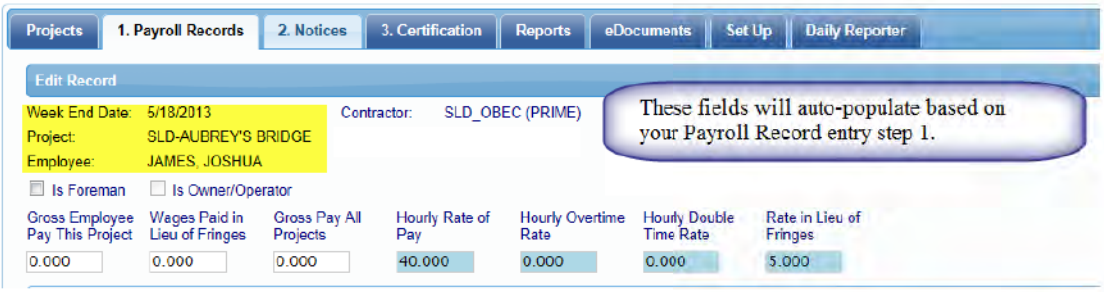
PAYROLL RECORD ENTRY FORM

This screen is used to enter payroll records one at a time. LCPtracker has included utility for contractors to load payroll information from a spreadsheet to save time. Details for this process are provided in the section **UPLOAD RECORDS** of the Contractor instruction manual. For a quick one page screen shot, you may skip to the last page.

The second step in the Payroll Entry process is shown below. The upper portion of this screen self populates from the data entered in step one. You can tab through this screen or use your mouse to click in fields to enter data.



Each section and field of the Payroll Record Entry Form will be explained. NOTE: some fields that are optional in the initial setup process by the Agency are the ***Wages Paid in Lieu of Fringes*** and the ***Rate in Lieu of Fringes***. If your Agency chose not to allow this feature, you will not see these 2 fields in your Payroll Record entry form page 2 of 2.

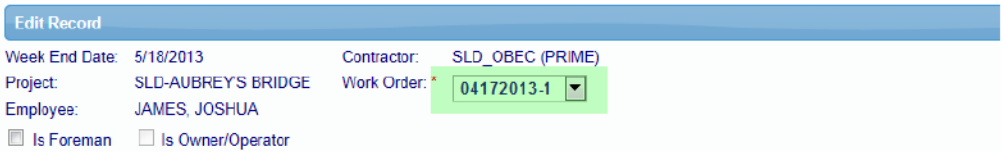
This is a WEEKLY reporting form, you report hours worked for the week being reported on, this is not an accumulation. All fields are for the week you are reporting hours worked and wages paid.

Optional ***Wages Paid In Lieu/Rate in Lieu*** fields available for use:

Optional ***Wages Paid In Lieu/Rate in Lieu*** fields NOT available for use:

There is also the ability for Administrators and/or Primes to require Work Orders for Payroll Entry. If the Project is associated with Work Orders and that section of Project setup is checked (Administrator action only) you will see Work Orders as an option. If you are a *Prime Contractor* be sure to review the work order Setup section. Prime Contractors can define work order numbers.

Note: if the *Work Order* option is showing and there are no Work Orders to choose from in the drop down, please contact your Prime or go to Projects tab and click the "Show Info" for that Project and start with that contact.



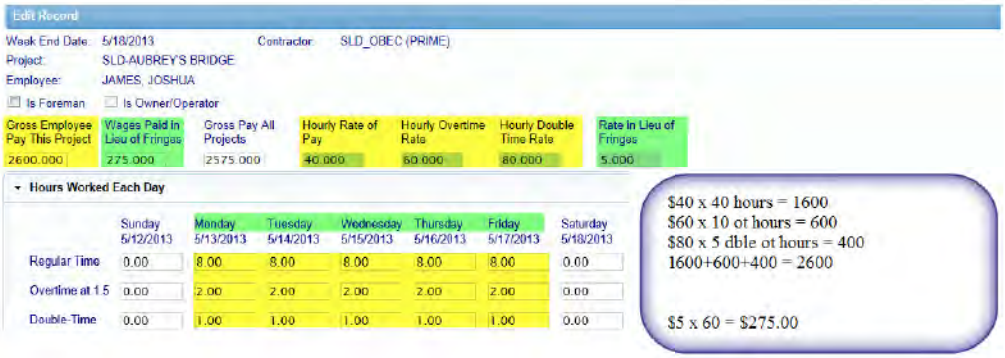
Gross Employee Pay this Project should be equal to the hourly rate fields x the hours posted on this payroll record. This amount does NOT include fringes. It is usually the amount that is provided by your payroll system. If you pay additional *Wages Paid in Lieu of Fringes* then enter this amount in that field.

Wages Paid in Lieu should be equal to the Rate in Lieu x the hours posted on this payroll record. *Wages Paid in Lieu* are those amounts paid to the employee when no fringe benefits are paid or when the fringe benefits paid are insufficient to meet the required total hour rate of pay.

Gross Pay All Projects should be employee's Gross Pay for the week regardless of what Projects were worked on.

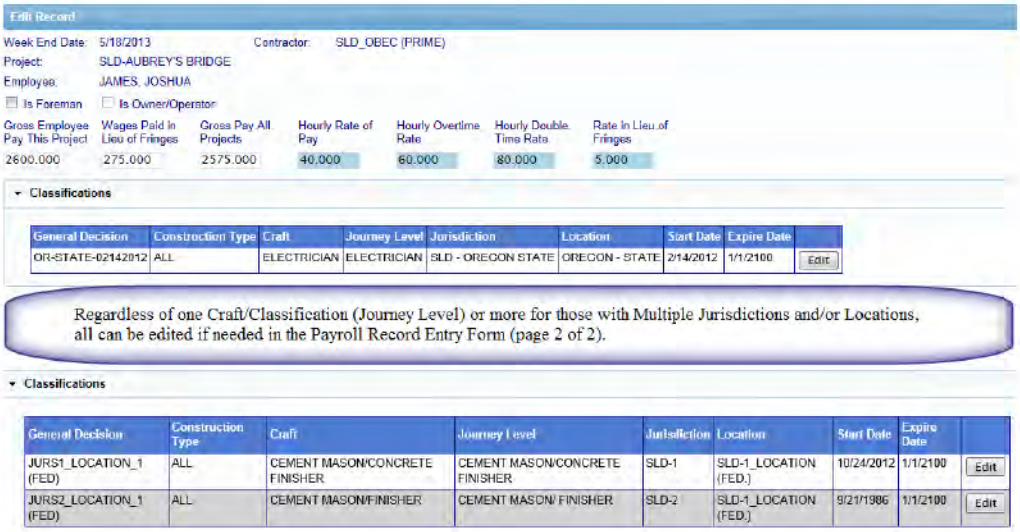
Enter the *Basic Hourly Rate of Pay*, *Hourly Overtime Rate*, *Hourly Double Time Rate*, and *Rate In Lieu of Fringes* (if you are using, Rate in Lieu/Wages Paid in Lieu are not always used by all users),you pay the employee in the blue fields. Enter the overtime rates as required when overtime is worked. You can change them at any time.

Here we show how the Gross Employee Pay field is equal to the hourly rates x the hours posted and then the Wages Paid in Lieu of Fringes is equal to the Rate in Lieu x all hours posted.



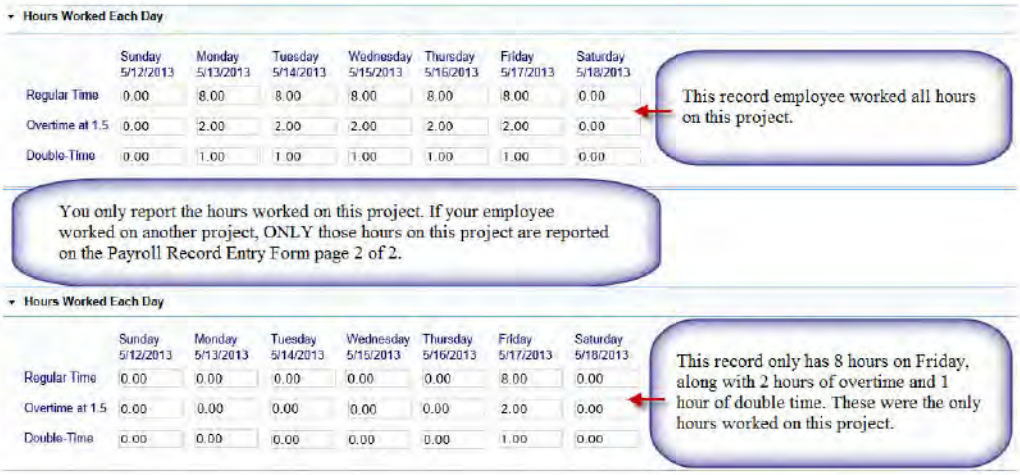
Classifications

The Craft/Classification (Journey Level) may be edited if incorrect by clicking on the Edit and making another choice. Below we show the classification section for both those that have only one craft/classification as well as an example for someone with more than one Jurisdiction and/or Location to choose from. All are editable at any time.

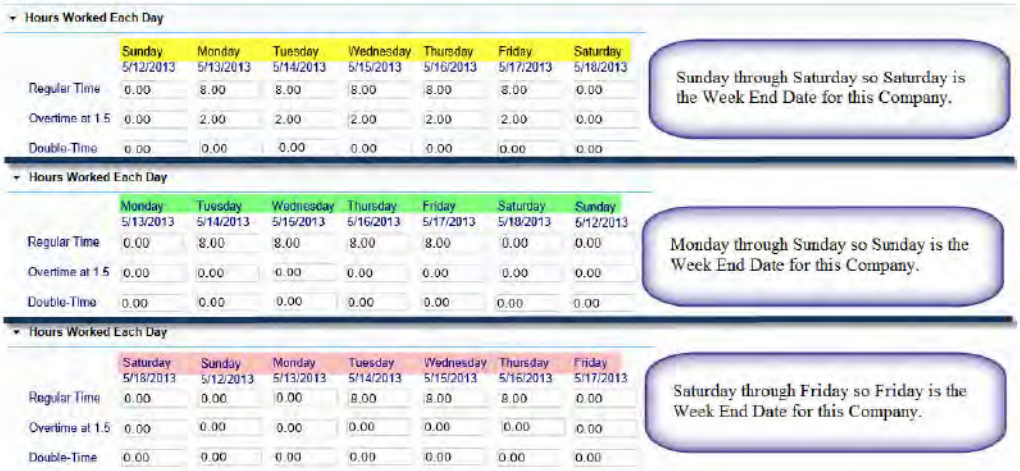


Hours Worked Each Day

The Hours worked each day should ***ONLY*** be the hours reported for working on this project for the week you are reporting on. Again this is not accumulative. Under this section titled Hours Worked Each Day enter the number of Regular Time (Straight-time), Overtime at 1.5 and Double-Time hours worked each day for the payroll period (one week).



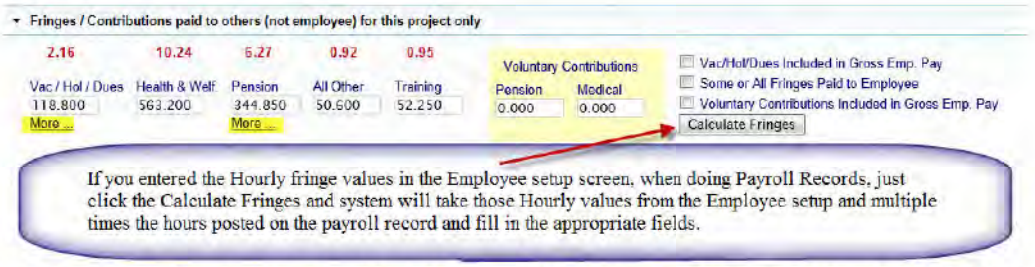
The Screen automatically adjusts the weekly payroll period to reflect *your* week-end-date. As laid out in the beginning of the Enter Records section.



Fringes /Contributions paid to others (not employee) for this project only

If you entered the hourly rate of fringe benefits in the Employee Setup or Fringe Benefit Maintenance table then click the "Calculate Fringes" button. The calculated fringe amounts can be edited if required. The feature will take the hours posted in the Hours worked section of the Payroll Record and multiply them by the fringe benefit rates. (This Function may NOT be available to you).

If you did not enter the rates, then enter the Fringe /Contributions (This Project Only). Enter the appropriate amount for each of the categories in this section. If there is no data for a box, leave it blank. This example there is 55 hours total; 40 regular, 10 overtime and 5 double-time. We noted in red what the hourly values are in the Employee setup.



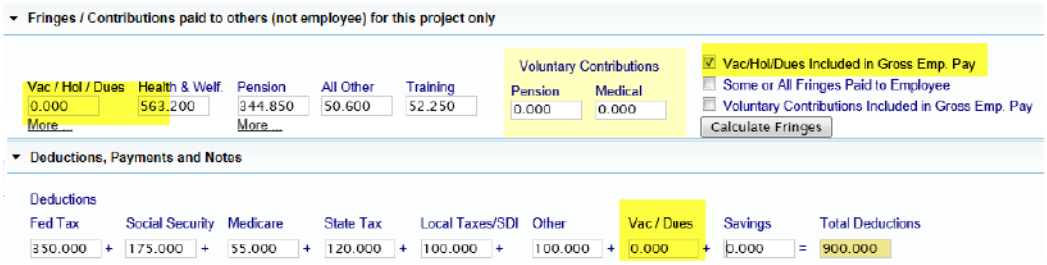
The "*more links*' below the *Vac/Hold/Dues* and *Pension* explains additional detail. Here we will present that detail.

Vacation / Holiday Directions

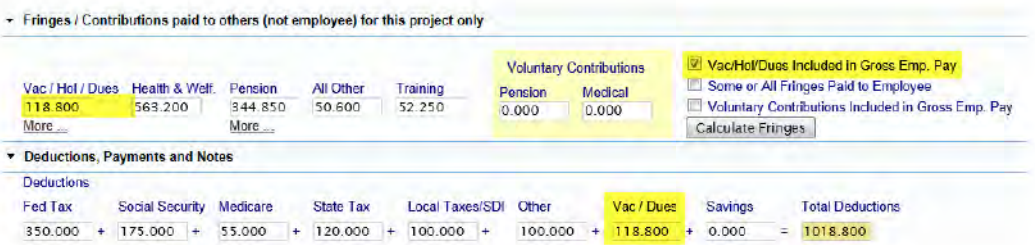
The entering of information for Vacation and Holiday pay is causing confusion. The following is a more detailed explanation of the entering of Vacation and Holiday pay.

Case 1 Vacation and Holiday is paid to the employee as additional wages. Enter the paycheck gross amount as part of the Gross Employee Pay This Project. Enter $0.00 in the fringe benefit area and check the Vac/Hol/Dues in Gross Emp. Pay box.

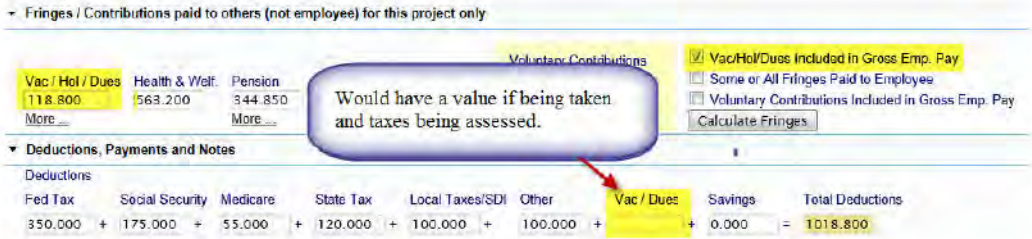
This would be what you consider the employees Hourly Rate of Pay. You are paying it as part of the wages and would be factored as part of overtime/double-time factoring if hours worked. The hourly rates x the hours posted would equal the Gross Pay This Project field.



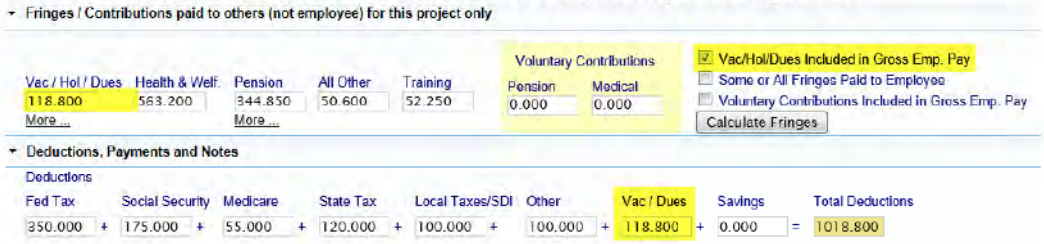
Case 2 Vacation and Holiday is included in the paycheck to calculate taxes but is paid to another fund (union) and thus deducted from the paycheck. Enter the paycheck gross amount as part of the Gross Employee Pay This Project. Enter the $value in the fringe benefit area and check the box that says Vac/Hol/Dues Included in Gross Emp. Pay. In this scenario you would also show the deduction in the Deductions, Payments and Notes (taxes) section under the Vac/Dues field.



Case 3 Vacation and Holiday is not included in the paycheck. The Vacation and Holiday is only paid to a fund and taxes are assessed when paid. Enter the amount of the Vac/Hol in the field. Check the Vac/Hol/Dues Included in Gross Emp. Pay box. It would only be part of the Gross Pay This Project if the employee takes and is being paid for. So you are showing the Fringe value, however it is not sent to any fund (union) or assessed taxes until it is taken.



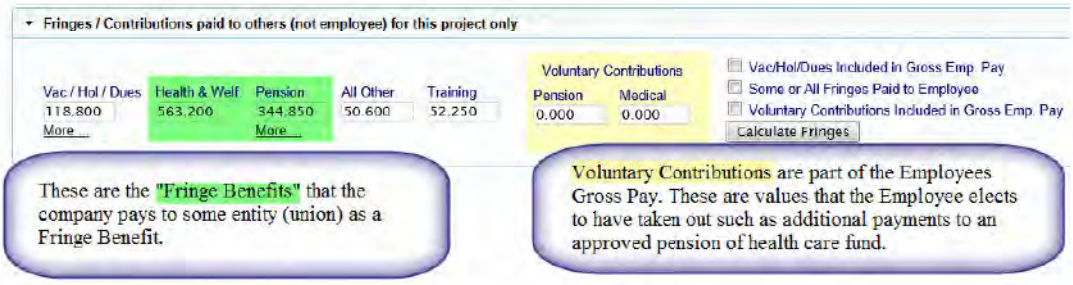
Case 4 Vacation and Holiday is accrued and taxes are assessed when paid. Enter the amount of the Vac/Hol/ Dues in the field. This approach may not be accepted by some agencies.



Voluntary Pension and Medical Contributions

Voluntary Pension and Medical Contributions are additional payments to an approved pension and/or health care funds that the employee elects to take out of his/her Gross Employee Pay this period before taxes.

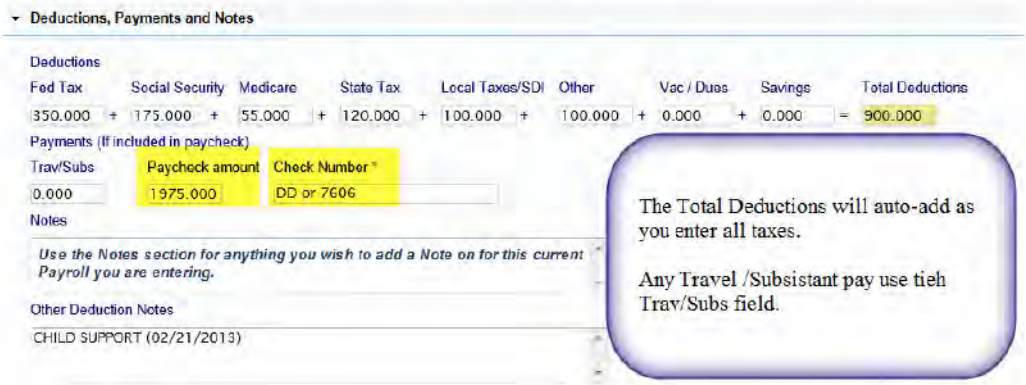
These voluntary contribution amounts are part of the Gross Employee Pay this period but some payroll systems do not show it as such. If your accounting system does not include these amounts in the Gross Employee Pay this period enter the hourly rates of such amounts in the fields provided in *Employee setup* so that you may use the Calculate Fringe button when doing Payroll Records entry.
Be sure *not* to include it as part of the health & welfare payments you make on the employees behalf (fringe benefits company pays into an entity/union that benefits the employee)



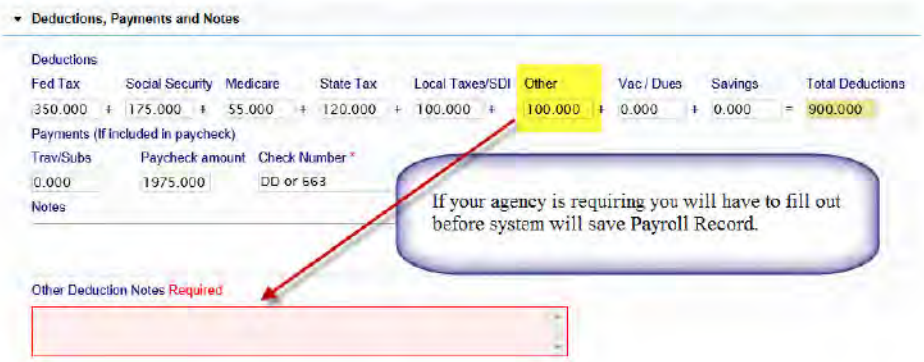
Deductions, Payments and Notes

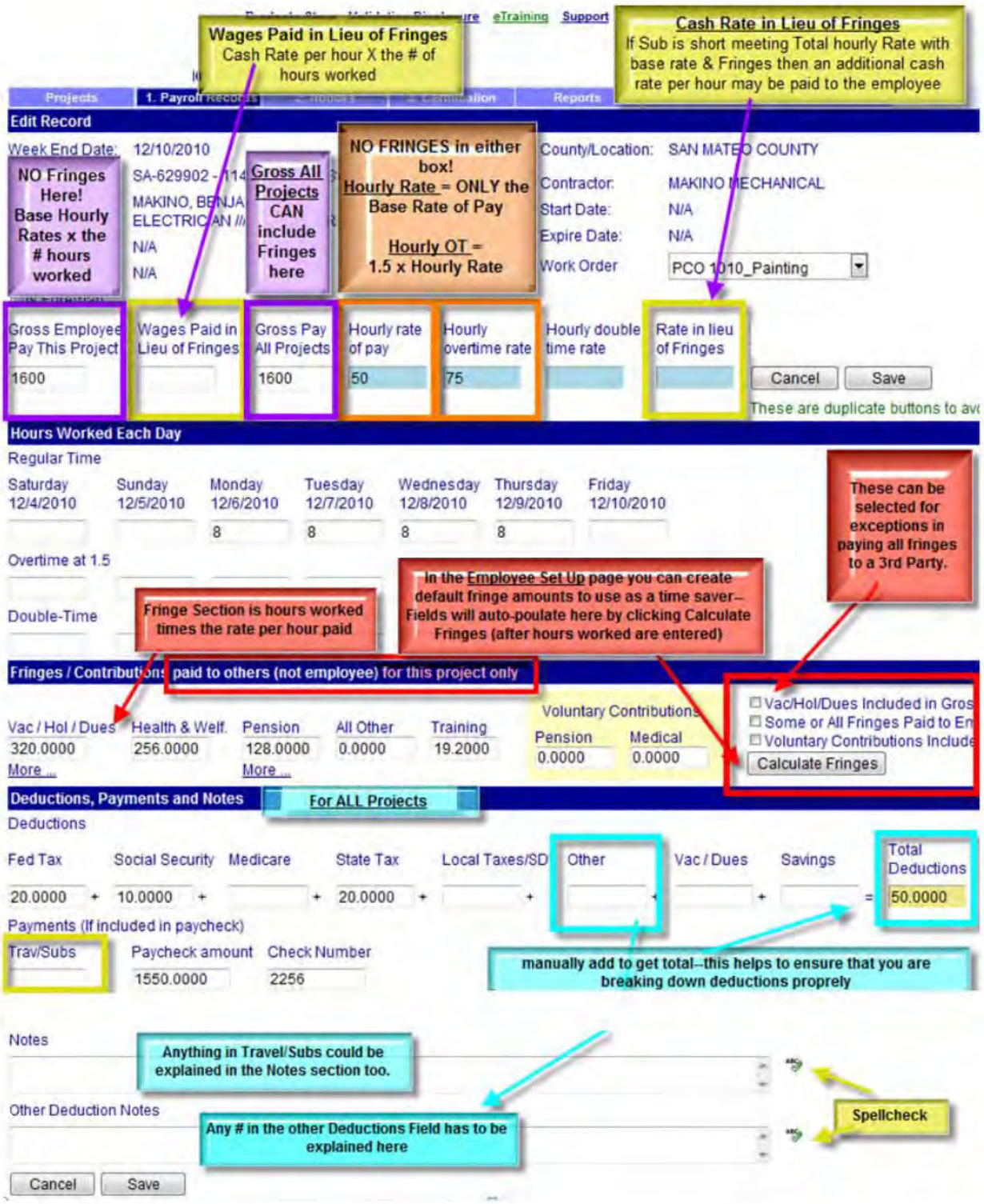
Enter your Deductions (taxes) and travel/subsistence pay as well as the Paycheck Amount (Net Pay), Check Number and any Notes for this current payroll you are entering.

The Paycheck amount and Check Number field is required field for the Payroll Record to save. The Check Number field will accept dd or DD for those that may have Direct Deposit vs. issuance of an actual Check. Once you are satisfied the data is accurate click the Save button.



If your agency is requiring you to report what 'other' deductions are you will also have to fill in this section in order for LCPtracker to save your payroll record. For Other Deduction Notes refer back to section – ***Default Other Deduction Notes.***

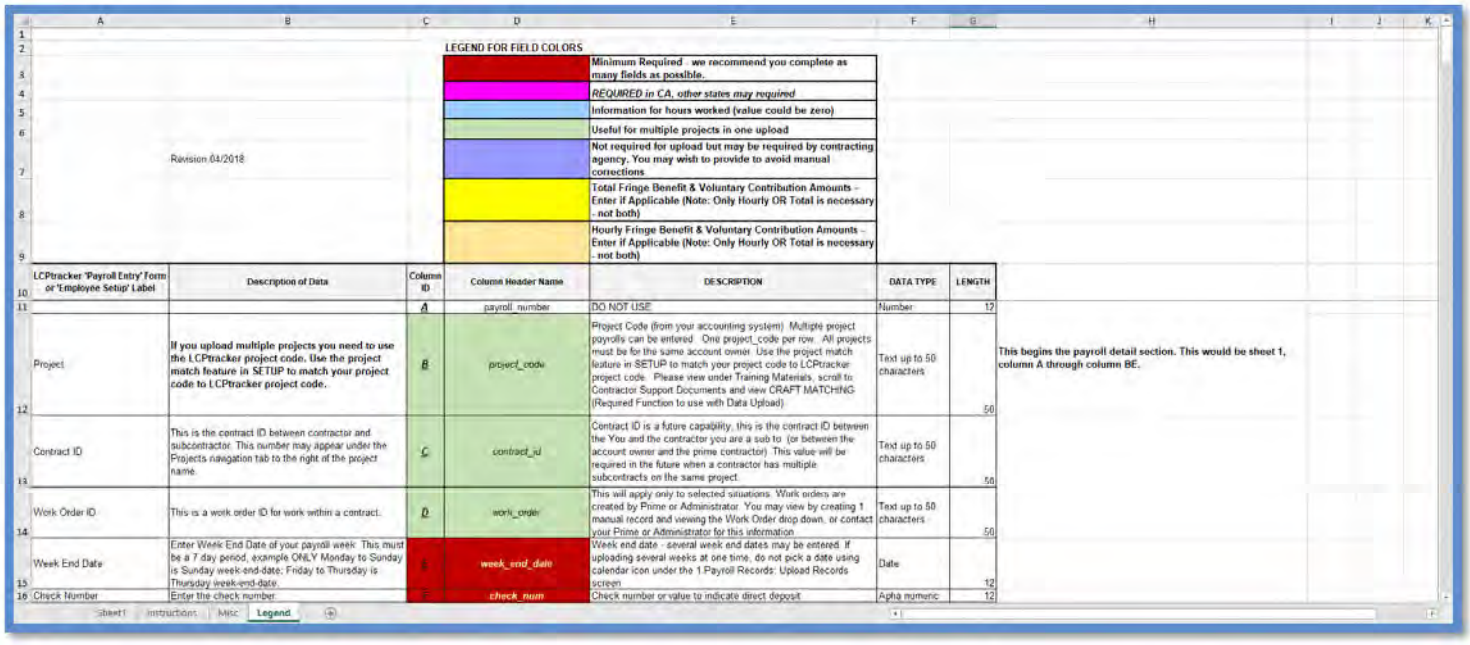




LCPtracker Excel Upload Template Updates

Contractor Database Area Affected: *1. Payroll Records Tab > Upload Records > Download Spreadsheet Template*

We have updated the color coding and descriptions of the columns in the free Excel template we offer Contractors to upload payroll data into LCPtracker.



LEGEND FOR FIELD COLORS

	Minimum Required - we recommend you complete as many fields as possible.
	REQUIRED in CA, other states may required
	Information for hours worked (value could be zero)
	Useful for multiple projects in one upload
	Not required for upload but may be required by contracting agency. You may wish to provide to avoid manual corrections
	Total Fringe Benefit & Voluntary Contribution Amounts – Enter if Applicable (Note: Only Hourly OR Total is necessary - not both)
	Hourly Fringe Benefit & Voluntary Contribution Amounts – Enter if Applicable (Note: Only Hourly OR Total is necessary - not both)

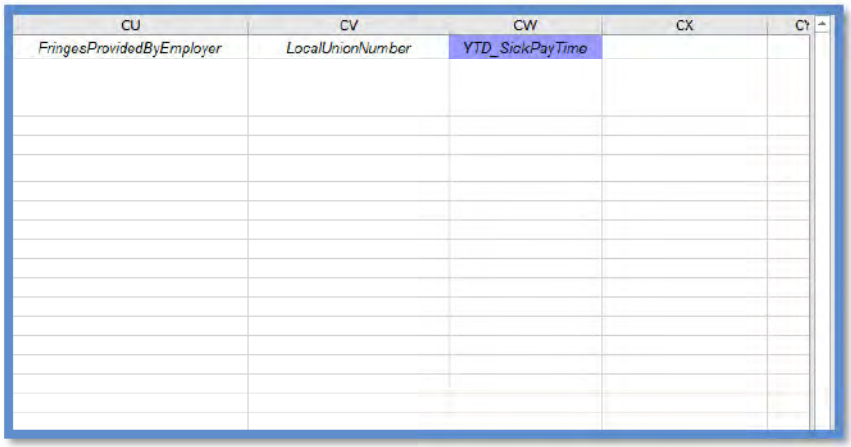
Revision 04/2018

LCPtracker 'Payroll Entry' Form or 'Employee Setup' Label	Description of Data	Column ID	Column Header Name	DESCRIPTION	DATA TYPE	LENGTH	
		A	payroll_number	DO NOT USE	Number	12	
Project	If you upload multiple projects you need to use the LCPtracker project code. Use the project match feature in SETUP to match your project code to LCPtracker project code.	B	project_code	Project Code (from your accounting system). Multiple project payrolls can be entered. One project_code per row. All projects must be for the same account owner. Use the project match feature in SETUP to match your project code to LCPtracker project code. Please view under Training Materials, scroll to Contractor Support Documents and view CRAFT MATCHING (Required Function to use with Data Upload)	Text up to 50 characters	50	This begins the payroll detail section. This would be sheet 1, column A through column BE.
Contract ID	This is the contract ID between contractor and subcontractor. This number may appear under the Projects navigation tab to the right of the project name.	C	contract_id	Contract ID is a future capability, this is the contract ID between the You and the contractor you are a sub to (or between the account owner and the prime contractor). This value will be required in the future when a contractor has multiple subcontracts on the same project.	Text up to 50 characters	50	
Work Order ID	This is a work order ID for work within a contract.	D	work_order	This will apply only to selected situations. Work orders are created by Prime or Administrator. You may view by creating 1 manual record and viewing the Work Order drop down, or contact your Prime or Administrator for this information	Text up to 50 characters	50	
Week End Date	Enter Week End Date of your payroll week. This must be a 7 day period, example ONLY Monday to Sunday is Sunday week-end-date; Friday to Thursday is Thursday week-end-date	E	week_end_date	Week end date - several week end dates may be entered. If uploading several weeks at one time, do not pick a date using calendar icon under the 1.Payroll Records: Upload Records screen	Date	12	
Check Number	Enter the check number	F	check_num	Check number or value to indicate direct deposit	Alpha numeric	12	

Sheet1 | Instructions | Misc | Legend

We have also included new columns regarding the new New York additional benefit information and YTD Accumulated Sick Pay

- CU (*FringesProvidedByEmployer*) - This box is checked if the Fringes Paid/Provided to Employee by Employer - Specifically used for Payrolls in the State of New York
- CV (*LocalUnionNumber*) – Used to enter Local/Union #, if fringes are Paid to a Union - Specifically used for Payrolls in the State of New York
- CW (*YTD_SickPayTime*) – Used to enter accumulative hours employee has earned towards sick time



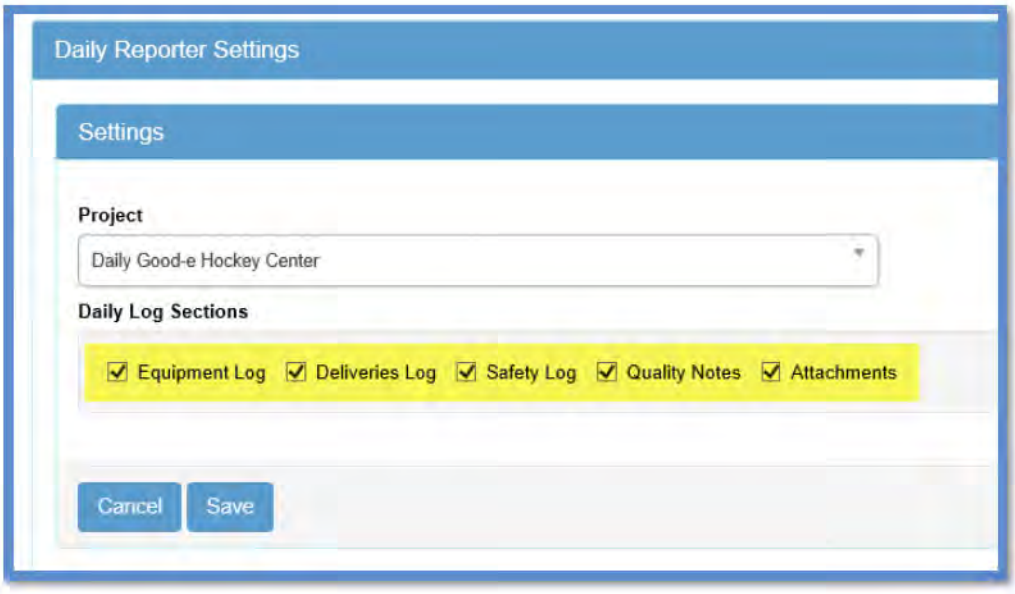
CU	CV	CW	CX	CY
FringesProvidedByEmployer	*LocalUnionNumber*	*YTD_SickPayTime*		

New Feature- Daily Reporter Settings

LCPtracker recommends contacting your LCP Project Manager for assistance on proper set up of this feature. If you are unsure who to contact, please reach out to the LCPtracker Support Team for assistance on locating your assigned Project Manager.

Contractor Database Area Affected: *Daily Reporter Tab > Daily Reporter Settings*

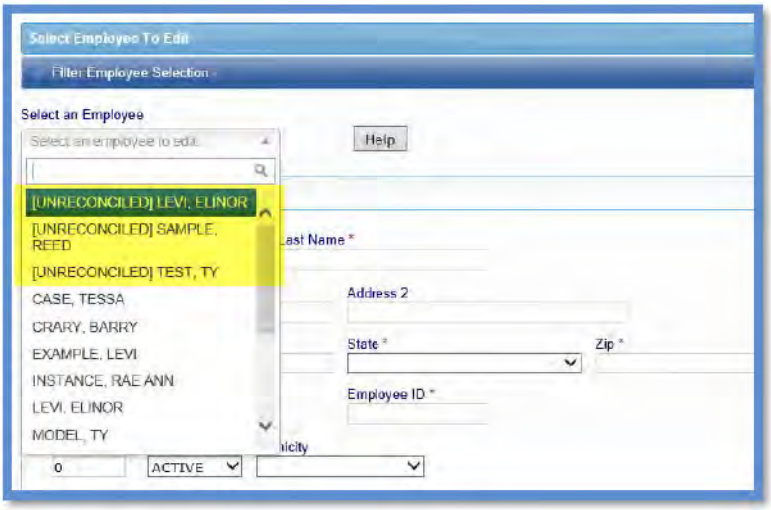
Daily Reporter Managers will now have the ability to enforce or disable different sections of the daily logs for specific projects.



