PARTNER

SOIL MANAGEMENT PLAN

2532 Santa Rosa Avenue
Santa Rosa, California 95404

September 15, 2020
Partner Project Number: 18-217677.2

Prepared for:

In-N-Out Burgers
13502 Hamburger Lane
Baldwin Park, California 91706

Engineers who understand your business

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1.0 INTRODUCTION

Partner Engineering and Science, Inc. (Partner) was retained by In-N-Out Burgers to prepare the following Soil Management Plan (SMP) for the property located at 2532 Santa Rosa Avenue, Santa Rosa, Sonoma County, California. The subject property is a part of two larger parcels with separate addresses herein referred to as Parcel A (2532 Santa Rosa Avenue) and Parcel B (325 Yolanda Avenue).

Please note, this SMP only applies to construction activities on Parcel A. Activities on Parcel B are currently addressed by the Regional Water Quality Control Board (RWQCB)-approved Revised Soil & Groundwater Management Plan (SGMP) dated May 12, 2017. The SGMP requirements include stipulations for regulatory notifications and approval, and handling of potentially impacted soil and groundwater which may be encountered during site redevelopment activities on Parcel B.

1.1 Purpose

The purpose of the SMP is to outline protocol for ensuring the proper handling and/or disposal of impacted soil and/or subsurface features of concern that may be encountered during site redevelopment activities on Parcel A. The SMP was prepared to minimize potential exposure to impacted soil by construction, facility, and maintenance personnel; tenants; contractors and vendors; and the general public. This SMP only applies to the soil and/or subsurface features that may be encountered on Parcel A of the subject property.

1.1 Limitations

Conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally-accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

1.2 User Reliance

Partner was engaged by In-N-Out Burgers (the Addressee), or their authorized representative, to perform this management plan. The engagement agreement specifically states the scope and purpose of the investigation, as well as the contractual obligations and limitations of both parties. This report and the information therein, are for the exclusive use of the Addressee. This report has no other purpose and may not be relied upon, or used, by any other person or entity without the written consent of Partner. Third parties that obtain this report, or the information therein, shall have no rights of recourse or recovery against Partner, its officers, employees, vendors, successors or assigns. Any such unauthorized user shall be responsible to protect, indemnify and hold Partner, the Addressee and their respective officers, employees, vendors, successors and assigns harmless from any and all claims, damages, losses, liabilities, expenses (including reasonable attorneys' fees) and costs attributable to such use. Unauthorized use of this report shall constitute acceptance of, and commitment to, these responsibilities, which shall be irrevocable and shall apply regardless of the cause of action or legal theory pled or asserted.

This report has been completed under specific Terms and Conditions relating to scope, relying parties, limitations of liability, indemnification, dispute resolution, and other factors relevant to any reliance on this report. Any parties relying on this report do so having accepted Partner's standard Terms and Conditions, a copy of which can be found at http://www.partneresi.com/terms-and-conditions.php.

2.0 SITE BACKGROUND

2.1 Site Description

The subject property consists of a portion of two parcels of land comprising approximately 1.9 acres located on the east side of Santa Rosa Avenue and the north side of Yolanda Avenue within a mixed commercial and residential area of Santa Rosa, Sonoma County, California. The subject property is a part of two larger parcels (Parcels A and B). At the time of the Phase I, Parcel A of the subject property was an unimproved dirt lot with no improvements, while Parcel B of the subject property was occupied by Pinnacle for commercial use. Pinnacle is a PG&E contractor, which installs telephone and other electrical equipment.

The subject property is bound by single family residences and a commercial property to the north; commercial properties to the south; a vacant lot to the east, and commercial properties to the west across Santa Rosa Avenue. Refer to Figure 1 for a site plan showing site features and surrounding properties.

2.2 Site History

Partner completed a Draft Phase I Environmental Site Assessment Report (Phase I), dated August 3, 2018, prepared on behalf of In-N-Out Burgers. Based on the information reviewed and historical sources, the subject property was formerly developed with a residential building and agricultural row crops as early as 1942, developed with the structure on Parcel B circa 1952; developed with a mobile home and trailer sales lot on Parcel A between 1952 and circa 1958; and redeveloped with the current unimproved lot on Parcel A in 2000.

The following recognized environmental condition (REC) was identified in the Phase I:

- A Limited Phase II Subsurface Investigation was conducted by AEI Consultants (AEI) dated June 18, 2018, and included 20 soil borings (SB-1A-D through SB-5A-D) and four soil vapor probes at 2532 Santa Rosa Avenue (Parcel A) and 325 Yolanda Avenue (Parcel B). The investigation was conducted to evaluate potential impacts to shallow soil from historical agricultural use and to further evaluate soil vapor in the area of previous petroleum release(s) on Parcel B.

  It appears that SB-1A-D through SB-5A-D were advanced on the subject property to evaluate historical agricultural impacts. Soil samples were collected at 0.5 feet below ground surface (bgs) and were composited into five four-point composite samples by the laboratory for organochlorine pesticide (OCP) analysis. Five discrete samples were analyzed for arsenic and lead. The pesticide, chlordane was detected in composite sample SB-5A-D (COMP-5) (on Parcel A) at a concentration of 1.79 milligram per kilogram (mg/kg), which is exceeds the San Francisco Bay RWQCB Tier 1 Environmental Screening Level (ESL) of 0.48 mg/kg. As a result, the discrete samples at SB5A-D collected at 0.5 and two feet bgs were analyzed. Chlordane was detected in SB-5A at 0.5 feet bgs at a concentration of 8.70 mg/kg, which also exceeds the Tier 1 ESL. Chlordane was not detected in SB-5A at two feet bgs. Levels of chlordane detected in SB-5B and SB-5C did not exceed the Tier 1 ESL. No other OCPs or metals were detected above applicable Tier 1 ESLs in the composite and discrete samples analyzed. AEI recommended a "Site Management Plan" [sic] to manage exposure to soils on the northwestern portion of the subject property. Although the extent of the impacted area appears to be limited, the presence of chlordane in soils on the subject property in exceedance of regulatory thresholds is considered a REC.

Based on the presence of chlordane, the soil on Parcel A of the subject property may require special handling and/or disposal during the proposed redevelopment activities. Partner recommended development and implementation of a Soil Management Plan to correctly handle impacted soils which may be encountered during future redevelopment activities on Parcel A of the subject property.

3.0 GEOLOGY AND HYDROGEOLOGY

Review of the United States Geological Survey (USGS) Santa Rosa, California Quadrangle topographic map, indicates the subject property is situated approximately 140 feet above mean sea level, and the local topography is sloping gently to the southwest.

The subject property is situated within the Coast Range physiographic province of the State of California. The Coast Ranges, extend approximately 600 miles from the Oregon Border to the Santa Ynez River near Santa Barbara, are characterized by elongated ranges and narrow valleys that are approximately parallel to the coast. Structural features, including faults and synclinal folds, largely control topography in the province and reflect both previous and existing regional tectonic regimes.

According to previous investigations conducted on site, groundwater is expected to be encountered at approximately 10 feet bgs with inferred flow direction to the southwest.

4.0 CHEMICALS OF CONCERN

Based on the known (and potentially unknown) on-site impacts, soil chemicals of concern (COCs) at the subject property may include:

- Petroleum Hydrocarbons
- Fuel-related volatile organic compounds (VOCs)
- OCPs

5.0 SOIL MANAGEMENT

This section outlines the protocols for identifying, handling, and/or disposing of COC-impacted soil that may be encountered during ground cover demolition, site grading, and/or other earthmoving activities that may be performed on the subject property. Partner understands that the Client intends to redevelop the subject property as commercial.

5.1 Applicability

The SMP applies to ground cover removal and/or demolition and/or soil-disturbing activities associated with the site redevelopment, including excavation, grading, trenching, utility installation, and/or other activities that could potentially generate COC-impacted soil. Field personnel directly involved with earthmoving activities should be familiar with the contents of the SMP.

5.2 Duration

Implementation of the SMP is intended to coincide with the start of ground cover removal and/or demolition and site grading activities and shall remain in effect for the duration of the site redevelopment involving soil-disturbing activities.

5.3 Key Roles and Responsibilities

The following is a list of key roles involved with the SMP and the respective general responsibilities:

- Client (In-N-Out Burgers) – Responsible for selecting and engaging the main contractor(s) and environmental consultants(s) involved with the subject property redevelopment and/or implementation of the SMP;
- General Contractor (GC) – Responsible for overseeing the subject property grading/redevelopment/construction activities, managing the associated subcontractors (including the dewatering subcontractor, if necessary), and the initial soil screening (refer to Section 5.9 for additional details); and,
- Environmental Consultant (EC) – Responsible for implementing the SMP.

5.4 Work Area Control

Control of the work area (e.g., perimeter fencing) will be the responsibility of the GC. In general, the work area should be secured as to limit access only to the personnel qualified and authorized to be on-site.

5.5 Health and Safety

A site-specific health and safety plan (HASP) was prepared by Partner and is included as Appendix B to the SMP. The HASP will be implemented in conjunction with the SMP when handling soil with suspected or confirmed COC impacts. The HASP identifies the potential COCs and/or other hazards of concern and establishes guidelines and/or procedures for controlling/minimizing exposures to potential COCs/hazards, including the appropriate level(s) of personal protective equipment (PPE). The GC will be responsible for non-COC-related health and safety concerns associated with the excavation (e.g., excavation stability, stockpile placement, heavy equipment operation, etc.).

