TYPE 1)	EA	$	4	$
20	707227A	SEWER MANHOLE (COO TYPE 1)	EA	$	2	$
21	710233A	INLET CONNECTION	EA	$	2	$
22	730011A	MINOR CONCRETE (CURB CT TYPE A1-6)	LF	$	1,630	$
23	731505A	MINOR CONCRETE (CURB AND GUTTER COO TYPE A MOD)	LF	$	95	$
24	731505B	MINOR CONCRETE (CURB AND GUTTER COO TYPE A)	LF	$	105	$
25	731505C	MINOR CONCRETE (CURB AND GUTTER COO TYPE D)	LF	$	20	$
26	731505D	MINOR CONCRETE (CURB AND GUTTER CT TYPE A2-6)	LF	$	365	$
27	731505E	MINOR CONCRETE (DEEPENED CURB)	LF	$	245	$
28	731505F	MINOR CONCRETE (DEEPENED CURB AND GUTTER)	LF	$	125	$
29	731505G	MINOR CONCRETE (LATERAL BRACING)	CY	$	6	$
30	731505H	MINOR CONCRETE (VALLEY GUTTER)	LF	$	55	$
31	731505I	MINOR CONCRETE (SIDEWALK)	SF	$	510	$
32	731517A	MINOR CONCRETE (DRIVEWAY)	SF	$	845	$
33	731710	REMOVE CONCRETE CURB	LF	$	135	$
34	731780	REMOVE CONCRETE SIDEWALK	SY	$	130	$
35	731840	REMOVE CONCRETE (CURB AND GUTTER)	LF	$	275	$
36	731870A	REMOVE CONCRETE PAD	CY	$	400	$
37	750031A	OVERFLOW INLET	EA	$	3	$
38	770001A	ORNAMENTAL METAL FENCE	LF	$	450	$
39	770002A	ORNAMETAL SLIDING GATE	EA	$	2	$
40	770003A	ORNAMENTAL SWINGING GATE	EA	$	1	$
41	770004A	BOLLARD	EA	$	115	$
42	770005A	FIRE PROTECTION SYSTEM	LS	$	1	$
43	770006A	DOMESTIC WATER METER AND SERVICE	LS	$	1	$
44	770007A	SLURRY CAP	LS	$	1	$
45	770008A	LIGHTING/ELECTRICAL SYSTEM	LS	$	1	$
46	803050	REMOVE CHAIN LINK FENCE	LF	$	435	$
47	803051A	REMOVE ORNAMENTAL METAL FENCE AND GATES	LF	$	195	$
48	800360	CHAIN LINK FENCE (TYPE CL-6)	LF	$	285	$
49	800401A	CHAIN LINK FENCE (10' HEIGHT)	LF	$	30	$
50	840000A	SIGNING AND STRIPING	LS	$	1	$
51	999990	MOBILIZATION	LS	$	1	$
52	VARIOUS	24' x 60' TRAILER UTILITY CONNECTIONS	LS	$	1	$

TOTAL BASE BID $ _____

BID ALTERNATE A - 5A &11A REPLACE 5 & 11 ABOVE			UNIT	UNIT PRICE	QUANTITY	AMOUNT
5A	190101	ROADWAY EXCAVATION	CY	$	1410	$
11A	260203	CLASS 2 AGGREGATE BASE	CY	$	1250	$
ENTER TOTAL BASE BID AMOUNT FROM ABOVE LESS BID AMOUNTS FROM ITEMS 5 & 11						$

ALTERNATE TOTAL BASE BID WITH BID ITEMS 5A & 11A IN PLACE OF BASE BID ITEMS 5 & 11 $ _____

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT

TR-0120 (REV 6/2012)

Permit No. 04-20-NAS-2154

Dist/Co/Rte/PM 04/ALA/580/46.3

DATE September 18, 2020

Fee Paid	Deposit
$ Exempt	$ Exempt
Performance Bond Amount	**Payment Bond Amount**
$	$
Bond Company	
Bond Number (1)	**Bond Number (2)**