Copy Employees Function Updated

Contractor Database Area Affected: *Set Up Tab > Copy Employees*

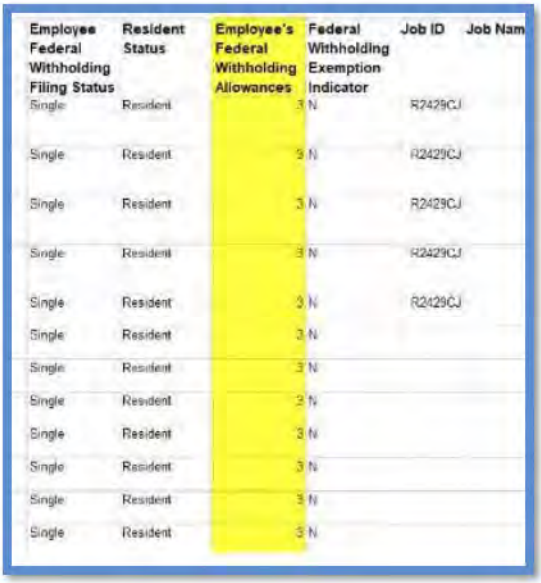
The Copy Employees function will no longer copy "unreconciled employees" from a database utilizing Daily Reporter to another account. Unreconciled employees are generated when an employee is manually entered into a daily log in the Daily Reporter function.



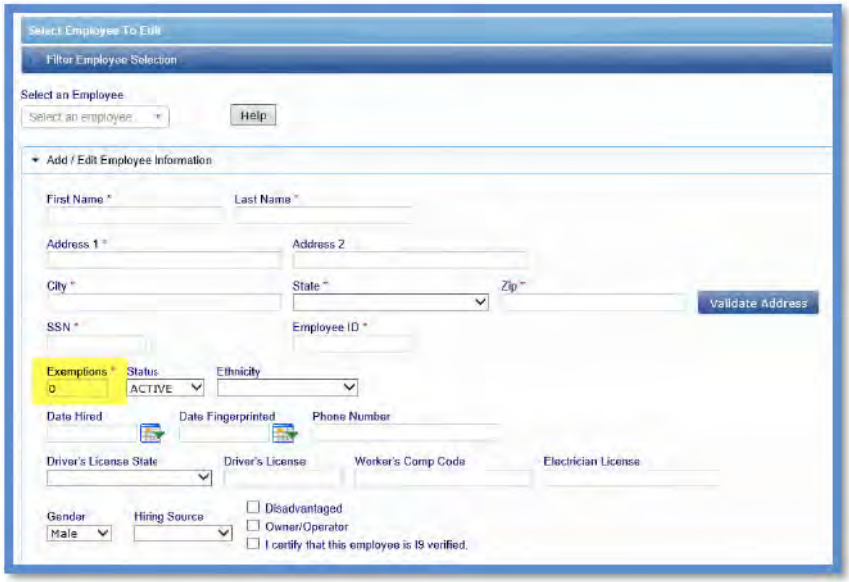
Paychex File Update

Contractor Database Area Affected: *Upload files produced from Paychex*

New column in Paychex file will allow federal exemptions to be uploaded into the system



Employee Federal Withholding Filing Status	Resident Status	Employee's Federal Withholding Allowances	Federal Withholding Exemption Indicator	Job ID	Job Nam
Single	Resident	3	N	R2429CJ	
Single	Resident	3	N	R2429CJ	
Single	Resident	3	N	R2429CJ	
Single	Resident	3	N	R2429CJ	
Single	Resident	3	N	R2429CJ	
Single	Resident	3	N		
Single	Resident	3	N		
Single	Resident	3	N		
Single	Resident	3	N		
Single	Resident	3	N		
Single	Resident	3	N		

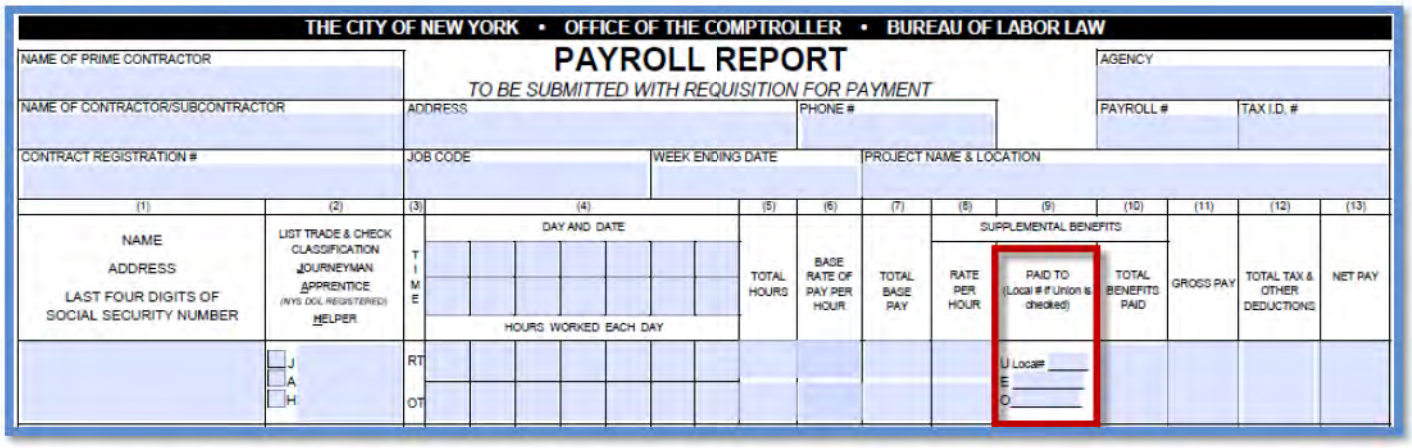


Additional Supplemental Benefit Information in NYC CPR Form-041

Please note that this feature will only impact Contractors working on certain projects utilizing LCPtracker. It is not a database-wide change.

Contractor Database Area Affected: *1. Payroll Records Tab > Enter Records* and on CPRs

The City of New York's certified payroll form requires that Contractors provide information specific to how an employee's supplemental/fringe benefits are paid. (Outlined in red below.)



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NAME OF PRIME CONTRACTOR | **PAYROLL REPORT** *TO BE SUBMITTED WITH REQUISITION FOR PAYMENT* | AGENCY

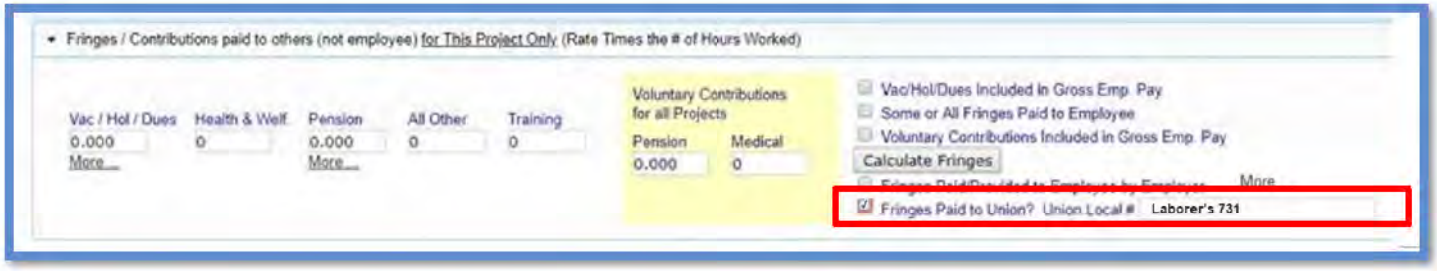
NAME OF CONTRACTOR/SUBCONTRACTOR | ADDRESS | PHONE # | PAYROLL # | TAX I.D. #

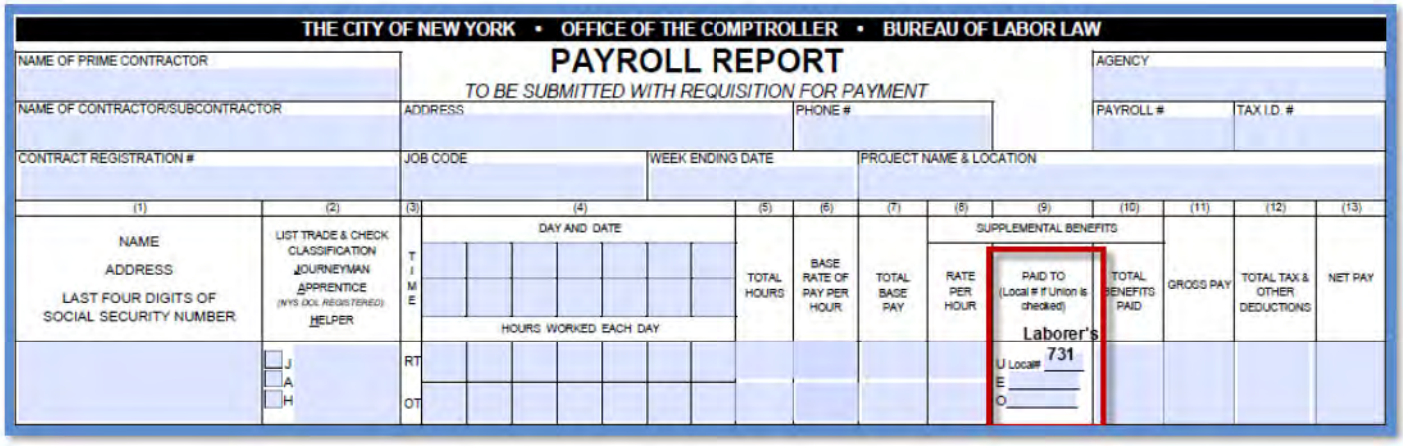
CONTRACT REGISTRATION # | JOB CODE | WEEK ENDING DATE | PROJECT NAME & LOCATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
NAME ADDRESS LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER	LIST TRADE & CHECK CLASSIFICATION JOURNEYMAN APPRENTICE (NYS DOL REGISTERED) HELPER	TIME	DAY AND DATE / HOURS WORKED EACH DAY	TOTAL HOURS	BASE RATE OF PAY PER HOUR	TOTAL BASE PAY	SUPPLEMENTAL BENEFITS: RATE PER HOUR	SUPPLEMENTAL BENEFITS: PAID TO (Local # if Union is checked)	TOTAL BENEFITS PAID	GROSS PAY	TOTAL TAX & OTHER DEDUCTIONS	NET PAY
	☐ J ☐ A ☐ H	RT / OT						U Local# ____ E ____ O ____				

This functionality to comply with this reporting requirement has been added to the payroll entry form, specifically the "Fringes/Contributions paid to other" section, that Contractor's see when entering in an employee's weekly payroll record. The City of New York's certified payroll form provides three options: U = Union, E = Employee, and O = Other. The choice(s) you make on this screen will transfer to the correlating "Paid To" line.

A checkmark in the checkbox for "Fringes Paid to Union? Union Local #" will auto-populate the "U" row on the Supplemental Benefits payment information section. A free-form field next to the checkbox will allow for the Contractor to insert their Union Local name/# specific to that employee. This will then list that Union Local name/# on the "U" row. By checking this box, you are stating that the supplemental/fringe benefits for that employee are being paid to their specific Union.

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PAYROLL REPORT

TO BE SUBMITTED WITH REQUISITION FOR PAYMENT

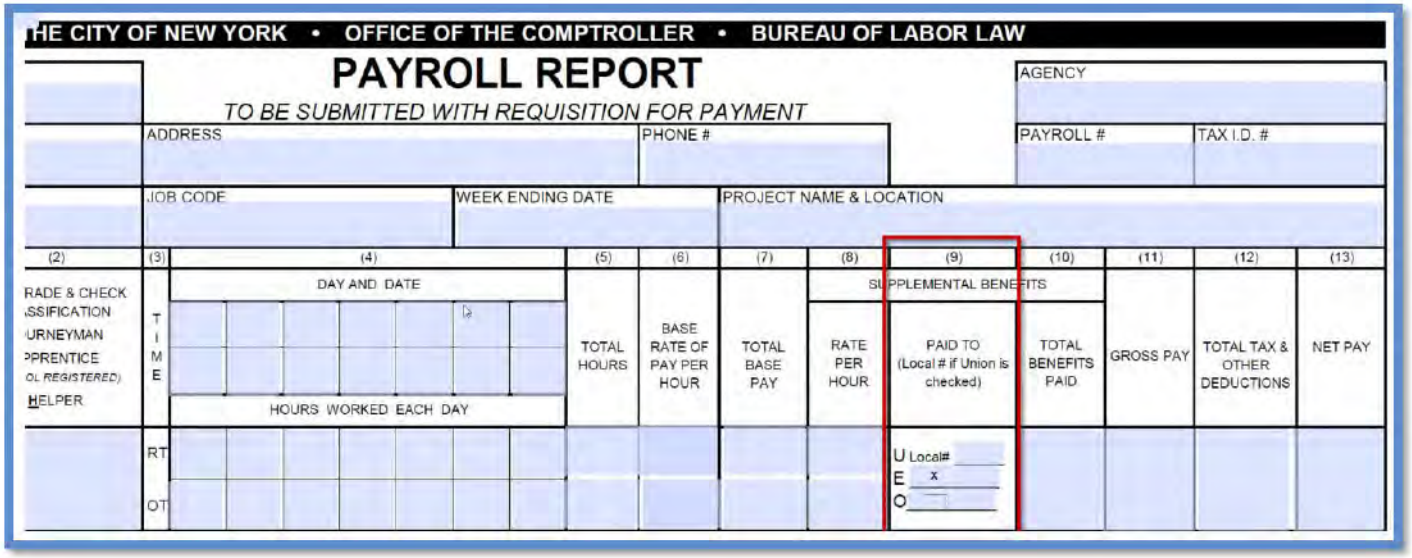
NAME OF PRIME CONTRACTOR | AGENCY

NAME OF CONTRACTOR/SUBCONTRACTOR | ADDRESS | PHONE # | PAYROLL # | TAX I.D. #

CONTRACT REGISTRATION # | JOB CODE | WEEK ENDING DATE | PROJECT NAME & LOCATION

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
NAME ADDRESS LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER	LIST TRADE & CHECK CLASSIFICATION JOURNEYMAN APPRENTICE (NYS DOL REGISTERED) HELPER	TIME	DAY AND DATE HOURS WORKED EACH DAY	TOTAL HOURS	BASE RATE OF PAY PER HOUR	TOTAL BASE PAY	SUPPLEMENTAL BENEFITS: RATE PER HOUR	SUPPLEMENTAL BENEFITS: PAID TO (Local # if Union is checked)	TOTAL BENEFITS PAID	GROSS PAY	TOTAL TAX & OTHER DEDUCTIONS	NET PAY
	J A H	RT OT						Laborer's U Local# 731 E O				

The next row, "E", will automatically transfer to the certified payroll form if any amount is entered in to the "Rate in Lieu of Fringes" field on the payroll entry screen. (Outlined below in red.) By entering an hourly amount in this section, you are stating that the employee has supplemental/fringe benefits paid/provided by the employer to the employee in cash. This will insert "X" for "Employee" on the certified payroll report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PAYROLL REPORT

TO BE SUBMITTED WITH REQUISITION FOR PAYMENT

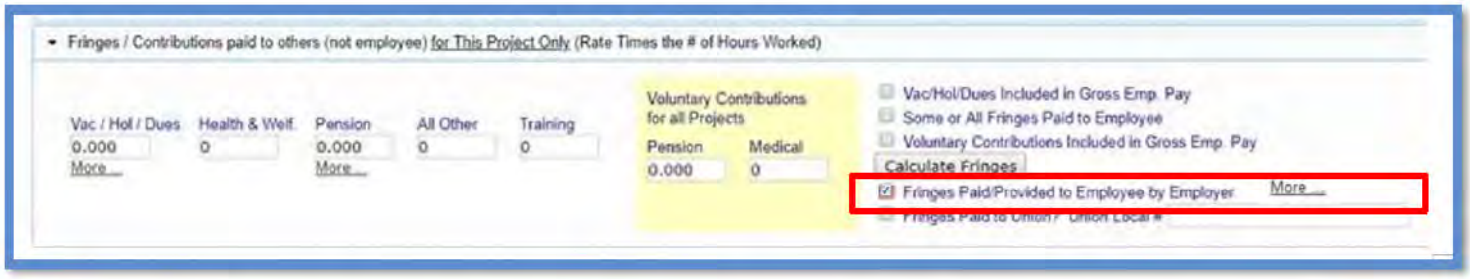
AGENCY

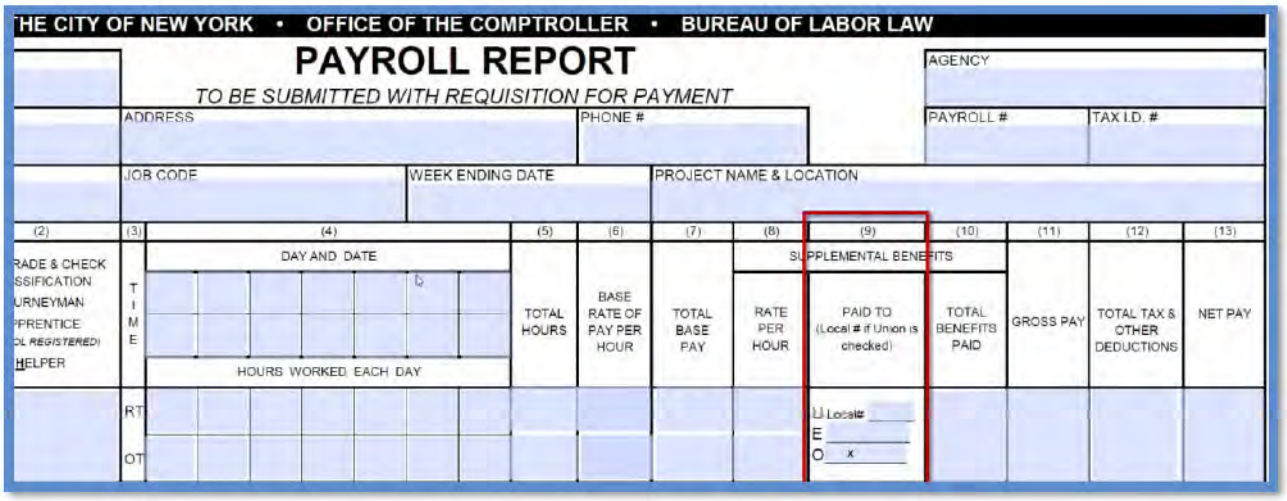
ADDRESS | PHONE # | PAYROLL # | TAX I.D. #

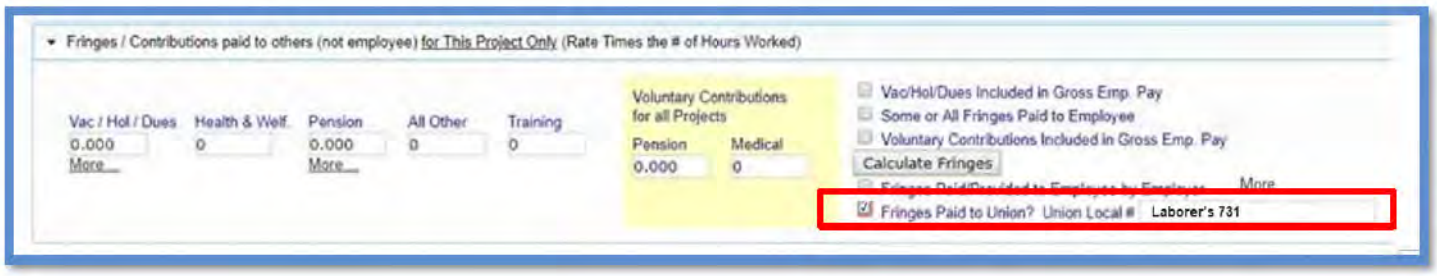
JOB CODE | WEEK ENDING DATE | PROJECT NAME & LOCATION

(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
RADE & CHECK SSIFICATION URNEYMAN PPRENTICE OL REGISTERED) HELPER	TIME	DAY AND DATE HOURS WORKED EACH DAY	TOTAL HOURS	BASE RATE OF PAY PER HOUR	TOTAL BASE PAY	SUPPLEMENTAL BENEFITS: RATE PER HOUR	SUPPLEMENTAL BENEFITS: PAID TO (Local # if Union is checked)	TOTAL BENEFITS PAID	GROSS PAY	TOTAL TAX & OTHER DEDUCTIONS	NET PAY
	RT OT						U Local# E x O				

Finally, a checkmark in the checkbox for "Fringes Paid / Provided to Employee by Employer" will auto-populate the "O" row on the Supplemental Benefit payment information section. By checking this box (outlined below in red), you are stating that the employee has supplemental/fringe benefits paid/provided by the employer to the employee. This will insert "X" for "Other" on the certified payroll report.





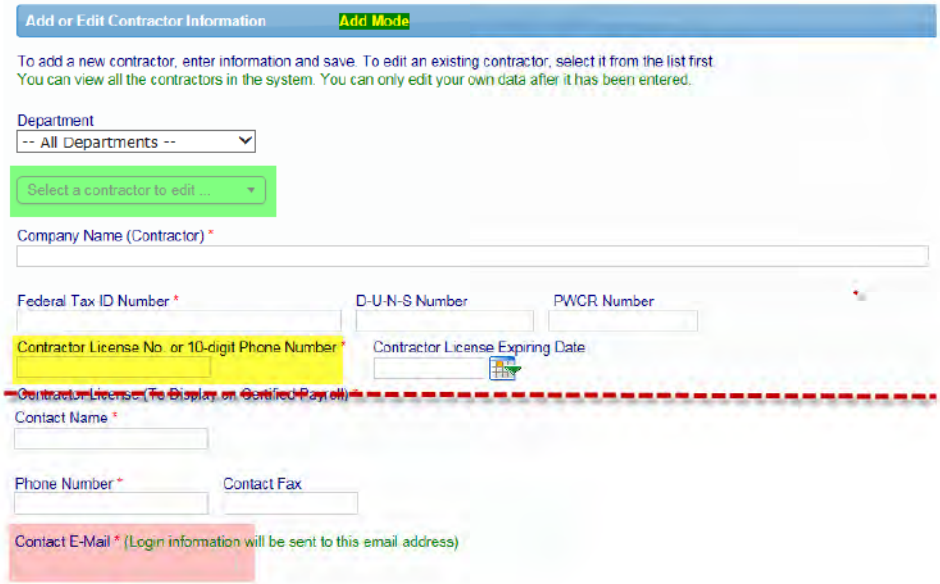


SUBCONTRACTOR SETUP

You will set up the subcontractor below you, and each contractor is responsible for setting up their own subs. Once you've set up your sub, they'll log into their account and then set up any subs beneath them. Their subs will then set up their own subs, and so on and so forth.

Contractor Set Up is a two-step process:

Step 1: Contractor Setup > Add/Edit Contractor



To add, simply fill in the data. Complete the data fields with information provided by your subcontractor. If it is a new entry, ignore the **Select a contractor to edit drop down**. If this is an existing user, you may have read-only access to their information.

Some contractors may already be a user of LCPtracker under another agency database. Ask your subcontractor if they are a current user of LCPtracker. If they are, ask them for their User ID that they currently use to log into the LCPtracker system. You will still be setting this company up with a "new" account under the Agency you are working in. Set them up with the same user ID under your Agency, and the system will automatically link their accounts for them. This prevents them from having to use multiple user ids.

The field marked **Contractor License No. or 10-digit Phone Number** is the field that ultimately becomes the user's ID number, and where you'll enter their existing user ID to link accounts if they have them.

Continue to enter in the rest of the required information on the Subcontractor Setup page and **Save**

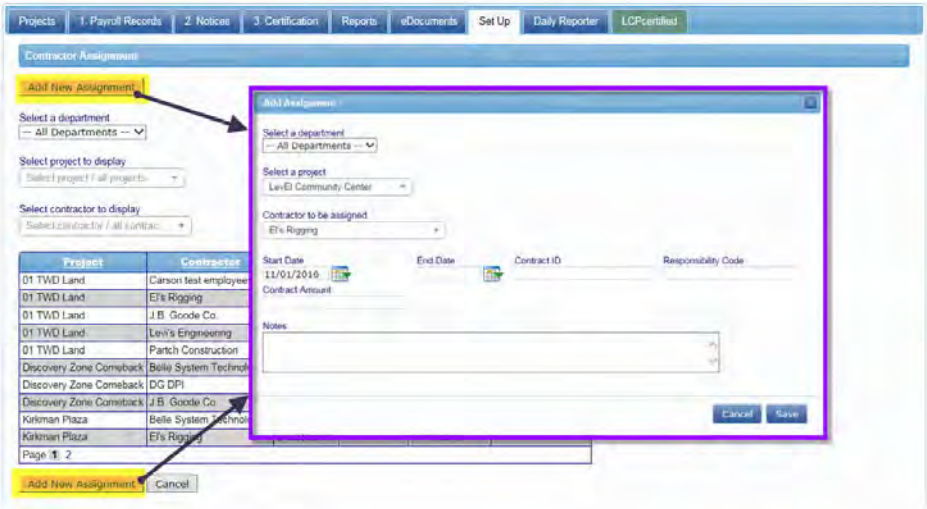
The ***email data field is critical*** as this is how the LCPtracker Program is designed to communicate with system users. Please be sure the email address supplied is correct prior to saving the information to the database. Red asterisks fields are required in order for the system to **Save** information. Some Agencies may have additional requirements. When you are satisfied the information is correct, click **Save**. You will receive a pop-up telling you "Contractor has been sent an email notifying them. Don't forget to assign this Contractor to project".

LCPtracker system will automatically email the subcontractor their User ID and Temporary Password.

Step 2: Contractor Setup > Contractor Assignment

The next step after you have setup your subcontractors in the system is to assign them to the project(s).

You can click on **Add New Assignment**, on the top or the bottom



Select a department – *Optional*, some agencies do not use this selection. You may choose the 'Unassigned Contractors" to make the list shorter to view.

Select a project – You need to choose the Project that you are assigning your Subcontractor to.

Contractor to be assigned – Choose the Subcontractor you need to assign to Project as your Subcontractor. This is usually the Subcontractor you just set up in the system. Some however are

already in the system under this Agency and you just need to assign them to the Project as your Subcontractor. (See next screen shot).

Start Date – Required by some Agencies, typically the date that your Subcontractor is to/or has started working on the project.

End Date – *Optional field*, some agencies want this information.

Contract ID – *Optional field*, some agencies want this information. The Contract ID is the ID of the contract between you and the subcontractor. If you do not have a Contract ID or numbering system be sure to assign a unique ID to this contract.

Responsibility Code – *Optional field*, some agencies want this information.

Contract Amount – *Optional field*, some agencies want this information. This is the amount of the contract between you and your subcontractor.

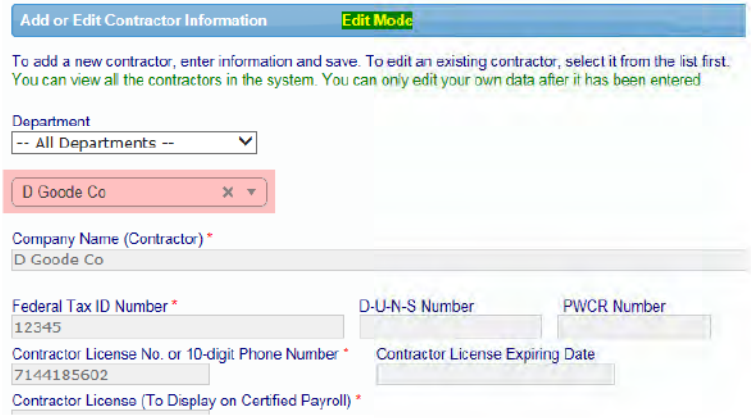
Notes – *Optional field*, some agencies want this information or you may choose to add your own notes.

After you have made your choices from the drop down and entered any required information, be sure to **Save**. Once you've saved, your sub will be sent a second email informing them they've been assigned to a project.

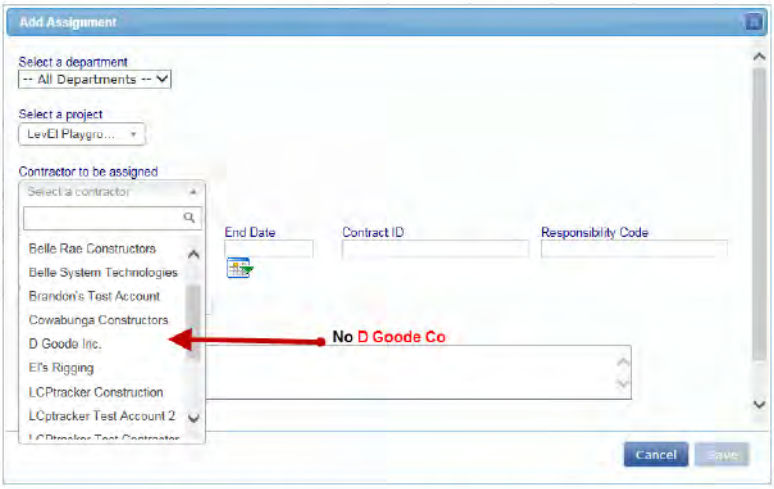
You will now see a saved **contractor assignment** listed in the Contractor Assignment Screen. The Date Assigned is a system generated Date Stamp. This is the date that the Contractor was assigned to the project.

MULTIPLE CONTRACTOR ASSIGNMENTS

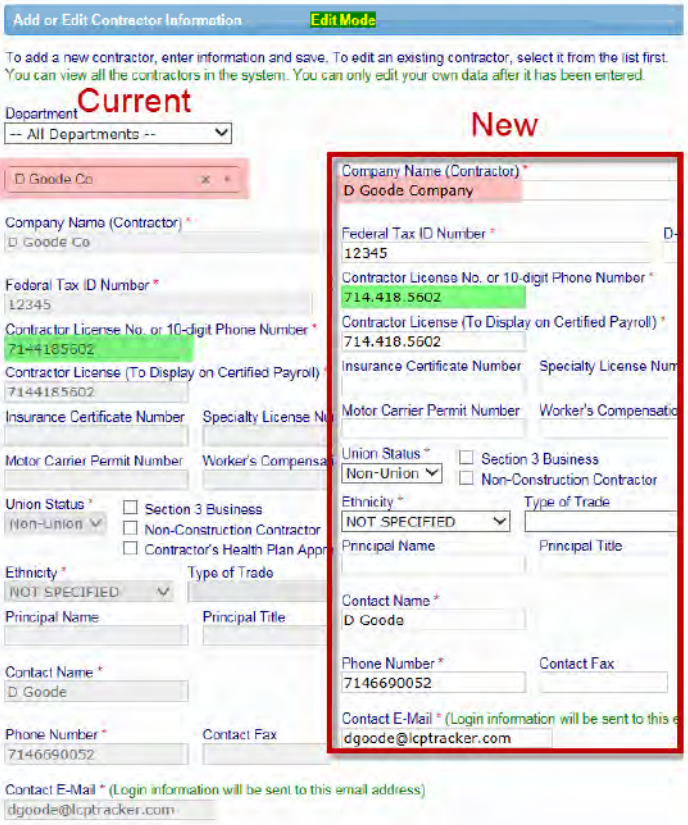
If you're finding a subcontractor has an existing account:



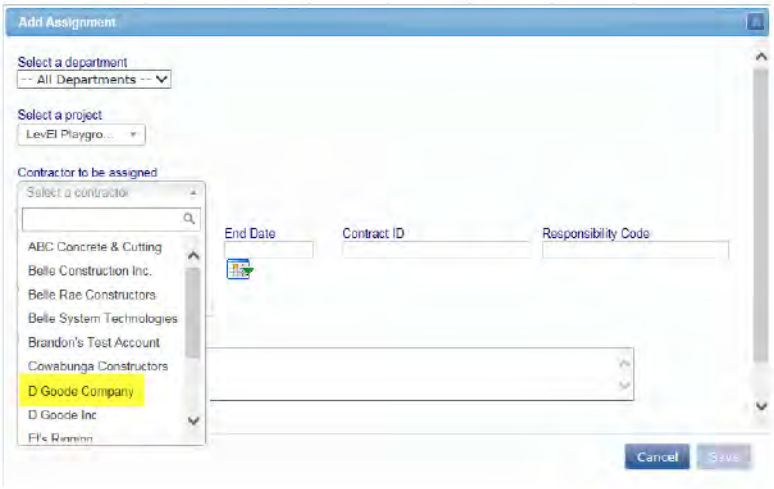
But you're not able to find them when assigning them to a project:



Chances are they already have an existing assignment to that project under a different general contractor. In this situation, you'll need to create a new account for them under subcontractor setup, being sure to use a slightly different company name and user ID:



Then you'll be able to assign the new account as a sub to you:



FRINGE BENEFITS

Fringe benefits explanation from the DOL (Department of Labor) website - http://www.dol.gov/whd/foremployers.htm

FRINGE BENEFITS ARE:

Contributions irrevocably made to a trustee or third party pursuant to a bona fide fringe benefit fund plan or program. The rate of costs incurred in providing bona fide fringe benefits pursuant to an enforceable commitment to carry out a financially responsible plan or program, which was communicated to the employees in writing.

Examples:

- Life insurance
- Health insurance
- Pension
- Vacation
- Holidays
- Sick leave
- Other "bona fide" fringe benefits

However, payments required by federal, state or local law are not fringe benefit contributions. Such payments required to fund Social Security, unemployment compensation and workers' compensation programs, as required by law, do not count as fringe benefits.

Any question concerning what type of fringe benefits is "bona fide" should be referred to the Wage and Hour Division.

Here are two examples of how some Wage Rate Sheet/Wage Decision or State pages may look, please note that these are only examples, your state may look different.

Either of these examples the required Basic Hourly rate or Base pay is the highlighted Blue value. This would be the minimal hourly rate you would have to pay the employee for doing this trade. The other values would be considered Fringes, either to a bona fide fringe benefit plan, cash fringe, or combination of both.

Example A:

	Rates	Fringes
Plumber	*$ 30.27*	$ 13.10

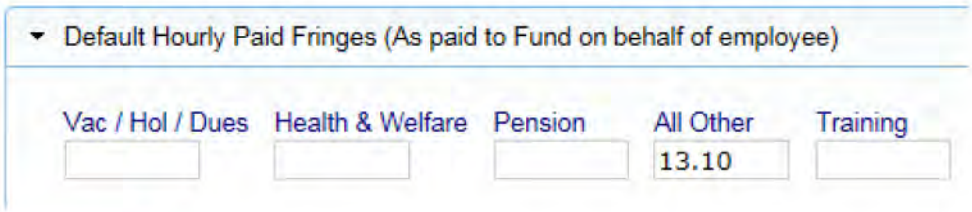
Example B: [Fringes added up together = 13.10]

Basic Hourly Rate	Health & Welfare	Pension	Vacation/ Holiday	Training	Other	Total Hourly Rate
$30.27	$7.55	$3.04	$1.05	$0.64	$0.82	$43.37

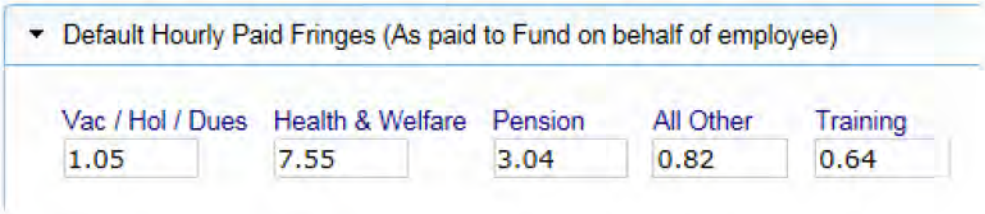
Entering hourly fringe rates either in the ***Add/Edit Employee*** section - ***Default Hourly Paid Fringes (As paid to Fund on behalf of employee)*** or using the ***Fringe Benefit Maintenance*** table.

SET UP > ADD/EDIT EMPLOYEE

Example A:

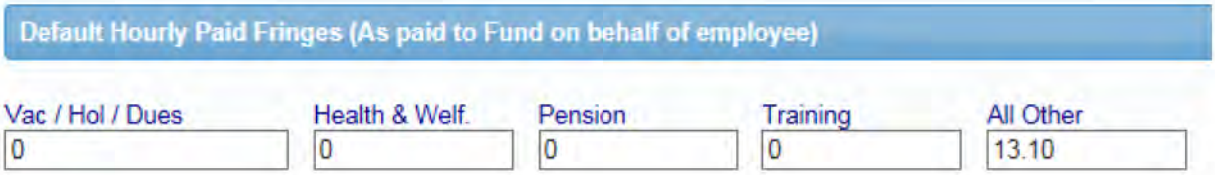


Example B:

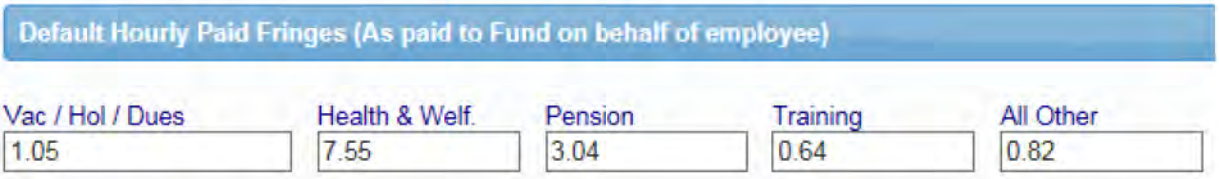


SET UP > FRINGE BENEFITS MAINTENANCE

Example A:



Example B:



PAYROLL RECORD ENTRY SCREEN

Example A - Shows as a company that has a bona fide fringe benefit package. The employee receives $30.27 /hour for base pay. The remainder of dollar values the company pays/sends to a bona fide fringe benefit plan. All values count towards the Total Hourly Rate or Total Package requirement.