5.6 Permitting

If permits are required for specific tasks (e.g. stockpiling, disposal, onsite re-use), the GC will facilitate permits in accordance with applicable State and/or Federal regulations.

5.7 Pre-Construction Meeting

Prior to grading/redevelopment/construction activities, representatives of the Client, the GC, and EC should meet to review and discuss the contents of the SMP, roles and responsibilities, and the grading/redevelopment schedule.

5.8 Undocumented Subsurface Features

The GC should cordon off and halt construction activities in the immediate area(s) of undocumented subsurface features of potential environmental concern (e.g., USTs, clarifiers, buried drums, residual impacted soil) if encountered during the course of ground cover removal and/or demolition, site grading, and/or other earthmoving activities. The GC must promptly notify the Client and EC. The following general approach will be applied by the EC to address such subsurface features:

1) Notify the relevant regulatory oversight agency or agencies involved with the subsurface feature decommissioning / residual impacted soil and file the necessary permit(s), when applicable;
2) Decontamination and decommission the subsurface feature(s) via removal (if practical) in accordance with generally accepted industry practices and the requirements of the filed permit(s) (where applicable);
3) Collect and analyze soil samples to evaluate potential chemical impacts to the subsurface due to a historical release or releases from subsurface feature(s), and assess the lateral and vertical extent of residual impacted soil; and
4) Document the decommissioning activities and soil handling / removal activities and findings in a summary report.

EC will provide specific protocols to address encountered subsurface features on a case-by-case basis based on the site conditions and the nature of the subsurface features.

5.9 General Decision Process for Handling Disturbed Soil

Evaluating whether excavated soil is suitable for reuse on the site and selecting which off-site facility or facilities are suitable for receiving exported soil will be based on up to four criteria: (1) field observations (e.g., evidence of staining, odor); (2) soil monitoring readings with an organic vapor analyzer (OVA); and/or (3) laboratory analysis results, as applicable. Refer to Appendix A for the general decision process for handling disturbed soil. The process steps are discussed in detail in the proceeding Sections.

5.10 Initial Soil Monitoring and Segregation

At this time, handling of VOC-impacted soil is not anticipated during the soil disturbing activities on Parcel A considering the results of the previous subsurface investigation results. Therefore, the primary initial criterion for segregating soil generated during soil-disturbing activities will be the field observations of the GC excavation personnel. Soil devoid of evident impacts (e.g., staining, odor) will be deemed suitable for unrestricted use and may be reused on-site as backfill material or exported off-site. Handling, exporting,

and management of unrestricted soil will defer to the GC. In the event that soil exhibiting discoloration and/or odor is encountered during soil-disturbing activities, it will be segregated in separate stockpiles for EC assessment and off-site disposal. Additionally, the limited area in the north portion of Parcel A where chlordane was detected above regulatory screening criteria will be segregated in a separate stockpile and/or placed into drums for EC assessment and off-site disposal.

5.10.1 Handling of OCP-Impacted Soil

During the course of the project, the GC will notify the EC when general grading activities are planned in the area containing previously identified OCP-impacted soils, specifically the chlordane detection at soil sample SB-5A. Moreover, the EC will be present on-site for soil-disturbing activities in the immediate area(s) identified as OCP-impacted soil. Management of OCP-impacted soil should be handled by stockpiling on polyethylene sheeting, covered, and sampled in accordance with the procedures detailed in Section 5.15 for off-site disposal or may be loaded directly into trucks and/or drums for disposal.

5.11 Handling of VOC-Impacted Soil

Despite the fact that VOC-impacted soil is not anticipated during soil disturbing activities, if such are encountered, then such a contingency during excavation and grading at the site will be managed in accordance with Bay Area Air Quality Management District (BAAQMD) guidelines.

To monitor for unanticipated VOC-impacted soil, the EC will provide an OVA that has been calibrated by the manufacturer within three months of the date of fieldwork. The OVA will be calibrated prior to the start of fieldwork using hexane calibration gas (or the OVA readings will be correlated and expressed as hexane using equivalency factors provided by the manufacturer if a calibration gas other than hexane is used). During the course of the project, the GC will perform periodic soil screening and will notify the EC in the event that suspect VOC-impacted soils are encountered during general grading activities. Moreover, the EC will be present on-site for soil-disturbing activities in the immediate area(s) identified as possible VOC-impacted soil. Disturbed soil will be monitored with the OVA at a minimum frequency of one reading for every two cubic yards of soil excavated, not to exceed 15 minutes between readings. Readings will be collected no later than three minutes after excavation and at a distance of no more than three inches between the OVA intake and the soil surface.

If possible, VOC-impacted soils are encountered based on the OVA monitoring results, excavated soil will be segregated into soil registering OVA readings less than 1,000 parts per million (ppm) and soil registering OVA readings equal to or greater than 1,000 ppm. Refer to Section 5.12 for stockpile management protocol for the two respective categories of soil. As referenced in the grading plan, stockpiled excavated soil classified as non-VOC-impacted will be exported off-site (see Section 5.16 for details).

5.12 Soil Stockpile Management

Each category of VOC-impacted soil and non-VOC-impacted soil must be segregated and stored separately. Stockpile management procedures for the three categories are discussed in the following Sections.

5.12.1 VOC-Impacted Soil (<1,000 ppm)

Potential VOC-impacted soil registering OVA readings less than 1,000 ppm can be immediately loaded onto trucks and transported to an BAAQMD-approved off-site treatment/disposal facility (refer to Section 5.15.1

for details regarding disposal of VOC-impacted soil) or can be temporarily stockpiled on-site prior to exporting.

Each individual stockpile must not contain more than 400 cubic yards of soil. With the exception of the stockpile work face (i.e. portion of the stockpile where excavated soil is added), stockpiles must be placed on and covered while on-site with 6-millimeter polyethylene sheeting so that no portion of the VOC-impacted soil is exposed to the atmosphere. The polyethylene sheeting seams must overlap a minimum of 24 inches and be secured with duct tape. The stockpile work face(s) should be similarly covered/secured during periods of inactivity longer than one hour and stockpiles, including the work face(s), must be completely covered and securely anchored at the end of each workday.

Once covered and secured, the stockpiles should remain undisturbed and should not be reshaped or relocated as much as feasible until the soil is exported from the subject property. The soil must be transported to an BAAQMD-approved off-site treatment/disposal facility within 30 calendar days of excavation.

5.12.2 VOC-Impacted Soil (≥1,000 ppm)

VOC-impacted soil registering OVA readings equal to or greater than 1,000 ppm cannot be stockpiled on-site. If encountered, the BAAQMD must be notified within one hour of detection; the work area must be immediately sprayed with water; and the VOC-impacted soil must be directly loaded onto trucks, sprayed with additional water, covered, and transported to an AQMD-approved off-site treatment/disposal facility (refer to Section 5.15.1 for details regarding disposal of VOC-impacted soil). If VOC-impacted soil registering OVA readings equal to or greater than 1,000 ppm is encountered, but trucks for immediate exporting are not available, soil disturbance in the immediate area must cease and may only resume once the excavation can proceed with direct loading of soil onto trucks.

5.12.3 Non-VOC-Impacted Soil

In general, the management of non-VOC-impacted soil, (e.g., stockpile sizes, cover requirements) will defer to the GC. However, management of non-VOC-impacted soil that is visually or olfactory impacted (e.g. staining or odors) and the known chlordane-impacted soil, should be handled by stockpiling on polyethylene sheeting, covered, and sampled in accordance with the procedures detailed in Section 5.15 for off-site disposal or may be loaded directly into trucks and/or drums for disposal.

5.13 Vapor Suppression and Dust Control

To suppress vapor emissions during soil disturbances of potential VOC-impacted soil, excavations should be kept moist by periodically spraying the work area with water. In addition, exposed soil surfaces of stockpiles of potential VOC-impacted soil should be kept moist with water.

Dust control during the site redevelopment will defer to the protocol established by the GC.

5.14 Surface Water Protection

Responsibility for surface water protection (e.g., prevention of sediment runoff into storm drains) and implementation of best management practices (BMPs), if required for the site redevelopment, will defer to the GC.

5.15 Soil Stockpile Sampling

Stockpiled soil classified as VOC-impacted through OVA screening or visually or olfactory impacted (staining, odors) that is designated for off-site disposal must be characterized through the collection and analysis of samples to evaluate whether the material meets the acceptance requirements of the receiving facility or facilities. A set of laboratory analysis data for waste profiling must be generated for each exported soil designation category (excluding unrestricted soil).

5.15.1 Sampling Frequency

For exported soil, the sampling frequency will default to the sampling frequency specified by each selected receiving facility to meet the respective acceptance requirements. For visually- or olfactory-impacted soil and for exported soil for which the receiving facility has not specified a sampling frequency, the sampling frequency will default to the procedures set forth in the most recently promulgated edition of the United States Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA SW-846). In general, EPA SW-846 provides a method for assessing the mean concentration of a given chemical within a soil mass and the number of samples necessary to calculate this mean to within an acceptable confidence level.

The following sampling schedule may be used to estimate the minimum number of samples necessary to meet the statistical requirements set forth in EPA SW-846:

- Stockpiles less than 500 cubic yards: One sample for every 25 cubic yards;
- Stockpiles from 500 to 1,000 cubic yards: Twenty samples plus one sample for every 100 cubic yards in excess of the initial 500 cubic yards;
- Stockpiles from 1,000 to 10,000 cubic yards: Twenty-five samples plus one sample for every 500 cubic yards in excess of the initial 1,000 cubic yards; and
- Stockpiles greater than 10,000 cubic yards: Forty-three samples plus one sample for every 5,000 cubic yards in excess of the initial 10,000 cubic yards.