In compliance with (Check one):

☒ Your application of September 17, 2020

☐ Utility Notice No. _____ of _____

☒ Agreement No. Airspace Lease 04-ALA-580-34 of August 1, 2020

☐ R/W Contract No. _____ of _____

TO:

Emeryville Transportation Management Assoc.
c/o BKF Engineers
1211 Newell Ave, Suite 200
Walnut Creek, CA 94596
Email: roni@garybowenscott.com
Attn: Ms. Veronica Hattrup
Phone (925) 899-4246

, **PERMITTEE**

and subject to the following, **PERMISSION IS HEREBY GRANTED** to:

Construct Emeryville Transportation Management Association (ETMA) bus depot, including driveways, curb and gutter, sidewalk, fencing, utilities, bioretention area, under the overhead freeway structure, on State Highway 04-ALA-580, Post Mile 46.3, in the City of Oakland.

A minimum of 7 days prior to the start of work under this encroachment permit, notice must be given to State Representative John Ruzic III, at john.ruzic@dot.ca.gov or (510) 812-6336, weekdays between 7:00 a.m. and 3:30 p.m., excluding holidays.

Notwithstanding General Provision 35, lane closures and other activities that may cause a traffic impact requires the permittee to apply for and obtain a closure ID prior to the start of work. Requests must be submitted using the attached "Encroachment Permit Work Scheduling Request Form".

THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY TO A NEW OWNER.

The following attachments are also included as part of this permit (*Check applicable*):

☒ Yes	☐ No	General Provisions (TR-0045)
☒ Yes	☐ No	Utility Maintenance Provisions (TR-0162, TR-0163)
☒ Yes	☐ No	Special Provisions (TR-0408)
☐ Yes	☒ No	A Cal-OSHA permit, if required: Permit No. _____
☐ Yes	☒ No	As-Built Plans Submittal Route Slip for Locally Advertised Projects
☒ Yes	☐ No	Water Pollution Control Documents (SWPPP/WPCP/TR-0400)

In addition to fee, the permittee will be billed actual costs for:

☐ Yes	☒ No	Review
☒ Yes	☐ No	Inspection
☒ Yes	☐ No	Field Work

(If any Caltrans effort expended)

☐ Yes ☒ No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before April 1, 2021.
This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.
No project work must commence until all other necessary permits and environmental clearances have been obtained.

Permit Writer: FL

c: DDespain (2)
RShirazi
John Ruzic III - Construction
Jim Bozionelos – Right of Way
TMC
Airspace Lease No. 04-ALA-580-34

APPROVED:

DAVID SALLADAY, District Permit Engineer

BY: Ajay Sehgal

AJAY SEHGAL, Senior Permit Engineer

ADA Notice For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

In addition to the 2018 Standard Specifications and Standard Plans (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications), the attached "Encroachment Permit General Provisions" (TR-0045) (available at https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/ep-general-provisions-a11y.pdf), and "Encroachment Permit Overhead Utility Provisions" (TR-0162), "Encroachment Permit Underground Utility Provisions (UG)" (TR-0163), "Hazardous Materials and Hazardous Waste Management Special Provisions" (TR-0408), and "Storm Water Special Provisions for Minimal or No Impact (SWSP)" (TR-0400) (available at http://dot.ca.gov/programs/traffic-operations/ep/ep-manual/) all work permitted herein must comply with the following provisions:

Certain details of work authorized herein are shown on the plans and specifications submitted by the permittee, and attached to this encroachment permit.

A pre-job meeting with the State Representative is required at least 7 days prior to the start of any work under this encroachment permit. Failure to do so may result in permit revocation with no prejudice.

The permittee must provide the stage construction plans, traffic handling plans, work schedule, and a list of all sub-contractors to the State Representative at the time of the pre-job meeting.

Notwithstanding General Provision 4, construction must not begin until the contractor performing the work applies for and obtains a separate encroachment permit (referred to as a Double Permit) for the work authorized herein. An initial fee/deposit of $492.00 is required at the time of application for permit processing and inspection.