Example B – Shows the same value is going to a bona fide plan, it's just not broken down. It is suggested that you do break down if at all possible, most agencies wish to see the per bona fide fringe breakdown.

Example C – Shows a combination of both a bona fide fringe benefit plan as well as paying a cash fringe in order to meet the Total Hourly Rate / Total Package requirement.

Example D - Does not have a bona fide fringe benefit plan and so the entire fringe is going to the employee in cash fringe / rate in lieu of fringe.

VACATION/HOLIDAY/DUES OPTIONS

The following is a more detailed explanation of the entering of Vacation and Holiday pay.

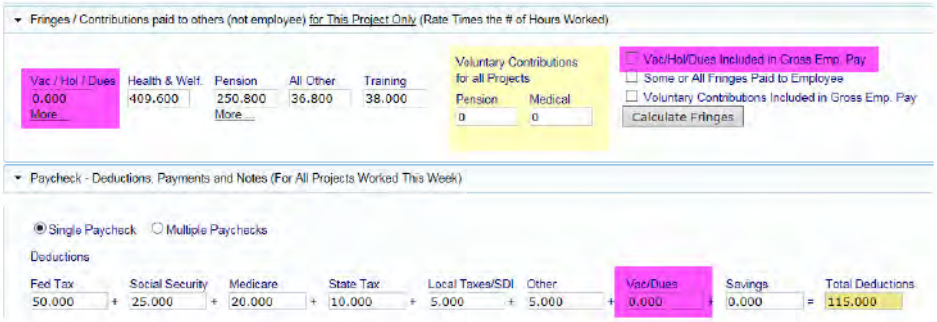
Case 1 Vacation and Holiday is paid to the employee as additional wages. Enter the paycheck gross amount as part of the Gross Employee Pay This Project. Enter $0.00 in the fringe benefit area and check the Vac/Hol/Dues in Gross Emp. Pay box.

This would be what you consider the employees Hourly Rate of Pay. You are paying it as part of the wages and would be factored as part of overtime/double-time factoring if hours worked. The hourly rates x the hours posted would equal the Gross Pay This Project field.

Case 2 Vacation and Holiday is included in the paycheck to calculate taxes but is paid to another fund (union) and thus deducted from the paycheck. Enter the paycheck gross amount as part of the Gross Employee Pay This Project. Enter the $value in the fringe benefit area and check the box that says Vac/Hol/Dues Included in Gross Emp. Pay. In this scenario you would also show the deduction in the Deductions, Payments and Notes (taxes) section under the Vac/Dues field.

Case 3 Vacation and Holiday is not included in the paycheck. The Vacation and Holiday is only paid to a fund and taxes are assessed when paid. Enter the amount of the Vac/Hol in the field. Check the Vac/Hol/Dues Included in Gross Emp. Pay box. It would only be part of the Gross Pay This Project if the employee takes and is being paid for. So you are showing the Fringe value, however it is not sent to any fund (union) or assessed taxes until it is taken.

Case 4 Vacation and Holiday is accrued and taxes are assessed when paid. Enter the amount of the Vac/Hol/ Dues in the field. This approach may not be accepted by some agencies.



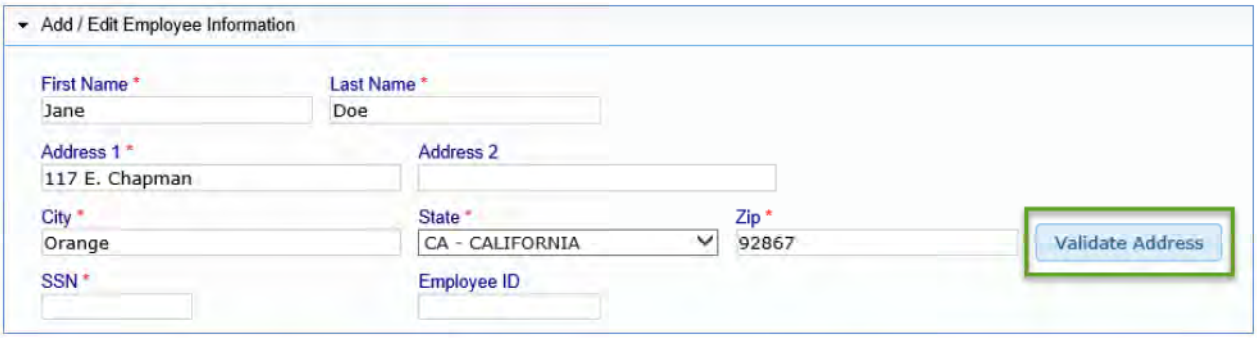
ADDRESS VALIDATION

LCPtracker has designed a tool that will help ensure the accuracy of employee address data. Accurate employee data is vital to promote workforce development through establishing local hiring employment opportunities.

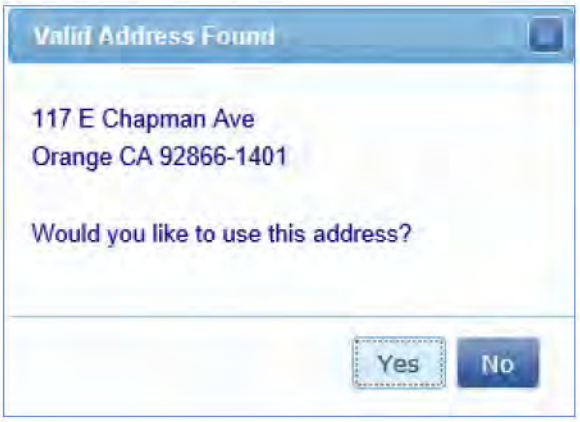
These changes will not have much of an impact on the work required to submit payroll information through LCPtracker. They will however have a significant positive impact on the quality of reporting generated.

You will now see a "Validate Address" button within the **Add/Edit Employee** section of your account. Depending on the agency you're reporting to, you may be required to validate the addresses entered on file.

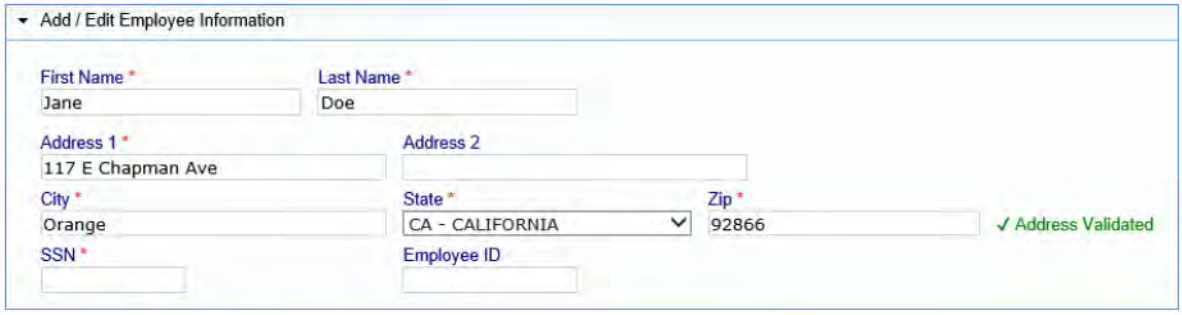
From the **Add/Edit Employee** Screen you will see the **Validate Address** Button:



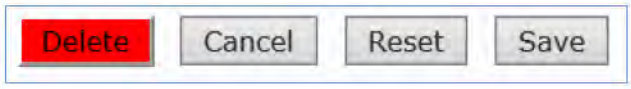
When selected, the address entered will be compared to the US Postal Service database and a possible match may be suggested:



If you select **Yes**, then the data will now appear in the address fields in the employee screen and **Address Validated** will show in green:



Be sure to click **Save**:



If the agency you are reporting to *requires* employee addresses to be validated, you may receive this message when attempting to **Save** an employee's profile:

If you select "**No**" the employee profile will not be saved.

If the you select "**Yes**" the employee record will be saved, however a Payroll Notice will trigger that will prevent certification. Your Project Administrator will need to determine if the employee should be exempt from Address Validation.

Type	Jurisdiction	Notice(s) / Warning(s) for this record
NOTICE	California	The employee's address has not been verified. Go to Employee Setup, and verify the address of this employee. VAL_59

ADDRESS VALIDATION EXEMPTION

A situation could arise where an employee's address is valid but it is not found within the USPS database. This could be due to several factors including employees who live in rural areas, or who's homes are newly built and have not been established with the USPS database.

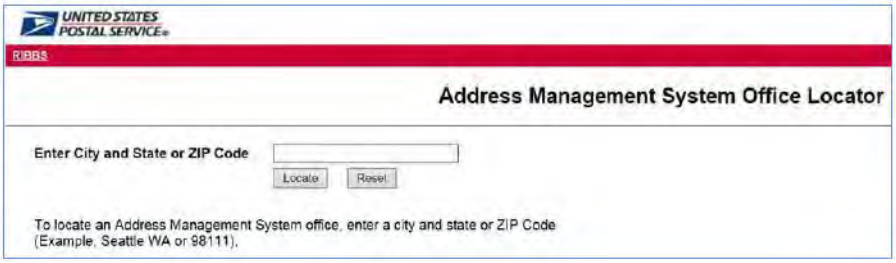
If you have determined that the address entered is valid, but the system does not validate and provide a possible match, you will need to contact your Project Administrator to request an exemption. Their contact information is available within the **Projects** tab > click **Show Info** next to the project name.

It is also suggested that you contact the USPS Address Management System. They will be able to determine if the address needs to be added to their database.

CONTACTING USPS

Go to https://ribbs.usps.gov/locators/find-ams.cfm to locate the Address Management System Office that serves the zip code for the address provided.

Here is an example:



These are the results returned (**SAMPLE ONLY**):

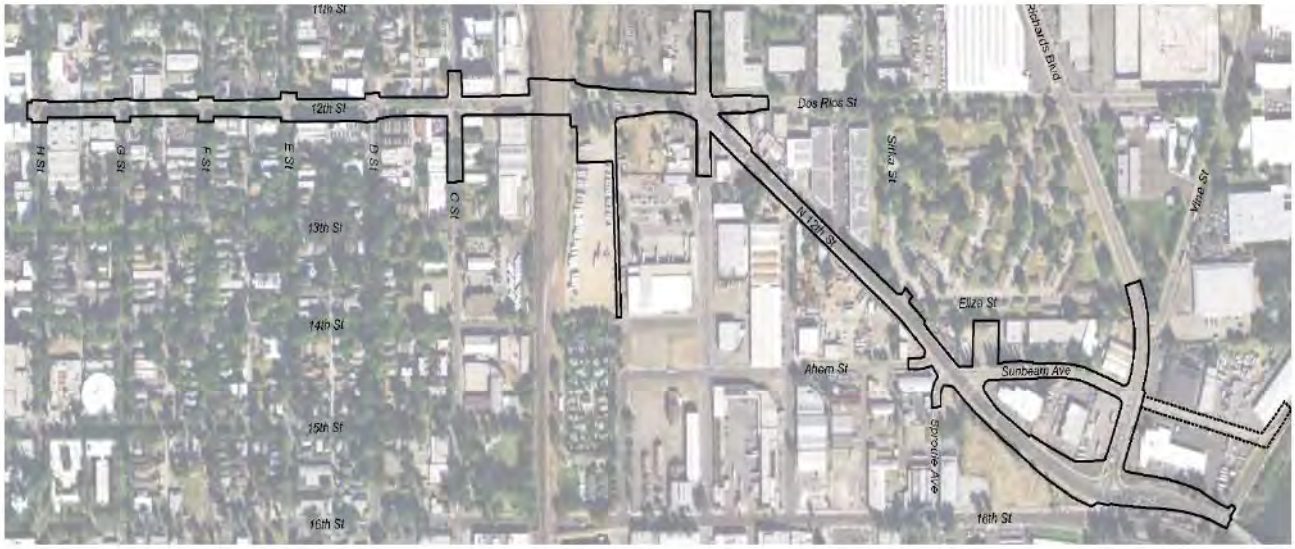
> The Address Management System office that serves **92648** can be contacted at:
>
> **ADDRESS MANAGEMENT SYSTEMS**
> **UNITED STATES POSTAL SERVICE**
> **3101 W SUNFLOWER AVE**
> **SANTA ANA CA 92799-9316**
>
> ***Phone*** **: (714) 662-6330**
> ***Fax*** **: (714) 327-6505**

Contact the Phone Number provided and they will check to see if the address is valid. If they determine that it is a valid address they will need to update their database which can take 2-5 weeks depending on where they are in the release cycle.

APPENDIX A - SITE INVESTIGATION REPORT

North 12th Street Complete Streets Project
City of Sacramento, Sacramento County, California

Preliminary Site Investigation-Aerially Deposited Lead Study



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August 2019

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North 12th Street Complete Streets Project
City of Sacramento, Sacramento County, California

Preliminary Site Investigation-Aerially Deposited Lead Study

Submitted to: **City of Sacramento, Department of Public Works**

This report has been prepared by or under the supervision of the following Professional Geologist. The Registered Professional Geologist attests to the technical information contained herein and has judged the qualifications of any technical specialists providing environmental data upon which recommendations, conclusions, and decisions are based.

Melissa McAssey
Professional Geologist #8132

8-14-19
Date

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Executive Summary

The City of Sacramento proposes construction of a Complete Streets Project (Project) along North 12th Street (St), from the northern extent at Richards Boulevard (Blvd) to the southern extent at H St, in Sacramento, California. The Project proposes to construct new sidewalks, landscaping, aesthetic improvements, street and pedestrian lighting, and traffic signal improvements (City of Sacramento, 2019). The Preliminary Site Investigation (PSI) – Aerially Deposited Lead (ADL) Study was performed to verify the presence/absence of Recognized Environmental Conditions (REC) outlined in the Initial Site Assessment Report (Blackburn Consulting 2017), to evaluate the available options for soil disposal or reuse, and to provide guidance for waste management and worker safety during construction.

This report presents the results of the PSI-ADL Study conducted by WRECO for the Project corridor where 15 boring locations were sampled along North 12th St within the City of Sacramento's right-of-way. A subsurface investigation was conducted by WRECO staff on January 17, 2019, that included collecting shallow soil samples from 15 borings in areas proposed for excavation and soil disturbance along the Project corridor.

Fifteen shallow soil borings were sampled along the proposed Project corridor, North 12th St, from H St to Richards Boulevard, and 42 soil samples (at depths of 0-1 feet, 1-2 feet, and 2-3 feet) were analyzed for lead and pH using the Environmental Protection Agency (EPA) Method 6010B and 9045, respectively. Detectable lead concentrations ranged from 2.8 to 470 milligrams per kilogram (mg/kg). The pH of the 42 samples analyzed ranged from 6.22 to 10.23. Eleven soil samples out of 42 had lead concentrations exceeding 10 times the Soluble Threshold Limit Concentration (STLC) value of 5 milligrams per liter (mg/L) but were below the Total Threshold Limit Concentration (TTLC) value (1,000 mg/kg). Nine of the 11 soil samples were analyzed for California Waste Extraction Test (CA WET) to evaluate the STLC concentrations (2 soil samples did not have enough remaining soil to be analyzed). Laboratory results indicated that 3 of the 9 soil samples analyzed had CA WET lead concentrations above the STLC value of 5 mg/L. These concentrations are representative of the shallow soil in the borings they were collected from and meet the criteria for California Hazardous Waste. The three samples were analyzed for toxicity characteristic leaching procedure (TCLP) to determine if the lead concentrations exceeded federal standards. The laboratory results indicated that lead concentrations were below the TCLP value (5 mg/L), and the shallow soil does not meet criteria for RCRA Hazardous Waste. Based on the exceedances and waste classification for Borings SB-5 and SB-6 (CA Hazardous), the intersection of N 12th St at B St and Dos Rios St, will need to be managed during construction activities.

Statistical methods were applied to the total lead data to evaluate the upper confidence limit (UCL) of the arithmetic means of the total lead concentrations for each sampling depth. The total lead data were treated as one sample population for statistical evaluation of the 95% UCL. The UCL calculations were completed for each of the three depth ranges, 0-1 feet, 1-2 feet, and 2-3 feet bgs, yielding the average detectable lead concentration results of 56.77, 43.02, and 5.94 mg/kg, respectively. Except for specific borings discussed in the summary table below, the shallow soil can be reused based on lead concentrations, since the 95% UCLs are less than the TTLC of 1,000 mg/kg and below the California EPA soil guideline of 80 mg/kg.

Eight composite soil samples had additional testing performed, that included organochlorine pesticides (EPA Method 8081A); polynuclear aromatics hydrocarbons (PNA) (EPA Method 8270C); total petroleum hydrocarbons (TPH) as gasoline (-g) and as diesel (-d) (EPA Method 8015M); benzene/toluene/ethylbenzene/xylenes (BTEX) and volatile organic compounds (VOC) (EPA Method 8260B); polychlorinated biphenyls (PCB) (EPA Method 8082A); CAM-17 metals and mercury (EPA Method 6010 and 7471B). All concentrations of Pesticides, PNAs, TPH-g, TPH-d, BTEX, VOCs, and PCBs were below detection limits, except for two low detectable concentrations of TPH-d in composite samples SB-6 (5.5 mg/kg) and SB-15 (4.7 mg/kg).

Composite soil samples SB-12, and SB-15 were analyzed for CAM-17 metals and had detectable arsenic concentrations of 5.3 and 8.0 mg/kg, respectively, which are below the STLC limit (10 times the STLC of 5 mg/L). The soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd) may be pre-classified as Non-Hazardous. These samples did exceed the ESLs and CHHSLs for residential, commercial/industrial, and construction worker exposure limits (cancer risk). Therefore, the soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd) need to be managed for worker safety during construction.

Composite soil samples SB-12 and SB-15 had detectable chromium concentrations of 43 and 49 mg/kg, respectively, which are below the STLC limit (10 times the STLC of 5 mg/L). The soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd), may be pre-classified as Non-Hazardous. These samples did exceed the ESLs and CHHSLs for residential, commercial/industrial, and construction worker exposure limits (Cr VI - cancer risk); however, the concentrations are below ESLs and CHHSLs for Cr III and VI – non-cancer hazard (there are no values for total chromium). Therefore, the soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd), need to be managed for worker safety during construction.

The lead concentrations for composite sample SB-5 was 180 mg/kg (*TTLC*), 5.2 mg/L (*STLC*), and 0.53 mg/L (*TCLP*). The lead concentrations for samples SB-5-0-1, SB-5-1-2, and SB-5-2-3 are 73 mg/kg (*TTLC*)/1.8 mg/L (*STLC*); 72 mg/kg (*TTLC*)/13 mg/L (*STLC*)/ND (*TCLP*); and 100 mg/kg (*TTLC*) (insufficient amount of sample to run additional STLC analyses), respectively. Composite sample SB-5 and sample SB-5-1-2 can be pre-classified as California Hazardous. The lead concentrations for composite sample SB-5 exceeded the ESLs and CHHSLs for residential and construction worker exposure, and sample SB-5-2-3 exceeded the ESLs and CHHSLs for residential exposure. The soil in the area near SB-5 may be pre-classified as California Hazardous and needs to be managed for worker safety during construction.

The contractor(s) should prepare a project-specific Lead Compliance Plan (CCR Title 8, §1532.1, "Lead in Construction" standard) to minimize worker exposure to lead-containing soil for areas specified along N 12th St (SB-5 and SB-6). 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 lead-containing soil.

A summary of this study's recommendations is presented below:

Identified RECs and Recommendations

Description	Evidence of Potential REC	Recommended Action(s)
Shallow soil with lead concentrations exceeding the STLC limit (ADL)	Soil borings SB-5-1-2, SB-5 (Composite), and SB-6-0-1 had lead concentrations above the STLC limit (5 mg/L), which at levels that classifies them as "California Hazardous Waste,". but not "RCRA Hazardous."	The shallow soil from the intersection of B St and N 12th St, near SB-5 and SB-6, can be pre-classified as (Non-RCRA) California Hazardous. Soil from these areas will need to be segregated in stockpiles and disposed of at a Class I Landfill (per Section 25117/25141 of the California Health and Safety Code).
Shallow soil with lead concentrations exceeding RWQCB ESLs (ADL)	The soil borings SB-7-0-1 and SB-7-1-2 had lead concentrations that exceeded the residential and construction worker ESLs for lead. Soil sample SB-7-1-2 also exceeded the exposure to construction workers ESL.	The shallow soil from the area represented by boring SB-7-0-1 and SB-7-1-2 will not be reused at any off-site locations. The soil can be reused for commercial/industrial purposes or disposed at a Class II or Class III Landfill.
Shallow soil with lead below limits (ADL)	All the other soil borings along the N 12th St corridor had lead concentrations below the TTLC/STLC and RWQCB ESLs for residential, commercial/industrial land use, and exposure to construction workers and considered Non-Hazardous.	The shallow soil from the areas near the other borings had lead concentrations that were below all limits, and can be reused along the corridor or disposed at a Class III Landfill.
Shallow soil samples with arsenic and chromium	The composite samples for borings SB-12 and SB-15 were analyzed for CAM-17 metals, among other COCs, and had detectable arsenic concentrations of 5.3 and 8.0 mg/kg, respectively, which are above all the RWQCB ESLs. In addition, composite samples SB-12 and SB-15 also had detectable chromium concentrations of 43 and 49 mg/kg, respectively, which are above all the RWQCB ESLs. for residential use, commercial/ industrial use, and construction worker safety. The arsenic and chromium levels at SB-12 and SB-15 do not exceed the TTLC/STLC limits.	The shallow soils from the areas near represented by SB-12 and SB-15 can be pre-classified as Non-Hazardous, and can be disposed at a Class III Landfill., consistent with CCR Title 22 §66262.11 waste classification.
Yellow Traffic Stripe Removal	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic striping and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22 CCR and require disposal in a Class I disposal site.	Abate striping on N 12th St prior to construction following DOT SSPs: • Caltrans SSP 14-11.12 (10/19/2018) - Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue - Requires proper management of hazardous waste residue and a lead compliance plan. • Caltrans SSP 84-9.03C (10/19/2018) - Remove Traffic Stripes and Pavement Markings Containing Lead - Requires a lead compliance plan for removal when residue is non-hazardous. Used for new yellow paints and all other colors of paint.

Acronyms

40 CFR	Chapter 40 of the Code of Federal Regulations
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
AMSL	above mean sea level
Ave	avenue
bgs	below ground surface
Blvd	boulevard
BTEX	benzene/toluene/ethylbenzene/xylenes
CA WET	California Waste Extraction Test
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CHHSLs	California Human Health Screening Levels
City	City of Sacramento
CLS	California Laboratory Services
COCs	Contaminants of Concern
County	Sacramento County
DPT	Direct Push Technology
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency
ESLs	Environmental Screening Levels
ft	feet
I-	Interstate
IDW	investigation derived waste
ISA	Initial Site Assessment
LUC	Land Use Covenant
mg/kg	milligrams per kilograms
mg/L	milligrams per liter
N	North
ND	not detected
NOA	Naturally Occurring Asbestos
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PG	Professional Geologist
PNA	polynuclear aromatic hydrocarbons
Project	North 12th Street Complete Streets Project
PSI	Preliminary Site Investigation
RCRA	Resource Conservation Recovery Act
REC	recognized environmental condition
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SMUD	Sacramento Municipal Utility District
SSP	Standard Special Provisions
St	street

STLC	soluble threshold limit concentration
TCE	temporary construction easements
TCLP	toxicity characteristic leaching procedure
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TPH-g	total petroleum hydrocarbons as gasoline
TPH-mo	total petroleum hydrocarbons as motor oil
TTLC	total threshold limit concentration
UCL	upper confidence limit
UPRR	Union Pacific Railroad
UST	underground fuel storage tank
VOCs	volatile organic compounds

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1 INTRODUCTION

This report presents the results of the Preliminary Site Investigation (PSI)–Aerially Deposited Lead (ADL) Study conducted by WRECO, on behalf of the City of Sacramento (City) for the North (N) 12th Street (St) Complete Streets Project (Project), in Sacramento County (County), California. The Project corridor is located approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe. Sacramento is a major transportation hub, the point of intersection of transportation routes that connect Sacramento to the San Francisco Bay area to the west, the Sierra Nevada Mountain Range and Nevada to the east, Los Angeles to the south, and Oregon and the Pacific Northwest to the north. The City is bisected by several major freeways including Interstate 5 (I-5) that traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno; and U.S. Highway 50 which provides an east-west connection between Sacramento and South Lake Tahoe. The Project vicinity map is shown in Figure 1, and the Project area location is shown in Figure 2.

A subsurface investigation was conducted by WRECO staff on January 17, 2019, that included shallow soil sampling of 15 borings in areas proposed for excavation/soil disturbance along the N 12th St Project corridor. The PSI-ADL Study was performed to verify the presence/absence of RECs outlined in the Initial Site Assessment (ISA) Report (Blackburn Consulting 2017), to evaluate the available options for soil disposal or reuse, and to provide guidance for waste management and worker safety during construction.

1.1 Project Description

The purpose of the proposed Project is to improve and transform the N 12th St/12th St Corridor from Richards Boulevard south to H Street into a complete street. The Project corridor is located within both the City's River District and Alkali Flat/Mansion Flats Neighborhoods. North 12th St is the major transportation artery for access to downtown from North Sacramento. The Project would incorporate the River District's vision of transforming the existing light industrial and commercial area into an urban community of diverse uses. Improvements are proposed within an alignment along N 12th St, improving and transforming the N 12th St corridor into a Complete Street with lane reduction and the installation of a Class IV separated bikeway along the west side of N 12th St. The proposed Project also includes the construction of new sidewalks, landscaping, bus landings, street and pedestrian lighting, and a new traffic signal at the Richards Blvd and Sunbeam Avenue (Ave) intersection. While N 12th Street currently serves as a significant transit corridor for both bus and light rail, the proposed alternative transportation improvements are needed to further activate mobility on this critical roadway link. Right-of-way (ROW) acquisition is anticipated for the Project. The area of direct physical construction for the Project corridor would generally be limited to the western-most lane of 12th St/N 12th St, as well as limited peripheral areas.

The improvements proposed for this Project include:

- Vehicle lane reduction from 4 to 3 travel lanes
- 10-ft, two-way Class IV bikeway
- 4-ft to 8-ft striped buffer with flexible posts
- Green paint at conflict points
- Sidewalk, driveway, and curb ramp improvements

- Signal and lighting improvements
- Lighting enhancements at Union Pacific Railroad (UPRR) underpass
- Landscape and aesthetic improvements

The Project plans to convert the westernmost travel lane on N 12th St from Richards Boulevard to H St into a two-way cycle track with streetscape and provides a direct connection from the American River Two Rivers Trail to Downtown Sacramento. The Project will make N 12th St accessible for all modes of transportation, provide bi-directional bicycle access between the River District and Downtown, enhance safety along the corridor, improve air quality, encourage economic development, make active transportation modes of transportation convenient for residents, and improve the aesthetics of this gateway to the central part of the City.

1.1.1 Principal Project Elements

Bike Facilities

To close the existing gap in the bicycle network from the existing Two Rivers Trail to Downtown Sacramento, a two-way Class IV separated bikeway would be installed within the western-most vehicle travel lane along N 12th St beginning from C St northwards to Sunbeam Ave. The two-way Class IV separated bikeway would continue along Sunbeam Ave and convert to a Class I bikeway along Richards Blvd, which would connect with the existing Two Rivers Trail.

The Class IV separated bikeway from C St to Richards Blvd would be separated from the roadway by a buffer that would have an average 5-foot width with flexible post delineators spaced at even intervals. This buffer would also vary in width at isolated areas from about 6 feet to 14 feet between C St and North B St. On Richards Blvd from Sunbeam Ave to N 12th St, the Class I bikeway would be at the same grade as the sidewalk and would be separated from the sidewalk by a narrow landscape or bioswale strip. Green-colored pavement would be applied in areas where there is potential conflict or crossing areas between bicyclist and vehicle, such as driveways and intersections. The green-colored pavement is intended to increase awareness and visibility of both bicyclist and motorist.

The segment between H Street and C Street would consist of converting the western-most vehicle travel lane to on-street parking by reducing the existing four-lane vehicle roadway to a three-lane vehicle roadway. Class II or III bicycle lanes would be provided in this segment.

Sidewalks

The existing sidewalk on the north side of Richards Blvd from N 12th St to Sunbeam Ave would be converted to a two-way, Class I bikeway. A new sidewalk would be constructed north of and parallel to the existing sidewalk. The proposed sidewalk would be separated from the Class I bikeway by a proposed narrow bioswale strip, where feasible.

The existing sidewalk along Sunbeam Ave would be maintained except for the construction of a bus turnout area along southbound Sunbeam Ave near its intersection with N 12th St. The sidewalk in this area would be re-constructed to make room for the new bus turnout area.

The sidewalk would be reconstructed on the west side of N 12th St at the North B St intersection. To accommodate the new southbound right turn pocket and the two-way Class IV separated bikeway on N 12th St, the sidewalk would be shifted westward. The southwest corner of the intersection would be reconstructed and extended east to reduce the crosswalk length across N 12th St. Americans with Disabilities Act (ADA) compliant curb ramps would be installed at the corner of the intersection. Existing driveways not in compliance with the latest ADA standards would also be reconstructed for compliance.

The existing sidewalk along the south side of Dos Rios St would be realigned and reconstructed for approximately 220 ft starting from the intersection of N 12th St/North B St to conform with the re-construction of N 12th St at the North B St intersection, including the new two-way Class IV separated bikeway on N 12th St.

Median

New median islands would be installed on the west side of North B St and would extend eastward to its intersection with the proposed crosswalk along the west leg of the North B St/N 12th St intersection. This change in median island configuration is designed to eliminate the through movement from southbound Dos Rios St to N 12th St and restrict to a right-turn movement to prevent conflict with the proposed two-way Class IV separated bikeway. The new median island would serve as a prohibitive barrier for vehicles attempting to make this turn movement. A median island on Dos Rios St and North B St would be constructed to prohibit left-turn movements from existing adjacent parcels to eliminate conflicts at the intersection.

On-Street Parking

A mix of business and residential properties are fronting 12th St, and to meet growing parking demands, the Project would install pavement striping to designate new on-street parking stalls on the west side of 12th St from C St to H St. On-street parking would be limited to the available space after clearances to existing driveways, sight distance, existing bus stops are considered.

Street & Pedestrian Lighting

Lighting would be installed in areas to increase visibility for pedestrians, which would include enhanced lighting beneath the UPRR underpass. These improvements would increase visibility, encourage pedestrian and bicyclist activity in the area, and foster a community identity for adjacent neighborhoods. If in conflict with Project improvements, existing street lighting poles would be relocated at appropriate locations, while remaining within the existing City ROW.

Traffic Signal Improvements

A new traffic signal would be installed at the Richards Blvd and Sunbeam Ave intersection to enhance the intersection control and crossing for pedestrians and bicyclists using the Class IV bikeway. The traffic signal at the five-point intersection of N 12th St, North B St, and Dos Rios St would be modified to accommodate all bicycle movements through the intersection, including the incorporation of the two-way Class IV bikeway. The traffic signal at the C St and 12th St intersection would be modified to serve as a protected intersection on the north leg at the beginning of the two-way Class IV bikeway. Traffic striping, pavement markings, and signs would be installed along the corridor as necessary to improve the directional guidance and improve wayfinding for bicyclists, motorists, and pedestrians.

Pavement
The Project would widen minimal areas with new asphalt pavement to accommodate added vehicle turn lanes and bikeway surfacing. The Project would include a micro-seal on the streets.

Drainage Improvement
Drainage improvements would be limited to installing bioswales, constructing new curb and gutter, and adjusting or relocating existing drainage systems components to conform to the proposed improvements. Where feasible, a bioswale strip would be installed adjacent to the Class I bikeway on Richards Blvd from Sunbeam Ave to N 12th St. Existing drainage inlets would be relocated or adjusted as necessary. Significant changes to the drainage system are not anticipated in this Project.

Utilities
The City would work with utility companies, as necessary, for any utility relocation or adjustment.

Tree Removal
An oak tree on the property at the 5-point intersection of N 12th St, North B St, and Dos Rios St (APN 001-0122-014-0000) would be removed to provide enough space for the proposed improvements, which would include a right-turn lane, standard curb, gutter, and sidewalk. Existing trees along southbound Sunbeam Ave would be identified for removal to install the proposed bus turnout. Existing trees along the Project corridor would be pruned as necessary to open the canopy and provide lighting from existing light fixtures to reach the sidewalk area.

Aesthetic Treatment
The existing concrete slope paving on the north/east and north/west sides of N 12th St underpass at the UPRR tracks would receive topical aesthetic enhancements. The City may apply for grant funding to install murals of local context or interest at this location, if feasible.

1.1.2 Temporary Project Construction Components

Temporary Construction Easements
A total of thirteen Temporary Construction Easements (TCE) would be required in select locations along Richards Blvd, Sunbeam Ave, and N 12th St.

Construction Vehicle Access and Staging
Construction vehicle access and staging of construction materials would occur within disturbed or developed areas inside the existing ROW or on vacant land near the Project corridor. One potential area for staging of construction material is a vacant lot owned by the City located on North 11th St and North D St. Another potential location for staging is a vacant area of the Carson & Craig Partners property near 510 Sunbeam Ave. An area from the 1880 North B St, C/J Warehouse LLC property, which is adjacent to N 12th St, could also be a potential staging area. All construction vehicle access, materials staging, storage, and other construction activities would occur within the defined disturbance limits for the Project corridor.

1.1.3 Alternative Trail Connection

An alternate trail connection that is being considered as part of the Project is a connection to the

Two Rivers Trail at the current western driveway access at 1441 Richards Blvd (APN 001-0070-029-0000). If selected, this connection would replace the proposed connection alignment from Sunbeam Ave to the existing Two Rivers Trail, which travels along the north side of Richards Blvd and the west side of N 12th St. This new direct connection would include a Class I bike trail access ramp that would travel through the driveway access towards the American River levee. The trail would then travel west along the levee side slope for approximately 230 feet and connect to the existing Two Rivers Trail along the American River.

1.2 Current Land Use

The Complete Streets improvement Project spans multiple use areas within the urban corridor. The Project footprint itself largely consists of existing roadway, sidewalks, driveways, and landscaped green areas. A mix of business and residential properties currently front N 12th St, as well as vacant lots, public parking lots, and several warehouse facilities. Based on the City of Sacramento 2035 General Plan Land Use and Urban Form Diagram, the Project corridor is within areas designated as Urban Center Low, Employment Center Low Rise, Urban Center High, Urban Corridor Low, Traditional Neighborhood Medium, and Regional Commercial. The Project corridor is almost entirely within existing City-owned ROW designated for N 12th St, Richards Blvd, and Sunbeam Ave except for limited areas of ROW acquisition that would be needed at the intersection with North B St and along Sunbeam Ave.

The adjoining properties immediately surrounding the Project corridor were identified as the following:

- **From H St to E St**: The surrounding land use immediately adjacent to the Project is designated as C-2 General Commercial with R-3A Multi-Family Residential and R-4 Multi-Family Residential nearby.
- **From E St to the Union Pacific Railroad Corridor**: The surrounding land use of C-2 General Commercial continues along with RMX Residential Mixed Use, R-5 Multi-Family Residential, M-1 Industrial, as well as a narrow section of A-OS Agriculture-Open Space along the north side of the railroad corridor.
- **From the Union Pacific Railroad Corridor to Richards Blvd**: The surrounding land use of C-2 General Commercial continues with C-4 Heavy Commercial, R-5 Multi-Family Residential, C-1 Limited Commercial, and R-3A Multi-Family Residential.