Note that the above schedule is only a guide and that more or less samples than specified may be required to meet the statistical requirements set forth in EPA SW-846. In addition, it is not necessary to consider each individual stockpile separately. Soils in separate stockpiles that are expected to exhibit similar conditions of COC impacts can be considered part of the same soil mass for the purposes of EPA SW-846 sampling.

5.15.2 Sampling Protocol

The method for selecting the soil stockpile sample locations (e.g., simple random sampling, systematic random sampling) will be based on the professional judgment of the EC and/or field-screening results.

In general, discrete soil samples should be analyzed. However, composite sampling may be acceptable depending on the receiving facility requirements, the professional judgment of the EC, and/or the target analytes. Compositing should be performed by the laboratory and no more than four discrete samples should comprise a composite sample. Composite samples should not be analyzed for target analytes that are volatile or semi-volatile.

Samples should be collected in pre-cleaned, analysis-appropriate containers; preserved (e.g., sodium bisulfate, ice) as required for the specified analysis method; labeled with unique sample identifications; and transported to the laboratory under proper chain-of-custody protocol.

Sampling equipment should be decontaminated between sampling points to reduce the potential for cross-contamination.

5.15.3 Laboratory Analyses

The laboratory analysis suite for soil that will be exported will default to the laboratory analysis suite specified by each selected receiving facility to meet the respective acceptance requirements. However, at a minimum, samples should be analyzed for TPH, VOCs, OCPs, and lead (as appropriate).

The laboratory or laboratories conducting the sample analyses should be state-certified and run surrogate samples and method blanks as part of the Quality Assurance/Quality Control (QA/QC) program. Analyses should be performed within the accepted method hold times.

5.16 Exporting Soil Off-Site

Three exported soil designation categories are anticipated: VOC-impacted, unrestricted, non-hazardous, and hazardous. Procedures for exporting each soil designation category are discussed in the following sections.

5.16.1 Exporting of VOC-Impacted Soil

Excavated soil classified as VOC-impacted through OVA monitoring that has been further sampled and determined to be not permitted to be reused on the site as backfill must be exported off-site. Soil classified as VOC-impacted should be profiled based on the laboratory analysis results and transported under waste manifest documentation to an AQMD-approved facility or facilities permitted to receive the waste for treatment and/or disposal. The EC will be responsible for selecting the appropriate receiving facility for VOC-impacted soil. Note that although the soil will be designated as VOC-impacted, the soil is anticipated to be classified as non-hazardous [as opposed to Resource Conservation & Recovery Act (RCRA) or non-RCRA hazardous] for waste disposal purposes given the historical usage of the subject property and the results of the previous subsurface investigation.

5.16.2 Exporting of Unrestricted Soil

The GC will be responsible for selecting and complying with the requirements of the facility or facilities that will receive the exported unrestricted soil. Note that other factors beyond the scope of the SMP (e.g., soil parameters such as pH) may affect whether a receiving facility is able to accept the unrestricted soil.

5.16.3 Exporting of Non-Hazardous Soil

Exported soil will be classified as non-hazardous if soil monitoring results designate the soil as non-VOC-impacted, but the soil exhibits an odor and/or discoloration and/or laboratory analysis results indicate the presence of target analytes above the soil screening criteria or arsenic above background levels (i.e., not meeting the acceptance requirements of the unrestricted soil receiving facility).

Soil classified as non-hazardous should be profiled based on the laboratory analysis results and transported under proper bill of lading or waste manifest documentation to an appropriate off-site facility that is permitted to receive the waste for treatment and/or disposal (typically a soil recycler and/or landfill). The EC or the EC in conjunction with the GC will be responsible for selecting the appropriate receiving facility for non-hazardous soil.

5.16.4 Soil Classified as Hazardous Waste

Given the findings of the previous subsurface investigations, the generation of soil classified as RCRA or non-RCRA hazardous (i.e., meeting Federal or State hazardous waste criteria, respectively) is not anticipated during soil disturbance/grading/redevelopment/construction activities. However, if identified through the laboratory analysis results, soil classified as RCRA or non-RCRA hazardous should be profiled based on the laboratory analysis results and transported under waste manifest documentation to an off-site facility permitted to receive the waste for treatment and/or disposal (typically a landfill or incinerator). Hazardous waste must be transported by a hauler licensed to transport hazardous waste. The EC will be responsible for selecting the appropriate receiving facility for RCRA and/or non-RCRA hazardous soil.

6.0 GROUNDWATER MANAGEMENT

The Groundwater Management section of this SMP has been developed to provide protocol for managing potentially impacted groundwater beneath the subject property.

6.1 Presence of Groundwater

Groundwater is anticipated to be encountered at approximately 10 feet bgs beneath the subject property, which may be encountered during development activities at the site.

6.2 Protocol for Managing Potentially Impacted Groundwater

Potentially impacted groundwater will require special handling if dewatering, removal, or extraction of groundwater is necessary during development activities. Special handling procedures for groundwater are presented below.

6.2.1 Assessing Potential Groundwater Impacts

If groundwater is removed / extracted during development activities, grab groundwater samples shall be collected to assess the presence of COC impacts. Groundwater samples will be collected and analyzed for COCs as deemed necessary and will be submitted to a state-certified laboratory for 24-hour turn around analysis.

Groundwater analytical results shall be submitted to an appropriate waste disposal facility for waste characterization.

6.2.1.1 Storage of COC-Impacted Groundwater

If COC impacts to groundwater that is being removed/extracted from beneath the subject property are identified, results shall be submitted to an appropriate disposal facility for verification of waste characterization and disposal procedures. COC-impacted groundwater shall be temporarily stored on-site in sealed containers (i.e., department of transportation approved drums, or if needed, larger storage totes). Impacted groundwater storage containers shall be sealed, labeled with appropriate waste characterization results and date of storage, pending disposal from the site.

6.2.2 *Disposal of COC-Impacted Groundwater*

COC-impacted groundwater that is removed/extracted from beneath the subject property as part of development activities shall be disposed of at an appropriate certified disposal facility under proper waste characterization protocol and including waste manifest documentation.

7.0 SUMMARY AND CONCLUSIONS

The EC will prepare a summary report for submittal to the Client. At a minimum, the report will include a summary of field activities, laboratory analysis reports, and off-site disposal documentation (if soil was exported, excluding unrestricted soil). The EC will also be responsible for complying with regulatory agency reporting requirements if VOC-impacted soil was encountered.

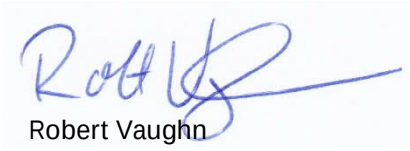
SIGNATURES OF PARTICIPATING PROFESSIONAL

Thank you for the opportunity to be of service. If you have questions regarding this SMP, please contact Rob Vaughn at (949) 481-9818.

Sincerely,

Hunter White
Project manager

Joe Mangine, PG
Project Manager



Robert Vaughn
National Client Manager

FIGURE

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GROUNDWATER FLOW

KEY:
Subject Property

FIGURE 1: SITE PLAN
Project No. 18-217677.2

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APPENDIX A: GENERAL DECISION PROCESS FOR HANDLING DISTURBED SOIL

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Legend:
-OVA = organic vapor analyzer
-ppm = parts per million
-VOC = volatile organic compound
-AQMD = Air Quality Management District
-GC = general contractor

Start

Monitor the soil for impacts. **(Section 5.9)**

Does the disturbed soil exhibit impacts? **(Section 5.9)**

No

Suitable for unrestricted use. GC responsible for soil handling, reuse, export, management. **(Sections 5.9)**

Yes

Monitor the soil with the OVA. **(Section 5.10)**

What is the OVA reading?

>50 ppm

Is the OVA reading ≥1,000 ppm?

Yes

Soil cannot be stockpiled on-site. **(Section 5.11.2)**

<50 ppm

No

Will the soil remain on-site?

Stockpile on-site and collect/analyze samples. **(Sections 5.11.3/5.14)**

Stockpile on-site and collect/analyze samples for waste characterization. **(Sections 5.11.1/5.14)**

Have samples been collected/ analyzed for waste characterization? **(Section 5.14)**

No

Cease excavation and collect/analyze samples for waste characterization. **(Section 5.14)**

No

Yes

What is the soil designation? **(Section 5.15)**

Are trucks available for immediate loading and exporting? **(Section 5.11.2)**

No

Cease excavation in the area until direct loading of soil onto trucks is possible.

Yes

Non-Hazardous

What is the soil designation? **(Section 5.15)**

Rule 1166 VOC-Contaminated

Hazardous

Transport to non-hazardous soil receiving facility. **(Section 5.15.3)**

Transport to hazardous waste receiving facility. **(Section 5.15.4)**

Transport to AQMD-approved receiving facility. **(Section 5.15.1)**

End

General Decision Process for Handling Disturbed Soil

APPENDIX B: HEALTH AND SAFETY PLAN

PARTNER

Partner Site-Specific Health and Safety Plan

Introduction

Partner Engineering and Science, Inc. (Partner) has been retained by In-N-Out Burgers to prepare a Soil Management Plan (SMP) for the subject property. This Health and Safety Plan (HASP) document identifies the Health and Safety procedures that are intended to guide the field activities at the site. The details of this plan apply to employees of Partner and its subcontractors. Regulatory agencies are expected to observe the safety rules and regulations established by their respective organizations in addition to the requirements of this document.