Additional inspection hours will be charged at the current State hourly rate.

The application for a double permit must include an approved Storm Water Pollution Prevention Plan (SWPPP) uploaded in SMARTS, along with the WDID number.

The application for a double permit must include bonds at 100% for payment using "Payment Bond of State Highway Encroachment Permittee" (TR-0018) and at 50% for performance using "Performance Bond of State Highway Encroachment Permittee" (TR-0001) of the estimated construction costs for work within the State highway right-of-way. The bonds must name only the State as obligee. Forms are available at
Payment bond: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr0018.pdf
Performance: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr0001.pdf

Signs, lights, flags or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

Traffic control must comply with the 2018 Caltrans Standard Plans T9 through T14 (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications), and the California MUTCD, Part 6, "Temporary Traffic Control" (available at https://dot.ca.gov/programs/traffic-operations/camutcd/).

All traffic control devices must be installed, maintained, and removed by a qualified traffic control contractor.

Construction activities must not inconvenience the public or abutting property owners. Maintain access to driveways, houses, and buildings.

The State Representative and CHP reserve the right to require reopening the highway at any time as necessary. All cost must be borne by the permittee.

No lane must be closed or obstructed at any time unless specifically allowed elsewhere in this encroachment permit, shown in approved traffic control plans, and/or as directed by the State Representative.

Traffic control using flagging, must comply with the California MUTCD, Part 6E, "Flagger Control" (available at https://dot.ca.gov/programs/traffic-operations/camutcd/), and Cal/OSHA Construction Safety Orders, Section 1599, "Flaggers", (available at https://www.dir.ca.gov/title8/1599.html).
Temporary pedestrian facilities must comply with the Caltrans Temporary Pedestrian Facilities Handbook (available at https://dot.ca.gov/-/media/dot-media/programs/construction/documents/contract-administration/temporary-pedestrian-facilities-handbook-a11y.pdf) and the California MUTCD Part 6, Chapter 6D – "Pedestrian and Worker Safety" (available at http://www.dot.ca.gov/programs/traffic-operations/camutcd).

Notwithstanding General Provision 13, temporary pedestrian access routes must comply with the 2018 Caltrans Standard Plans T30 through T34 (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications).

Temporary pedestrian walkways and canopies must comply with the requirements of the applicable local agency or the latest edition of the International Building Code whichever contains the higher standards.

Curbs and sidewalks must be saw cut to the nearest score mark and replaced equal in dimension to that removed with score marks matching existing adjacent curb and sidewalk.

Curbs and adjacent pavement must be saw cut to a neat line prior to excavating and forming. Pavement must be replaced in kind and must conform to lip of new gutter.

Curbs and gutters must conform to the 2018 Caltrans Standard Plan A87A, Type A2-6, (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications) unless necessary to conform to existing adjacent curb and gutter installations.

Curbs and gutters must be placed over 6 inches of Class II Aggregate Base. Sidewalks must be a minimum 4 inches PCC placed over 3 inches of Class II Aggregate Base.

A monolithic pour of curb and sidewalk is not permitted.

Utility pull boxes, manholes, vaults, and other utility facilities must be adjusted to grade.

Driveways must conform to the Caltrans Highway Design Manual Index 205 and Index 405.1 (available at https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm) unless otherwise shown on the project plans.

Portland Cement Concrete (PCC) driveway thickness must be a minimum 4 inches for residential driveways and a minimum 6 inches for commercial driveways. PCC must be placed over 6 inches of Class II aggregate base.

Asphalt Concrete (AC) driveway structural section, including tapers, must match the adjacent shoulder structural section with a minimum 4 inches HMA Type A surface course.

Streets and highways in the San Francisco Bay Area contain a significant number of existing underground utilities. This includes traffic signal conduits that are installed 9 inches or less in depth. The permittee is responsible for necessary site

investigations for identification of the location and depth of existing underground facilities prior to excavation (e.g., pothole or hand-dig) to avoid damage or disruption in services.