Vicinity Map
North 12th Street Complete Streets Project
Sacramento, Sacramento County, California
N
0 800 1,600 Feet
WRECO

Figure 1. Vicinity Map

Source: WRECO and ESRI

Figure 2. Project Area Location

Source: ESRI 2016, ESA 2017

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1.3 ISA Findings and Recommendations

Blackburn Consulting prepared the Initial Site Assessment (ISA) Report for the Project corridor in July 2017, and several potential Recognized Environmental Conditions (REC) were identified as follows:

- APN 001-0122-014 (200 North 12th Street): The site is a former gasoline station and three underground fuel storage tanks (UST) are listed at the site. The service station is no longer operational, but the fuel pumps, islands, and service building remain on site. There are no indications in the records search regarding the size and locations of the USTs, if they have been removed, or if there have been any reported releases from the USTs or the associated piping. The recommendation was to conduct a Phase II screening of the soil within the proposed acquisition area to assess the presence of potential hazardous material including the following potential contaminants of concern (COC): petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g), and motor oil (TPH-mo), metals, and benzene, toluene, ethylbenzene, xylenes (BTEX);
- APN 001-0101-004 (510 Sunbeam Avenue): The site is listed as "Elmer's Welding," and the site is listed as maintaining (waste) oil that was changed by an outside company. The 1970 Sanborn Map identified "Trailer Assembling Services" at the south side of the parcel where a concrete pad was visible during the ISA investigation. The recommendation was to conduct a Phase II screening of the soil within the proposed acquisition area to assess the presence of potential hazardous material including the following potential COCs: TPH-d, TPH-g, TPH-mo, metals, and volatile organic compounds (VOC);
- APN 001-0070-029 (1441 Richards Boulevard): The site is developed as "Hart Western Truck Parts" and is listed as a small quantity generator of hazardous waste. The site was previously listed as a large quantity generator of hazardous waste. An above ground fuel tank is listed at the north section of the parcel outside of the Project footprint, and no violations were listed. The recommendation was to conduct a Phase II screening of the soil within the proposed acquisition area to assess the presence of potential hazardous material including the following potential COCs: TPH-d, TPH-g, TPH-mo, metals, and VOCs;
- APN 001-0070-007 (1401 Richards Boulevard): The site is developed as "GCR/Firestone Tire Center" and is listed as generating an unidentified waste with an "inactive" status. The recommendation was to conduct a Phase II screening of the soil within the proposed acquisition area to assess the presence of potential hazardous material including the following potential COCs: TPH-d, TPH-g, TPH-mo, and metals;
- APN 002-0010-056 (130 North 12th Street): The site is currently developed as "SIMS Metals." Metal recycling operations have occurred at the site since the early 1950s. The Department of Toxic Substances Control (DTSC) has overseen remedial investigation field activities and characterized portions of the site. The site assessment has been on-going and portions of the site are addressed in a Land Use Covenant (LUC). Records indicate COCs documented in soil and groundwater including polychlorinated biphenyls (PCB), copper, lead, waste oil, motor oil, hydraulic oil, and polycyclic aromatic hydrocarbons (PAH). A 2,000-gallon diesel UST and 10,680-gallon above ground storage tank of unknown contents are listed at the facility. The recommendation was to conduct a Phase II screening of the soil within the proposed acquisition area to assess the presence of potential hazardous

material including the following potential COCs: TPH-d, TPH-g, TPH-mo, PCBs, and metals; and

- APN 002-0041-083 (131 North 12th Street): The site is listed as "Shaw," "Purity Oil," and "Contaminated Property." The western third and northern edge of the parcel, as well as the adjacent access road at the north side of the parcel are proposed for use as a staging area. The site was owned by Southern Pacific Transportation Company and a portion of the site was leased for use as a waste oil re-processing facility from 1966 to 1978. The eastern two-thirds was the location of the former Purity Oil waste oil recycling facility from the 1950s until 1978. Environmental investigation and remediation of the former Purity Oil property have been overseen by CTSC since 1993. A UST was removed from the eastern portion of the site, and approximately 53 cubic yards of soil was excavated from the western portion of the site. Approximately 15,500 cubic yards of impacted soil was excavated from the Purity Oil portion in the mid-1990s. A "No Further Action Required" letter was issued by Sacramento County Environmental Management Department in 2003. GeoTracker records indicate that several additional soil removal actions have been completed from 1985 to present and that groundwater monitoring continues. Lead and oil in soils, and VOCs in groundwater have been detected at the site. In 2008, a LUC was entered into for the Former Southern Pacific-Purity Oil location at 1324 A Street. The LUC has been, in part, rescinded. The recommendation was to conduct a Phase II screening of the soil to assess the presence of potential hazardous material including the following potential COCs: TPH-mo, VOCs, and metals (Blackburn Consulting 2017).

The ISA also addressed ADL, yellow traffic stripes on the N 12th St roadway, and transformers. The ISA noted that the "presence of ADL along the shoulders of pre-1987 constructed highways, freeways, and other heavily traveled roads, is common due to emissions from vehicles powered by internal-combustion, leaded-gasoline fueled engines" (Blackburn Consulting 2017). A Phase II assessment for ADL within the existing right of way throughout the alignment of the Project corridor was proposed. The ISA stated that the yellow traffic stripes are known to contain heavy metals including lead and chromium at concentrations in excess of hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated. The ISA recommended that, if called for as part of the Project, the yellow traffic stripes shall be removed and disposed of in accordance with California Department of Transportation (Caltrans) Standard Special Provisions (SSP) 14-11.12 (10/19/2018) - Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue (requires proper management of hazardous waste residue and a lead compliance plan). Pole-mounted transformers and power lines were observed within the existing City's ROW. If the relocation of power facilities or high voltage power lines are required, the ISA recommends that the transformers should be checked for the presence of PCBs or other hazardous materials by the utility company Sacramento Municipal Utility District (SMUD) and properly remediated and disposed of, which is the responsibility of the utility owner.

2 SITE SETTING

2.1 Project Study Area

The N 12th St corridor is an existing thoroughfare corridor with four active (one-way) southbound traffic lanes, a light rail system, and pedestrian sidewalks. The Project corridor transects with a railroad corridor. There are planter areas that range from bare soil with established trees to curated landscaped areas. The Project corridor is centrally located within the City limits.

2.2 Topography

The Project corridor has relatively flat topography with an initial elevation of 23 feet above mean sea level (ft AMSL) at the southern extent at N 12th St and H St. The elevation rises gradually to approximately 31 ft AMSL at the northern extent of the Project corridor at N 12th St and Richards Blvd. These elevations are based on Google Earth Pro, which uses the World Geodetic System 1984 geographic datum. With an 8-foot elevation change over a length of 1.1-mile, the Project corridor has an approximate slope of 0.1%.

2.3 Regional Geology

Sacramento County is located at the southern end of the Sacramento River Valley, which is located between the Coast and Diablo ranges to the west and the Sierra Nevada to the east. According to the Geologic Map of the Sacramento Quadrangle, California (Wagner 1981), the Project corridor is in the Great Valley geologic province, which is represented by the Sacramento Valley. It is adjacent to the westernmost edge of the Sierra Nevada geologic province. The Great Valley province is characterized by Cenozoic sedimentary and volcanic rocks, while the Sierra Nevada province is characterized by complex lithologies and structures that were assembled through various plate-tectonic processes. In this region, the Sierra Nevada province is composed of belts of Paleozoic-Mesozoic metamorphic complexes that are intruded by various Mesozoic plutons. Together, they compose the basement of the province. This basement is overlain at higher elevations by erosional remnants of Cenozoic volcanic and sedimentary rocks, including gravels. Most of these various lithologies contain gold in places. Structurally, the metamorphic rocks and some of the plutonic rocks have been deformed by folding and faulting.

The major fault zones typically trend northerly or northwesterly, although in places intrusion of the younger plutons has deformed some of the zones so as to assume other trends as well. In contrast, the overlying Cenozoic rocks are relatively undeformed. The rocks of the Great Valley province overlie the basement of the Sierra Nevada where it extends westward underneath the San Joaquin Valley. The Project corridor is associated with Cenozoic alluvial deposits of the main drainage of the American River where it discharges into the Sacramento Valley after passing through the Sierra Nevada basement terranes. The materials in these deposits have been derived due to by erosion of the various basement and Cenozoic rocks at higher elevations. The regional geologic map is shown in Figure 3.

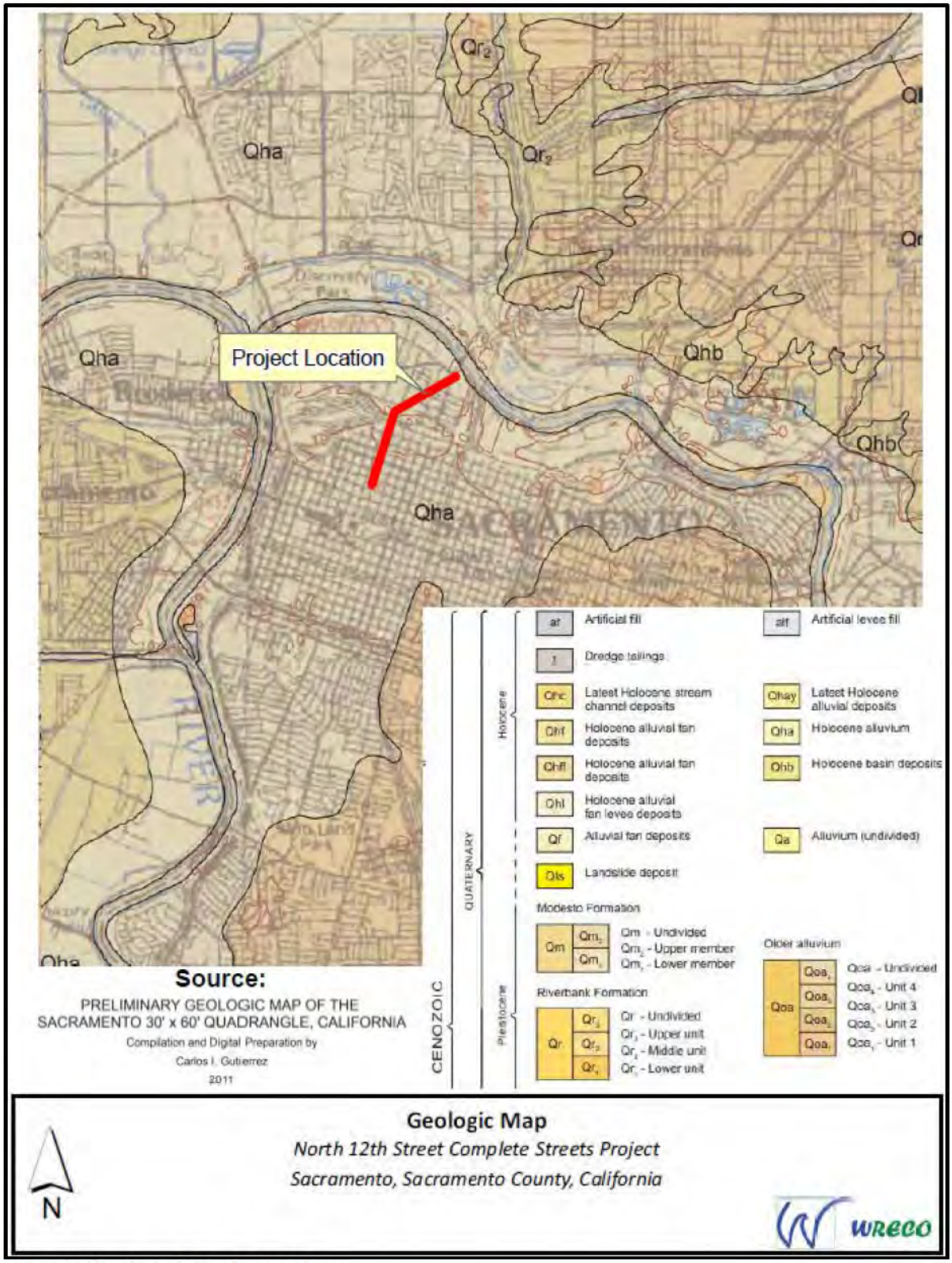

Figure 3. Regional Geologic Map

2.4 Local Geology and Soils

Shallow soil types encountered near the Project corridor include primarily as silts, clays, clayey gravels, and sand from surface to approximately 5.5 feet below ground surface (bgs) (Blackburn Consulting 2017). The area mapped within the Project corridor by the Natural Resource Conservation Service (NRCS), and viewed by their program "Web Soil Survey," consists largely of Columbia sandy loam and the Columbia-Urban land complex along with undifferentiated urban land that would consist of impervious areas and disturbed fill or soil. Where mapped, the soil consists of alluvium (clayey sands and silty sands) that is somewhat poorly drained with a low to moderate potential for expansion. The surface soils are listed as having a high infiltration rate and hydrologic soil group A (NRCS 2019).

2.5 Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) can occur in serpentine rock and in its parent material, ultramafic rock. These rock types are abundant in the Sierra foothills. NOA has been identified in the County and ultramafic rocks have been generally mapped along the eastern side of the Sierra Nevada foothills, but not in the Sacramento Valley in the area of the City. The most common forms of naturally-occurring fibrous minerals with NOA are chrysotile, actinolite, and tremolite. A review of the "General Location Guide for Ultramafic Rocks in California – Areas Likely to Contain Naturally Occurring Asbestos" (CGS 2000) indicated that NOA has not been mapped in the near vicinity of the Project corridor.

2.6 Groundwater Hydrology

The Project corridor area is in the Sacramento Valley Groundwater Basin, South American Subbasin (5-21.65), as defined by the Department of Water Resources (DWR) Bulletin 118. The South American Subbasin is bounded on the east by the Sierra Nevada foothills, on the west by the Sacramento River, on the north by the American River, and on the south by the Cosumnes and Mokelumne Rivers. These perennial rivers generally create a groundwater divide in the shallow subsurface (DWR 2004). The Sacramento Valley Groundwater Basin is divided into four subbasins: The North and South American Subbasins, which encompass the eastern side of the valley, and the Yolo and Solano Subbasins, which cover the western side of the valley (Figure 4).

The South American subbasin aquifer system is comprised of continental deposits of Late Tertiary to Quaternary age. These deposits include younger alluvium (consisting of flood basin deposits, dredge tailings, and Holocene stream channel deposits), older alluvium, and Miocene/Pliocene volcanics. The cumulative thickness of these deposits increases from a few hundred feet near the Sierra Nevada foothills on the east to over 2,500 feet along the western margin of the subbasin. The maximum combined thickness of all the younger alluvial units is about 100 feet (DWR 2004).

The flood basin deposits occur along the western margin of the subbasin adjacent to the Sacramento River. They consist primarily of silts and clays, but along the western margin of the subbasin may be locally interbedded with stream-channel deposits of the Sacramento River. Due to their fine-grained nature, the flood basin deposits have low permeability and generally yield low quantities of water to wells. The dredger tailings are exposed primarily along the American River in the northeastern corner of the subbasin. They consist of windows of gravel, cobbles, boulders,

sand, and silt resulting from the activities of gold-dredging operations. The stream-channel deposits include sediments deposited in the channels of active streams as well as overbank deposits of those streams, terraces, and local dredger tailings. They occur along the Sacramento, American, and Cosumnes rivers and their major tributaries and consist primarily of unconsolidated silt, fine-to-medium-grained sand, and gravel. Sand and gravel zones in the younger alluvium are highly permeable and yield significant quantities of water to wells (DWR 2004).

Groundwater in the Central Sacramento Basin has historically been used for agriculture and water resources, which has led to a decline in groundwater levels in the basin. The Central Basin is bounded to the north by the American River and to the south by the Cosumnes River, which provide substantial recharge to the South American Subbasin. Shallow groundwater typically occurs under unconfined conditions, with areas of semi-confined conditions beneath interbedded clay layers. Data from properties near the Project corridor, indicate depth to groundwater ranges from approximately 10- to 25-feet bgs, with a regional groundwater flow direction to the south-southeast (GeoTracker 2019).

Figure 4. Sacramento Valley Groundwater Basin and Subbasins

Source: DWR SGMA

2.7 Surface Water Hydrology

The Project corridor area is located within the Sacramento River Hydrologic Region, which is the longest river system in California, and includes the Pit, Feather, Yuba, Bear, and American rivers as tributaries. The Sacramento River flows north to south through the length of the Sacramento Valley and drains into the Sacramento-San Joaquin river delta region. The American River flows west from the Sierra Nevada Range to the confluence with the Sacramento River. The American River is located approximately 100 feet northeast of the northern Project limits, and the Sacramento River is located approximately 1.0 miles to the west of the Project. The City is located at the confluence of the American and Sacramento Rivers with an extensive system of dams, levees, and flood control bypass channels to protect the City from flooding.

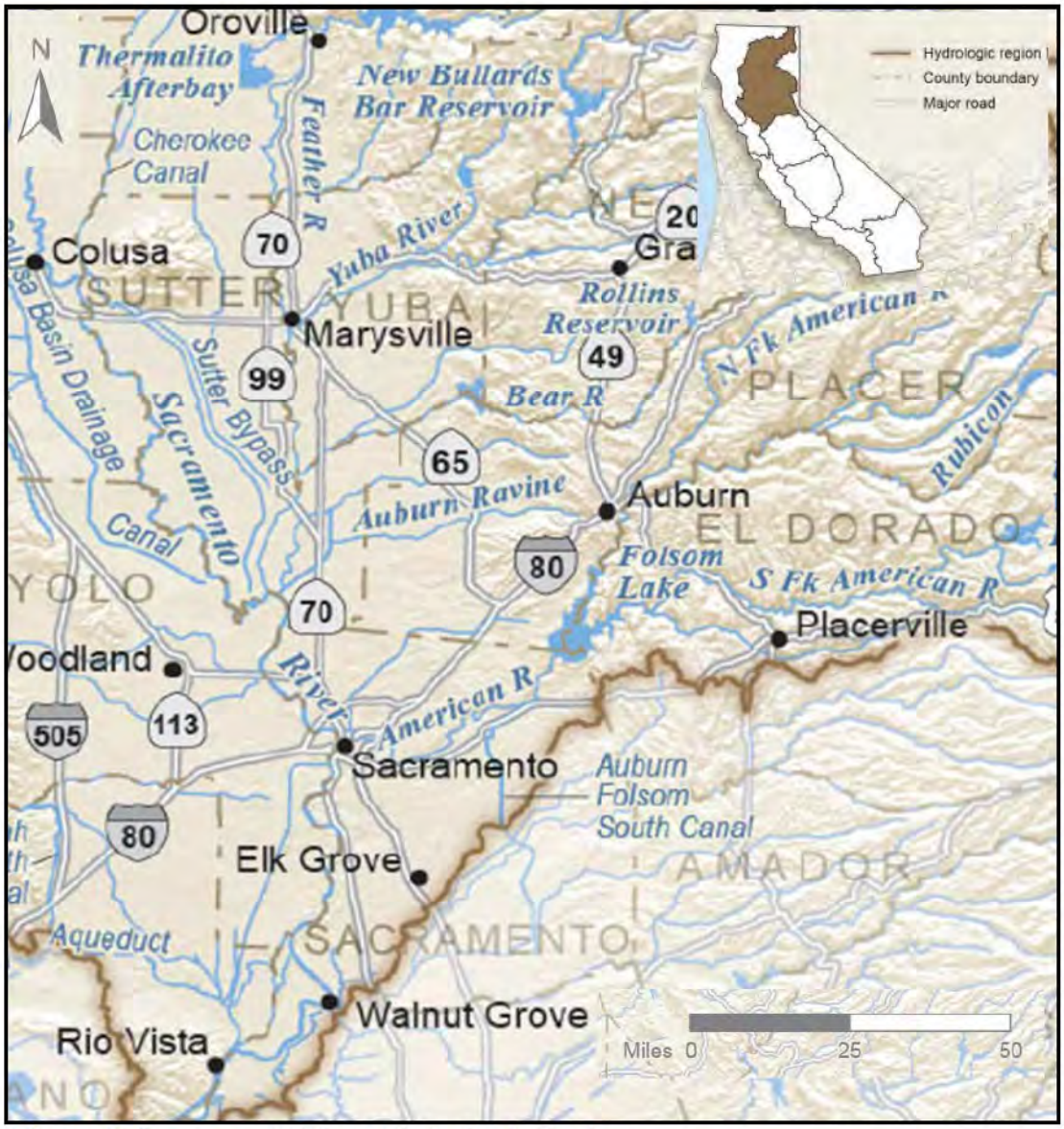

Figure 5. Sacramento River Hydrologic Region

Source: DWR Groundwater Update 2013

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3 PSI-ADL STUDY

3.1 Soil Sampling Methods and Procedures

A subsurface investigation was conducted by WRECO staff on January 17, 2019, that included collecting shallow soil samples from 15 borings in areas proposed for excavation and soil disturbance along the Project corridor. The PSI-ADL Study was performed within the landscaped or unpaved areas along the western side of N 12th St. The PSI-ADL Study was performed to verify the presence/absence of RECs outlined in the ISA Report (Blackburn Consulting 2017) to evaluate the available options for soil disposal or reuse, and to provide guidance for waste management and worker safety during construction.

Prior to field work being performed, the sample locations were marked in white paint, and USA North 811 was contacted to mark utilities near the boring locations. An encroachment permit with the City of Sacramento was obtained in order to work along the N 12th St Project corridor, and a copy is provided in Appendix A. The limited shallow soil investigation was performed using direct push technology (DPT) methods to take continuous core soil samples at specific locations (Figure 6 through Figure 10). DPT uses a hydraulically-operated percussion hammer along with vehicle weight to advance the sampling barrel with an acetate liner used to contain the soil sample.

Penecore Drilling of Woodland California used a Geoprobe® 6712 Track Rig to advance 15 soil borings (SB-1 through SB-15) along the Project corridor using a 5-foot continuous coring sampler with an acetate liner. Because the diameter of the DPT is only 2.25 inches, minimal drill cuttings were generated, thereby lowering the amount of investigation derived waste (IDW) produced. Soil samples were contained in the 5-foot acetate liner, and the liner was cut at specific intervals of 0-1, 1-2, and 2-3 ft, capped at each end with a Teflon sheet and plastic lid, labeled, and placed into an ice chest with ice. The chain of custody was completed in the field and relinquished to laboratory staff upon delivery to California Laboratory Services (CLS) in Rancho Cordova, California.

Soil encountered during sampling consisted of gray to brown silty fine sand with fine gravels. The borings were backfilled with grout and capped with native soil. Groundwater was not encountered during sampling activities. The samples were analyzed for total lead, pH, and additional COCs including VOCs, TPH-g, TPH-d, BTEX, PCBs, polynuclear aromatic hydrocarbons (PNA), organochlorine pesticides, and CAM 17 metals (+ mercury). Soil boring locations were based on potential impacts from previous uses of the adjoining properties in the Project corridor area as identified in the ISA Report, as listed in Table 1.

Table 1. PSI - ADL Soil Sample Collection and Analyses

Boring Number	Approximate Boring Location	Sampling Interval	Risk	Contaminants of Concern
S-1	Lat: 38°35'0.48"N Long: 121°29'21.32"W	0-1 ft, 1-2 ft, 2-3 ft	Agriculture, Historical traffic	Lead, pH, Organochlorine Pesticides, PNAs,
S-2	Lat: 38°35'4.44"N Long: 121°29'19.55"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic	Lead, pH
S-3	Lat: 38°35'8.36"N Long: 121°29'17.93"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-4	Lat: 38°35'13.65"N Long: 121°29'15.60"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-5	Lat: 38°35'25.66"N Long: 121°29'10.39"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons, Metals, PCBs, PNAs	Lead, pH, TPH-g, TPH-d, PCBs, PNAs, CAM 17 metals (+ mercury)
S-6	Lat: 38°35'26.88"N Long: 121°29'8.97"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, TPH-d, BTEX, VOCs
S-7	Lat: 38°35'27.57"N Long: 121°29'6.60"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, BTEX, VOCs
S-8	Lat: 38°35'28.68"N Long: 121°29'4.36"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic	Lead, pH
S-9	Lat: 38°35'30.01"N Long: 121°29'1.63"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic	Lead, pH
S-10	Lat: 38°35'34.37"N Long: 121°28'52.24"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-11	Lat: 38°35'35.69"N Long: 121°28'51.28"	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-12	Lat: 38°35'37.13"N Long: 121°28'51.04"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, TPH-d, BTEX, VOCs, CAM 17 metals (+ mercury)
S-13	Lat: 38°35'38.20"N Long: 121°28'50.25"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-14	Lat: 38°35'41.05"N Long: 121°28'48.54"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, BTEX
S-15	Lat: 38°35'42.55"N Long: 121°28'46.35"W	0-1 ft, 1-2 ft, 2-3 ft	Historical traffic, Petroleum hydrocarbons	Lead, pH, TPH-g, TPH-d, BTEX, VOCs, CAM 17 metals (+ mercury)

Lead was analyzed using United States Environmental Protection Agency (EPA) Method 6010B; pH was analyzed using EPA Method 9045C; Organochlorine Pesticides were analyzed using EPA Method 8081A; PNAs (polynuclear aromatic hydrocarbons) were analyzed using EPA Method 8270C; TPH-g and TPH-d were analyzed using EPA Method 8015M, BTEX were analyzed using EPA Method 8260B; PCBs were analyzed using EPA Method 8082A; CAM 17 metals were analyzed using EPA Method 6020; VOCs were analyzed using EPA Method 8260B.

Figure 6. Soil Boring Locations SB-1 through SB-3, North 12th Street, Sacramento

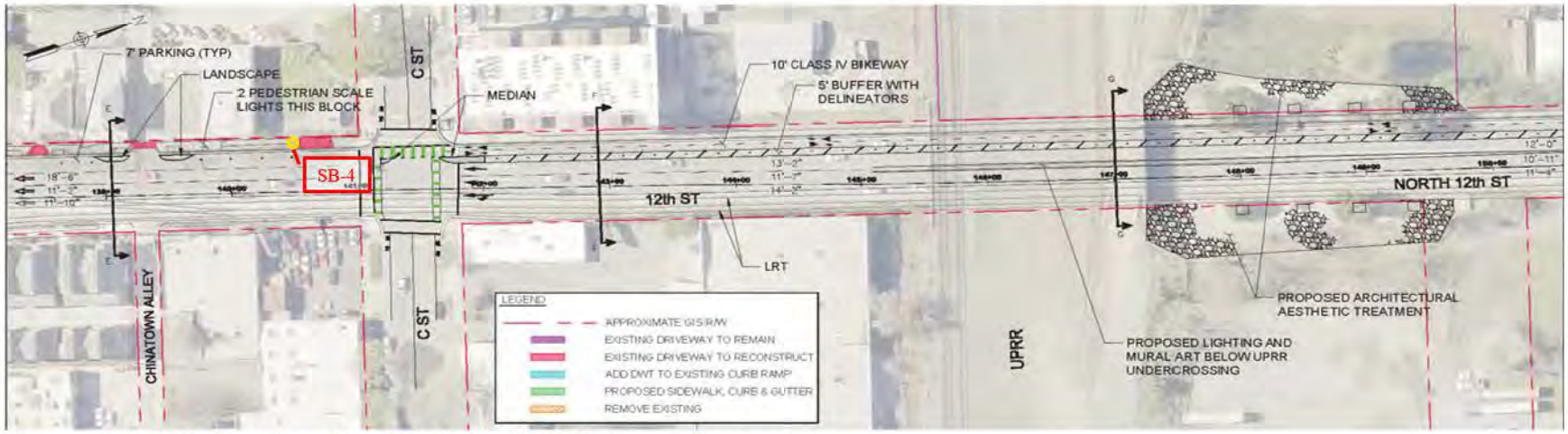

Figure 7. Soil Boring Location SB-4, North 12th Street, Sacramento

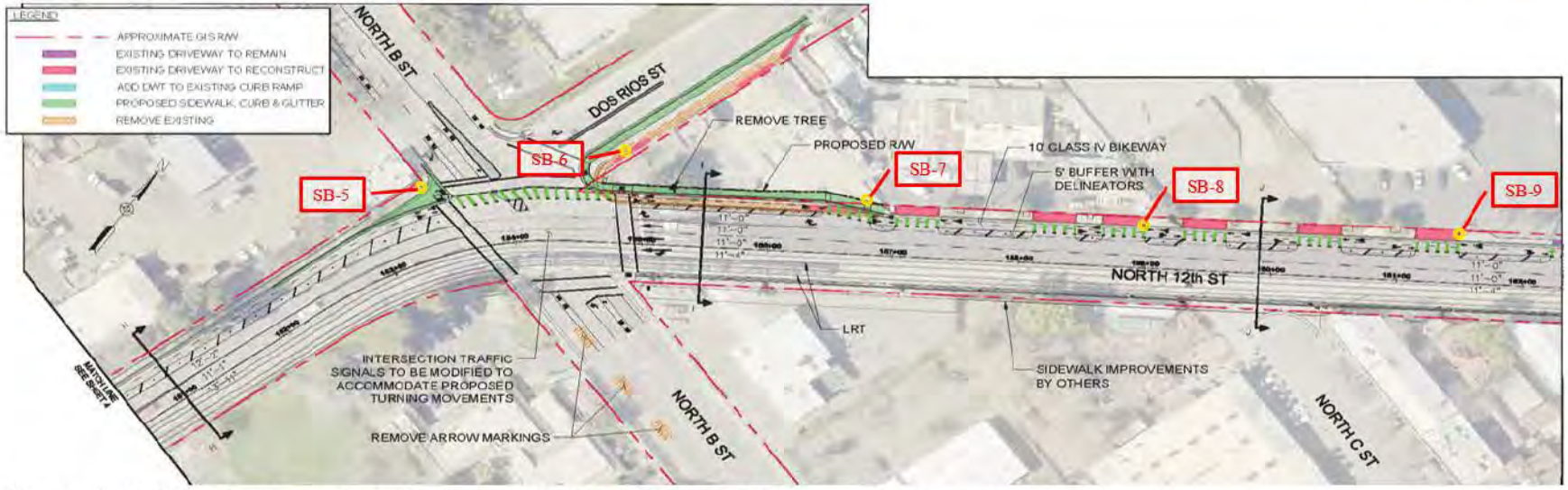

Figure 8. Soil Boring Locations SB-5 through SB-9, North 12th Street, Sacramento

Figure 9. Soil Boring Locations SB-10 through SB-12, North 12th Street, Sacramento

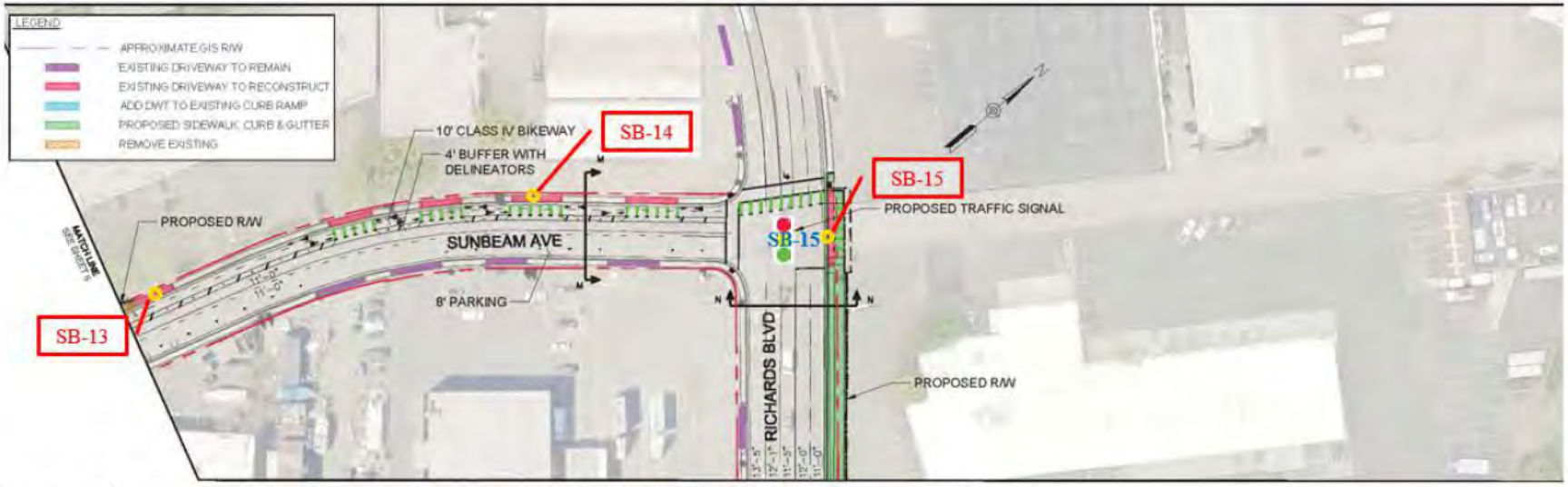

Figure 10. Soil Boring Locations SB-10 through SB-12, North 12th Street, Sacramento

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3.2 Analytical Results

Forty-two soil samples (with sampling depths of 0-1 ft, 1-2 ft, and 2-3 ft), collected from 15 borings, were analyzed for total lead and had detectable concentrations ranging from 2.8 to 470 milligrams per kilogram (mg/kg). Eleven soil samples, SB-4-0-1, SB-5-0-1, SB-5-1-2, SB-5-2-3, S-5 (composite), SB-6-0-1, SB-6-1-2, SB-7-0-1, SB-7-1-2, SB-11-0-1, and SB-14-1-2, had lead concentrations exceeding 10 times the Soluble Threshold Limit Concentration (STLC) value of 5 milligrams per liter (mg/L), but were below the Total Threshold Limit Concentration (TTLC) value (1,000 mg/kg). Analytical results for the lead soil screening are summarized in Table 2.

Due to the exceedances, these soil samples were analyzed using the California Waste Extraction Test (CA WET). Soil samples SB-5-2-3 and SB-6-1-2 did not have enough remaining sample to run the CA WET. Laboratory results indicated that soil samples SB-4-0-1, SB-5-0-1, SB-7-0-1, SB-7-1-2, SB-11-0-1, and SB-14-1-2 had CA WET concentrations below the STLC value of 5 mg/L; however, soil samples SB-5-1-2, SB-5 (composite), and SB-6-0-1 had CA WET lead concentrations of 13, 5.2, and 11 mg/L, respectively, which are above the STLC value of 5 mg/L, which pre-classifies the soil from these boring locations as California Hazardous.

The three samples that exceeded the STLC value, were analyzed using the Toxicity Characteristic Leaching Procedure (TCLP), to determine if the soils exceeded federal standards. The laboratory results indicated that lead concentrations for SB-5-1-2, SB-5 (composite), and SB-6-0-1 had TCLP lead concentrations of non-detectable (ND), 0.53 mg/L, and 0.82 mg/L, respectively. All the samples were below the TCLP value (5 mg/L), which means the soil from these boring locations is not a federal hazardous waste. The TCLP analysis is performed to evaluate if soils do not qualify for reuse due to designation as a RCRA Hazardous.

Composite soil samples SB-5, SB-12, and SB-15 were analyzed for CAM-17 (heavy) metals and had detectable arsenic concentrations of 6.7 mg/kg, 5.3 mg/kg, and 8.0 mg/kg, respectively; and detectable chromium concentrations of 32 mg/kg, 43 mg/kg, and 49 mg/kg, respectively. These concentrations are below 10 times the STLC values for arsenic (5 mg/L) and chromium (5 mg/L) and did not require additional CA WET testing. As precautionary measures, the SB-15 composite sample was analyzed for CA WET chromium to confirm it was below STLC values. The laboratory results indicated the CA WET chromium was below detection limits, and soil from SB-15 is pre-classified as Non-Hazardous.

All concentrations of Pesticides, PNAs, TPH-g, TPH-d, BTEX, VOCs, and PCBs, were below detection limits, except for two low detectable concentrations of TPH-d in composite samples SB-6 (5.5 mg/kg) and SB-15 (4.7 mg/kg). Composite samples SB-5, SB-12, and SB-15 were analyzed for Mercury (CAM 17 Metals) and all samples were below detection limits. Analytical results for the composite soil screening for COCs are summarized in Table 3.

The pH of the 42 soil samples analyzed ranged from 6.22 to 10.23 (Table 2). These concentrations are within threshold (greater than 2 and less than 12.5) for state and federal waste criteria for reuse (for soil that does not exceed STLC lead concentrations). The Laboratory Reports are provided in Appendix B.