This plan must be reviewed and acknowledged by all personnel prior to entering the work area. In general, a "Tailgate Safety Meeting" is conducted at the initiation of on-site activities and at the beginning of each day thereafter until the completion of the project. However, the actual briefing may be conducted off-site (e.g., in the office) if conditions preclude or render impractical its completion on-site.

This HASP will be a living document in that it will be continually updated and/or revised as the site conditions and knowledge of the operations develop further. The development and preparation of the HASP has been based on past experiences and site specific information at the time of preparation. If actual site conditions or operations vary from the data used to prepare this HASP, amendments shall be made to reflect those changes.

This HASP has been developed with consideration to current safety standards, health effects, and standards for known contaminants and procedures designed to account for potential hazards from known and/or suspected substances. In preparing this document, Partner has specifically reviewed Occupational Safety & Health Administration (OSHA) Title 29 Code of Federal Regulations (CFR) 1910 & 1926, California Occupational Safety & Health Administration (Cal/OSHA) Title 8 California Code of Regulations (CCR) 5192, the National Institute of Occupational Safety & Health (NIOSH)/OSHA/United States Coast Guard (USCG)/Environmental Protection Agency (EPA) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH Pocket Guide to Chemical Hazards, and the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH) Threshold Limit Values for Chemical Substances and Chemical Agents.

Project Information

Project Type:	Soil Management Plan
Site Name:	2532 Santa Rosa Avenue
Address:	2532 Santa Rosa Avenue Santa Rosa, California 95404
Partner Project Number:	18-217677.2

Project Scope of Work

Soil Management Plan associated with site development.

Utility Clearance

Have necessary underground utility notifications for subsurface work been made? ☐ Yes ☐ Not Applicable

Site Safety Officers

The Site Safety Officer (SSO) is the individual who is capable of identifying existing and predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The SSO is designated on a site-by-site basis based on the site conditions, scope-of-work, and the individual's ability to recognize site-specific hazards and take appropriate corrective actions. It is the responsibility of all employees to work in a manner that will prevent injury and exposure to themselves and to other employees. Every employee is responsible for obeying safety rules and regulations, and reporting unsafe conditions or acts to their supervisors.

<table>
<tr><td>Partner Contact Information:</td><td>Project Contact Information:</td></tr>
<tr><td>SSO: Joe Mangine, PG
Project Manager
Telephone: (831) 359-5041</td><td>Responsible Party: In-N-Out Burgers
13502 Hamburger Lane
Baldwin Park, California 91706
Contact Person: Lori Brazzill
Telephone: (626) 813-7363</td></tr>
<tr><td>Alt. SSO: Samantha J. Fujita, PG
Regional Manager
Telephone: (424) 247-4031</td><td rowspan="2">Oversight Agency: N/A</td></tr>
<tr><td>Responsible Personnel: Joe Derhake
Principal Engineer
Telephone: (310) 880-3299</td></tr>
</table>

List of Potential Hazardous Materials and Physical Hazards

According to preliminary site information including evaluation of the hazards at the site and Partner's experience, the following potential hazardous materials may be present at the subject property:

- Petroleum hydrocarbons
- Volatile organic compounds (VOCs)
- Organochlorine pesticides (OCPs)

Refer to the Physical and Chemical Hazards Section for more information related to the above listed materials, including chemical information, potential health effects, and exposure limits.

EMERGENCY CONTINGENCY INFORMATION

Evacuation Routes and Procedures

In case of evacuation, all vehicles/equipment should be turned off and personnel should immediately leave the work area. Personnel should relocate to the specified meeting area located upwind of the affected area, such as the site field office, property boundary, or other pre-designated location, where all personnel will be accounted for.

IF AN EMERGENCY ARISES, THE DESIGNATED ASSEMBLY LOCATION FOR THIS PROJECT IS THE SOUTHWEST CORNER OF THE SUBJECT PROPERTY, AT THE PARTNER FIELD OFFICE (VEHICLE).

This location is located up-wind of the subject property, but is subject to change if prevailing weather conditions alter typical wind direction. Personnel should not reenter the work area following evacuation until 1.) the condition causing the emergency has been corrected, 2.) all hazards have been assessed, 3.) the HASP has been reviewed, and

4.) personnel have been oriented on any changes in the HASP. All emergencies should be promptly reported to the SSO.

Emergency Response Facilities

Fire Station:	Santa Rosa Fire Station 1 955 Sonoma Avenue Santa Rosa, California 95404 Telephone: 911 or (707) 543-3500	Hospital:	Santa Rosa Memorial Hospital 1165 Montgomery Drive Santa Rosa, California 95405 Telephone: 911 or (707) 525-5300
Police:	Santa Rosa Police Department 965 Sonoma Avenue Santa Rosa, California 95404 Telephone: 911 or (707) 543-3600	Poison Control:	Santa Rosa Memorial Hospital 1165 Montgomery Drive Santa Rosa, California 95405 Telephone: 911 or (707) 525-5300
Ambulance:	Santa Rosa Memorial Hospital 1165 Montgomery Drive Santa Rosa, California 95405 Telephone: 911 or (707) 525-5300		

DIRECTIONS TO HOSPITAL EMERGENCY ROOM ATTACHED IN APPENDIX A

Air Monitoring

Air quality in the breathing zone will be monitored continuously with a photoionization detector (PID) calibrated to isobutylene. Work will proceed in Level D while PID readings are between 0 and 10 parts per million (ppm). In the event that breathing zone readings exceed 100 ppm, all personnel will discontinue work at the location and withdraw from the work area. The appropriate vapor control measures will be implemented (e.g., application of vapor suppression), the necessary emergency response authorities will be notified, and/or the work area will be re-sampled until vapor levels are within acceptable levels prior to reentering the work zone.

Refer to the table below for the Operational Action Levels.

Contaminants	Action Level	Action to Take
VOCs (PID)	1 to 10 PPM Above background at the breathing zone and sustained for 5 minutes	Level D, continuous air monitoring
	10 to 100 PPM Above background at the breathing zone and sustained for 5 minutes	Upgrade to Level C, continuous air monitoring and ventilate space
	100 to 300 PPM Above background at the breathing zone and sustained for 1 minute	Upgrade to Level B, continuous air monitoring and ventilate space, or stop work and ventilate
	>300 PPM Above background at the breathing zone and sustained for 1 minute	Stop work, Evacuate work zones
Combustible Gas in Air (LEL meter)	Less than 10% lower explosive limit (LEL)	Continue with caution and air monitoring (combustible gas monitoring)
	Greater than 10% LEL	Stop work, immediately withdrawal personnel, and ventilate space with manhole blower
Oxygen in Air (O2 Meter)	Less than 19.5%	Stop work and ventilate or upgrade to Level B
	19.5 to 21.5%	Level D, continue work with air monitoring
	Greater than 21.5%	Stop work, immediately withdrawal personnel, and evaluate

The PID will be calibrated daily by Partner personnel prior to use. Calibration will be performed in accordance with the manufacturer specifications and recorded in a log book kept with the instrument. Ambient breathing space measurements should be collected every 15 minutes.

Personal Protection Equipment

Based on the preliminary site information including evaluation of the hazards at the site and Partner's experience, personal protective equipment (PPE) will be required for all personnel and visitors entering the controlled portion of the site. PPE for each potential level of protection is described below. Both Level C and D PPE should be available on-site during all phases of the project, as conditions may change and require additional PPE. Work should be conducted in Level D and no breathing protection will be required as long as monitored breathing zone vapor concentrations remain in the nominal operation action level.

If on-site personnel find that breathing zone concentrations remain above nominal operation action level for more than 5 minutes, then the SSO or PM will make a determination if breathing protection is needed. At this time, all work in the affected area should be suspended until a decision is made. Implementation of Level C PPE will be required if work continues during elevated breathing zone concentrations. Donning and use of respirators shall be performed in accordance with manufacturer specifications. Replacement of respirator cartridges shall be performed in accordance with manufacturer specifications. All respirators and cartridges shall be stored in air tight bags while not in use.

Refer to the PPE Levels of Protection for a detailed description of the equipment associated for each level of PPE.

PPE Levels of Protection

Level D (to be used at all times) is as follows:

- Full-length pants and shirt;
- Sturdy safety-toe work boots;
- Hard hat;
- Safety glasses.

Modified Level D (used as appropriate) is as follows:

- Regular Tyvek coveralls;
- Outer gloves: leather, cotton, or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy safety-toe work boots;
- Hard hat;
- Safety glasses.

Level C (used as appropriate) is as follows:

- Half-face air purifying, canister equipped respirator (NIOSH-approved) equipped with Organic Vapor/HEPA cartridges/filters;
- Regular Tyvek coveralls;
- Outer gloves: leather, cotton, or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy safety-toe work boots;
- Hard hat;
- Safety glasses.

Level B (used as appropriate) is as follows:

- Positive-pressure, full-face piece, self-contained breathing apparatus (SCBA) or positive-pressure supplied air respirator with escape SCBA (NIOSH-approved);
- Disposable chemical-resistant coveralls (Polycoated Tyvek);
- Outer gloves: neoprene or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy safety-toe work boots;
- Petroleum-resistant covers over work boots;
- Hard hat.