All pavement must be saw cut prior to removal, or removed by grinding.

Obliterated pavement markings must be replaced in kind.

All signs and markings must comply with the California MUTCD (available at http://www.dot.ca.gov/programs/traffic-operations/camutcd).

Where Asphalt Concrete (AC) has been placed, temporary painted traffic striping and pavement markings must be installed within 24 hours. Where shown on the plans, after 30 days curing time, thermoplastic materials must be applied in accordance with the 2018 Caltrans Standard Specifications, Section 84, "Markings" (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications).

Chain link fence must comply with the 2018 Caltrans Standard Plans A85, A85A, and A85B; and with the 2018 Caltrans Standard Specifications, Sections 75-1.02B, "Galvanizing" and 80-3, "Chain Link Fences" (available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications).

Changes to the provisions herein require an Encroachment Permit Rider, except for minor changes authorized by the State Representative.

Time extension requests must be made a minimum 2 weeks prior to permit expiration.

The State Representative or CHP may stop work not being performed in compliance with this permit.

Neither materials nor waste must be stockpiled within the State highway right-of-way.

All mud, dirt, and gravel tracked onto the roadway must be immediately removed.

Any damage to State facilities must be repaired to the same state as before the damage and the cost of repairs must be the responsibility of the permittee.

Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with a post-construction "Certification of Compliance with Americans with Disabilities Act (ADA)" (TR-0405) (available at https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr0405.pdf), stamped and signed by a California Licensed Professional Engineer or Architect.

Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with three sets of As-Built plans, in accordance with General Provision 22.

Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with "Notice of Completion" (TR-0128) (available at https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr0128.pdf).

Additional Enclosures

1. Notice of Completion (TR-0128)
2. Work Authorization Instruction and Request Form
3. Plan Set

Contract Addendum No 2

September 24, 2020

Zoon Engineering
2334 Merced Street
San Leandro CA 94577

To:
All Planholders

Attention: Estimators/Project Managers

Project Specifications: Emery-Go-Round Fleet Parking Facility

Plans Entitled: ETMA Mandela Parkway Yard

Contract Addendum No. 2

Your attention is directed to the following changes to the contract plans and specifications for the Emery-Go-Round Fleet Parking Facility at the Mandela Parkway Yard. Any questions regarding the contract documents, including this addendum, shall be directed to Ernest Klock at (415) 533-7582 or eklock@zoon-eng.com. Contractors must include a signed copy of this addendum with submission of your bid due on September 29, 2020 by 3pm via email to Ernest Klock at the above-referenced email address.

1. The contingent bid requirement on page 5 of the specifications in the Instructions to Bidders section C. Bids and Bid Opening is hereby waived for the following item:

   a. City of Oakland Maintenance Bond requirement of $38,483.75.

   If you wish to submit a contingent bid, you shall sign the corresponding "Contingent Bid Statement" at the end of this addendum. If you *do not* wish to submit a contingent bid, you need *not* sign the statement below and agree to meet the City of Oakland Maintenance Bond requirement.

   In all cases, you must sign where indicated acknowledging receipt of addendum number2.

2. Please see attached detail for the "Redwood Header" callouts on sheet L3.1.

3. Regarding soil amendments for bid purposes, provide bid based on Soil Note #6 on Plan Sheet L0.1. Final soil amendment program shall follow soil report's recommendations to be prepared by the certified soil lab per notes on Sheet L0.1.