Table 2. Screening Level Summary - Lead Sample Results

Boring/ Sample ID	pH	Lead Results (mg/kg)	CA WET (mg/L)	TCLP (mg/L)	Environmental Screening Levels			Hazardous Waste Criteria		Waste Classification
					Res. (mg/kg)	Comm/Ind (mg/kg)	Const Worker (mg/kg)	STLC TCLP (mg/L)	TTLC (mg/kg)	
SB-1-0-1	6.90	3.7	--	--	80	320	160	5.0	1,000	Non-Hazardous
SB-1-1-2	7.20	4.8	--	--	80	320	160	5.0	1,000	
SB-1-2-3	8.49	4.5	--	--	80	320	160	5.0	1,000	
SB-2-0-1	8.11	7.9	--	--	80	320	160	5.0	1,000	
SB-2-1-2	7.83	3.2	--	--	80	320	160	5.0	1,000	
SB-2-2-3	7.66	4.8	--	--	80	320	160	5.0	1,000	
SB-3-0-1	10.23	30	--	--	80	320	160	5.0	1,000	
SB-3-1-2	8.32	4.2	--	--	80	320	160	5.0	1,000	
SB-3-2-3	8.15	3.9	--	--	80	320	160	5.0	1,000	
SB-4-0-1	8.13	**79**	3.2	--	80	320	160	5.0	1,000	
SB-4-1-2	7.54	5.9	--	--	80	320	160	5.0	1,000	
SB-4-2-3	8.04	4.2	--	--	80	320	160	5.0	1,000	
SB-5-0-1	7.24	**73**	1.8	--	80	320	160	5.0	1,000	
SB-5-1-2	8.42	**72**	**13**	ND	80	320	160	5.0	1,000	**California Hazardous**
SB-5-2-3	8.35	**100**	--	--	80	320	160	5.0	1,000	
SB-5 C	--	**180**	**5.2**	0.53	80	320	160	5.0	1,000	
SB-6-0-1	8.26	**250**	**11**	0.82	80	320	160	5.0	1,000	
SB-6-1-2	9.47	**470**	--	--	80	320	160	5.0	1,000	--
SB-6-2-3	--	--	--	--	80	320	160	5.0	1,000	--
SB-7-0-1	6.84	**130**	2.0	--	80	320	160	5.0	1,000	Non-Hazardous
SB-7-1-2	8.67	**250**	4.3	--	80	320	160	5.0	1,000	
SB-7-2-3	7.74	5.7	--	--	80	320	160	5.0	1,000	
SB-8-0-1	6.68	ND	--	--	80	320	160	5.0	1,000	
SB-8-1-2	8.09	ND	--	--	80	320	160	5.0	1,000	
SB-8-2-3	7.56	4.6	--	--	80	320	160	5.0	1,000	
SB-9-0-1	6.22	2.8	--	--	80	320	160	5.0	1,000	
SB-9-1-2	8.69	12	--	--	80	320	160	5.0	1,000	
SB-9-2-3	--	--	--	--	80	320	160	5.0	1,000	
SB-10-0-1	7.07	8.6	--	--	80	320	160	5.0	1,000	
SB-10-1-2	6.96	19	--	--	80	320	160	5.0	1,000	
SB-10-2-3	7.58	44	--	--	80	320	160	5.0	1,000	
SB-11-0-1	6.59	**65**	3.2	--	80	320	160	5.0	1,000	
SB-11-1-2	7.65	9.6	--	--	80	320	160	5.0	1,000	
SB-11-2-3	7.73	ND	--	--	80	320	160	5.0	1,000	
SB-12-0-1	7.47	36	--	--	80	320	160	5.0	1,000	
SB-12-1-2	7.36	17	--	--	80	320	160	5.0	1,000	
SB-12-2-3	7.29	6.8	--	--	80	320	160	5.0	1,000	
SB-13-0-1	7.31	31	--	--	80	320	160	5.0	1,000	
SB-13-1-2	6.94	29	--	--	80	320	160	5.0	1,000	
SB-13-2-3	--	--	--	--	80	320	160	5.0	1,000	
SB-14-0-1	6.57	35	--	--	80	320	160	5.0	1,000	
SB-14-1-2	6.57	**53**	1.5	--	80	320	160	5.0	1,000	
SB-14-2-3	7.32	14	--	--	80	320	160	5.0	1,000	
SB-15-0-1	7.76	45	--	--	80	320	160	5.0	1,000	
SB-15-1-2	7.55	6.8	--	--	80	320	160	5.0	1,000	
SB-15-2-3	7.79	7.7	--	--	80	320	160	5.0	1,000	

Note: STLC = Soluble Threshold Limit Concentration; TTLC = Total Threshold Limit Concentration; mg/kg = milligram per kilogram; mg/L = milligram per liter; -- = not analyzed; SB-5 C is a composite sample; Lead analyzed using EPA 6010B; pH analyzed using EPA 9045C.

Table 3. Screening Level Summary - Composite Sample Results

Boring/ Composite Sample	*Analysis*	*Results (mg/Kg)*	*Results (µg/Kg)*	*STLC WET (mg/L)*	*TCLP (mg/L)*	*ESL[1] (Table S-1)*			*Hazardous Waste Criteria*		*Waste Classification*
						Residential (mg/kg)	*Comm/Ind (mg/kg)*	*Const. Worker (mg/kg)*	*TTLC (mg/Kg)*	*STLC (mg/L)*	
SB-1	Pesticides	--	ND	--	--	--	--	--	--	--	--
	PNAs	--	ND	--	--	--	--	--	--	--	--
SB-3	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	BTEX	--	ND	--	--	--	--	--	--	--	--
SB-4	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	BTEX	--	ND	--	--	--	--	--	--	--	--
SB-5	**Arsenic**	6.7	--	--	--	0.067	0.31	0.98	500	5.0	Non-Hazardous
	Barium	130	--	--	--	15,000	220,000	3,000	10,000	100	
	Chromium	32	--	--	--	--	--	--	2,500	5.0	
	Cobalt	8.2	--	--	--	23	350	28	8,000	80	
	Copper	28	--	--	--	3,100	47,000	14,000	2,500	25	
	Lead	**180**	--	**5.2**	0.53	80	320	160	1,000	5.0	**CA Hazardous**
	Mercury	0.27	--	--	--	13	190	44	20	0.2	Non-Hazardous
	Nickel	30	--	--	--	820	11,000	86	2,000	20	
	Vanadium	42	--	--	--	390	5,800	470	2,400	24	
	Zinc	86	--	--	--	23,000	350,000	110,000	5,000	250	
	All CAM-17	ND	--	--	--	--	--	--	--	--	
	PCBs	--	ND	--	--	0.23	0.94	5.5	--	--	--
	PNAs	--	ND	--	--	--	--	--	--	--	--
	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	TPH-d	ND	--	--	--	260	1,200	1,100	--	--	--
SB-6	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	TPH-d	5.5	--	--	--	260	1,200	1,100	--	--	--
	VOCs	--	ND	--	--	--	--	--	--	--	--
SB-7	VOCs	--	ND	--	--	--	--	--	--	--	--
SB-10	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	BTEX	--	ND	--	--	--	--	--	--	--	--
SB-11	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	BTEX	--	ND	--	--	--	--	--	--	--	--

Boring/ Composite Sample	Analysis	Results (mg/Kg)	Results (µg/Kg)	STLC WET (mg/L)	TCLP (mg/L)	ESL[1] (Table S-1)			Hazardous Waste Criteria		Waste Classification
						Residential (mg/kg)	Comm/Ind (mg/kg)	Const. Worker (mg/kg)	TTLC (mg/Kg)	STLC (mg/L)	
SB-12	**Arsenic**	5.3	--	--	--	0.067	0.31	0.98	500	5.0	Non-Hazardous
	Barium	93	--	--	--	15,000	220,000	3,000	10,000	100	
	Chromium	43	--	--	--	--	--	--	2,500	5.0	
	Cobalt	9.5	--	--	--	23	350	28	8,000	80	
	Copper	36	--	--	--	3,100	47,000	14,000	2,500	25	
	Lead	19	--	--	--	80	320	160	1,000	5.0	
	Mercury	0.11	--	--	--	13	190	44	20	0.2	
	Nickel	40	--	--	--	820	11,000	86	2,000	20	
	Vanadium	45	--	--	--	390	5,800	470	2,400	24	
	Zinc	64			--	23,000	350,000	110,000	5,000	250	
	All CAM-17	ND	--	--	--	--	--	--	--	--	
	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	TPH-d	ND	--	--	--	260	1,200	1,100	--	--	--
	VOCs	--	ND	--	--	--	--	--	--	--	--
SB-13	VOCs	--	ND	--	--	--	--	--	--	--	--
SB-14	VOCs	--	ND	--	--	--	--	--	--	--	--
SB-15	**Arsenic**	8.0	--	--	--	0.067	0.31	0.98	500	5.0	Non-Hazardous
	Barium	120	--	--	--	15,000	220,000	3,000	10,000	100	
	Chromium	49	--	ND	--	--	--	--	2,500	5.0	
	Cobalt	12	--	--	--	23	350	28	8,000	80	
	Copper	27	--	--	--	3,100	47,000	14,000	2,500	25	
	Lead	14	--	--	--	80	320	160	1,000	5.0	
	Mercury	0.083	--	--	--	13	190	44	20	0.2	
	Nickel	47	--	--	--	820	11,000	86	2,000	20	
	Vanadium	51	--	--	--	390	5,800	470	2,400	24	
	Zinc	50	--	--	--	23,000	350,000	110,000	5,000	250	
	All CAM-17	ND	--	--	--	--	--	--	--	--	
	TPH-g	ND	--	--	--	430	2,000	1,800	--	--	--
	TPH-d	4.7	--	--	--	260	1,200	1,100	--	--	--
	VOCs	--	ND	--	--	--	--	--	--	--	--

[1] = ESLs listed are the lowest cancer risk or non-cancer hazard level; Pesticides (EPA 8081A); PNAs (EPA 8270C); PCBs (EPA 8082A); TPH-g/-d (EPA 8015M); BTEX/VOCs (EPA 8260B); Mercury (EPA 7471B); CAM 17 Metals (EPA 6000/7000); ND – below detection limits; -- no data.

3.3 Statistical Evaluation - 95% Upper Confidence Limit

The analytical data for the soil samples was analyzed using statistical evaluation to identify the appropriate handling of soil affected by ADL. During upcoming Complete Street Improvements along N 12th St, soil that exceeded STLC values will need to be excavated, stockpiled, and transported offsite or relocated using methods that tend to standardize soil concentrations.

Statistical methods were applied using the EPA's ProUCL Version 5.1 (ProUCL) statistical software to evaluate the upper confidence limit (UCL) of the arithmetic means of the lead concentrations for each sampling depth. Calculating upper statistical limits, for the 95 % UCL of the population mean, is defined as the value that when calculated repeatedly for randomly drawn subsets of site data, equals the true mean 95% of the time. Statistical confidence limits are regarded as the classical tool for addressing uncertainties of a distribution mean. The 95% UCLs of the arithmetic mean concentration are used as 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. For the purpose of making good decisions at a polluted site, which are cost-effective, and protective of human health and the environment, ProUCL was used to calculate rigorous statistical methods. Determining the management of soil-containing ADL (hazardous classifications) using the 95% UCLs, the parameters are as follows:

- If the 95% UCL of the mean for total lead is less than 1,000 mg/kg and less than 5.0 mg/L soluble lead (CA-WET), then the soil is considered non-hazardous and may be disposed of at a Class II or III facility, provided that site-specific disposal facility requirements are satisfied.
- If the 95% UCL of the mean for total lead is less than 1,000 mg/kg and more than 5.0 mg/L soluble lead (CA-WET), then the soil is considered non-RCRA (regulated in the State of California, or California-hazardous) hazardous waste and may be disposed of at a Class I or II facility, provided that site-specific disposal facility requirements are satisfied.
- If the 95% UCL of the mean for total lead is greater than 1,000 mg/kg or less than 5.0 mg/L TCLP, then the soil is considered RCRA hazardous and may be disposed of only at a Class I facility, provided that site-specific disposal facility requirements are satisfied.

The 95% UCL calculations were completed for each of the three depth ranges 0-1 ft, 1-2 ft, and 2-3 ft bgs. The inclusion of outlier values (observation points that are distant from other observations) tends to produce inflated values. Therefore, outlier values were identified and removed from the data set. The three different depth ranges were analyzed for their "goodness-of-fit" test for normal, gamma, or lognormal distribution. The bootstrap method was not used for analysis, because the sample sizes were smaller than that typically recommended for the bootstrap method (<500-1,000 and >15-20) per the ProUCL 5.1 Technical Guide (EPA 2016).

A normal distribution was used for sampling depths 0-1 ft and 2-3 ft. A gamma distribution was used for sampling depth 1-2 feet. The following average detectable lead concentration results were calculated for each depth: 56.77 (0-1 ft), 43.02 (1-2 ft), and 5.94 mg/kg (2-3 ft). A summary of the 95% UCL results are shown in Table 4, and the spreadsheet with the statistical 95% UCL calculations is provided in Appendix C.

Table 4. Summary of 95% UCL for Soil Depth Intervals

Depth Interval	Mean (mg/kg)	Median (mg/kg)	Lead TTLC 95% UCL (mg/kg)	Distribution	Waste Classification
0-1 ft	39.25	35.0	**56.77**	Normal	Non-Hazardous*
1-2 ft	18.38	10.8	**43.02**	Gamma	Non-Hazardous
2-3 ft	4.97	4.7	**5.94**	Normal	Non-Hazardous

Mean = Average Concentration; mg/kg = milligram per kilogram; Calculations for the 95% UCL are provided in Appendix C; * - waste classification is based on concentration being below the TTLC (1,000 mg/kg) value, even if TTLC exceeds 10 times the STLC (50 mg/L) value, staying in the requirements of EPA/DTSC Soil Guidance of 80 mg/kg (residential) exposure levels.

3.4 Hazardous Waste Determination Criteria

Due to the historical use of lead in gasoline formulations, lead contamination is common in surface soils along roadways. ADL-impacted soils are regulated at both the federal and state levels, because they can be classified as federal hazardous waste, or they are subject to state regulations when not classified as federal hazardous waste, and they may represent a health risk to construction workers that will be excavating shallow soil for the Project corridor improvements.

Regulatory criteria to classify a waste as "California Hazardous" for handling and disposal purposes are contained in the California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, § 66261.24.

For solid wastes (soil) containing lead, the waste is classified as California Hazardous when:

- Total lead concentrations equal to or exceeding 1,000 mg/kg, the TTLC, are classified as Hazardous waste.
- Soluble lead concentrations (assessed using CA WET procedures) equal to or exceeding 5.0 mg/L, the STLC, are classified as California Hazardous under California law.
- California hazardous materials must be transported under a hazardous waste manifest and disposed of at an appropriately permitted facility.
- Wastes with lead concentrations less than both the TTLC and the STLC are Non-Hazardous waste and may be disposed of at a Class II or III facility, provided that site-specific disposal facility requirements are satisfied.

A waste may have the potential of exceeding the STLC when the waste's total metal content (as TTLC) is greater than or equal to ten 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 ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required.

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), § 261.

- According to federal law, as stipulated in the RCRA, wastes that exceed 5.0 mg/L soluble lead, extracted using the federal TCLP, are classified as RCRA Hazardous waste. This material must be disposed of as RCRA Hazardous waste if transported offsite.

SB-5-1-2, SB-5 (composite), and SB-6-0-1 have lead concentrations at levels that classify them as California Hazardous.

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 corrosivity. Waste that is classified as either California-hazardous or RCRA-hazardous requires management as a hazardous waste.

3.5 Results and Findings

Fifteen shallow soil borings were sampled along the proposed Project corridor, N 12th St from H St to Richards Blvd, and 42 soil samples were collected. Eleven soil samples out of 42 had lead concentrations exceeding 10 times the STLC value of 5 mg/L, but were below the TTLC value of 1,000 mg/kg. Nine of the 11 soil samples were analyzed for CA WET to evaluate the STLC concentrations (two soil samples did not have enough remaining soil to be analyzed). Laboratory results indicated that three of the nine soil samples analyzed had CA WET lead concentrations of above the STLC value of 5 mg/L. These concentrations are representative of the shallow soil in the borings they were collected from and meet the criteria for California Hazardous Waste. The three samples were analyzed for TCLP, to determine if the concentrations exceeded federal standards. The laboratory results indicated that lead concentrations were below the TCLP value (5 mg/L), and the shallow soil does not meet criteria for RCRA Hazardous Waste. Table 2 shows the exceedances and waste classification for Borings SB-5 and SB-6 (see Figure 11). These boring locations (at the intersection of N 12th St and B St and Dos Rios St) will need to be managed for worker safety during construction activities.

WRECO reviewed the soil analytical results for the listed COCs and screened them against the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESL) (2019) and the EPA California Human Health Screen Levels (CHHSL) (2009). These screening criteria take into consideration direct exposure human health risk levels and shallow soil exposure to residential, commercial/industrial, and construction worker (any land use/any depth soil exposure). The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of the California EPA, pursuant to *Health and Safety Code Section 57008*. Under most circumstances, the presence of a chemical in soil, soil-gas, or groundwater, at concentrations below the corresponding ESL/CHHSL, can be assumed to not pose a significant threat to human health, water resources, or the environment. Additional evaluation will generally be recommended at sites where a chemical is present at concentrations above the corresponding ESL/CHHSL. The ESLs/CHHSLs are not criteria to be used for determining how or where to dispose of waste soils or waters, they are instead used for human exposure levels and will determine worker safety requirements during Project construction.

Composite soil samples, SB-5, SB-12, and SB-15, were analyzed for CAM-17 metals, and had detectable arsenic concentrations of 6.7 mg/kg, 5.3 mg/kg, and 8.0 mg/kg, respectively, which are below the STLC limit (10 times the STLC of 5 mg/L). The soil in the areas near SB-12 (N 12th

St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd) may be pre-classified as Non-Hazardous. These samples did exceed the ESLs and CHHSLs for residential, commercial/industrial, and construction worker exposure limits (cancer risk). Therefore, the soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd) need to be managed for worker safety during construction. Background arsenic levels in California tend to be higher than the RWQCB ESLs used for evaluation of a soil's hazardous classification, and various studies have shown much higher levels in soil. The United States Geological Survey (USGS 1984) provided a regional estimate for arsenic of 18 mg/kg and cobalt of 23 mg/kg (both upper estimates). The Lawrence Berkeley National Laboratory (LBNL 2009) provided upper estimates of background levels (based on statistical analysis) of arsenic and cobalt. The LBNL study indicated concentrations of arsenic and cobalt at 24 mg/kg and 25 mg/kg, respectively. Due to the high capacity of clay and organic matter to adsorb metallic ions, arsenic concentrations tend to be highest in soils that contain high percentages of clay and organic material (e.g., clay and clay loamy soils, organic light [or rich] soils) (NAVFAC 2002). Therefore, it is expected that finer-grained depositional environments within the Bay Area would likely have higher natural concentrations of arsenic relative to sandy or gravelly soils.

Composite soil samples, SB-5, SB-12, and SB-15, had detectable chromium concentrations of 32 mg/kg, 43 mg/kg, and 49 mg/kg, respectively, which are below the STLC limit (10 times the STLC of 5 mg/L). The soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd), may be pre-classified as Non-Hazardous. These samples did exceed the ESLs and CHHSLs for residential, commercial/industrial, and construction worker exposure limits (Cr VI - cancer risk); however, the concentrations are below ESLs and CHHSLs for Cr III and VI – non-cancer hazard (there are no values for total chromium). Therefore, the soil in the areas near SB-12 (N 12th St/Sunbeam Ave) and SB-15 (N 12th St/Richards Blvd), need to be managed for worker safety during construction.

The lead concentrations for composite sample SB-5 was 180 mg/kg (TTLC), 5.2 mg/L (STLC), and 0.53 mg/L (TCLP). The lead concentrations for samples SB-5-0-1, SB-5-1-2, and SB-5-2-3, are 73 mg/kg (TTLC)/1.8 mg/L (STLC); 72 mg/kg (TTLC)/13 mg/L (STLC)/ND (TCLP); and 100 mg/kg (TTLC) (insufficient amount of sample to run additional STLC analyses); respectively. Composite sample SB-5 and sample SB-5-1-2 can be pre-classified as California Hazardous. The lead concentrations for composite sample SB-5 exceeded the ESLs and CHHSLs for residential and construction worker exposure, and sample SB-5-2-3 exceeded the ESLs and CHHSLs for residential exposure. The soil in the area near SB-5 may be pre-classified as California Hazardous, and needs to be managed for worker safety during construction.

The lead concentrations were below the RWQCB ESLs and EPA CHHSLs of 80 mg/kg (residential) and 320 mg/kg (commercial/industrial) exposure levels.

Six of the 42 soil samples, SB-5-2-3, S-5 (composite), SB-6-0-1, SB-6-1-2, SB-7-0-1, and SB-7-1-2, exceeded the lead exposure level for residential ESLs/CHHSLs; four of the six samples (SB-5 (composite), SB-6-0-1, SB-6-1-2, and SB-7-1-2) exceeded the lead exposure level for construction worker ESLs/CHHSLs; and one of the samples (SB-6-1-2) exceeded the lead exposure level for commercial/industrial ESLs/CHHSLs.

Composite soil samples SB-5, SB-12, and SB-15, had detectable arsenic and chromium concentrations, which were above the exposure level for residential, commercial/industrial, and construction worker ESLs/CHHSLs.

The laboratory results are summarized in Table 2. Screening Level Summary - Lead Sample Results and Table 3. The laboratory reports are provided in Appendix B.

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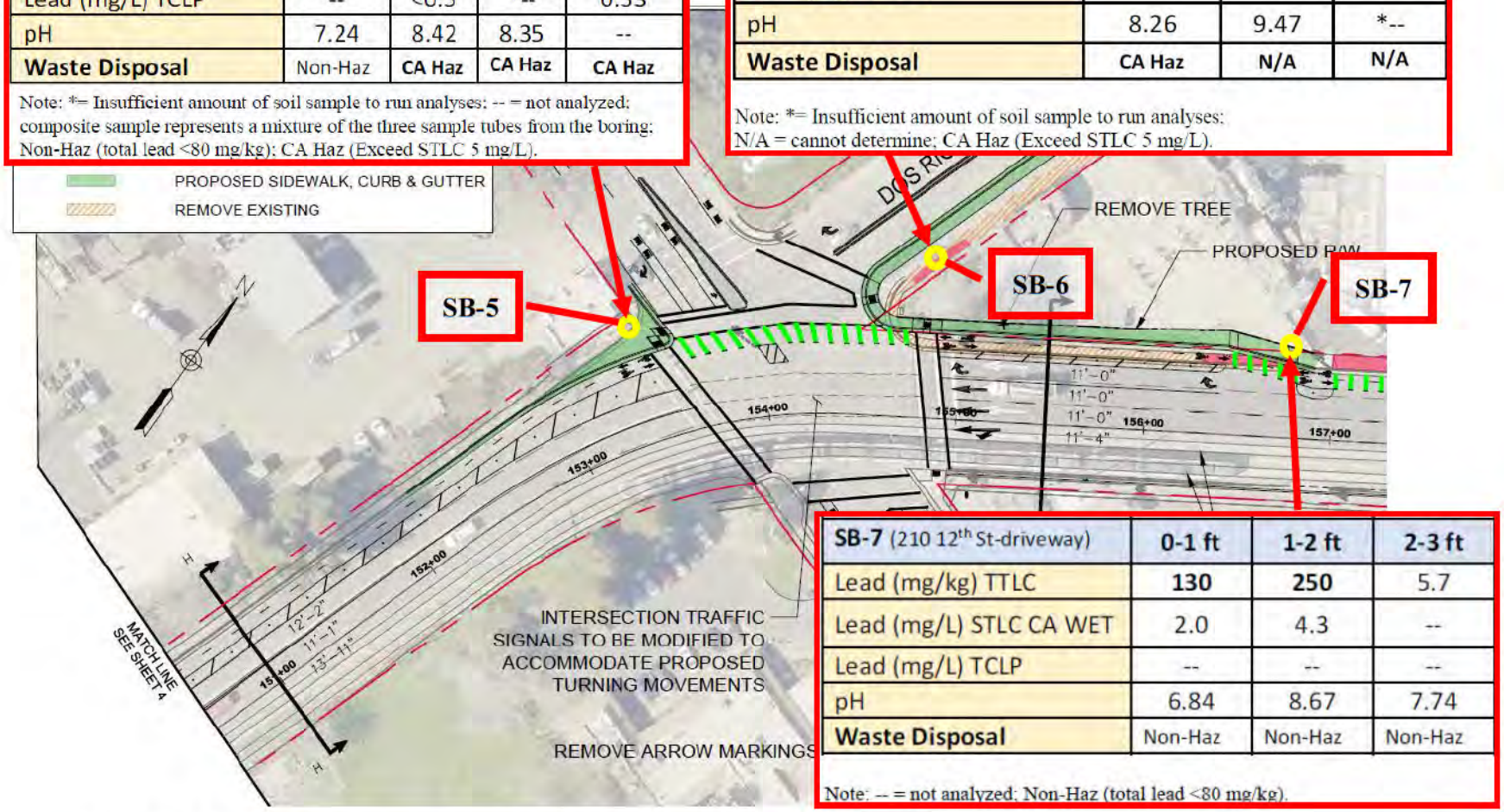
SB-5 (N 12th St/B St)	0-1 ft	1-2 ft	2-3 ft	Composite
Lead (mg/kg) TTLC	73	72	100	180
Lead (mg/L) STLC CA WET	1.8	13	*--	5.2
Lead (mg/L) TCLP	--	<0.5	*--	0.53
pH	7.24	8.42	8.35	--
Waste Disposal	Non-Haz	CA Haz	CA Haz	CA Haz

Note: *= Insufficient amount of soil sample to run analyses; -- = not analyzed; composite sample represents a mixture of the three sample tubes from the boring; Non-Haz (total lead <80 mg/kg); CA Haz (Exceed STLC 5 mg/L).

SB-6 (N 12th St/Dos Rios St)	0-1 ft	1-2 ft	2-3 ft
Lead (mg/kg) TTLC	250	470	*--
Lead (mg/L) STLC CA WET	11	*--	*--
Lead (mg/L) TCLP	0.82	*--	*--
pH	8.26	9.47	*--
Waste Disposal	CA Haz	N/A	N/A

Note: *= Insufficient amount of soil sample to run analyses; N/A = cannot determine; CA Haz (Exceed STLC 5 mg/L).



SB-7 (210 12th St-driveway)	0-1 ft	1-2 ft	2-3 ft
Lead (mg/kg) TTLC	130	250	5.7
Lead (mg/L) STLC CA WET	2.0	4.3	--
Lead (mg/L) TCLP	--	--	--
pH	6.84	8.67	7.74
Waste Disposal	Non-Haz	Non-Haz	Non-Haz

Note: -- = not analyzed; Non-Haz (total lead <80 mg/kg).

Figure 11. Lead CA WET Lab Results for Boring Locations SB-5, SB-6, and SB-7

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3.6 Conclusions and Recommendations

3.6.1 Waste Management

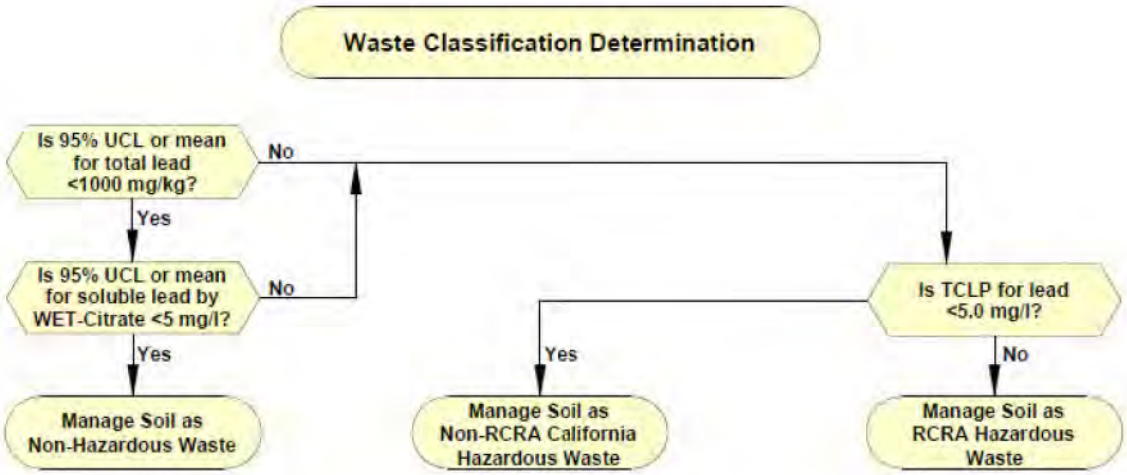
Soil samples SB-4-0-1, SB-5-0-1, SB-5-1-2, SB-5-2-3, S-5 (Composite), SB-6-0-1, SB-6-1-2, SB-7-0-1, SB-7-1-2, SB-11-0-1, and SB-14-1-2, had lead concentrations exceeding 10 times the Soluble Threshold Limit Concentration (STLC) value of 5 milligrams per liter (mg/L), but were below the TTLC value (1,000 mg/kg). Due to the exceedances, the soil samples SB-4-0-1, SB-5-0-1, SB-5-1-2, S-5 (composite), SB-6-0-1, SB-7-0-1, SB-7-1-2, SB-11-0-1, and SB-14-1-2 were analyzed using the CA WET. Soil samples SB-5-2-3 and SB-6-1-2 did not have sufficient remaining sample to run the CA WET. Results indicated that soil samples SB-5-1-2, SB-5 (Composite), and SB-6-0-1 had CA WET lead concentrations of 13, 5.2, and 11 mg/L, respectively, which are above the STLC value of 5 mg/L. Results indicated that soil samples SB-4-0-1, SB-5-0-1, SB-7-0-1, SB-7-1-2, SB-11-0-1, and SB-14-1-2 had CA WET concentrations below the STLC value of 5 mg/L. The lead for SB-5-1-2, SB-5 (Composite), and SB-6-0-1 had TCLP lead concentrations of "not detected (ND)", 0.53 mg/L, and 0.82 mg/L, respectively. SB-5-1-2, SB-5 (Composite), and SB-6-0-1 have lead concentrations at levels that classify them as California Hazardous. The soil from the area represented by SB-5 and SB-6 may be pre-classified as California Hazardous for disposal at a Class I Landfill.

Six of the samples (SB-5-2-3, S-5 Composite, SB-6-0-1, SB-6-1-2, SB-7-0-1, and SB-7-1-2) exceeded the residential ESLs for lead. Four of the six (SB-5 Composite, SB-6-0-1, SB-6-1-2, and SB-7-1-2) were also above the exposure to construction workers ESLs. One of the samples (SB-6-1-2) was above the ESLs for commercial/industrial land use. However, as stated above, because soil from the area represented by SB-5 and SB-6 may be pre-classified as California Hazardous for disposal at a Class I Landfill, and the soil in these areas will not be considered for reuse. All the other samples were below the ESLs/CHHSLs for residential, commercial/industrial land use, and construction worker exposure levels.

Soil samples SB-5 (Composite), SB-12 (Composite), and SB-15 (Composite) were analyzed for CAM-17 metals, among other COCs, and had detectable arsenic concentrations of 6.7 mg/kg, 5.3 mg/kg, and 8.0 mg/kg, respectively, which are above the ESLs for residential use, commercial/industrial use, and construction worker safety. Soil samples SB-5 (Composite), SB-12 (Composite), and SB-15 (Composite) were also had detectable chromium concentrations of 32 mg/kg, 43 mg/kg, and 49 mg/kg, respectively, which are above the ESLs for residential use, commercial/industrial use, and construction worker safety. The arsenic and chromium levels at SB-12 (Composite) and SB-15 (Composite) do not exceed the STLC limit. Therefore, the soils may be pre-classified as non-hazardous for disposal at a Class III Landfill, consistent with CCR Title 22 §66262.11 waste classification. As noted in Section 3.2, the lead for SB-5 (Composite) had a lead concentration of 180 mg/kg and a TCLP lead concentration of 0.53 mg/L. SB-5 (Composite) is at a level that classifies it as "California Hazardous," but not "RCRA Hazardous." The lead levels at SB-5 (Composite) exceed the ESLs for residential use, commercial/industrial use, and construction worker safety. The soil from the area represented by SB-5 (Composite) may be pre-classified as "California Hazardous" for disposal at a Class I Landfill.

The contractor doing the work for the City should prepare a Project-specific Lead Compliance Plan (CCR Title 8, §1532.1, the "Lead in Construction" standard) to minimize worker exposure to lead-containing 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 lead-containing soil.

Prior to implementation of ground-disturbing activities, the City shall hire a qualified professional to prepare and implement a Hazardous Materials Action Plan. The Plan shall identify the known hazards, describe hazard recognition and testing measures for construction workers, identify personal protective equipment, and describe waste handling and disposal procedures, as specified in applicable regulations and best practices.



3.6.2 Worker Safety

The following Federal and State regulations govern the protection of worker safety at potential hazardous material sites:

- OSHA Hazardous Waste Operations and Emergency Response regulations (29 CFR 1910.120)
- OSHA Worker education and training (Hazard Communication Standard) 29 CFR 1910.1200, 1915.1200, 1917.28, 1918.90, and 1926.59
- General Industry OSHA 29 CFR 1910; 1910.1018 (Inorganic Arsenic), 1910.1025 (Lead), 1910 Subpart Z (Toxic and hazardous substances), and 1926 Subpart D (Occupational health and environmental controls)
- Construction Industry OSHA 29 CFR 1926; 1926.62 (Lead), 1926 Subpart Z (Toxic and hazardous substances), 1926.1118 (Inorganic Arsenic)
- Hazardous Waste Control Act (California Health and Safety Code, Section 25100 et seq.), California Code of Regulations (CCR) Title 26

- HAZWOPER (§ 5192) - Title 8 CCR Division 1, Chapter 4, Subchapter 7, Group 16, Article 109 (Appendices)
- General Industry Safety Orders -Title 8 CCR 5214 (Inorganic Arsenic)
- Environmental Health Standards for Management of Hazardous Waste-Title 22 CCR Division 4.5
- Lead Standard for the Construction Industry - 29 CFR 1926.62

Arsenic - Arsenic is a naturally-occurring element that is often detected in soil at concentrations that equal or exceed regulatory screening levels for both residential and industrial soil. The DTSC is aware of the ubiquitous nature of arsenic in California soil and generally does not consider concentrations of arsenic within the range of naturally occurring background levels to be a concern. Soil cleanup guidelines for arsenic vary widely in the USA, ranging from 0.039 to 40 mg/ kg.

Lead - Based on the analytical results of this ADL Survey, soil samples collected at the 15 boring locations along N 12th St Project corridor, did not contain total lead in excess of the California TTLC of 1,000 mg/kg. The standard CA-WET soluble lead test results indicate that some soil concentrations are in excess of the California STLC of 5 mg/L (3 of the 9 samples analyzed for soluble lead by CA-WET at six locations along the Project corridor). The TCLP test results did not contain lead in excess of threshold for RCRA hazardous waste of 5 mg/L.

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4 PSI-ADL RECOMMENDATIONS SUMMARY

Description	Evidence of Potential REC	Recommended Action(s)
Shallow soil with lead concentrations exceeding the STLC limit (ADL)	Soil borings SB-5-1-2, SB-5 (Composite), and SB-6-0-1 had lead concentrations above the STLC limit (5 mg/L), which at levels that classifies them as "California Hazardous Waste,". but not "RCRA Hazardous."	The shallow soil from the intersection of B St and N 12th St, near SB-5 and SB-6, can be pre-classified as (Non-RCRA) California Hazardous Waste. Soil from these areas will need to be segregated in stockpiles, and disposed of at a Class I Landfill (per Section 25117/25141 of the California Health and Safety Code).
Shallow soil with lead concentrations exceeding RWQCB ESLs (ADL)	The soil borings SB-7-0-1 and SB-7-1-2 had lead concentrations that exceeded the residential and construction worker ESLs for lead. Soil sample SB-7-1-2 also exceeded the exposure to construction workers ESL.	The shallow soil from the area represented by boring SB-7-0-1 and SB-7-1-2 will not be reused at any off-site locations. The soil can be reused for commercial/industrial purposes or disposed at a Class II or Class III Landfill.
Shallow soil with lead below all limits (ADL)	All the other soil borings along the N 12th St corridor had lead concentrations below the TTLC/STLC and RWQCB ESLs for residential, commercial/industrial land use, and exposure to construction workers and considered Non-Hazardous.	The shallow soil from the areas near the other borings had lead concentrations that were below all limits, and can be reused along the corridor or disposed at a Class III Landfill.
Shallow soil samples with arsenic and chromium	The composite samples for borings SB-12 and SB-15 were analyzed for CAM-17 metals, among other COCs, and had detectable arsenic concentrations of 5.3 and 8.0 mg/kg, respectively, which are above all the RWQCB ESLs. In addition, composite samples SB-12 and SB-15 also had detectable chromium concentrations of 43 and 49 mg/kg, respectively, which are above all the RWQCB ESLs. for residential use, commercial/ industrial use, and construction worker safety. The arsenic and chromium levels at SB-12 and SB-15 do not exceed the TTLC/STLC limits.	The shallow soils from the in areas near represented by SB-12 and SB-15 can be pre-classified as Non-Hazardous, and can be disposed at a Class III Landfill., consistent with CCR Title 22 §66262.11 waste classification.
Yellow Traffic Stripe Removal	Potential lead and heavy metals associated with pavement striping. Implementation of improvements may require the removal and disposal of yellow traffic striping and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22 CCR and require disposal in a Class I disposal site.	Abate striping on N 12th St prior to construction following DOT SSPs: • Caltrans SSP 14-11.12 (10/19/2018) - Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue - Requires proper management of hazardous waste residue and a lead compliance plan. Caltrans SSP 84-9.03C (10/19/2018) - Remove Traffic Stripes and Pavement Markings Containing Lead - Requires a lead compliance plan for removal when residue is non-hazardous. Used for new yellow paints and all other colors of paint.

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5 LIMITATIONS

The scope of a PSI-ADL Study includes verification of RECs based upon environmental testing. As is the case for any project that proposes excavation, the potential exists for unknown hazardous contamination to be revealed during Project construction (such as previous contamination from a previous business).