Decontamination Procedures

Drilling and sampling equipment will arrive decontaminated and clean. All downhole soil and groundwater sampling equipment (e.g., sampling tubes, split spoons, hand augers, Hydropunch, etc.), tools, purge pumps, water level indicators, etc. will be decontaminated before, between, and after use with Alconox or an equivalent phosphate-free detergent solution to reduce the risk of cross-contamination. Decontamination of all sampling equipment will consist of submerging the equipment in a detergent solution bath and scrubbing it with dedicated brushes. The equipment will then be placed in a rinse bath and agitated. A second rinse bath should occur if needed. All drilling equipment such as augers and drilling rods should be thoroughly steam cleaned and rinsed.

Nitrile outer gloves will be worn whenever handling samples, equipment, or any other potentially contaminated items. Skin exposed to direct contact with contaminants of concern will be immediately flushed with water.

Work Zone Delineation

A 15-foot exclusion zone will be delineated with caution cones as necessary to denote the work zone and area restricted to authorized project personnel.

Traffic Control

Traffic control is not anticipated to be required for this project.

Adverse Weather

The work area will be secured and all personnel will discontinue work at the location and withdraw from the work area in the event that adverse weather is encountered (e.g., heavy rain, lightning).

Emergency Equipment

A first aid kit and fire extinguisher will be located in the work vehicle in a location that is easily accessible and highly visible. The SSO will be responsible for knowing the location of and accessing the emergency equipment as needed.

Hazard Assessment

(☒ = Applies, or required item(s) available. ☐ = Not Applicable.)

Hazard Assessment: Physical Hazards and Related Concerns

☐ Confined Space Entry (CSE). Confined space entry means the potentially hazardous entry into any space which, by design, has limited openings for entry and exit and unfavorable natural ventilation that could contain or produce dangerous air contaminants and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, storage tanks, compartments of ships, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines. Other environments which must be treated as confined spaces include test pits, basements, garages, warehouses, and other indoor areas where mechanical (i.e., diesel, propane, gasoline or similarly powered) equipment must be operated for drilling or excavation purposes. Confined space entry should be allowed only when absolutely necessary.

☒ Construction Hazards, Drill Rigs, Backhoes, etc. The use of drill rigs, backhoes, and other heavy equipment represent potentially serious construction hazards. Whenever such equipment is used, personnel in the vicinity should be limited to those who must be there to complete their assigned duties. All personnel must avoid standing within the turning radius of the equipment or below any suspended load. Job sites must be kept as clean, orderly, and sanitary as possible. When water is used, care must be taken to avoid creating muddy or slippery conditions. If slippery conditions are unavoidable, barriers and warning signs must be used to warn of these dangers.

Never turn your back to operating machinery. Never wear loose clothing jewelry, hair, or other personal items around rotating equipment or other equipment that could catch or ensnare personal items. Always stand far enough away from operating machinery to prevent accidental contact, which may result from mechanical or human error.

Additionally, the following basic personal protective measures must be observed: Hardhats must be worn to protect against bumps or falling objects. Safety glasses must be worn by all workers in the vicinity of drill rigs or other sources of flying objects. Goggles, face shields, or other forms of eye protection must be worn when necessary to protect against chemicals or other hazards. Safety-toed shoes or boots are also required. The shoes must be chemically resistant or protected with appropriately selected boots/coverings where necessary. Unless otherwise specified, normal work clothes must be worn. Long sleeves and gloves are also required whenever necessary to protect against hazardous contact, cuts, abrasions or other possible skin hazards.

☒ Electrical. OSHA regulations require that employees who may be exposed to electrical equipment be trained to recognize the associated hazards and the appropriate control methods. All extension cords used for portable tools or other equipment must be designed for hard or extra usage and be (three-wire) grounded. All 120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites and other locations where moisture/water contact may occur must be equipped with ground-fault circuit interrupters (GFCI) units. GFCI units must be attached directly to or as close as possible to the receptacle. GFCI located away from the receptacle will not protect any wiring between the receptacle and the GFCI unit. Only the wiring plugged into the GFCI and outward will be protected by the GFCI. All (temporary lighting) lamps for general illumination must be protected from accidental breakage. Metal case sockets must be grounded. Portable lighting in wet or conductive locations should be 12 volts or less.

☒ Drums and Buried Drums. As a precautionary measure, personnel must assume that labeled and unlabeled drums encountered during field activities contain hazardous materials until their contents can be confirmed and characterized. Personnel should recognize that drums are frequently mislabeled, particularly drums that are reused.

Only trained and authorized personnel should be allowed to perform drum handling. Prior to any handling, drums must be visually inspected to gain as much information as possible about their contents. Trained field personnel must look for signs of deterioration such as corrosion, rust or leaks, and for signs that the drum is under pressure such as swelling or bulging. Drum-type and drumhead configuration may provide the observer with information about the type of material inside (e.g., a removable lid is designed to contain solids, while the presence of a bung indicates liquid storage).

Although not usually anticipated, buried drums can be encountered when digging test pits. Therefore, the following provisions must be observed if drums are encountered: Machine excavation (e.g., backhoe) should cease immediately anytime a drum is encountered. The appropriate management personnel should be notified immediately. All personnel should be instructed to immediately leave the work area.

Even authorized personnel must not enter an excavation where drums have been uncovered, even for monitoring purposes, unless all provisions of OSHA's trenching and excavation standard have been met and the appropriate level of PPE is utilized. Sampling of unknown drums usually requires Level B protection. Buried drums must not be moved unless it can be accomplished in a safe manner and overpack drums are available.

☒ Fire and Explosion. The possibility of flammable materials being encountered during field activities must be recognized and the appropriate steps necessary to minimize fire and explosion must be observed. This includes situations where excessive organic vapors or free product are encountered. When this occurs, monitoring with a combustible gas indicator (CGI) is required.

Excessive organic vapors, for the purposes of initiating the use of a CGI, are defined as sustained readings (i.e., continuous for at least 5 minutes) at or above 250 units or as an instantaneous reading at or above 1,000 units on the PID or flame ionization detector (FID), in close proximity (within 1 foot or less) of the borehole, test pit, sampling location, or other area of potential exposure.

In situations where hexane and/or methanol are needed for field activities, the following precautions must be observed: Keep flammable and combustible materials away from heat, sparks and open flames; do not smoke around flammable or combustible materials; and keep all flammable and combustible liquids in approved and properly labeled safety containers.

☐ Landfill/Methane Hazards. Fire and explosion should be regarded as one of, if not the, most significant potential hazards associated with drilling operations and other intrusive work conducted at a landfill. Accordingly, all sources of ignition must be fully controlled. Failure to control ignition sources could result in fire, explosion, and pose a serious threat to life and health. Control methods may include forced ventilation and/or filling the borehole with enough water to inhibit the release of methane and other gases that would otherwise escape through the top of the borehole.

If forced (mechanical) ventilation is to be used, all such equipment must be approved for Class I, Division I hazardous atmospheres. The blower must be positioned to blow across the top of the borehole so that gases and vapors may be diluted as they exit the borehole. Do not attempt to suck out the gases or vapors. Blowers, all other mechanical equipment, and tools that could release sparks or static electricity must be bonded and grounded.

Regardless of the gas/vapor control method used, the atmosphere surrounding the borehole must be frequently monitored using direct reading instruments approved for Class I, Division I hazardous atmospheres. Monitoring should be conducted within 1 to 2 feet of the top of the borehole. Do not insert sampling devices into the borehole. Never approach the auger or drill shaft while it is in operation.

Regardless of actual instrument readings, if all sources of ignition cannot be controlled, operations should be immediately shut down and the area evacuated if readings equal or exceed 10% of LEL until ignition sources have been eliminated. Ignition sources include, but are not limited to, smoking, static electricity, lighting, open flames, spontaneously ignitable substances, frictional heat or sparks, hot surfaces, radiant heat, electrical sparks, stray currents, cutting and welding, ovens, furnaces, and heating equipment.

☒ Heat and Cold Stress. Overexposure to temperature extremes can represent significant risks to personnel if simple precautions are not observed. Typical control measures designed to prevent heat stress include dressing properly, drinking plenty of the right fluids, and establishing an appropriate work/break regimen. Typical control measures designed to prevent cold stress also include dressing properly, and establishing an appropriate work/break regimen.

☒ Moving Vehicles, Traffic Safety. All vehicular traffic routes that could impact worker safety must be identified and communicated. Whenever necessary, barriers or other methods must be established to prevent injury from moving vehicles. This is particularly important when field activities are conducted in parking lots, driveways, ramps or roadways. OSHA 1926.201 specifies that when signs, signals or barricades do not provide adequate protection from highway or street traffic, flagmen must be utilized. Flagmen must wear red or orange garments. Garments worn at night must be reflective.

☒ Noise. Noise exposure can be affected by many factors including the number and types of noise sources (continuous vs. intermittent or impact) and the proximity to noise intensifying structures (e.g., walls or buildings) that cause noise to bounce back or echo. The single most important factor effecting total noise exposure is distance from the source. The closer one is to the source, the louder the noise. The operation of a drill rig, backhoe, or other mechanical equipment can be sources of significant noise exposure. In order to reduce the exposure to this noise, personnel working in areas of excessive noise must use hearing protectors (e.g., ear plugs, ear muffs).

Rule-of-Thumb: Wherever actual data from sound level meters or noise dosimeters is unavailable and it is necessary to raise one's voice above a normal conversational level to communicate with others within 3 to 5 feet away, hearing protection should be worn.