_____

Contractor Signature confirming receipt of Addendum 2 and Attachments per below

Contingent Bid Statement

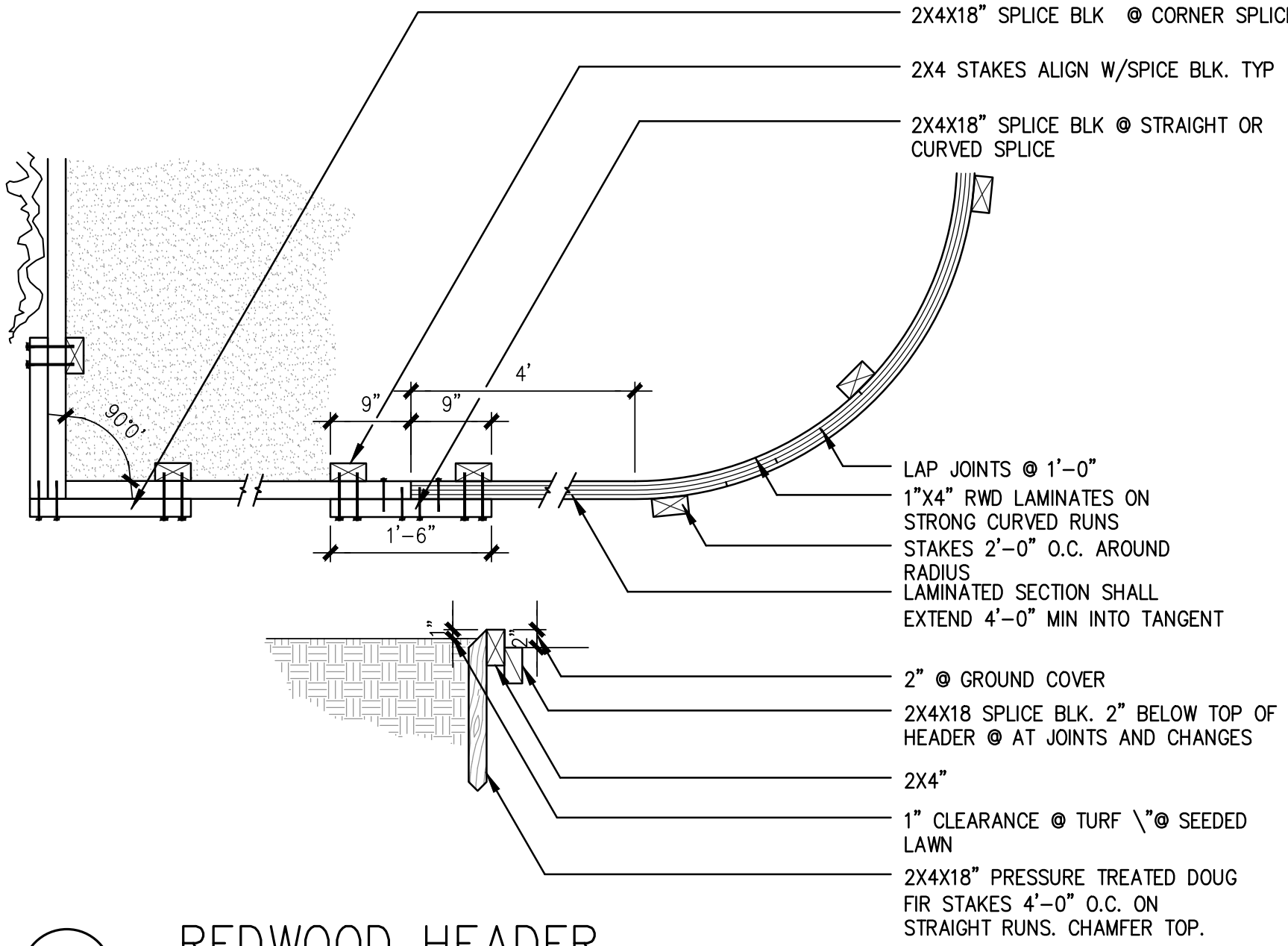
_____

Contractor Signature confirming City of Oakland Maintenance Bond requirement will not be met after award. Contractor bid is contingent upon being relieved of the City of Oakland Maintenance Bond requirement of $38,483.75.

Attachments:

Attachment 1 – Redwood Header Detail.