The PSI-ADL Study for the Project corridor located in Sacramento, California, was performed in general accordance with the ASTM E1903-11 Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process. All readily available materials pertaining to the Project corridor were reviewed prior to performing the investigation and used to help prepare this report. This assessment is not a full-scale environmental site investigation to prove that the Project corridor is environmentally devoid of hazardous or toxic materials. Samples were collected in specific locations for the new Complete Street construction to determine baseline concentrations of potential COCs in the Project corridor.

This PSI-ADL Study consists of professional opinions and recommendations made in accordance with generally-accepted environmental principles and practices. The conclusions are based upon an evaluation of the information gathered and analytical data from the soil samples collected from the Project corridor area. This PSI-ADL Study does not provide any implied or expressed guarantees regarding the characteristics or environmental conditions at the Project corridor area.

Opinions given in this PSI-ADL Study, relative to the potential for hazardous materials to exist within the study area, are based upon the information resulting from the field work con and from the ISA Report (Blackburn Consulting 2017). The findings and conclusions in this report are based solely on the limited scope of the PSI-ADL Study, and it is not warranted that the Project corridor does not include hazardous materials or petroleum hydrocarbon releases in areas that weren't tested or discussed in this report.

This PSI-ADL Study is not intended to identify ALL hazards or unsafe conditions, or to imply that others do not exist. This soil sampling and testing investigation was planned and implemented based on a mutually agreed scope of work and WRECO's experience in performing this type of assessment.

WRECO has performed this investigation in a professional manner using the degree of skill and care exercised for similar projects under similar conditions, by reputable and competent environmental consultants. WRECO shall not be responsible for conditions or consequences arising from relevant facts that were not identified or disclosed at the time that this investigation was conducted.

WRECO further states that no warranties, expressed or implied are made regarding the quality, fitness, or results to be achieved because of this report or impacted by information not properly disclosed to WRECO at the time of this report. In addition, no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

Verification of material quantities is the responsibility of the contractor that will be performing construction activities at the Project corridor. It is the responsibility of the construction contractor to determine the appropriate waste management and disposal actions for shallow soil within the Project corridor. Hazardous materials must be handled in strict accordance with the various federal, state, and local regulations. Failure to abide by these regulations can result in penalties to both the contractor as well as the property owner.

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Appendix A City of Sacramento Encroachment Permit

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CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS

ENCROACHMENT/EXCAVATION PERMIT

PERMIT NUMBER

201805081

APPLICANT: **WRECO** PHONE: **(925) 941-0017**

ADDRESS: **1243 Alpine Road**

Walnut Creek, Ca **64596**

Application is hereby made for Encroachment/Excavation Permit to perform the following:

1. Applicant's work order or job number: **P18121**

2. Location or work: **from N 12TH ST & RICHARDS BLVD to 12TH ST & H ST**

3. General description of work to be done:

(a) Excavations: **0** Width **0** Depth **0** Length _____ Surface Material

(b) Conduit: _____ Type: (PVC, Metal, etc. **0** Diameter _____ Conveying: (Water, Gas, etc)

(c) Other: **15 Shallow Soil Boring w/Coring - Direct Push Drilling** (Sidewalk, Sign, Driveway, etc.)

4. Estimated: Start Date **1/17/2019** Days for Completion **2**

5. Person familiar with details:

Name: **Xavier Green - Penecore Drilling In** Phone No: **(530) 661-3600**

6. Applicants Inspector, Contractor, Foreman or Supervisor as appropriate:

Name: **Omar, WRECO** Phone No.: **(916) 513-7428**

Note: See General Conditions (attached). See "Special Provisions" below. Call Encroachment-Streetuse Permit Help Desk 808-6810 one week prior to starting work.

DATE: **12/14/2018**

FILE NUMBER

T15165000

CIP Number:

PERMIT DATE

12/14/2018

COMPLETION DATE

Engineering		
Const Inspection		
Traffic		
Elect		

Days

Trench Cut Fee: $

Ordinance #83070

INSPECTOR

LIFFRING

(916) 804-8363

"SPECIAL PROVISIONS"

Copy of USA ticket required. All USA markings shall be removed upon completion of project.

Traffic Control Plan must be submitted and approved prior to the start of work. The Traffic Control Plan is required to be on site with this permit at all times. Failure to comply may result in a Fine.

City of Sacramento Contact: Zuhair Amawi (916) 808-7620

City of SACRAMENTO
Department of Public Works

Engineering Services Division
Construction Inspection Services
915 I Street, RM 2000
Sacramento, CA 95814

Phone: 916-808-6810
Fax: 916-448-8450

APPLICATION FOR STREET USE/ ENCROACHMENT PERMIT

Permit Number

APPLICANT (OWNER): WRECO PHONE: 925-941-0017

ADDRESS: 1243 Alpine Road, Walnut Creek, CA ZIP: 94596

I request for permission for my contractor to perform the described work in the City right of way adjacent to my properly.

SIGNED: [signature] DATE: 12/12/18

APPLICATION IS HEREBY MADE FOR AN ENCROACHMENT PERMIT TO PERFORM THE FOLLOWING:

1. APPLICANT'S WORK ORDER JOB NUMBER: P18121
2. LOCATION OF WORK: North 12th Street (Name of Road / Address) between Richards Blvd. and H Street (Cross Road)
3. GENERAL DESCRIPTION OF WORK TO BE DONE:
   (a) EXCAVATIONS: _____ (Width) _____ (Depth) _____ (Length) _____ (Surface Material)
   (b) CONDUIT: _____ (Type: PVC, metal etc.) _____ (Diameter) _____ (Conveying: Water, Gas, etc)
   (c) OTHER: 15 shallow soil boring with coring using direct push drilling (Sidewalk, Sign, Driveway repair, etc.) (Description)
4. ESTIMATED START DATE: Jan 17,18, 2019 DAYS FOR COMPLETION 2 days
5. CONTRACTOR'S INFORMATION:

NAME OF FIRM: Penecore Drilling, Inc. PHONE NO.: 530.661.3600

CONTACT NAME: Xavier Green EMAIL: Xavier@penecore.com

ADDRESS: 220 N. East st. Woodland, CA 95776 LICENSE NO.: C57 906899

APPLICANT CHECK LIST:

- 1 SET OF THE SITE PLAN.(MINIMUM 8 ½ X 11 SIZE REQUIRED)
- 1 SET OF THE TRAFFIC CONTROL PLAN SHOWING PEDESTRIAN PATH OF TRAVEL.
- DESCRIPTION OF SCHEDULE OF WORK TO BE PERFORMED. DAY, WEEK OR SHIFT. (PROGRESS WILL BE MONITORED, REVIEWED AND APPROVED ON A WEEKLY BASIS.)
- PROOF OF INSURANCE (ACCORD AND ADDITIONAL INSURED ENDORSEMENT.) IF REQUIRED

PERMITS WILL BE KEPT ON FILE A MAXIMUM OF 60 DAYS. YOU MUST ACTIVATE YOUR PERMIT BY CALLING THE CONSTRUCTION INSPECTION HELP DESK AT 808-6810, A MINIMUM OF ONE WEEK PRIOR TO THE START OF WORK. ALL REQUESTS FOR ACTIVATION RECEIVED BY MONDAY WILL BE REVIEWED WEDNESDAY OF EACH WEEK. UPON APPROVAL, WORK MAY BEGIN AS EARLY AS SATURDAY. THE CONTACT PERSON FOR THIS PROJECT WILL BE NOTIFIED BY PHONE OR EMAIL.

STAFF USE ONLY

PERMIT FEE	FILE NUMBER	IMPROVEMENT SECURITY	ENGINEER
$		$	

01/2014

City of SACRAMENTO
Department of Public Works

Engineering Services Division
Construction Inspection Services
915 I Street, RM 2000
Sacramento, CA 95814

Phone: 916-808-6810
Fax: 916-448-8450

APPLICATION FOR STREET USE/ ENCROACHMENT PERMIT

Permit Number

APPLICANT (OWNER): _____ PHONE: 925-941-0017

ADDRESS: 1243 Alpine Road, Walnut Creek, CA ZIP: 94596

I request for permission for my contractor to perform the described work in the City right of way adjacent to my property.

SIGNED: _____ DATE: _____

APPLICATION IS HEREBY MADE FOR AN ENCROACHMENT PERMIT TO PERFORM THE FOLLOWING:

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- PROOF OF INSURANCE (ACCORD AND ADDITIONAL INSURED ENDORSEMENT.) IF REQUIRED

PERMITS WILL BE KEPT ON FILE A MAXIMUM OF 60 DAYS. YOU MUST ACTIVATE YOUR PERMIT BY CALLING THE CONSTRUCTION INSPECTION HELP DESK AT 808-6810, A MINIMUM OF ONE WEEK PRIOR TO THE START OF WORK. ALL REQUESTS FOR ACTIVATION RECEIVED BY MONDAY WILL BE REVIEWED WEDNESDAY OF EACH WEEK. UPON APPROVAL, WORK MAY BEGIN AS EARLY AS SATURDAY. THE CONTACT PERSON FOR THIS PROJECT WILL BE NOTIFIED BY PHONE OR EMAIL.

STAFF USE ONLY

PERMIT FEE	FILE NUMBER	IMPROVEMENT SECURITY	ENGINEER
$ _____	_____	$ _____	_____

01/2014

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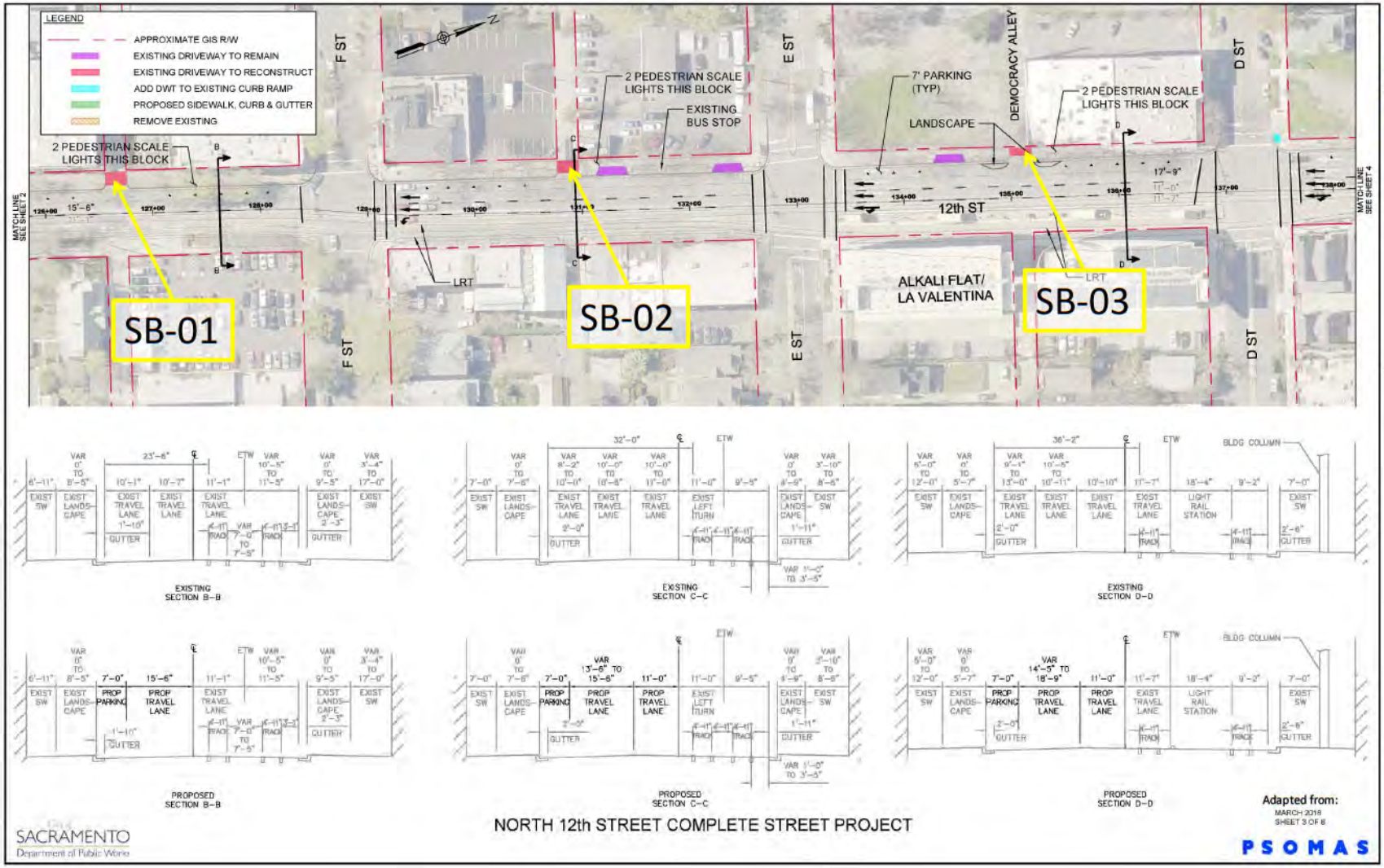
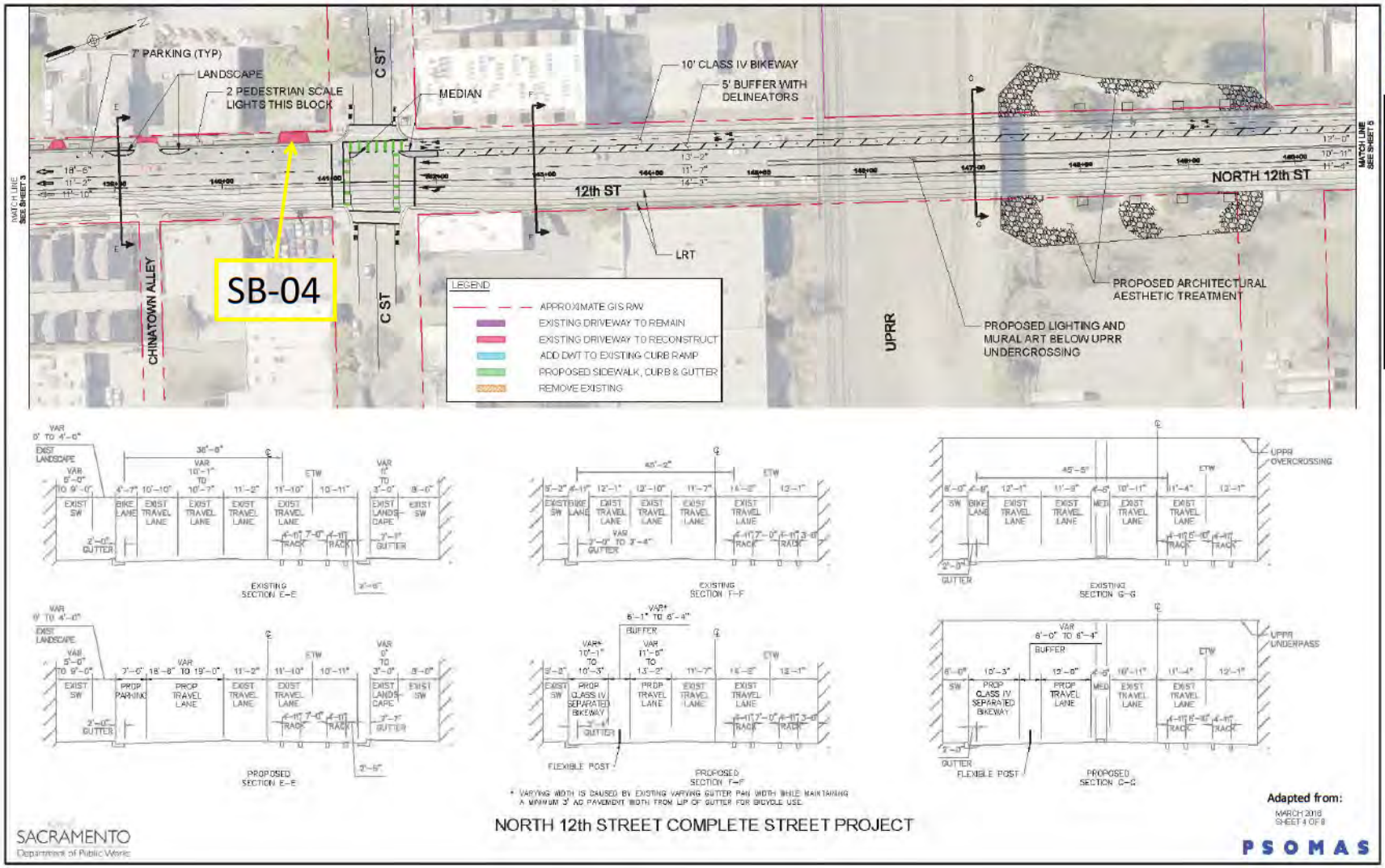


WRECO

SB-XX 5' Soil boring with coring where concrete or asphalt exists

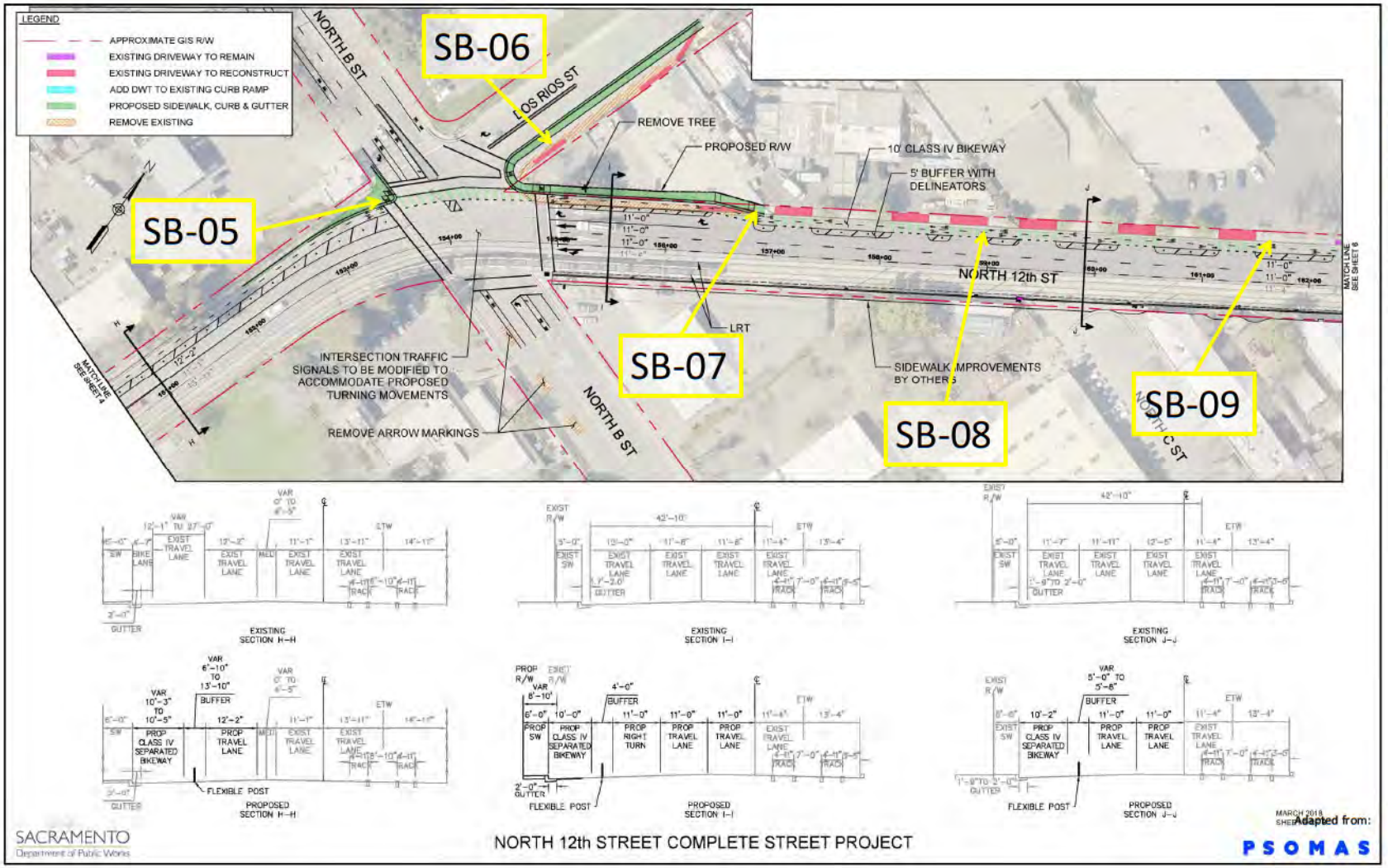
Notes: Soil samples will be tested for the following constituents: Total petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g) and motor oil (TPH-mo), CAM-17 metals, benzene/toluene/ethylbenzene/xylene (BTEX), volatile organic compounds (VOCs), Pesticides and herbicides, and aerially deposited lead.



WRECO

SB-XX 5' Soil boring with coring where concrete or asphalt exists

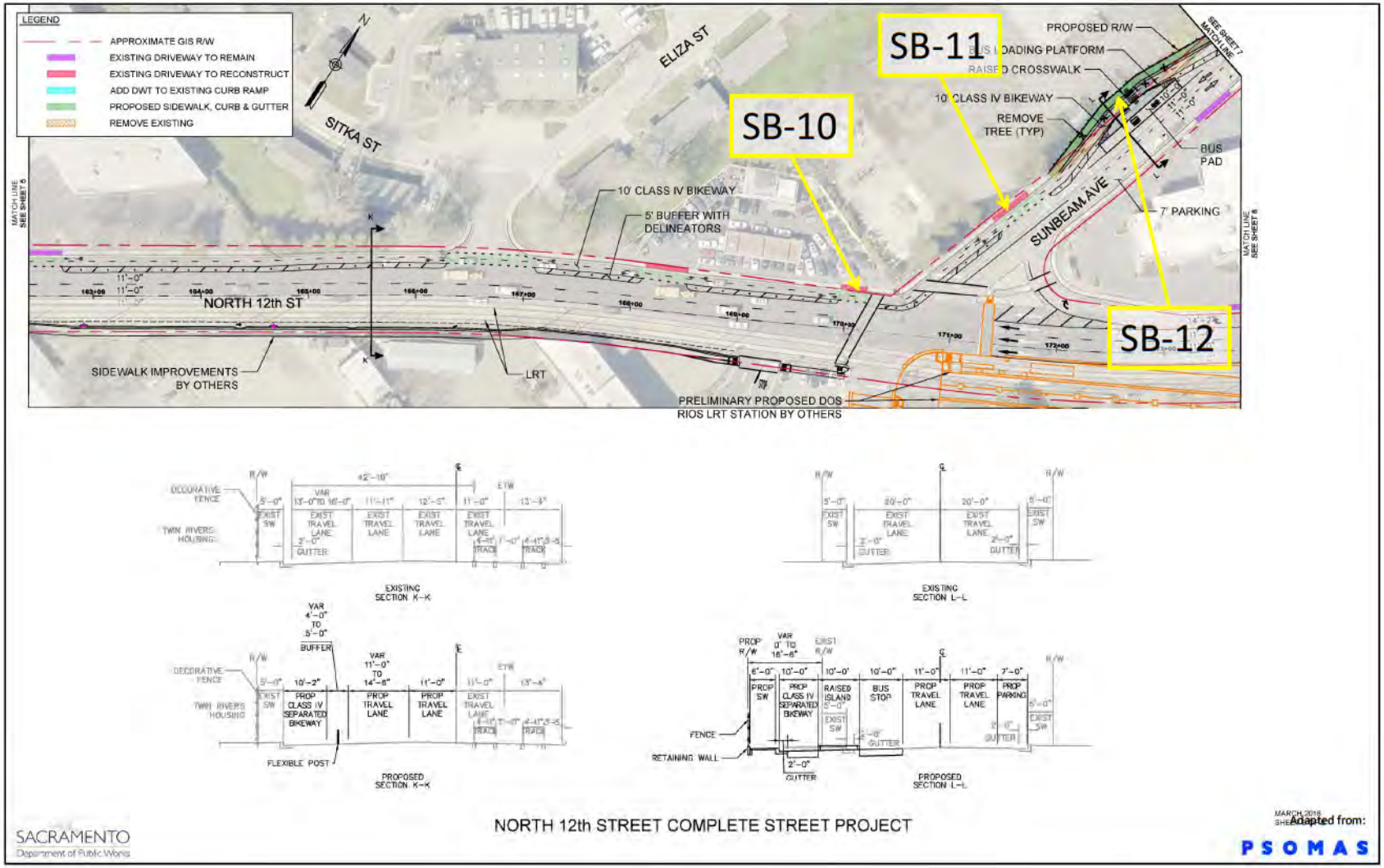
Notes: Soil samples will be tested for the following constituents: Total petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g) and motor oil (TPH-mo), CAM-17 metals, benzene/toluene/ethylbenzene/xylene (BTEX), volatile organic compounds (VOCs), Pesticides and herbicides, and aerially deposited lead.



WRECO

SB-XX 5' Soil boring with coring where concrete or asphalt exists

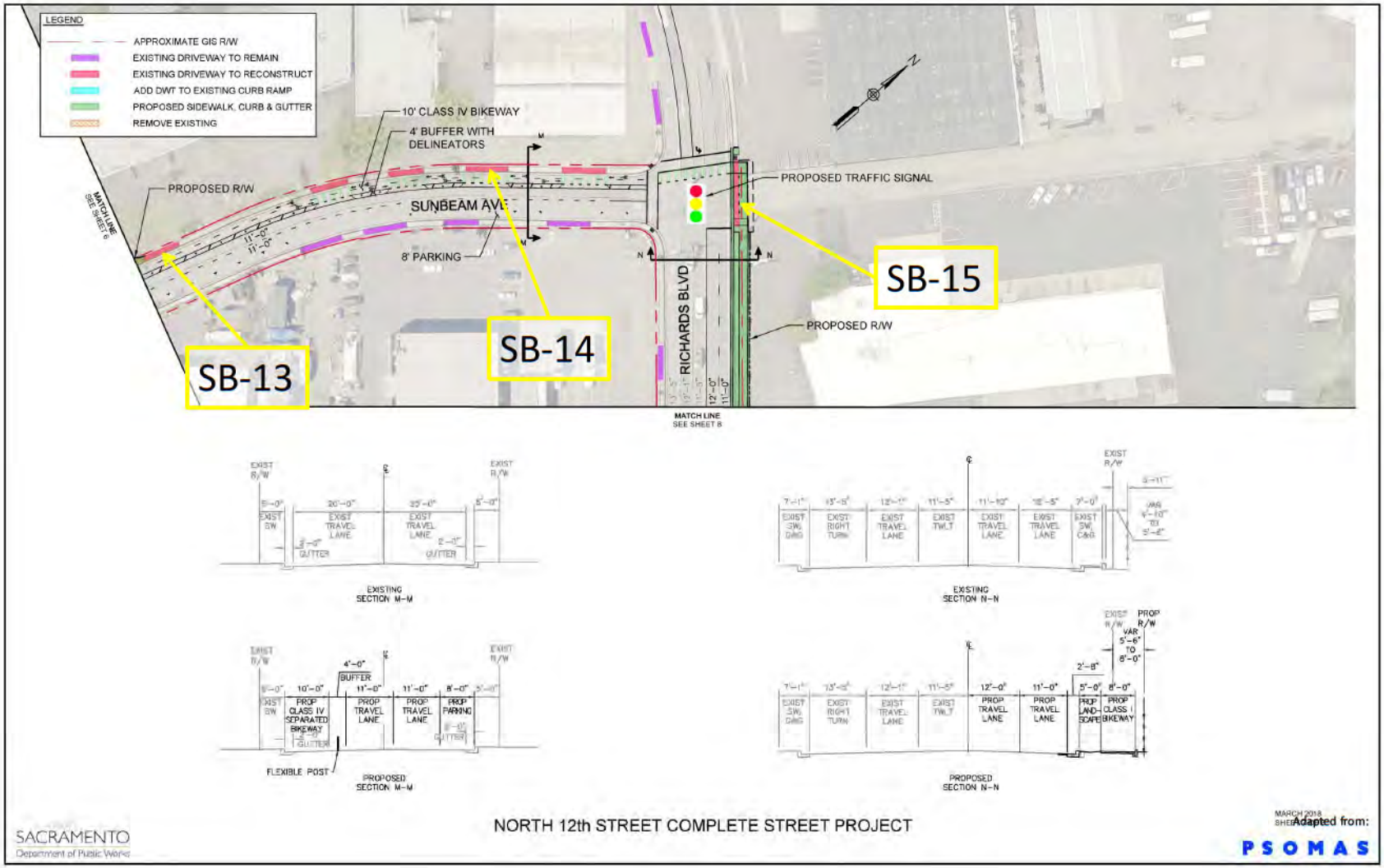
Notes: Soil samples will be tested for the following constituents: Total petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g) and motor oil (TPH-mo), CAM-17 metals, benzene/toluene/ethylbenzene/xylene (BTEX), volatile organic compounds (VOCs), Pesticides and herbicides, and aerially deposited lead.



WRECO

SB-XX	5' Soil boring with coring where concrete or asphalt exists

Notes: Soil samples will be tested for the following constituents: Total petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g) and motor oil (TPH-mo), CAM-17 metals, benzene/toluene/ethylbenzene/xylene (BTEX), volatile organic compounds (VOCs), Pesticides and herbicides, and aerially deposited lead.



WRECO

SB-XX	5' Soil boring with coring where concrete or asphalt exists

Notes: Soil samples will be tested for the following constituents: Total petroleum hydrocarbons (TPH) as diesel (TPH-d), gas (TPH-g) and motor oil (TPH-mo), CAM-17 metals, benzene/toluene/ethylbenzene/xylene (BTEX), volatile organic compounds (VOCs), Pesticides and herbicides, and aerially deposited lead.

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Notes for Figure 6H-28—Typical Application
28 Sidewalk Detour or Diversion

Standard:

1. **When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.**

Guidance:

2. Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.
3. *Audible information devices should be considered where midblock closings and changed crosswalk areas cause inadequate communication to be provided to pedestrians who have visual disabilities.*

Option:

4. Street lighting may be considered.
5. Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS signs, may be used to control vehicular traffic.
6. For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
7. Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights may be used on channelizing devices separating the temporary sidewalks from vehicular traffic flow.
8. Signs, such as KEEP RIGHT (LEFT), may be placed along a temporary sidewalk to guide or direct pedestrians

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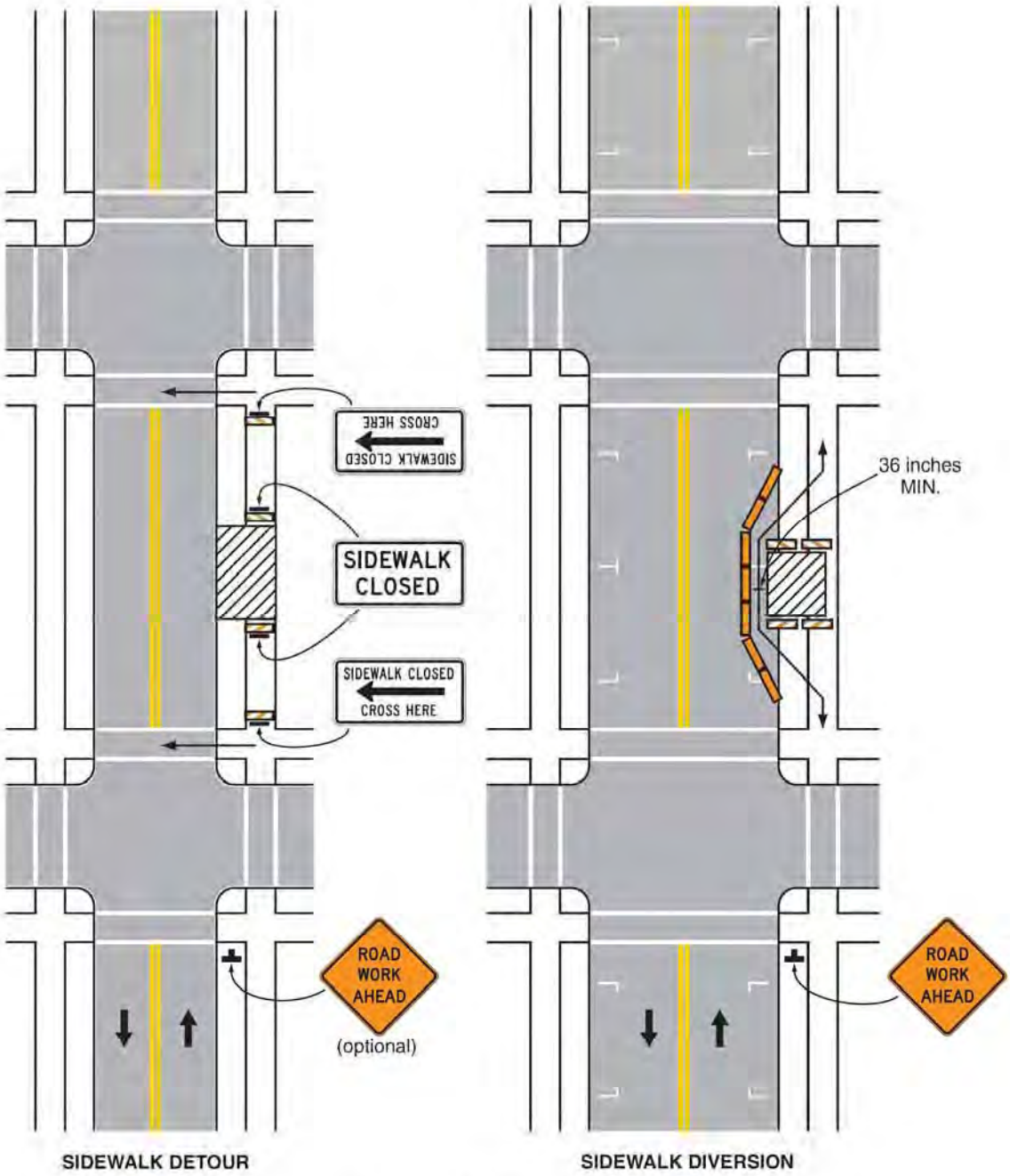
Figure 6H-28. Sidewalk Detour or Diversion (TA-28)



Typical Application 28

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

IMPORTANT NOTE: *Sidewalk (Pedestrian) Detour or Diversion shall be ADA compliant and shall comply with City of Sacramento "Sidewalk Closure Policy".*

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Notes for Figure 6H-6—Typical Application 6
Shoulder Work with Minor Encroachment

Guidance:

1. *All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.*
2. *The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.*

Option:

3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with a activated high-intensity rotating, flashing, oscillating, or strobe lights is used. a
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

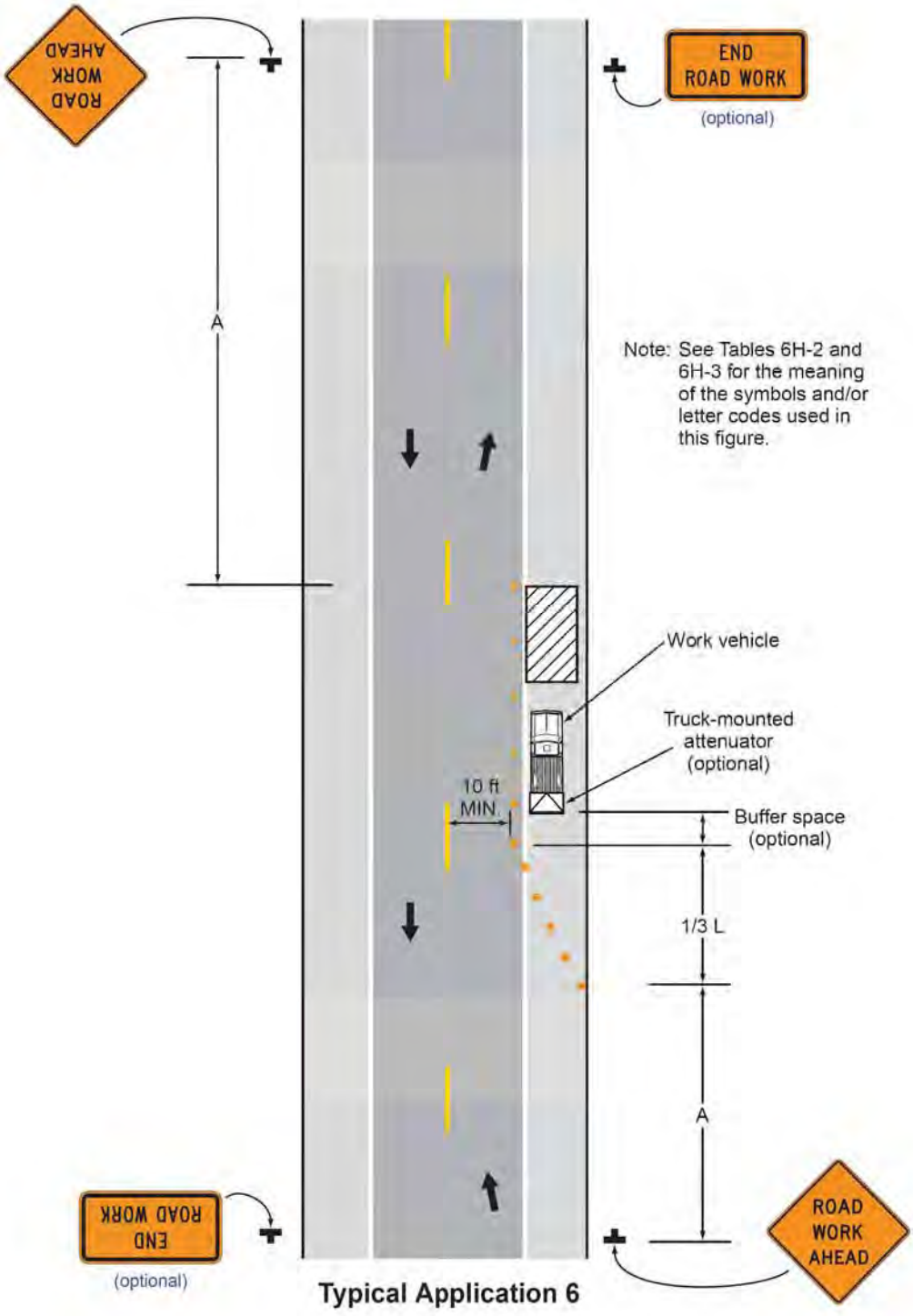
11. Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.

12. Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.

13. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

14. Note 3 shall not be applicable for State highways. Note #1 shall be used instead for State highways.

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



Typical Application 6

IMPORTANT NOTE: *When existing accomodations for bicycle travel are distributed orclosed in a long-term duration project and the roadway width is inadequate for all bicyclists and motor vehicles to travel side by side, the Bicycle Crossing (W11-1) sign and the SHARE THE ROAD (W16-1P) plaque should be used to advise motorists of the presense of bicyclists in the travel way lanes.*

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Table 6H-1(CA). Index to Typical Applications

Typical Application Description	Typical Application Number
Work affecting Pedestrian and Bicycle Facilities (see Section 6G.05)	
Shoulder Closure on Urban (Low Speed) Locations to Accommodate Bicyclists	TA-101(CA)
Lane Closure on Freeway, Expressway, Rural and Urban (High Speed) Locations to Accommodate Bicyclists	TA-102(CA)
Detour for Bike Lane on Roads with Closure of One Travel Direction	TA-103(CA)
Right Lane and Bike Lane Closure on Far Side of Intersection	TA-104(CA)
Work Within the Traveled Way of a Two-Lane Highway (see Section 6G.10)	
Lane Shift on Road with Low Traffic Volumes	TA-105(CA)

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

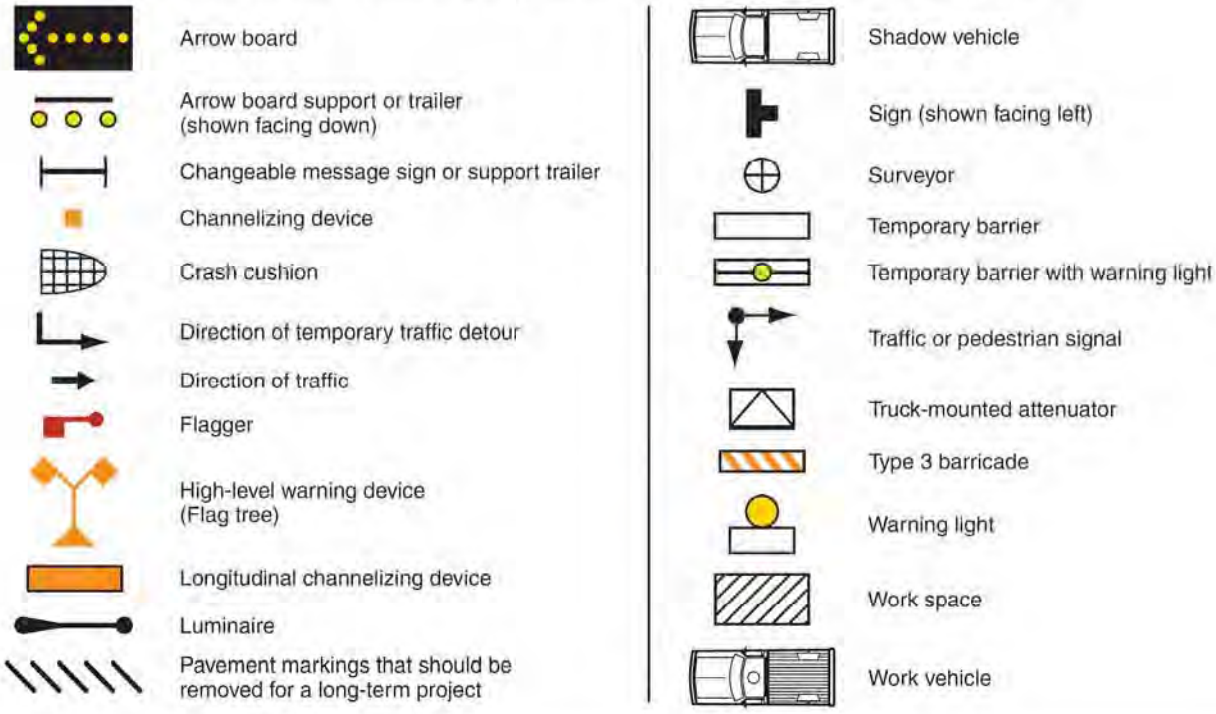

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)* - 25 mph or less	100 feet	100 feet	100 feet
Urban (low speed)* - more than 25 mph to 40 mph	250 feet	250 feet	250 feet
Urban (high speed)* - more than 40 mph	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

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Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

---

Table 6H-4(CA). Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (W)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)***
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50

* - Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

** - For other offsets use the following merging taper length formula for L:
For speeds of 40 mph or less, $L=WS^2/60$
For speeds of 45 mph or more, $L=WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

*** - Maximum downstream taper length is 100 feet. See Section 6C.08.

TSADRIL-01 TGALART

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/13/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER License # 0B50501
Armstrong & Associates
239 W Court St, Bldg A
Woodland, CA 95695

CONTACT NAME: Teresa Galart
PHONE (A/C, No, Ext): (530) 668-2777 FAX (A/C, No): (530) 668-2779
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Colony Insurance Company	39993
INSURER B : West American Insurance Company	44393
INSURER C : Wesco Insurance Company Inc.	25011
INSURER D : Ohio Security Insurance Company	24082
INSURER E :	
INSURER F :	

INSURED
TSA Drilling Inc.
Penecore Drilling
220 North East St
Woodland, CA 95776

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$	1,000,000
	CLAIMS-MADE X OCCUR	X		PACEP305708	08/05/2018	08/05/2019	DAMAGE TO RENTED PREMISES (Ea occurrence)	$	100,000
	X Pollution included						MED EXP (Any one person)	$	5,000
	X Professional include						PERSONAL & ADV INJURY	$	1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$	2,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$	2,000,000
	OTHER:						Poll/Prof each	$	1,000,000
B	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$	1,000,000
	X ANY AUTO			BAW56829954	08/05/2018	08/05/2019	BODILY INJURY (Per person)	$	
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$	
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$	
								$	
A	UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$	9,000,000
	X EXCESS LIAB CLAIMS-MADE			EXC305709	08/05/2018	08/05/2019	AGGREGATE	$	9,000,000
	DED RETENTION $							$	
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						X PER STATUTE OTH-ER		
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y	N/A		WWC3364623	08/01/2018	08/01/2019	E.L. EACH ACCIDENT	$	1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$	1,000,000
							E.L. DISEASE - POLICY LIMIT	$	1,000,000
D	Property			BKS56829954	08/05/2018	08/05/2019	Building		481,500
D	Equipment Floater			BKS56829954	08/05/2018	08/05/2019	Rented Leased Borrow		50,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Encroachment Permit City of Sacramento is named additiional insured per attached endorsement.

CERTIFICATE HOLDER

City of Sacramento
Dept of Public Works
915 I Street RM 2000
Sacramento, CA 95814

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Martin Armstrong

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

EnviroPACE Insurance Policy

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
ALL PERSON(S) OR ORGANIZATION(S) WHERE THIS ENDORSEMENT IS REQUIRED BY CONTRACT.	ALL PROJECT LOCATIONS WHERE THIS ENDORSEMENT IS REQUIRED BY CONTRACT.

A. Section **XX. WHO IS AN INSURED, Coverage Part 1 and Part 2** is amended to include as an additional insured the person(s) or organization(s) shown in the SCHEDULE above, but only with respect to liability for **bodily injury**, **property damage**, **personal and advertising injury**, **environmental damage**, or **cleanup costs** caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to **bodily injury** or **property damage** occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of **your work** out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Appendix B **Laboratory Reports**

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CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

January 29, 2019

CLS Work Order #: 19A0904
COC #:

Melissa McAssey
WRECO - Walnut Creek
1243 Alpine Rd Suite 108
Walnut Creek, CA 94596

Project Name: North 12th Street Complete Street Project

Enclosed are the results of analyses for samples received by the laboratory on 01/17/19 16:35. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

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CALIFORNIA LABORATORY SERVICES

19A0904

CHAIN OF CUSTODY CLS ID. NO. _____ (1 of 2) CLS Rancho Cordova

Report To:	Client Job Number	ANALYSIS REQUESTED	GEOTRACKER
Name and Address	Destination Laboratory		EDF REPORT ☐ YES ☐ NO GLOBAL ID
WRECO - 1243 Alpine Road, Suite 108, Walnut Creek, CA 94596	PRESERVATIVES		FIELD CONDITIONS
Project Manager - Melissa McAssey			TURNAROUND TIME IN DAYS: SPECIAL INSTRUCTIONS: **Lead and pH for all 3 individual samples; all other COCs are to composite the 3 samples into one for analysis**
Email - melissa_mcassey@wreco.com Phone - 925-941-0017 X248			
Project Name - North 12th Street Complete Street Project			
Sampled By - Omar Ragalso			
Job Description - ADL/COCs soil sampling			
Site Location - along North 12th St, Sunbeam Ave, and Richards Blvd			

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	Lead EPA 6010b	pH EPA 9045	Pesticides EPA 8081A - composite all 3 samples	PAHs EPA 8310 - composite all 3 samples	TPHg/BTEX EPA m-8015 - composite all 3 samples	TPH-DRO/TPH-GRO EPA m-8015 - composite all 3 samples	PCBs EPA 8082 - composite all 3 samples	CAM 17 Metals Title 22 - composite all 3 samples	BTEX/VOCs EPA 8260B - composite all 3 samples	1	2	5	10	
1/17/19	3:15	SB-1-0-1', SB-1-1-2', SB-1-2-3'	SB-1	soil	3	acetate	X	X	X	X									X	
1/17/19	3:00	SB-2-0-1', SB-2-1-2', SB-2-2-3'	SB-2	soil	3	acetate	X	X											X	
1/17/19	3:20	SB-3-0-1', SB-3-1-2', SB-3-2-3'	SB-3	soil	3	acetate	X	X			X								X	
1/17/19	3:30	SB-4-0-1', SB-4-1-2', SB-4-2-3'	SB-4	soil	3	acetate	X	X			X								X	
1/17/19	12:40	SB-5-0-1', SB-5-1-2', SB-5-2-3'	SB-5	soil	3	acetate	X	X		X		X	X	X					X	
1/17/19	1:00	SB-6-0-1', SB-6-1-2', ~~SB-6-2-3'~~	SB-6	soil	X2	acetate	X	X			X	X			X				X	
1/17/19	12:15	SB-7-0-1', SB-7-1-2', SB-7-2-3'	SB-7	soil	3	acetate	X	X							X				X	INVOICE TO
1/17/19	12:00	SB-8-0-1', SB-8-1-2', SB-8-2-3'	SB-8	soil	3	acetate	X	X											X	
1/17/19	11:55	SB-9-0-1', SB-9-1-2', ~~SB-9-2-3'~~	SB-9	soil	X2	acetate	X	X											X	
1/17/19	10:17	SB-10-0-1', SB-10-1-2', SB-10-2-3'	SB-10	soil	3	acetate	X	X			X								X	
1/17/19	10:10	SB-11-0-1', SB-11-1-2', SB-11-2-3'	SB-11	soil	3	acetate	X	X			X								X	POW
1/17/19	10:25	SB-12-0-1', SB-12-1-2', SB-12-2-3'	SB-12	soil	3	acetate	X	X				X		X	X				X	QUOTE#

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) HNO_3 (4)= H_2SO_4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
	Omar, WRECO	1/17/19 1600		CONRAD JR/CLS
RECEIVED AT LAB BY		DATE/TIME 1/17/19 1635	CONDITIONS/COMMENTS	(1.7)

19A0904

SHIPPED BY:	☐ FED EX ☐ UPS ☐ OTHER _____ AIR BILL # _____

CALIFORNIA LABORATORY SERVICES

CHAIN OF CUSTODY **CLS ID. NO.** _____ (2 of 2) CLS Rancho Cordova

Report To:

Name and Address

WRECO - 1243 Alpine Road, Suite 108, Walnut Creek, CA 94596

Project Manager: Melissa McAssey

Email - melissa_mcassey@wreco.com Phone - 925-941-0017 X248

Project Name - North 12th Street Complete Street Project

Sampled By - Omar Ragabo

Job Description - ADL/COCs soil sampling

Site Location - along North 12th St, Sunbeam Ave, and Richards Blvd

Client Job Number

Destination Laboratory

ANALYSIS REQUESTED

GEOTRACKER

EDF REPORT ☐ YES ☐ NO GLOBAL ID

FIELD CONDITIONS

TURNAROUND TIME IN DAYS **SPECIAL INSTRUCTIONS** **Lead and pH for all 3 individual samples; all other COCs are to composite the 3 samples into one for analysis**

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	Lead and Arsenic EPA 6010b	pH EPA 9045	TPH-DRO/TPH-GRO EPA m-8015 - composite all 3 samples	BTEX/VOCs EPA 8260B - composite all 3 samples	CAM 17 Metals Title 22 - composite all 3 samples	1	2	5	10	
4/17/19	9:55	SB-13-0-1'; SB-13-1-2'; ~~SB-13-2-3'~~	SB-13	soil	2	acetate	X	X		X					X	
4/17/19	9:20	SB-14-0-1'; SB-14-1-2'; SB-14-2-3'	SB-14	soil	3	acetate	X	X		X					X	
4/17/19	9:00	SB-15-0-1'; SB-15-1-2'; SB-15-2-3'	SB-15	soil	3	acetate	X	X	X	X	X				X	

INVOICE TO:

PO#

QUOTE#

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
	Omar, WRECO	4/17/19 1635		CONRAD 4/17/19
RECEIVED AT LAB BY:		DATE/TIME: 4/17/19	CONDITIONS/COMMENTS:	
SHIPPED BY:				

1635

17

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

CAM 17 Metals

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Antimony	ND	5.0	mg/kg	10	1900547	01/22/19	01/23/19	EPA 6020	
Arsenic	**6.7**	2.0	"	"	"	"	"	"	
Barium	**130**	2.0	"	"	"	"	"	"	
Beryllium	ND	2.0	"	"	"	"	"	"	
Cadmium	ND	1.0	"	"	"	"	"	"	
Chromium	**32**	2.0	"	"	"	"	01/24/19	"	
Cobalt	**8.2**	2.0	"	"	"	"	01/23/19	"	
Copper	**28**	2.0	"	"	"	"	"	"	
Lead	**180**	5.0	"	"	"	"	"	"	
Molybdenum	ND	2.0	"	"	"	"	"	"	
Nickel	**30**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Silver	ND	2.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**42**	2.0	"	"	"	"	"	"	
Zinc	**86**	5.0	"	"	"	"	"	"	
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Antimony	ND	5.0	mg/kg	10	1900547	01/22/19	01/23/19	EPA 6020	
Arsenic	**5.3**	2.0	"	"	"	"	"	"	
Barium	**93**	2.0	"	"	"	"	"	"	
Beryllium	ND	2.0	"	"	"	"	"	"	
Cadmium	ND	1.0	"	"	"	"	"	"	
Chromium	**43**	2.0	"	"	"	"	01/24/19	"	
Cobalt	**9.5**	2.0	"	"	"	"	01/23/19	"	
Copper	**36**	2.0	"	"	"	"	"	"	
Lead	**19**	5.0	"	"	"	"	"	"	
Molybdenum	ND	2.0	"	"	"	"	"	"	
Nickel	**40**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Silver	ND	2.0	"	"	"	"	"	"	

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Small Business #2916 | ELAP #1233 | NAICS #541380 | CA SWRCB ELAP Accreditation/Registration Number 1233

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

CAM 17 Metals

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Thallium	ND	2.0	mg/kg	10	1900547	"	01/23/19	EPA 6020	
Vanadium	**45**	2.0	"	"	"	"	"	"	
Zinc	**64**	5.0	"	"	"	"	"	"	
SB-15 (Composite) (19A0904-54) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
Antimony	ND	5.0	mg/kg	10	1900547	01/22/19	01/23/19	EPA 6020	
Arsenic	**8.0**	2.0	"	"	"	"	"	"	
Barium	**120**	2.0	"	"	"	"	"	"	
Beryllium	ND	2.0	"	"	"	"	"	"	
Cadmium	ND	1.0	"	"	"	"	"	"	
Chromium	**49**	2.0	"	"	"	"	01/24/19	"	
Cobalt	**12**	2.0	"	"	"	"	01/23/19	"	
Copper	**27**	2.0	"	"	"	"	"	"	
Lead	**14**	5.0	"	"	"	"	"	"	
Molybdenum	ND	2.0	"	"	"	"	"	"	
Nickel	**47**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Silver	ND	2.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**51**	2.0	"	"	"	"	"	"	
Zinc	**50**	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1-0-1' (19A0904-01) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
pH	**6.90**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-1-1-2' (19A0904-02) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
pH	**7.20**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-1-2-3' (19A0904-03) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
pH	**8.49**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-2-0-1' (19A0904-05) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
pH	**8.11**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-2-1-2' (19A0904-06) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
pH	**7.83**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-2-2-3' (19A0904-07) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
pH	**7.66**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-3-0-1' (19A0904-08) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
pH	**10.23**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-3-1-2' (19A0904-09) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
pH	**8.32**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-3-2-3' (19A0904-10) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
pH	**8.15**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-4-0-1' (19A0904-12) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
pH	**8.13**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-4-1-2' (19A0904-13) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
pH	**7.54**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-4-2-3' (19A0904-14) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
pH	**8.04**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-5-0-1' (19A0904-16) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
pH	**7.24**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-5-1-2' (19A0904-17) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
pH	**8.42**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-5-2-3' (19A0904-18) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
pH	**8.35**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-6-0-1' (19A0904-20) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
pH	**8.26**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-6-1-2' (19A0904-21) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
pH	**9.47**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-7-0-1' (19A0904-23) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
pH	**6.84**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-7-1-2' (19A0904-24) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
pH	**8.67**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-7-2-3' (19A0904-25) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
pH	**7.74**	1.00	pH Units	1	1900508	01/21/19	01/21/19	EPA 9045C	
SB-8-0-1' (19A0904-27) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
pH	**6.68**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-8-1-2' (19A0904-28) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
pH	**8.09**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-8-2-3' (19A0904-29) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
pH	**7.56**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-9-0-1' (19A0904-30) Soil Sampled: 01/17/19 11:55 Received: 01/17/19 16:35									
pH	**6.22**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-9-1-2' (19A0904-31) Soil Sampled: 01/17/19 11:55 Received: 01/17/19 16:35									
pH	**8.69**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-10-0-1' (19A0904-32) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
pH	**7.07**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-10-1-2' (19A0904-33) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
pH	**6.96**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-10-2-3' (19A0904-34) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
pH	**7.58**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-11-0-1' (19A0904-36) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
pH	**6.59**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-11-1-2' (19A0904-37) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
pH	**7.65**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-11-2-3' (19A0904-38) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
pH	**7.73**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-12-0-1' (19A0904-40) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
pH	**7.47**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-12-1-2' (19A0904-41) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
pH	**7.36**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-12-2-3' (19A0904-42) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
pH	**7.29**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-13-0-1' (19A0904-44) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
pH	**7.31**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-13-1-2' (19A0904-45) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
pH	**6.94**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-14-0-1' (19A0904-47) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
pH	**6.57**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-14-1-2' (19A0904-48) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
pH	**6.57**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-14-2-3' (19A0904-49) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
pH	**7.32**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-15-0-1' (19A0904-51) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
pH	**7.76**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-15-1-2' (19A0904-52) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
pH	**7.55**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	
SB-15-2-3' (19A0904-53) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
pH	**7.79**	1.00	pH Units	1	1900527	01/21/19	01/21/19	EPA 9045C	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Extractable Petroleum Hydrocarbons by EPA Method 8015M

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Diesel	ND	1.0	mg/kg	1	1900515	01/21/19	01/21/19	EPA 8015M	
Surrogate: o-Terphenyl		*80 %*		*65-135*	"	"	"	"	
SB-6 (Composite) (19A0904-22) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									**TPH-X**
Diesel	**5.5**	1.0	mg/kg	1	1900515	01/21/19	01/21/19	EPA 8015M	
Surrogate: o-Terphenyl		*80 %*		*65-135*	"	"	"	"	
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									**QRL-8**
Diesel	ND	5.0	mg/kg	5	1900515	01/21/19	01/21/19	EPA 8015M	
Surrogate: o-Terphenyl		*101 %*		*65-135*	"	"	"	"	
SB-15 (Composite) (19A0904-54) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									**TPH-X**
Diesel	**4.7**	1.0	mg/kg	1	1900515	01/21/19	01/21/19	EPA 8015M	
Surrogate: o-Terphenyl		*79 %*		*65-135*	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1-0-1' (19A0904-01) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
Lead	**3.7**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-1-1-2' (19A0904-02) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
Lead	**4.8**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-1-2-3' (19A0904-03) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
Lead	**4.5**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-2-0-1' (19A0904-05) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
Lead	**7.9**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-2-1-2' (19A0904-06) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
Lead	**3.2**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-2-2-3' (19A0904-07) Soil Sampled: 01/17/19 15:00 Received: 01/17/19 16:35									
Lead	**4.8**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-3-0-1' (19A0904-08) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
Lead	**30**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-3-1-2' (19A0904-09) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
Lead	**4.2**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-3-2-3' (19A0904-10) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
Lead	**3.9**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-4-0-1' (19A0904-12) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
Lead	**79**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-4-1-2' (19A0904-13) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
Lead	**5.9**	2.5	mg/kg	1	1900458	01/18/19	01/21/19	EPA 6010B	
SB-4-2-3' (19A0904-14) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
Lead	**4.2**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-5-0-1' (19A0904-16) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Lead	**73**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-5-1-2' (19A0904-17) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Lead	**72**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-5-2-3' (19A0904-18) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Lead	**100**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-6-0-1' (19A0904-20) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
Lead	**250**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-6-1-2' (19A0904-21) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
Lead	**470**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-7-0-1' (19A0904-23) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
Lead	**130**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-7-1-2' (19A0904-24) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
Lead	**250**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-7-2-3' (19A0904-25) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
Lead	**5.7**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-8-0-1' (19A0904-27) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
Lead	ND	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-8-1-2' (19A0904-28) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
Lead	ND	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-8-2-3' (19A0904-29) Soil Sampled: 01/17/19 12:00 Received: 01/17/19 16:35									
Lead	**4.6**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-9-0-1' (19A0904-30) Soil Sampled: 01/17/19 11:55 Received: 01/17/19 16:35									
Lead	**2.8**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-9-1-2' (19A0904-31) Soil Sampled: 01/17/19 11:55 Received: 01/17/19 16:35									
Lead	**12**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-10-0-1' (19A0904-32) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Lead	**8.6**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-10-1-2' (19A0904-33) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Lead	**19**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-10-2-3' (19A0904-34) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Lead	**44**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-11-0-1' (19A0904-36) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
Lead	**65**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-11-1-2' (19A0904-37) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
Lead	**9.6**	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-11-2-3' (19A0904-38) Soil Sampled: 01/17/19 10:10 Received: 01/17/19 16:35									
Lead	ND	2.5	mg/kg	1	1900459	01/18/19	01/21/19	EPA 6010B	
SB-12-0-1' (19A0904-40) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Lead	**36**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-12-1-2' (19A0904-41) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Lead	**17**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-12-2-3' (19A0904-42) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Lead	**6.8**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-13-0-1' (19A0904-44) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
Lead	**31**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-13-1-2' (19A0904-45) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
Lead	**29**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-14-0-1' (19A0904-47) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
Lead	**35**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-14-1-2' (19A0904-48) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
Lead	**53**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-14-2-3' (19A0904-49) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
Lead	**14**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-15-0-1' (19A0904-51) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
Lead	**45**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-15-1-2' (19A0904-52) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
Lead	**6.8**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	
SB-15-2-3' (19A0904-53) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
Lead	**7.7**	2.5	mg/kg	1	1900498	01/21/19	01/24/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (Composite) (19A0904-04) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
4,4'-DDD	ND	3.3	µg/kg	1	1900504	01/21/19	01/22/19	EPA 8081A	
4,4'-DDE	ND	3.3	"	"	"	"	"	"	
4,4'-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*67 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*61 %*	*46-139*		"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polychlorinated Biphenyls by EPA Method 8082A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Aroclor 1016	ND	20	µg/kg	1	1900505	01/21/19	01/22/19	EPA 8082A	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*73 %*		*50-150*	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polynuclear Aromatic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 (Composite) (19A0904-04) Soil Sampled: 01/17/19 15:15 Received: 01/17/19 16:35									
2-Methylnaphthalene	ND	330	µg/kg	1	1900433	01/18/19	01/21/19	EPA 8270C	
Acenaphthene	ND	330	"	"	"	"	"	"	
Acenaphthylene	ND	330	"	"	"	"	"	"	
Anthracene	ND	330	"	"	"	"	"	"	
Benzo (a) anthracene	ND	330	"	"	"	"	"	"	
Benzo (a) pyrene	ND	330	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	330	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	330	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	330	"	"	"	"	"	"	
Chrysene	ND	330	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	330	"	"	"	"	"	"	
Dibenzofuran	ND	330	"	"	"	"	"	"	
Fluoranthene	ND	330	"	"	"	"	"	"	
Fluorene	ND	330	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	330	"	"	"	"	"	"	
Naphthalene	ND	330	"	"	"	"	"	"	
Phenanthrene	ND	330	"	"	"	"	"	"	
Pyrene	ND	330	"	"	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*72 %*		*30-115*	"	"	"	"	
Surrogate: Nitrobenzene-d5		*77 %*		*23-120*	"	"	"	"	
Surrogate: Terphenyl-dl4		*60 %*		*18-137*	"	"	"	"	
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
2-Methylnaphthalene	ND	330	µg/kg	1	1900433	01/18/19	01/21/19	EPA 8270C	
Acenaphthene	ND	330	"	"	"	"	"	"	
Acenaphthylene	ND	330	"	"	"	"	"	"	
Anthracene	ND	330	"	"	"	"	"	"	
Benzo (a) anthracene	ND	330	"	"	"	"	"	"	
Benzo (a) pyrene	ND	330	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	330	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polynuclear Aromatic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Benzo (g,h,i) perylene	ND	330	µg/kg	1	1900433	"	01/21/19	EPA 8270C	
Benzo (k) fluoranthene	ND	330	"	"	"	"	"	"	
Chrysene	ND	330	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	330	"	"	"	"	"	"	
Dibenzofuran	ND	330	"	"	"	"	"	"	
Fluoranthene	ND	330	"	"	"	"	"	"	
Fluorene	ND	330	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	330	"	"	"	"	"	"	
Naphthalene	ND	330	"	"	"	"	"	"	
Phenanthrene	ND	330	"	"	"	"	"	"	
Pyrene	ND	330	"	"	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*67 %*	*30-115*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*79 %*	*23-120*		"	"	"	"	
Surrogate: Terphenyl-dl4		*62 %*	*18-137*		"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

TPH-Gasoline by GC FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-3 (Composite) (19A0904-11) Soil Sampled: 01/17/19 15:20 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*83 %*		*65-135*		"	"	"	"
SB-4 (Composite) (19A0904-15) Soil Sampled: 01/17/19 15:30 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*107 %*		*65-135*		"	"	"	"
SB-5 (Composite) (19A0904-19) Soil Sampled: 01/17/19 12:40 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*72 %*		*65-135*		"	"	"	"
SB-6 (Composite) (19A0904-22) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*66 %*		*65-135*		"	"	"	"
SB-10 (Composite) (19A0904-35) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*84 %*		*65-135*		"	"	"	"
SB-11 (Composite) (19A0904-39) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*76 %*		*65-135*		"	"	"	"
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

TPH-Gasoline by GC FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-12 (Composite) (19A0904-43) Soil	**Sampled: 01/17/19 10:25**	**Received: 01/17/19 16:35**							
Surrogate: o-Chlorotoluene (Gas)		*72 %*	*65-135*		*1900604*	"	*01/22/19*	*EPA 8015M*	
SB-15 (Composite) (19A0904-54) Soil	**Sampled: 01/17/19 09:00**	**Received: 01/17/19 16:35**							
Gasoline	ND	1.0	mg/kg	1	1900604	01/22/19	01/22/19	EPA 8015M	
Surrogate: o-Chlorotoluene (Gas)		*81 %*	*65-135*		"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-3 (Composite) (19A0904-11) Soil	**Sampled: 01/17/19 15:20**	**Received: 01/17/19 16:35**							
Benzene	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*96 %*	*60-140*		"	"	"	"	
SB-4 (Composite) (19A0904-15) Soil	**Sampled: 01/17/19 15:30**	**Received: 01/17/19 16:35**							
Benzene	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*93 %*	*60-140*		"	"	"	"	
SB-6 (Composite) (19A0904-22) Soil	**Sampled: 01/17/19 13:00**	**Received: 01/17/19 16:35**							
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-6 (Composite) (19A0904-22) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
1,2-Dichloroethane	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-6 (Composite) (19A0904-22) Soil Sampled: 01/17/19 13:00 Received: 01/17/19 16:35									
Isopropylbenzene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*70 %*		*50-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*		*50-128*	"	"	"	"	
Surrogate: Toluene-d8		*98 %*		*62-125*	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-7 (Composite) (19A0904-26) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-7 (Composite) (19A0904-26) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
Bromoform	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-7 (Composite) (19A0904-26) Soil Sampled: 01/17/19 12:15 Received: 01/17/19 16:35									
Toluene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*81 %*		*50-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*140 %*		*50-128*	"	"	"	"	*QS-4*
Surrogate: Toluene-d8		*95 %*		*62-125*	"	"	"	"	
SB-10 (Composite) (19A0904-35) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Benzene	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*88 %*		*60-140*	"	"	"	"	
SB-11 (Composite) (19A0904-39) Soil Sampled: 01/17/19 10:17 Received: 01/17/19 16:35									
Benzene	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: Toluene-d8		*92 %*		*60-140*	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Bromoform	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-12 (Composite) (19A0904-43) Soil Sampled: 01/17/19 10:25 Received: 01/17/19 16:35									
Toluene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*54 %*		*50-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*124 %*		*50-128*	"	"	"	"	
Surrogate: Toluene-d8		*91 %*		*62-125*	"	"	"	"	
SB-13 (Composite) (19A0904-46) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-13 (Composite) (19A0904-46) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
1,3-Dichlorobenzene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-13 (Composite) (19A0904-46) Soil Sampled: 01/17/19 09:55 Received: 01/17/19 16:35									
Naphthalene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*100 %*		*50-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*119 %*		*50-128*	"	"	"	"	
Surrogate: Toluene-d8		*90 %*		*62-125*	"	"	"	"	
SB-14 (Composite) (19A0904-50) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-14 (Composite) (19A0904-50) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
1,1-Dichloroethene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-14 (Composite) (19A0904-50) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
cis-1,2-Dichloroethene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
tert-Amyl methyl ether	ND	5.0	"	"	"	"	"	"	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-14 (Composite) (19A0904-50) Soil Sampled: 01/17/19 09:20 Received: 01/17/19 16:35									
Surrogate: 1,2-Dichloroethane-d4		*97 %*		*50-125*	*1900522*	"	*01/21/19*	*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*115 %*		*50-128*	"	"	"	"	
Surrogate: Toluene-d8		*89 %*		*62-125*	"	"	"	"	
SB-15 (Composite) (19A0904-54) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
1,1,1,2-Tetrachloroethane	ND	5.0	µg/kg	1	1900522	01/21/19	01/21/19	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	10	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	100	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
Acetone	ND	100	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-15 (Composite) (19A0904-54) Soil Sampled: 01/17/19 09:00 Received: 01/17/19 16:35									
Benzene	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
Bromobenzene	ND	5.0	"	"	"	"	"	"	
Bromochloromethane	ND	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Chloromethane	ND	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
Dibromomethane	ND	5.0	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	10	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.0	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	20	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
n-Butylbenzene	ND	5.0	"	"	"	"	"	"	
n-Propylbenzene	ND	5.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Chlorotoluene	ND	5.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-15 (Composite) (19A0904-54) Soil	**Sampled: 01/17/19 09:00**	**Received: 01/17/19 16:35**							
tert-Amyl methyl ether	ND	5.0	µg/kg	1	1900522	"	01/21/19	EPA 8260B	
tert-Butyl alcohol	ND	50	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Xylenes (total)	ND	10	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99 %*		*50-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*		*50-128*	"	"	"	"	
Surrogate: Toluene-d8		*98 %*		*62-125*	"	"	"	"	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

CAM 17 Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900547 - EPA 3050B										
Blank (1900547-BLK1)				Prepared: 01/22/19 Analyzed: 01/23/19						
Beryllium	ND	0.20	mg/kg							
Cobalt	ND	0.20	"							
Vanadium	ND	0.20	"							
Chromium	ND	0.20	"							
Nickel	ND	0.20	"							
Copper	ND	0.20	"							
Zinc	ND	0.50	"							
Arsenic	ND	0.20	"							
Selenium	ND	0.50	"							
Silver	ND	0.20	"							
Molybdenum	ND	0.20	"							
Cadmium	ND	0.10	"							
Barium	ND	0.20	"							
Antimony	ND	0.50	"							
Thallium	ND	0.20	"							
Lead	ND	0.50	"							
LCS (1900547-BS1)				Prepared: 01/22/19 Analyzed: 01/23/19						
Beryllium	8.91	0.20	mg/kg	10.0		89	75-125			
Cobalt	9.92	0.20	"	10.0		99	75-125			
Vanadium	9.46	0.20	"	10.0		95	75-125			
Chromium	9.44	0.20	"	10.0		94	75-125			
Nickel	9.49	0.20	"	10.0		95	75-125			
Copper	9.10	0.20	"	10.0		91	75-125			
Zinc	8.86	0.50	"	10.0		89	75-125			
Arsenic	9.58	0.20	"	10.0		96	75-125			
Selenium	9.65	0.50	"	10.0		97	75-125			
Silver	9.26	0.20	"	10.0		93	75-125			
Molybdenum	9.61	0.20	"	10.0		96	75-125			
Cadmium	9.86	0.10	"	10.0		99	75-125			
Barium	9.73	0.20	"	10.0		97	75-125			
Antimony	9.04	0.50	"	10.0		90	75-125			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project
1243 Alpine Rd Suite 108	Project Number:	[none]
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey

CLS Work Order #: 19A0904
COC #:

CAM 17 Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900547 - EPA 3050B										
LCS (1900547-BS1)				Prepared: 01/22/19 Analyzed: 01/23/19						
Thallium	9.76	0.20	mg/kg	10.0		98	75-125			
Lead	9.83	0.50	"	10.0		98	75-125			
Matrix Spike (1900547-MS1)	**Source: 19A0873-01**			Prepared: 01/22/19 Analyzed: 01/23/19						
Beryllium	9.45	2.0	mg/kg	10.0	0.500	90	75-125			
Cobalt	20.0	2.0	"	10.0	10.3	98	75-125			
Vanadium	59.8	2.0	"	10.0	46.3	135	75-125			QM-5
Chromium	55.1	2.0	"	10.0	40.4	147	75-125			QM-5
Nickel	51.7	2.0	"	10.0	39.2	125	75-125			
Copper	31.8	2.0	"	10.0	22.2	97	75-125			
Zinc	52.7	5.0	"	10.0	42.9	98	75-125			QM-5
Arsenic	17.1	2.0	"	10.0	8.37	87	75-125			
Selenium	9.25	5.0	"	10.0	0.520	87	75-125			
Silver	8.84	2.0	"	10.0	0.200	86	75-125			
Molybdenum	5.63	2.0	"	10.0	1.18	45	75-125			QM-5
Cadmium	10.5	1.0	"	10.0	0.330	102	75-125			
Barium	202	2.0	"	10.0	177	253	75-125			QM-5
Antimony	0.520	5.0	"	10.0	ND	5	75-125			QM-5
Thallium	9.77	2.0	"	10.0	0.130	96	75-125			
Lead	15.9	5.0	"	10.0	6.03	99	75-125			
Matrix Spike Dup (1900547-MSD1)	**Source: 19A0873-01**			Prepared: 01/22/19 Analyzed: 01/23/19						
Beryllium	9.76	2.0	mg/kg	10.0	0.500	93	75-125	3	30	
Cobalt	19.8	2.0	"	10.0	10.3	96	75-125	1	30	
Vanadium	57.2	2.0	"	10.0	46.3	109	75-125	4	30	
Chromium	54.0	2.0	"	10.0	40.4	136	75-125	2	30	QM-5
Nickel	49.6	2.0	"	10.0	39.2	103	75-125	4	30	QM-5
Copper	30.9	2.0	"	10.0	22.2	87	75-125	3	30	
Zinc	52.5	5.0	"	10.0	42.9	96	75-125	0.3	30	QM-5
Arsenic	15.6	2.0	"	10.0	8.37	72	75-125	9	30	QM-5
Selenium	8.22	5.0	"	10.0	0.520	77	75-125	12	30	
Silver	8.96	2.0	"	10.0	0.200	88	75-125	1	30	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