☒ Overhead Utilities and Hazards. Overhead hazards can include low hanging structures that can cause injury due to bumping into them. Other overhead hazards include falling objects, suspended loads, swinging loads, and rotating equipment. Hardhats must be worn by personnel in areas were these types of physical hazards may be encountered. Barriers or other methods must also be used to exclude personnel from these areas where appropriate. Electrical wires are another significant overhead hazard. According to OSHA (29 CFR 1926.550), the minimum clearance that must be maintained from overhead electrical wires is 10 feet from an electrical source rated $\leq$ 50 kV. Sources rated > 50 kV require a minimum clearance of 10 feet plus 0.4 inch per kV above 50 kV.

☐ Pedestrian Traffic. The uncontrolled presence of pedestrians on a drilling or excavation site can be hazardous to both pedestrians and site workers. Prior to the initiation of site activities, the site should be surveyed to determine if, when, and where pedestrian may gain access. This includes walkways, parking lots, gates, and doorways. Barriers or caution tape should be used to exclude all pedestrian traffic. Exclusion of pedestrian traffic is intended to prevent injury to the pedestrians and eliminate distractions that could cause injury to Partner personnel or other site workers.

☒ Test Pit and/or other Excavations. All provisions of the OSHA trenching and excavation standard (29 CFR 1926.650-652) must be followed during excavation activities. This includes all test pit excavation and sampling activities. The estimated location of utility installations such as

sewer, telephone, electric, water lines, and other underground installations that may reasonably be expected to be encountered during excavation work, must be determined prior to opening an excavation.

Excavations in contaminated or potentially contaminated areas must be tested for confined spaces atmospheric hazards prior to entry. Excavations should not be entered if other means are available to perform the task requiring entry. If entry into an excavation is required, the atmosphere within the space must be monitored by a trained person to assure that oxygen concentrations are at greater than or equal to 19.5 percent, that combustible gas levels are less than 10 percent, and that vapor levels are within applicable safe exposure (PEL and TLV) limits.

A ladder or similar means of egress must be located in excavations greater than 4 feet in depth so as to require no more than 25 feet of lateral travel for employees. No person should be allowed to enter an excavation greater than 5 feet in depth unless the walls of the excavation have been protected using an approved shield (trench box), an approved shoring system, or the walls have been sloped back an appropriate angle, the excavation is free of accumulated water, and the excavation has been tested for hazardous atmospheres as noted previously. If personnel enter an excavation, the spoils pile and all materials must be placed at least 2 feet from the edge of the excavation to prevent the materials from rolling into the excavation. Personnel must remain at least 2 feet away from the edge of the excavation at all times. Upon completion of a test pit exploration, the excavation should be backfilled and graded. Excavations should never be left open unless absolutely necessary, and then only with proper barricading and controls to prevent accidental injury.

☒ Underground Utilities and Hazards. The identification of underground storage tanks (USTs), pipes, utilities, and other underground hazards is critically important prior to all drilling, excavating and other intrusive activities. In accordance with OSHA 29 CFR 1926.650, the estimated location of utility installations, such as sewer, telephone, electric, water lines and other underground installations that may reasonably be expected to be encountered during excavation work, must be determined prior to opening an excavation. The same requirements apply to drilling operations and the use of soil-gas probes. Where public utilities may exist, the utility agencies or operators must be contacted directly or through a utility-sponsored service such as Dig-Safe. Where other underground hazards may exist, reasonable attempts must be made to identify their locations as well. Failure to identify underground hazards can lead to fire, explosion, flooding, electrocution, or other life threatening accidents.

☐ Water Hazards and Boat Sampling. The collection of water or sediment samples on or immediately adjacent to a body of water can pose significant hazards. In addition to the slip, trip, and fall hazards associated with wet surfaces, the potential for drowning accidents must be recognized. These hazards can be intensified by the use of some PPE, particularly if respiratory protection is worn. OSHA 29 CFR 1926.106 requires that all employees working over or near water, where the danger of drowning exists, must wear a U.S. Coast Guard-approved life jacket or buoyant work vest. Ring buoys and emergency standby personnel must also be in place.

Hazard Assessment: Chemical Hazards and Related Concerns

☒ Chemicals Subject to OSHA Hazard Communication. All chemicals used in field activities such as solvents, reagents, decontamination solutions, or any other hazardous chemical must be accompanied by the required labels, Safety Data Sheets (SDS), and employee training documentation (OSHA 1910.1200).

☐ Asbestos. Disturbance of building materials in buildings built prior to 1980 must be evaluated for the presence of asbestos-containing materials by an accredited Partner inspector. The inspection and/or removal of asbestos-based or asbestos-containing building materials is regulated by some major cities and several states. Regulations require individuals who conduct building inspections for the presence of asbestos or collect samples of asbestos containing materials to be licensed or certified. Partner employees must determine the applicability of these regulations prior to any activities involving asbestos. The primary health effects of asbestos exposure include asbestosis (a scarring of the lungs), lung cancer, mesothelioma, and other forms of cancer. Exposure to asbestos is regulated by a comprehensive OSHA standard (29 CFR 1910.1001).

☒ BTEX Compounds. Exposure to the vapors of benzene, ethyl benzene, toluene, and xylenes above their respective permissible exposure limits (PELs), as defined by OSHA, may produce irritation of the mucous membranes of the upper respiratory tract, nose, and mouth. Overexposure may also result in the depression of the central nervous system. Symptoms of such exposure include drowsiness, headache, fatigue, and drunken-like behavior. Benzene has been determined to be carcinogenic, targeting blood-forming organs and bone marrow. The odor threshold for benzene is higher than the PEL and employees may be overexposed to benzene without sensing its presence; therefore, detector tubes must be utilized to evaluate airborne concentrations.

The vapor pressures of these compounds are high enough to generate significant quantities of airborne vapor. On sites where high concentrations of these compounds are present, a potential inhalation hazard to the field team during subsurface investigations can result. However, if the site is open and the anticipated quantities of BTEX contamination are small (e.g., part per million concentrations in the soil or groundwater), overexposure potential will also be small.

☐ Carbon Monoxide. Carbon monoxide (CO) is a gas usually formed by the incomplete combustion of various fuels. Welding, cutting, and the operation of internal combustion engines can produce significant quantities of CO. Amounts of CO can quickly rise to hazardous levels in poorly ventilated areas. CO is odorless and colorless. It cannot be detected without appropriate monitoring equipment. LEL/O_2 meters and H-Nu/PID are <u>not</u> appropriate for the detection of CO. A direct reading instrument, calibrated for CO, should be used. Common symptoms of overexposure include pounding of the heart, a dull headache, flashes before the eyes, dizziness, ringing in the ears, and nausea. These symptoms must not be relied upon in place of an appropriately calibrated monitoring instrument. Exposures should not exceed 15 ppm. Exposures above 15 ppm require the use of supplied air respirators. Air purifying respirators are not approved for protection against CO.

☐ Chlorinated Organic Compounds. Exposure to the vapors of many chlorinated organic compounds such as vinyl chloride; tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and 1,2-dichloroethene above their respective PELs will result in similar symptoms. The actual PELs as set by OSHA vary depending on the specific compound.

Overexposure to the vapor of these compounds can cause irritation of the eyes, nose, and throat. The liquid, if splashed in the eyes, may cause burning irritation and damage. Repeated or prolonged skin contact with the liquid may cause dermatitis. Acute overexposure to chlorinated hydrocarbons depresses the central nervous system exhibiting such symptoms as drowsiness, dizziness, headache, blurred vision, in-coordination, mental confusion, flushed skin, tremors, nausea, vomiting, fatigue, and cardiac arrhythmia. Alcohol may make symptoms of overexposure worse. If alcohol has been consumed, the overexposed worker may become flushed. Some of these compounds are considered to be potential human carcinogens. Exposure to vinyl chloride is regulated by a comprehensive OSHA standard (29 CFR 1910.1017).

☐ Chromium Compounds. Hexavalent chromium compounds, upon contact with the skin, can cause ulceration and possibly an allergic reaction. Inhalation of hexavalent chromium dusts is irritating and corrosive to the mucous membranes of the upper respiratory tract. Chrome ulcers and chrome dermatitis are common occupational health effects from prolonged and repeated exposure to hexavalent chromium compounds. Acute exposures to hexavalent chromium dusts may cause coughing or wheezing, pain on deep inspiration, tearing, inflammation of the conjunctiva, nasal itch, and soreness or ulceration of the nasal septum. Certain forms of hexavalent chromium have been found to cause increased respiratory cancer among workers.

Trivalent chromium compounds (chromic oxide) are generally considered to be of lower toxicity, although dermatitis may occur as a result of direct handling.

☐ Cutting Oils. Cutting oils may produce a condition known as "cutting oil acne," a specific dermatosis associated with prolonged and repeated direct contact. Other problems associated with continued occupational exposure to cutting fluids include allergic skin sensitization, folliculitis, and squamous cell carcinoma due to the presence of nitrosamines.

☒ Fuel Oil. See Petroleum Hydrocarbons (PHC)

☒ Gasoline. See BTEX Compounds, and Tetraethyl and Tetramethyl Lead.

☐ Herbicides. Some of the commonly used herbicides present a low toxicity to man. However, other herbicides pose more serious problems. Organophosphorus and carbamate herbicides, if inhaled or ingested, can interfere with the functioning of the central nervous system. Many herbicides can be readily absorbed through the skin to cause systemic effects. In addition to being absorbed through the skin, many herbicides, upon contact with the skin, may cause discoloring, skin irritation, or dermatitis. Contaminants of commercial preparations of chlorinated phenoxy herbicides such as 2,4,5-T include 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin). Dioxin is a known mutagen and a suspect carcinogen.