FAILURE TO SIGN AND SUBMIT THIS FORM WITH CONTRACTOR BID MAY BE CAUSE TO CONSIDER BID NON-RESPONSIVE



REDWOOD HEADER

SCALE: 3/4" = 1'-0"

SHUTTLE BUS YARD GRANT AGREEMENT

This Shuttle Bus Yard Grant Agreement ("**Agreement**") is entered into as of the Effective Date by and between the City of Emeryville, a municipal corporation ("**City**") and the Emeryville Transportation Management Association, a California non-profit public benefit corporation ("**ETMA**"), each a "**Party**" and collectively the "**Parties**".

RECITALS

A. In July 2015, City formed a Property Based Business Improvement District ("**PBID**"), pursuant to Streets and Highways Code Section 36600 *et seq.* to fund the Emery Go-Round ("**EGR**") a free shuttle service connecting commercial and residential sites in the City of Emeryville and the MacArthur BART Station in Oakland. The PBID creates a city-wide assessment on properties for the purpose of funding the EGR.

B. ETMA is the PBID Owners Representative pursuant to the Streets and Highways Code and operates the EGR.

C. ETMA is seeking to develop a new parking facility for EGR shuttles and has identified a site in West Oakland on Mandela Parkway under the I-580/80 flyover connectors. The project involves construction of a new 95,000 square foot shuttle bus parking facility, including drainage work, utility work, subgrade preparation, asphalt resurfacing, minor concrete, pavement parking, fencing, lighting and electrical work, landscaping/irrigation and a mobile office unit for the EGR operations team (collectively, the "**Project**").

D. In June 2019, pursuant to Resolution No. 19-065, the Emeryville City Council approved the 2019-2024 Capital Improvement Program, which includes an appropriation of $1 million ($1,000,000) of Traffic Improvement Fees for Project Number CF-09, which is intended to provide assistance to ETMA to establish a long-term bus yard for the EGR shuttle, and which includes tenant improvements to, as well as possible purchase of, a bus yard in or nearby Emeryville.

E. ETMA has solicited bids for the Project and on October 15, 2020, ETMA's Board of Directors will consider award of the construction contract to the lowest bidder. The award will be contingent on receipt of City's Capital Improvement Program funds.

F. On October 2, 2020, ETMA submitted a letter to City, requesting City release the Capital Improvement Program funds. On October, 20, 2020, the Emeryville City

Council considered the ETMA letter and authorized the City Manager to execute an agreement with ETMA to grant City's Capital Improvement Program funds to the Project.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing, and for other valuable consideration, the adequacy of which is acknowledged, the Parties agree as follows:

1. Recitals Incorporated. The above Recitals are an integral part of this Agreement and fully incorporated herein.

2. Term. The Term of this Agreement shall commence upon the Effective Date and shall expire on December 31, 2021.

3. City Grant. City grants $1,000,000 (One Million Dollars) identified in the City's 2019-2024 Capital Improvement Program, Project Number CF-09 (the **"Grant Funds**") to ETMA. City shall disburse the entirety of the Grant Funds to ETMA in one lump sum within 10 business days of execution of this Agreement.

4. Use of Grant Funds. Grant Funds shall only be used for the purposes of acquisition of the Project site, or for work done pursuant to the Project ("**Allowable Uses**"). Any other uses of the Grant Funds is disallowed, and such use shall constitute an event of Default.

5. Audit Requirement. ETMA shall provide to City by June 30, 2022 an audit of the proceeding calendar year's expenditures of Grant Funds.