☐ Hydrogen Sulfide (H_2S). H_2S, characterized by its "rotten egg" odor, is produced by the decomposition of sulfur-containing organic matter. It is found in many of the same areas where methane is found such as landfills, swamps, sewers, and sewer treatment facilities. An important characteristic of H_2S is its ability to cause a decrease in one's ability to detect its presence by smell. So although one may no longer be able to smell it, it could still be present in harmful concentrations.

The symptoms of overexposure include headache, dizziness, staggering, and nausea. Severe overexposure can cause respiratory failure, coma, and death. The current OSHA PEL is 10 ppm as an 8-hour time-weighted average (TWA). The ACGIH TLV is the same.

☐ Lead Paint. The inspection and/or removal, sanding, grinding, etc. of lead-based or lead-containing paints is now strictly regulated by OSHA. States may require individuals who conduct lead paint inspections or collect samples of lead paint to be licensed or certified. Partner employees must determine the applicability of these regulations prior to any activities involving lead paint. For additional health information, see Metal Compounds.

☐ Metal Compounds. Overexposure to metal compounds has been associated with a variety of local and systemic health hazards, both acute and chronic in nature, with chronic effects being most significant. Direct contact with the dusts of some metal compounds can result in contact or allergic dermatitis. Repeated contact with arsenic compounds may result in hyperpigmentation. Cases of skin cancer due to the trivalent inorganic arsenic compounds have been documented. The moist mucous membranes, particularly the conjunctivae, are most sensitive to the irritating effects of arsenic. Copper particles embedded in the eye result in a pronounced foreign body reaction with a characteristic discoloration of eye tissue.

Inhalation of copper and zinc dusts and fumes above their established PELs may result in flu-like symptoms known as "metal fume fever." Prolonged and repeated inhalation of the dusts of inorganic arsenic compounds above the established PEL may result in weakness, loss of appetite, a sense of heaviness in the stomach, and vomiting. Respiratory problems such as cough, hoarseness, and chest pain usually precede the gastrointestinal problems. Chronic overexposure to the dusts of inorganic arsenic may result in lung cancer.

The early symptoms of lead poisoning are usually nonspecific. Symptoms include sleep disturbances, decreased physical fitness, headache, decreased appetite, and abdominal pains. Chronic overexposure may result in severe colic and severe abdominal cramping. The central nervous system (CNS) may also be adversely effected when lead is either inhaled or ingested in large quantities for extended periods of time. The peripheral nerve is usually affected. "Wrist drop" is peculiar to such CNS damage. Lead has also been characterized as a male and female reproductive toxin as well as a fetotoxin. Exposure to lead (Pb) is regulated by a comprehensive OSHA standard (29 CFR 1910.1025).

☐ Methane. Methane is an odorless, colorless, tasteless, gas that cannot be detected by an H-Nu/PID. When present in high concentrations in air, methane acts primarily as a simple asphyxiant without other significant physiologic effects. Simple asphyxiants dilute or displace oxygen below that required to maintain blood levels sufficient for normal tissue respiration.

Methane has a LEL of 5 percent and an upper explosive limit (UEL) of 15 percent. The LEL of a substance is the minimum concentration of gas or vapor in air below which the substance will not burn when exposed to a source of ignition. This concentration is expressed in percent by volume. Below this concentration, the mixture is "too lean" to burn or explode. The UEL of a substance is the maximum concentration of gas or vapor in air above which the substance will not burn when exposed to a source of ignition. Above this concentration, the mixture is "too rich" to burn or explode. The explosive range is the range of concentrations between the LEL and UEL where the gas-air mixture will support combustion. For methane this range is 5 to 15 percent.

☒ Pesticides. Pesticides can be grouped into three major categories: organophosphates, carbamate, and organochlorates. The actual PELs as set by the OSHA vary depending on the specific compound. Organophosphates, including diazinon, malathion and parathion, are quickly absorbed into the body by inhalation, ingestion, and direct skin contact. The symptoms of exposure include headache, fatigue, dizziness, blurred vision, sweating, cramps, nausea, and vomiting. More severe symptoms can include tightness of the chest, muscle spasms, seizures, and unconsciousness. It should also be noted that the malathion and parathion PELs both carry the Skin notation, indicating that these compounds adversely affect or penetrate the skin. OSHA specifies that skin exposure to substances carrying this designation should be prevented or reduced through the use of the appropriate PPE.

Organochlorates such as chlordane, DDT and heptachlor can cause dizziness, nausea, abdominal pain, and vomiting. The more severe symptoms include epileptic-like seizures, rapid heartbeat, coma, and death. These compounds also carry the OSHA Skin notation. The symptoms of exposure to carbamate such carbaryl (also known as sevin) is similar to those described for the organophosphates. However, the OSHA exposure limit for carbaryl does not carry the Skin notation.

☒ Petroleum Hydrocarbons (PHCs). Petroleum hydrocarbons such as fuel oil are generally considered to be of low toxicity. Recommended airborne exposure limits have not been established for these vapors. However, inhalation of low concentrations of the vapor may cause mucous membrane irritation. Inhalation of high concentrations of the vapor may cause pulmonary edema. Repeated or prolonged direct skin contact

with the oil may produce skin irritation as a result of defatting. Protective measures, such as the wearing of chemically resistant gloves, to minimize contact are addressed elsewhere in this plan. Because of the relatively low vapor pressures associated with PHCs, an inhalation hazard in the outdoor environment is not likely.

☐ Polychlorinated Biphenyls (PCBs). Prolonged skin contact with PCBs may cause the formation of comedones, sebaceous cysts, and/or pustules (a condition known as chloracne). PCBs are considered to be suspect carcinogens and may also cause reproductive damage.

The OSHA PELs for PCBs are as follows:

Compound	PEL (8-hour TWA)
Chlorodiphenyl (42% Chlorine)	1 mg/m^3-Skin
Chlorodiphenyl (54% Chlorine)	0.5 mg/m^3 -Skin

It should be noted that PCBs have extremely low vapor pressures (0.001 millimeters of mercury (mm Hg) at 42% Chlorine and 0.00008 mm Hg at 54% Chlorine). This makes it unlikely that any significant vapor concentration (i.e., exposures above the OSHA PEL) will be created in the ambient environment. This minimizes the potential for any health hazards to arise due to inhalation unless the source is heated or generates an airborne mist. If generated, vapor or mists above the PEL may cause irritation of the eyes, nose, and throat. The exposure limits noted above are considered low enough to prevent systemic effects, but it is not known if these levels will prevent local effects. It should also be noted that both PELs carry the Skin notation, indicating that these compounds adversely affect or penetrate the skin. OSHA specifies that skin exposure to substances carrying this designation be prevented or reduced through the use of the appropriate PPE.

☐ Polycyclic Aromatic Hydrocarbons (PAHs). Due to the relatively low vapor pressure of PAH compounds, vapor hazards at ambient temperatures are not expected to occur. However, if site conditions are dry, the generation of contaminated dusts may pose a potential inhalation hazard. Therefore, dust levels should be controlled with wetting, if necessary. Repeated contact with certain PAH compounds has been associated with the development of skin cancer. Contact of PAH compounds with the skin may cause photosensitization of the skin, producing skin burns after subsequent exposure to ultraviolet radiation. Protective measures, such as the wearing of chemically resistant gloves, are appropriate when handling PAH-contaminated materials.

☐ Tetraethyl and Tetramethyl Lead. Both compounds are used as anti-knock ingredients in gasoline. The inhalation of tetraethyl lead dusts may result in irritation of the respiratory tract. This dust, when in contact with moist skin or eye membranes, may cause itching, burning, and transient redness.

The direct absorption of a sufficient quantity of tetraethyl lead, whether briefly at a high rate, or for prolonged periods at a low rate, may cause acute intoxication of the central nervous system. Mild degrees of intoxication may cause headache, anxiety, insomnia, nervous excitation, and minor gastrointestinal disturbances.

☒ Volatile Organic Compounds (VOCs). See BTEX compounds and Chlorinated Organic Compounds.

☒ Waste Oil. See Petroleum Hydrocarbons (PHCs) and Cutting Oil.

Hazard Assessment: Biological Hazards and Related Concerns

☒ Insects. Insects represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact should be considered prior to all field activities. Disease or harmful effects can be transmitted through bites, stings, direct contact with insects, or ingestion of foods contaminated by certain insects. Examples of diseases transmitted by insect bites include encephalitis and malaria from contaminated mosquitoes and Lyme disease and spotted fever from contaminated ticks. Stinging insects, such as bees and wasps, are prevalent throughout the country, particularly during the warmer months. The stings of these insects can be painful and cause serious allergic reactions to some individuals.

☐ Lyme Disease. Lyme disease is an infection caused by the bite of certain ticks, primarily deer, dog and wood ticks. The symptoms of Lyme disease usually start out as a skin rash then progress to more serious symptoms. The more serious symptoms can include lesions, headaches, arthritis, and permanent damage to the neurological system. If detected early, the disease can be treated successfully with antibiotics. The following steps are recommended for prevention of Lyme disease and other diseases transmitted by ticks: a) Beware of tall grass, bushes, woods, and other areas where ticks may live; b) Wear good shoes, long pants tucked into socks, a shirt with a snug collar, good cuffs around the wrists, and tails tucked into the pants. Insect/tick repellents may also be useful; c) Carefully monitor for the presence of ticks. Carefully inspect clothes and skin when undressing. If a tick is attached to the skin, it should be removed with fine-tipped tweezers. You should be alert for early symptoms over the next month or so. If you suspect that you have been bitten by a tick, you should contact a physician for medical advice.