6. Default; Remedies. Use of Grant Funds for any use except for Allowable Uses shall constitute a **Default**. In the event of a Default, ETMA shall, within 30 days after service of notice of Default take the following action:

   6.1. ETMA shall reimburse City the portion of Grant Funds spent on non-Allowable Uses.

   6.2. City may pursue any other remedies available in law or equity.

7. Indemnification. ETMA shall indemnify, keep and save harmless City, its councilmembers, members, officers, agents, employees (collectively, "**City Indemnitees**") against any and all suits, claims or action arising out of any injury to persons or property that may occur, or that may be alleged to have occurred, arising out of, pertaining to, or relating to, directly or indirectly, in whole or in part, the granting or use of Grant Funds. This obligation to indemnify City and City

Indemnitees shall survive termination of this Agreement. Except in the event of active negligence on the part of City Indemnities, ETMA further agrees to defend and all actions, suits or claims and pay all charges of attorneys and all other costs and expenses arising therefrom or incurred in connection therewith; and if any judgement be rendered against the indemnities in any such action, ETMA shall, at its expense, satisfy and discharge the same. This obligation to defend City and City Indemnities shall survive the termination of this Agreement.

8. Notices. Any notice, report, request, instruction or other document required by this Agreement will be in writing and delivered in person to a representative of the Parties at the address below, or by mailing the same by registered or certified mail, postage prepaid, addressed as follows:

If to City:	City of Emeryville 1333 Park Avenue Emeryville, CA 94608-3517 Attention: City Manager
Copy to:	City of Emeryville 1333 Park Avenue Emeryville, CA 94608-3517 Attention: City Attorney
If to the TMA:	Emeryville Transportation Management Association c/o Gray Bowen Scott 1211 Newell Avenue, Suite 200 Walnut Creek, CA 94596
Copy to:	Hanson Bridgett LLP Attn: Michael Conneran 425 Market Street, 26th Floor San Francisco, CA 94105

Any notice served personally shall be deemed received upon delivery; any noticed mailed via registered or certified mail as provided above shall be deemed received three (3) days after it is postmarked by the United States Postal Service. Either Party may change its address by sending notice of the change to the other Party as provided herein.

9. Entire Agreement. This Agreement constitutes the entire agreement of the Parties with respect to its subject matter and superseded any prior or contemporaneous oral or written understandings of the Parties on the same subject. This Agreement

may only be amended in writing by both of the Parties hereto. The Parties intend this Agreement to be an integrated agreement.

10. Attorneys' Fees. In the event legal proceedings are instituted by either of the Parties to enforce any term of this Agreement or to determine the rights of the Parties hereunder, the prevailing Party in said proceedings shall recover, in addition to all court costs, reasonable attorneys' fees.

11. Relationship. Pursuant to this Agreement, City is merely a funding agency for ETMA. Nothing in this Agreement is intended for City to direct, manage or control the operations of ETMA. Nothing herein shall be deemed to create a partnership, joint venture, or employment relationship between City and ETMA.

12. Severability. The caption or headnote on sections and subsections of this Agreement are intended for convenience and reference purposes only and in no way define, limit, or describe the scope or intent thereof, or of this Agreement. Should any section(s) of this Agreement, or any part thereof, is deemed unenforceable by a court of competent jurisdiction, the remainder of this Agreement shall remain in full force and effect to the extent possible.

13. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be one Agreement.

14. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California as applied to contracts made and performed entirely in California. The Parties agree the exclusive venue for any legal action arising out of or pertaining to this Agreement shall be the Superior Court of the State of California in and for the County of Alameda.

15. Successors. The obligations created under this Agreement shall be binding on, and the rights established herein shall inure to the benefit of, the successors and permitted assigns of the Parties hereto.

16. Assignment. The rights, obligations, and responsibilities of ETMA under this Agreement shall not be assigned by ETMA to any third party without the prior written consent of City, which consent may be withheld by City in its reasonable discretion.

17. Effective Date. The **Effective Date** of this Agreement is the date upon which the City Manager executes the Agreement on behalf of City.

IN WITNESS WHEREOF, the Parties have executed this Agreement with the intent to be legally bound as provided herein.

CITY OF EMERYVILLE, a Municipal Corporation

By: _____

Christine Daniel

City Manager

Date: _____

(**Effective Date**)

Approved As To Form:

_____

Michael Guina

City Attorney

EMERYVILLE TRANSPORTATION MANAGEMENT ASSOCIATION, a California Non-Profit Public Benefit Corporation

By: _____

Name: _____

Its: _____

Date: _____