☐ Medical Wastes and Bloodborne Diseases. Any field activity where exposure to medical wastes or other sources of bloodborne pathogens can be reasonably anticipated must be conducted in accordance with the OSHA (29 CFR 1910.1030) Bloodborne Pathogens standard. According to the OSHA definition, Bloodborne Pathogens mean pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). Wherever there is a potential for employee skin, eye, mucous membrane, or parenteral (skin or membrane piercing) contact with blood or other potentially infectious sources, employers must develop a Written Exposure Control Plan.

☐ Poisonous Plants. The possible presence of poisonous plants should be anticipated for field activities in wooded or heavily vegetated areas. Poison ivy is a climbing plant with alternate green to red leaves (arranged in threes) and white berries. Poison oak is similar to poison ivy and sumac, but its leaves are oak-like in form. The leaves of these poisonous plants produce irritating oil that causes an intensely itching skin rash and characteristic blister-like lesions. Contact with these plants should be avoided.

☒ Rats, Snakes and Other Vermin. Certain animals, particularly those that feed on garbage and other wastes, can represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact with (biting) animals (such as rats) or animal waste (such as pigeon droppings) should be considered prior to all field activities. Rats, snakes, and other wild animals can inflict painful bites. The bites can poisonous (as in the case of some snakes) or disease causing (as in the case of rabid animals). Avoidance of these animals is the best protection.

☐ Waste Water and Sewage. Sewage and waste water contaminated with raw, untreated sewage can represent significant sources of bacterial, viral, or fungal contamination. Adverse effects due to contact can range from mild skin reactions or rashes to life threatening diseases. Diseases are easily transmitted by accidental ingestion or through skin contact, particularly if the skin is broken. Avoidance of direct contact and good personal hygiene are the best protection from these hazards.

SITE INSPECTION LOG/HASP SIGNATURE PAGE

PROJECT NAME: 2532 Santa Rosa Avenue	LOCATION: 2532 Santa Rosa Avenue Santa Rosa, California 95404
PROJECT NUMBER: 18-217677.2	DATE:
PROJECT MANAGER: Joe Mangine	COMPLETED BY:
SITE DESCRIPTION AND NATURE OF WORK: Soil Management Plan associated with site development	

HAZARD COMMUNICATION
[ ]Chemical hazards identified
[ ]All containers properly labeled
[ ]SDS/workplace notebook on-site
[ ]Site safety briefing completed and documented

ACCIDENTS/EMERGENCY INFO
[ ]First aid personnel identified
[ ]Hospital location identified
[ ]Police/fire/ambulance phone numbers available
[ ]Fire extinguisher present

STORAGE
[ ]Tools/drill equipment/supplies safely stacked to prevent rolling or collapse
[ ]Work areas and passage ways kept clear

UNDERGROUND HAZARDS
[ ]All underground hazards identified and communicated to workers on-site
[ ]Utility/USA clearance confirmed
[ ]Clearance dates: _____
[ ]Clearance ID#: _____

OVERHEAD HAZARDS
[ ]15-foot minimum clearance maintained
[ ]All sources of falling objects/swinging loads/ rotating equipment identified
[ ]Barriers or other methods in place to prevent injury due to overhead hazards

EXCAVATIONS and TRENCHES
[ ]All personnel and storage at least 2 feet from top edge of excavation
[ ]Ladder in place
[ ]Guarding/barriers in place

VEHICULAR TRAFFIC
[ ]All vehicular traffic routes which could impact worker safety identified and communicated
[ ]Barriers or other methods established to prevent injury from moving vehicles

PEDESTRIAN TRAFFIC/SITE CONTROL
[ ]All walkways which could be impacted by site activities identified and communicated
[ ]Barriers or other methods established to prevent pedestrian injury from site activities

AIR MONITORING
[ ]PID on-site for air monitoring of work breathing space
[ ]PID calibrated daily and recorded in log book
[ ]Operational action levels communicated and PPE present for use, if required

COMMENTS/OTHER HAZARDS_____
_____
_____
_____
_____
_____
x = OK NA = Not Applicable

Signing below indicates that the individual understands the hazards involved with the project and the necessary procedures in the event of an emergency.

Name	Signature	Company	Date

Additional Signature Page

Signing below indicates that the individual understands the hazards involved with the project and the necessary procedures in the event of an emergency.

Name	Signature	Company	Date

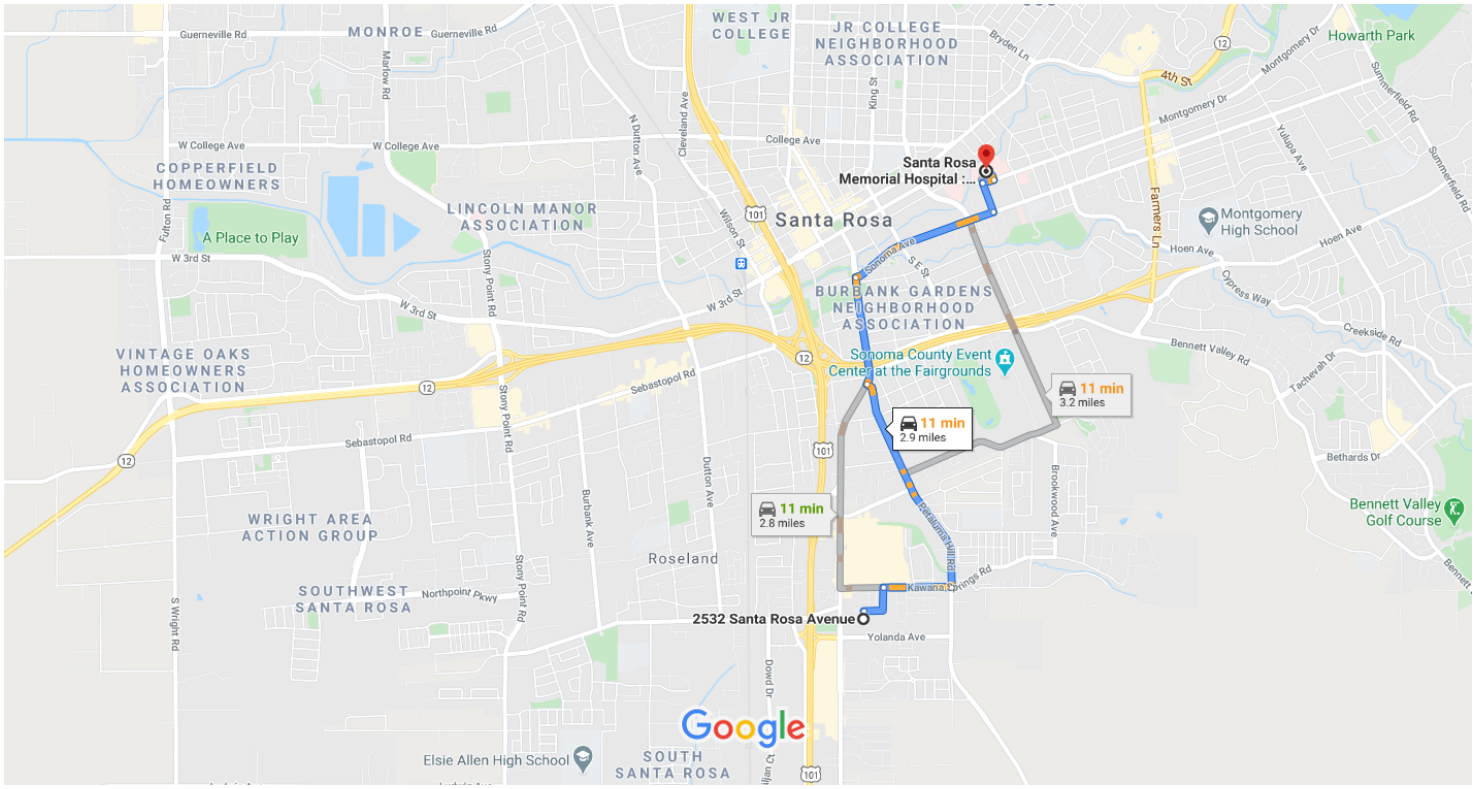
APPENDIX A

HOSPITAL EMERGENCY ROOM MAP & DIRECTIONS

Google Maps

2532 Santa Rosa Ave, Santa Rosa, CA 95407 to Santa Rosa Memorial Hospital : Emergency Room

Drive 2.9 miles, 11 min



Map data ©2020 Google 2000 ft

2532 Santa Rosa Ave

Santa Rosa, CA 95407

1. Head east on Coachman Ln/Squire Ln toward Kawana Springs Rd
   - Continue to follow Coachman Ln
   - Restricted usage road

   1 min (0.2 mi)

Drive along Petaluma Hill Rd, Santa Rosa Ave and Sonoma Ave

8 min (2.7 mi)

2. Turn right onto Kawana Springs Rd

   0.3 mi

3. Turn left onto Petaluma Hill Rd

   1.0 mi

4. Use any lane to turn right onto Santa Rosa Ave

   0.5 mi

5. Turn right onto Sonoma Ave

   0.7 mi

6. Turn left onto Sotoyome St

   0.1 mi

7. Turn right onto Montgomery Dr

272 ft

8. Turn left

48 s (226 ft)

Santa Rosa Memorial Hospital Emergency Room

1165 Montgomery Dr, Santa Rosa, CA 95405

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.