CAM 17 Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900547 - EPA 3050B										
Matrix Spike Dup (1900547-MSD1)	**Source: 19A0873-01**			Prepared: 01/22/19 Analyzed: 01/23/19						
Molybdenum	5.71	2.0	mg/kg	10.0	1.18	45	75-125	1	30	QM-5
Cadmium	10.2	1.0	"	10.0	0.330	98	75-125	4	30	
Barium	174	2.0	"	10.0	177	NR	75-125	15	30	QM-5
Antimony	0.520	5.0	"	10.0	ND	5	75-125	0	30	QM-5
Thallium	9.68	2.0	"	10.0	0.130	96	75-125	0.9	30	
Lead	15.5	5.0	"	10.0	6.03	95	75-125	3	30	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project
1243 Alpine Rd Suite 108	Project Number:	[none]
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey

CLS Work Order #: 19A0904
COC #:

Extractable Petroleum Hydrocarbons by EPA Method 8015M - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900515 - EPA 3510B GCNV										
Blank (1900515-BLK1)				Prepared & Analyzed: 01/21/19						
Diesel	ND	1.0	mg/kg							
Motor Oil	ND	1.0	"							
Surrogate: o-Terphenyl	*0.572*		"	*0.500*		*114*	*65-135*			
LCS (1900515-BS1)				Prepared & Analyzed: 01/21/19						
Diesel	41.8	1.0	mg/kg	50.0		84	65-135			
Surrogate: o-Terphenyl	*0.538*		"	*0.500*		*108*	*65-135*			
LCS Dup (1900515-BSD1)				Prepared & Analyzed: 01/21/19						
Diesel	43.9	1.0	mg/kg	50.0		88	65-135	5	30	
Surrogate: o-Terphenyl	*0.576*		"	*0.500*		*115*	*65-135*			
Matrix Spike (1900515-MS1)	**Source: 19A0873-01**			Prepared & Analyzed: 01/21/19						
Diesel	58.4	1.0	mg/kg	50.0	ND	117	59-138			
Surrogate: o-Terphenyl	*0.465*		"	*0.500*		*93*	*65-135*			
Matrix Spike Dup (1900515-MSD1)	**Source: 19A0873-01**			Prepared & Analyzed: 01/21/19						
Diesel	52.4	1.0	mg/kg	50.0	ND	105	59-138	11	37	
Surrogate: o-Terphenyl	*0.438*		"	*0.500*		*88*	*65-135*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900458 - EPA 3050B										
Blank (1900458-BLK1)				Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	ND	2.5	mg/kg							
LCS (1900458-BS1)				Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	92.5	2.5	mg/kg	100		92	75-125			
Matrix Spike (1900458-MS1)	**Source: 19A0646-01**			Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	83.5	2.5	mg/kg	100	0.546	83	75-125			
Matrix Spike Dup (1900458-MSD1)	**Source: 19A0646-01**			Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	81.4	2.5	mg/kg	100	0.546	81	75-125	3	30	
Batch 1900459 - EPA 3050B										
Blank (1900459-BLK1)				Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	ND	2.5	mg/kg							
LCS (1900459-BS1)				Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	89.7	2.5	mg/kg	100		90	75-125			
Matrix Spike (1900459-MS1)	**Source: 19A0904-14**			Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	63.2	2.5	mg/kg	100	4.18	59	75-125			QM-5
Matrix Spike Dup (1900459-MSD1)	**Source: 19A0904-14**			Prepared: 01/18/19 Analyzed: 01/21/19						
Lead	72.1	2.5	mg/kg	100	4.18	68	75-125	13	30	QM-5
Batch 1900498 - EPA 3050B										
Blank (1900498-BLK1)				Prepared: 01/21/19 Analyzed: 01/24/19						
Lead	ND	2.5	mg/kg							

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900498 - EPA 3050B										
LCS (1900498-BS1)				Prepared: 01/21/19 Analyzed: 01/24/19						
Lead	53.0	2.5	mg/kg	100		53	75-125			QM-1
Matrix Spike (1900498-MS1)	**Source: 19A0904-40**			Prepared: 01/21/19 Analyzed: 01/24/19						
Lead	115	2.5	mg/kg	100	36.3	79	75-125			
Matrix Spike Dup (1900498-MSD1)	**Source: 19A0904-40**			Prepared: 01/21/19 Analyzed: 01/24/19						
Lead	117	2.5	mg/kg	100	36.3	80	75-125	1	30	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900504 - LUFT-DHS GCNV										
Blank (1900504-BLK1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4'-DDD	ND	3.3	"							
4,4'-DDE	ND	3.3	"							
4,4'-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*6.00*		"	*8.33*		*72*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.31*		"	*8.33*		*100*	*52-141*			
LCS (1900504-BS1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aldrin	15.0	1.0	µg/kg	16.7		90	47-132			
gamma-BHC (Lindane)	14.4	1.7	"	16.7		86	56-133			
4,4'-DDT	20.4	3.3	"	16.7		122	46-137			
Dieldrin	17.2	1.0	"	16.7		103	44-143			
Endrin	17.9	3.3	"	16.7		108	30-147			
Heptachlor	15.2	1.7	"	16.7		91	33-148			
Surrogate: Tetrachloro-meta-xylene	*6.52*		"	*8.33*		*78*	*46-139*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900504 - LUFT-DHS GCNV										
LCS (1900504-BS1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Surrogate: Decachlorobiphenyl	*8.49*		*µg/kg*	*8.33*		*102*	*52-141*			
LCS Dup (1900504-BSD1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aldrin	13.9	1.0	µg/kg	16.7		84	47-132	7	30	
gamma-BHC (Lindane)	13.3	1.7	"	16.7		80	56-133	8	30	
4,4´-DDT	17.3	3.3	"	16.7		104	46-137	17	30	
Dieldrin	15.9	1.0	"	16.7		95	44-143	8	30	
Endrin	16.4	3.3	"	16.7		98	30-147	9	30	
Heptachlor	14.0	1.7	"	16.7		84	33-148	8	30	
Surrogate: Tetrachloro-meta-xylene	*6.02*		*"*	*8.33*		*72*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.12*		*"*	*8.33*		*97*	*52-141*			
Matrix Spike (1900504-MS1)		**Source: 19A1000-01**		Prepared: 01/21/19 Analyzed: 01/22/19						
Aldrin	13.9	1.0	µg/kg	16.7	ND	83	47-138			
gamma-BHC (Lindane)	14.4	1.7	"	16.7	ND	87	38-144			
4,4´-DDT	20.1	3.3	"	16.7	ND	121	41-157			
Dieldrin	16.0	1.0	"	16.7	ND	96	46-155			
Endrin	16.7	3.3	"	16.7	ND	100	34-149			
Heptachlor	14.7	1.7	"	16.7	ND	88	36-155			
Surrogate: Tetrachloro-meta-xylene	*15.6*		*"*	*20.8*		*75*	*46-139*			
Surrogate: Decachlorobiphenyl	*20.6*		*"*	*20.8*		*99*	*52-141*			
Matrix Spike Dup (1900504-MSD1)		**Source: 19A1000-01**		Prepared: 01/21/19 Analyzed: 01/22/19						
Aldrin	15.2	1.0	µg/kg	16.7	ND	91	47-138	9	35	
gamma-BHC (Lindane)	15.3	1.7	"	16.7	ND	92	38-144	6	35	
4,4´-DDT	21.1	3.3	"	16.7	ND	127	41-157	5	35	
Dieldrin	17.1	1.0	"	16.7	ND	103	46-155	7	35	
Endrin	17.8	3.3	"	16.7	ND	107	34-149	6	35	
Heptachlor	16.0	1.7	"	16.7	ND	96	36-155	8	35	
Surrogate: Tetrachloro-meta-xylene	*15.4*		*"*	*20.8*		*74*	*46-139*			
Surrogate: Decachlorobiphenyl	*19.5*		*"*	*20.8*		*94*	*52-141*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polychlorinated Biphenyls by EPA Method 8082A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900505 - LUFT-DHS GCNV										
Blank (1900505-BLK1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aroclor 1016	ND	20	µg/kg							
Aroclor 1221	ND	20	"							
Aroclor 1232	ND	20	"							
Aroclor 1242	ND	20	"							
Aroclor 1248	ND	20	"							
Aroclor 1254	ND	20	"							
Aroclor 1260	ND	20	"							
Aroclor 1268	ND	20	"							
Surrogate: Decachlorobiphenyl	*7.31*		"	*8.33*		*88*	*50-150*			
LCS (1900505-BS1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aroclor 1260	68.0	20	µg/kg	83.3		82	29-131			
Surrogate: Decachlorobiphenyl	*7.39*		"	*8.33*		*89*	*50-150*			
LCS Dup (1900505-BSD1)				Prepared: 01/21/19 Analyzed: 01/22/19						
Aroclor 1260	67.2	20	µg/kg	83.3		81	29-131	1	30	
Surrogate: Decachlorobiphenyl	*7.55*		"	*8.33*		*91*	*50-150*			
Matrix Spike (1900505-MS1)	**Source: 19A0904-19**			Prepared: 01/21/19 Analyzed: 01/22/19						
Aroclor 1260	65.1	20	µg/kg	83.3	ND	78	29-131			
Surrogate: Decachlorobiphenyl	*6.35*		"	*8.33*		*76*	*50-150*			
Matrix Spike Dup (1900505-MSD1)	**Source: 19A0904-19**			Prepared: 01/21/19 Analyzed: 01/22/19						
Aroclor 1260	66.3	20	µg/kg	83.3	ND	80	29-131	2	30	
Surrogate: Decachlorobiphenyl	*5.12*		"	*8.33*		*61*	*50-150*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900433 - EPA 3545										
Blank (1900433-BLK1)				Prepared & Analyzed: 01/18/19						
Acenaphthene	ND	330	µg/kg							
Acenaphthylene	ND	330	"							
Anthracene	ND	330	"							
Benzo (a) anthracene	ND	330	"							
Benzo (b) fluoranthene	ND	330	"							
Benzo (k) fluoranthene	ND	330	"							
Benzo (g,h,i) perylene	ND	330	"							
Benzo (a) pyrene	ND	330	"							
Chrysene	ND	330	"							
Dibenz (a,h) anthracene	ND	330	"							
Dibenzofuran	ND	330	"							
Fluoranthene	ND	330	"							
Fluorene	ND	330	"							
Indeno (1,2,3-cd) pyrene	ND	330	"							
2-Methylnaphthalene	ND	330	"							
Naphthalene	ND	330	"							
Phenanthrene	ND	330	"							
Pyrene	ND	330	"							
Surrogate: Nitrobenzene-d5	*2190*		"	*2670*		*82*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*2120*		"	*2670*		*79*	*30-115*			
Surrogate: Terphenyl-dl4	*2290*		"	*2670*		*86*	*18-137*			
LCS (1900433-BS1)				Prepared & Analyzed: 01/18/19						
Acenaphthene	2410	330	µg/kg	2670		90	31-137			
Pyrene	2330	330	"	2670		87	35-142			
Surrogate: Nitrobenzene-d5	*2520*		"	*2670*		*95*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*2480*		"	*2670*		*93*	*30-115*			
Surrogate: Terphenyl-dl4	*2650*		"	*2670*		*99*	*18-137*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900433 - EPA 3545										
LCS Dup (1900433-BSD1)				Prepared & Analyzed: 01/18/19						
Acenaphthene	2370	330	µg/kg	2670		89	31-137	2	30	
Pyrene	2380	330	"	2670		89	35-142	2	36	
Surrogate: Nitrobenzene-d5	*2280*		"	*2670*		*85*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*2390*		"	*2670*		*89*	*30-115*			
Surrogate: Terphenyl-dl4	*2650*		"	*2670*		*99*	*18-137*			
Matrix Spike (1900433-MS1)	**Source: 19A0643-01**			Prepared: 01/18/19 Analyzed: 01/21/19						
Acenaphthene	1700	330	µg/kg	2670	ND	64	31-137			
Pyrene	1010	330	"	2670	506	19	35-142			QM-5
Surrogate: Nitrobenzene-d5	*1660*		"	*2670*		*62*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*1390*		"	*2670*		*52*	*30-115*			
Surrogate: Terphenyl-dl4	*1090*		"	*2670*		*41*	*18-137*			
Matrix Spike Dup (1900433-MSD1)	**Source: 19A0643-01**			Prepared: 01/18/19 Analyzed: 01/21/19						
Acenaphthene	1400	330	µg/kg	2670	ND	53	31-137	19	30	
Pyrene	880	330	"	2670	506	14	35-142	14	36	QM-5
Surrogate: Nitrobenzene-d5	*1380*		"	*2670*		*52*	*23-120*			
Surrogate: 2-Fluorobiphenyl	*1160*		"	*2670*		*44*	*30-115*			
Surrogate: Terphenyl-dl4	*888*		"	*2670*		*33*	*18-137*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

TPH-Gasoline by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900604 - EPA 8150B										
Blank (1900604-BLK1)				Prepared & Analyzed: 01/22/19						
Gasoline	ND	1.0	mg/kg							
Surrogate: o-Chlorotoluene (Gas)	*0.0173*		"	*0.0200*		*86*	*65-135*			
LCS (1900604-BS1)				Prepared & Analyzed: 01/22/19						
Gasoline	2.22	1.0	mg/kg	2.00		111	65-135			
Surrogate: o-Chlorotoluene (Gas)	*0.0187*		"	*0.0200*		*94*	*65-135*			
LCS Dup (1900604-BSD1)				Prepared & Analyzed: 01/22/19						
Gasoline	2.16	1.0	mg/kg	2.00		108	65-135	3	30	
Surrogate: o-Chlorotoluene (Gas)	*0.0174*		"	*0.0200*		*87*	*65-135*			
Matrix Spike (1900604-MS1)		**Source: 19A1104-02**		Prepared & Analyzed: 01/22/19						
Gasoline	2.06	1.0	mg/kg	2.00	ND	103	63-124			
Surrogate: o-Chlorotoluene (Gas)	*0.0165*		"	*0.0200*		*82*	*65-135*			
Matrix Spike Dup (1900604-MSD1)		**Source: 19A1104-02**		Prepared & Analyzed: 01/22/19						
Gasoline	0.950	1.0	mg/kg	2.00	ND	48	63-124	74	35	QM-5
Surrogate: o-Chlorotoluene (Gas)	*0.00530*		"	*0.0200*		*26*	*65-135*			*QS-4*

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900522 - EPA 5035A										
Blank (1900522-BLK1)				Prepared & Analyzed: 01/21/19						
Di-isopropyl ether	ND	5.0	µg/kg							
Acetone	ND	100	"							
Ethyl tert-butyl ether	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
tert-Amyl methyl ether	ND	5.0	"							
tert-Butyl alcohol	ND	50	"							
Benzene	ND	5.0	"							
Bromobenzene	ND	5.0	"							
Bromochloromethane	ND	5.0	"							
Bromodichloromethane	ND	5.0	"							
Bromoform	ND	5.0	"							
Bromomethane	ND	10	"							
2-Butanone	ND	100	"							
n-Butylbenzene	ND	5.0	"							
sec-Butylbenzene	ND	5.0	"							
tert-Butylbenzene	ND	5.0	"							
Carbon tetrachloride	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Chloroethane	ND	5.0	"							
Chloroform	ND	5.0	"							
Chloromethane	ND	10	"							
o-Chlorotoluene	ND	5.0	"							
p-Chlorotoluene	ND	5.0	"							
Dibromochloromethane	ND	5.0	"							
1,2-Dibromo-3-chloropropane	ND	10	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Dibromomethane	ND	5.0	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
Dichlorodifluoromethane (Freon 12)	ND	10	"							

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900522 - EPA 5035A										
Blank (1900522-BLK1)				Prepared & Analyzed: 01/21/19						
1,1-Dichloroethane	ND	5.0	µg/kg							
1,2-Dichloroethane	ND	5.0	"							
1,1-Dichloroethene	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
1,2-Dichloropropane	ND	5.0	"							
1,3-Dichloropropane	ND	5.0	"							
2,2-Dichloropropane	ND	5.0	"							
1,1-Dichloropropene	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
2-Hexanone	ND	50	"							
Isopropylbenzene	ND	5.0	"							
p-Isopropyltoluene	ND	5.0	"							
Methylene chloride	ND	20	"							
4-Methyl-2-pentanone	ND	50	"							
Methyl tert-butyl ether	ND	5.0	"							
Naphthalene	ND	5.0	"							
n-Propylbenzene	ND	5.0	"							
Styrene	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	5.0	"							
1,1,1,2-Tetrachloroethane	ND	5.0	"							
Tetrachloroethene	ND	5.0	"							
Toluene	ND	5.0	"							
1,2,3-Trichlorobenzene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900522 - EPA 5035A										
Blank (1900522-BLK1)				Prepared & Analyzed: 01/21/19						
Trichloroethene	ND	5.0	µg/kg							
Trichlorofluoromethane	ND	5.0	"							
1,2,3-Trichloropropane	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
Vinyl chloride	ND	10	"							
Xylenes (total)	ND	10	"							
Di-isopropyl ether	ND	5.0	"							
Ethyl tert-butyl ether	ND	5.0	"							
tert-Amyl methyl ether	ND	5.0	"							
tert-Butyl alcohol	ND	50	"							
Surrogate: Toluene-d8	*27.8*		"	*30.0*		*93*	*60-140*			
Surrogate: 1,2-Dichloroethane-d4	*19.3*		"	*30.0*		*64*	*50-125*			
Surrogate: Toluene-d8	*27.8*		"	*30.0*		*93*	*62-125*			
Surrogate: 4-Bromofluorobenzene	*29.5*		"	*30.0*		*98*	*50-128*			
LCS (1900522-BS1)				Prepared & Analyzed: 01/21/19						
Methyl tert-butyl ether	18.8	5.0	µg/kg	20.0		94	60-140			
Benzene	14.8	5.0	"	20.0		74	64-135			
Benzene	14.8	5.0	"	20.0		74	60-140			
Chlorobenzene	18.3	5.0	"	20.0		92	67-133			
1,1-Dichloroethene	17.3	5.0	"	20.0		87	53-137			
Toluene	18.1	5.0	"	20.0		91	61-138			
Trichloroethene	19.5	5.0	"	20.0		97	64-130			
Surrogate: Toluene-d8	*30.7*		"	*30.0*		*102*	*60-140*			
Surrogate: 1,2-Dichloroethane-d4	*19.5*		"	*30.0*		*65*	*50-125*			
Surrogate: Toluene-d8	*30.7*		"	*30.0*		*102*	*62-125*			
Surrogate: 4-Bromofluorobenzene	*26.0*		"	*30.0*		*87*	*50-128*			

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Small Business #2916 | ELAP #1233 | NAICS #541380 | CA SWRCB ELAP Accreditation/Registration Number 1233

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project
1243 Alpine Rd Suite 108	Project Number:	[none]
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey

CLS Work Order #: 19A0904
COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900522 - EPA 5035A										
LCS Dup (1900522-BSD1)				Prepared & Analyzed: 01/21/19						
Methyl tert-butyl ether	19.7	5.0	µg/kg	20.0		98	60-140	5	30	
Benzene	15.6	5.0	"	20.0		78	64-135	5	30	
Benzene	15.6	5.0	"	20.0		78	60-140	5	30	
Chlorobenzene	17.3	5.0	"	20.0		87	67-133	6	30	
1,1-Dichloroethene	17.0	5.0	"	20.0		85	53-137	2	30	
Toluene	18.7	5.0	"	20.0		94	61-138	3	30	
Trichloroethene	20.0	5.0	"	20.0		100	64-130	3	30	
Surrogate: Toluene-d8	*30.0*		"	*30.0*		*100*	*60-140*			
Surrogate: 1,2-Dichloroethane-d4	*18.7*		"	*30.0*		*62*	*50-125*			
Surrogate: Toluene-d8	*30.0*		"	*30.0*		*100*	*62-125*			
Surrogate: 4-Bromofluorobenzene	*24.7*		"	*30.0*		*82*	*50-128*			
Matrix Spike (1900522-MS1)	**Source: 19A0873-01**			Prepared & Analyzed: 01/21/19						
Methyl tert-butyl ether	21.1	5.0	µg/kg	20.0	ND	105	60-140			
Benzene	16.4	5.0	"	20.0	ND	82	58-139			
Benzene	16.4	5.0	"	20.0	ND	82	60-140			
Chlorobenzene	14.1	5.0	"	20.0	ND	71	62-134			
1,1-Dichloroethene	12.9	5.0	"	20.0	ND	65	53-152			
Toluene	14.9	5.0	"	20.0	ND	75	58-139			
Trichloroethene	29.4	5.0	"	20.0	ND	147	55-138			QM-5
Surrogate: Toluene-d8	*32.3*		"	*30.0*		*108*	*60-140*			
Surrogate: 1,2-Dichloroethane-d4	*26.4*		"	*30.0*		*88*	*50-125*			
Surrogate: Toluene-d8	*32.3*		"	*30.0*		*108*	*62-125*			
Surrogate: 4-Bromofluorobenzene	*23.4*		"	*30.0*		*78*	*50-128*			
Matrix Spike Dup (1900522-MSD1)	**Source: 19A0873-01**			Prepared & Analyzed: 01/21/19						
Methyl tert-butyl ether	29.0	5.0	µg/kg	20.0	ND	145	60-140	32	30	QM-5
Benzene	17.7	5.0	"	20.0	ND	89	58-139	8	30	
Benzene	17.7	5.0	"	20.0	ND	89	60-140	8	30	
Chlorobenzene	15.5	5.0	"	20.0	ND	77	62-134	9	30	
1,1-Dichloroethene	14.3	5.0	"	20.0	ND	71	53-152	10	30	
Toluene	13.4	5.0	"	20.0	ND	67	58-139	11	30	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900522 - EPA 5035A										
Matrix Spike Dup (1900522-MSD1)	**Source: 19A0873-01**			Prepared & Analyzed: 01/21/19						
Trichloroethene	27.0	5.0	µg/kg	20.0	ND	135	55-138	9	30	
Surrogate: Toluene-d8	*24.1*		"	*30.0*		*80*	*60-140*			
Surrogate: 1,2-Dichloroethane-d4	*32.1*		"	*30.0*		*107*	*50-125*			
Surrogate: Toluene-d8	*24.1*		"	*30.0*		*80*	*62-125*			
Surrogate: 4-Bromofluorobenzene	*24.5*		"	*30.0*		*82*	*50-128*			

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A0904**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #:

Notes and Definitions

TPH-X	Although the sample contains compounds in the retention time range of target parameter, the chromatogram was not consistent with the expected chromatographic pattern or "fingerprint". However, the reported concentration is based on the target parameter.
QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QRL-8	The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-1	The spike recovery was outside acceptance limits for the LCS or LCSD. The batch was accepted based on acceptable MS/MSD recoveries & RPD's.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1901928

Report Created for: CLS Labs

3249 Fitzgerald Road
Rancho Cordova, CA 95742

Project Contact: Mark Smith
Project P.O.:
Project: 19A0904

Project Received: 01/18/2019

Analytical Report reviewed & approved for release on 01/28/2019 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

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Glossary of Terms & Qualifier Definitions

Client: CLS Labs
Project: 19A0904
WorkOrder: 1901928

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
TZA	TimeZone Net Adjustment for sample collected outside of MAI's UTC.
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	CLS Labs	**WorkOrder:**	1901928
Date Received:	1/18/19 12:35	**Extraction Method:**	SW7471B
Date Prepared:	1/23/19	**Analytical Method:**	SW7471B
Project:	19A0904	**Unit:**	mg/Kg

Mercury by Cold Vapor Atomic Absorption

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-5 (Composite)	1901928-001A	Soil	01/17/2019 12:40	AA1 _20	171814

Analytes	Result	RL	DF	Date Analyzed
Mercury	0.27	0.017	1	01/24/2019 10:57

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-12 (Composite)	1901928-002A	Soil	01/17/2019 10:25	AA1 _21	171814

Analytes	Result	RL	DF	Date Analyzed
Mercury	0.11	0.017	1	01/24/2019 11:00

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-15 (Composite)	1901928-003A	Soil	01/17/2019 09:00	AA1 _22	171814

Analytes	Result	RL	DF	Date Analyzed
Mercury	0.083	0.017	1	01/24/2019 11:03

Analyst(s): JC

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Quality Control Report

Client:	CLS Labs	**WorkOrder:**	1901928
Date Prepared:	1/22/19	**BatchID:**	171814
Date Analyzed:	1/24/19	**Extraction Method:**	SW7471B
Instrument:	AA1	**Analytical Method:**	SW7471B
Matrix:	Soil	**Unit:**	mg/Kg
Project:	19A0904	**Sample ID:**	MB/LCS/LCSD-171814

QC Summary Report for Mercury

Analyte	MB Result	MDL	RL			
Mercury	ND	0.0087	0.017	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Mercury	0.17	0.17	0.17	100	99	80-120	0.773	20

NELAP 4033ORELAP

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1901928 **ClientCode: CLSR** **QuoteID: 192002**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☑ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☑ J-flag
☑ Detection Summary ☑ Dry-Weight

Report to:
Mark Smith
CLS Labs
3249 Fitzgerald Road
Rancho Cordova, CA 95742
(916) 638-7301 FAX: (916) 638-4510

Email: marks@californialab.com; dataroom@calif
cc/3rd Party:
PO:
Project: 19A0904

Bill to:
Accounts Payable
CLS Labs
3249 Fitzgerald Road
Rancho Cordova, CA 95742

Requested TAT: 5 days;

Date Received: 01/18/2019
Date Logged: 01/18/2019

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1901928-001	SB-5 (Composite)	Soil	1/17/2019 12:40	☐	A											
1901928-002	SB-12 (Composite)	Soil	1/17/2019 10:25	☐	A											
1901928-003	SB-15 (Composite)	Soil	1/17/2019 09:00	☐	A											

Test Legend:

1	HG_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: CLS LABS **Project:** 19A0904 **Work Order:** 1901928
Client Contact: Mark Smith **QC Level:** LEVEL 2
Contact's Email: marks@californialab.com; dataroom@californialab.com **Comments:** **Date Logged:** 1/18/2019

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1901928-001A	SB-5 (Composite)	Soil	SW7471B (Mercury)	1	4OZ GJ, Unpres	☐	1/17/2019 12:40	5 days		☐	
1901928-002A	SB-12 (Composite)	Soil	SW7471B (Mercury)	1	4OZ GJ, Unpres	☐	1/17/2019 10:25	5 days		☐	
1901928-003A	SB-15 (Composite)	Soil	SW7471B (Mercury)	1	4OZ GJ, Unpres	☐	1/17/2019 9:00	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

SUBCONTRACT ORDER

19A0904

1901928

QUOTE ID: 192002

SENDING LABORATORY:

CLS Labs
3249 Fitzgerald Rd.
Rancho Cordova, CA 95742
Phone: 916-638-7301
Fax: 916-638-4510
Project Manager: Mark Smith
[redacted]

RECEIVING LABORATORY:

McCampbell Analytical Inc.
1534 Willow Pass Road
Pittsburg, CA 94565-1701
Phone :(925) 252-9262
Fax: (925) 252-9269

Analysis	TAT	Due	Expires	Laboratory ID	Sample Date	Received	Matrix
Mercury 7470A/7471A (SUB)	5	01/25/19 12:00	02/14/19 12:40	19A0904-19	01/17/19 12:40	01/17/19 16:35	Soil

Client sample ID: SB-5 (Composite) [redacted]
Laboratory sample ID: 19A0904-19
Please use client sample ID on all reports

Containers Supplied:
4 oz. jar (B)

Analysis	TAT	Due	Expires	Laboratory ID	Sample Date	Received	Matrix
Mercury 7470A/7471A (SUB)	5	01/25/19 12:00	02/14/19 10:25	19A0904-43	01/17/19 10:25	01/17/19 16:35	Soil

Client sample ID: SB-12 (Composite) [redacted]
Laboratory sample ID: 19A0904-43
Please use client sample ID on all reports

Containers Supplied:
4 oz. jar (B)

Analysis	TAT	Due	Expires	Laboratory ID	Sample Date	Received	Matrix
Mercury 7470A/7471A (SUB)	5	01/25/19 12:00	02/14/19 09:00	19A0904-54	01/17/19 09:00	01/17/19 16:35	Soil

Client sample ID: SB-15 (Composite) [redacted]
Laboratory sample ID: 19A0904-54
Please use client sample ID on all reports

Containers Supplied:
4 oz. jar (B)

Relinquished By	Date	Received By	Date
Relinquished By	Date	Received By	Date
Shipped By	Airbill Number		

1/18/19 1735
1/18/19 0730
1/18/19 1235
CLS
4.1°C wet

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Sample Receipt Checklist

Client Name:	**CLS Labs**	Date and Time Received	**1/18/2019 12:35**
Project:	**19A0904**	Date Logged:	**1/18/2019**
		Received by:	Jena Alfaro
WorkOrder №:	**1901928** Matrix: Soil	Logged by:	Agustina Venegas
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐	
Chain of custody agrees with sample labels?	Yes	☑	No	☐	
Sample IDs noted by Client on COC?	Yes	☑	No	☐	
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐	
Sampler's name noted on COC?	Yes	☑	No	☐	
COC agrees with Quote?	Yes	☐	No	☐	NA ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA ☑
Shipping container/cooler in good condition?	Yes	☑	No	☐	
Samples in proper containers/bottles?	Yes	☑	No	☐	
Sample containers intact?	Yes	☑	No	☐	
Sufficient sample volume for indicated test?	Yes	☑	No	☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Samples Received on Ice?	Yes	☑	No	☐	
	(Ice Type: WET ICE)				
Sample/Temp Blank temperature	Temp: 4.1°C				NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA ☑
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; Nitrate 353.2/4500NO3: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
UCMR Samples:					
pH tested and acceptable upon receipt (200.8: ≤2; 525. : ≤4; 530: ≤7; 541: < ; 544: < .5 7.5)?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA ☑

Comments:

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February 05, 2019

CLS Work Order #: 19A1500
COC #: GREEN

Melissa McAssey
WRECO - Walnut Creek
1243 Alpine Rd Suite 108
Walnut Creek, CA 94596

Project Name: North 12th Street Complete Street Project

Enclosed are the results of analyses for samples received by the laboratory on 01/29/19 18:31. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

19A1500

CHANGE OF STATUS

Work Order # 19A0909

New Work Order ✓ **Revise Existing Work Order** _____

Project Name: NORTH 12TH STREET COMPLETE STREET PROJECT

Date Sample(s) Were Received: 1/17/19 **Original Date** 1/24/15

Melissa McAssey (Client Contacted) **of** WRECO (Company) **called/emailed**

On 1/29/15 (Date) **at** @ 1831 (Time) (EMAIL)

... and requested the following:

Run STLC - LEAD on samples:

- 12 (SB-4-0-1')
- 16 (SB-5-0-1')
- 17 (SB-5-1-2')
- [redacted]
- 19 (SB-5-COMP)
- 20 (SB-6-0-1')
- 23 (SB-7-0-1')
- 24 (SB-7-1-2')
- 36 (SB-11-0-1')
- 48 (SB-14-1'-2')

Run STLC - Chromium on sample:

- 54 (SB-15-COMPOSITE)

Turnaround time requested for additional work: 5

(Signature) 1/30/19 (Date)

Updated lab job database and file folder by: GL 1/29/19 1031

4-2

Cc: _____ _____ _____

H:\FORMS & TEMPLATES\Change of Status.doc

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A1500**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

STLC (WET) Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-4-0-1' (19A1500-12) Soil Sampled: 01/17/19 15:30 Received: 01/29/19 18:31									
Lead	**3.2**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-5-0-1' (19A1500-16) Soil Sampled: 01/17/19 12:40 Received: 01/29/19 18:31									
Lead	**1.8**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-5-1-2' (19A1500-17) Soil Sampled: 01/17/19 12:40 Received: 01/29/19 18:31									
Lead	**13**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-5 (Composite) (19A1500-19) Soil Sampled: 01/17/19 12:40 Received: 01/29/19 18:31									
Lead	**5.2**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-6-0-1' (19A1500-20) Soil Sampled: 01/17/19 13:00 Received: 01/29/19 18:31									
Lead	**11**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-7-0-1' (19A1500-23) Soil Sampled: 01/17/19 12:15 Received: 01/29/19 18:31									
Lead	**2.0**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-7-1-2' (19A1500-24) Soil Sampled: 01/17/19 12:15 Received: 01/29/19 18:31									
Lead	**4.3**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-11-0-1' (19A1500-36) Soil Sampled: 01/17/19 10:10 Received: 01/29/19 18:31									
Lead	**3.2**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	
SB-14-1-2' (19A1500-48) Soil Sampled: 01/17/19 09:20 Received: 01/29/19 18:31									
Lead	**1.5**	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A1500**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

STLC (WET) Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-15 (Composite) (19A1500-54) Soil	**Sampled: 01/17/19 09:00**	**Received: 01/29/19 18:31**							
Chromium	ND	0.50	mg/L	1	1900909	02/04/19	02/04/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A1500**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

STLC (WET) Metals by 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1900909 - EPA 3010A										
Blank (1900909-BLK1)				Prepared & Analyzed: 02/04/19						
Lead	ND	0.50	mg/L							
Chromium	ND	0.50	"							
LCS (1900909-BS1)				Prepared & Analyzed: 02/04/19						
Lead	57.3	0.50	mg/L	50.0		115	75-125			
Chromium	56.8	0.50	"	50.0		114	80-120			
Matrix Spike (1900909-MS1)	**Source: 19A1500-12**			Prepared & Analyzed: 02/04/19						
Lead	51.3	0.50	mg/L	50.0	3.22	96	75-125			
Chromium	50.5	0.50	"	50.0	0.110	101	75-125			
Matrix Spike Dup (1900909-MSD1)	**Source: 19A1500-12**			Prepared & Analyzed: 02/04/19						
Lead	51.7	0.50	mg/L	50.0	3.22	97	75-125	0.9	30	
Chromium	51.1	0.50	"	50.0	0.110	102	75-125	1	30	

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02/05/19 12:28

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19A1500**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

February 14, 2019

CLS Work Order #: 19B0438
COC #: GREEN

Melissa McAssey
WRECO - Walnut Creek
1243 Alpine Rd Suite 108
Walnut Creek, CA 94596

Project Name: North 12th Street Complete Street Project

Enclosed are the results of analyses for samples received by the laboratory on 02/07/19 20:10. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

19B0438

CHANGE OF STATUS

Work Order # 1940904

New Work Order ✓ Revise Existing Work Order _____

Project Name: North 12th Street

Date Sample(s) Were Received: 1/17 Original Date _____

Melissa (Client Contacted) of Weco (Company) called/emailed

On 2/7/19 (Date) at 8:20 PM (Time)

... and requested the following:

Please perform TCLP Pb on samples SB-5-1-2 (17)
SB-5 (Composite) (19)
SB-6-0-1 (20)

Turnaround time requested for additional work: 5

[signature] (Signature) 2/8/19 (Date)

3.2

Updated lab job database and file folder by: QA 2/7/19 2040

Cc: _____ _____ _____

WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19B0438**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

TCLP Metals by 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-5-1-2' (19B0438-17) Soil Sampled: 01/17/19 12:40 Received: 02/07/19 20:10									
Lead	ND	0.50	mg/L	1	1901160	02/12/19	02/13/19	EPA 6010B	
SB-5 (Composite) (19B0438-19) Soil Sampled: 01/17/19 12:40 Received: 02/07/19 20:10									
Lead	**0.53**	0.50	mg/L	1	1901160	02/12/19	02/13/19	EPA 6010B	
SB-6-0-1' (19B0438-20) Soil Sampled: 01/17/19 13:00 Received: 02/07/19 20:10									
Lead	**0.82**	0.50	mg/L	1	1901160	02/12/19	02/13/19	EPA 6010B	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19B0438**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

TCLP Metals by 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1901160 - EPA 3010A TCLP										
Blank (1901160-BLK1)				Prepared: 02/12/19 Analyzed: 02/13/19						
Lead	ND	0.50	mg/L							
LCS (1901160-BS1)				Prepared: 02/12/19 Analyzed: 02/13/19						
Lead	54.9	0.50	mg/L	50.0		110	75-125			
Matrix Spike (1901160-MS1)	**Source: 19B0438-17**			Prepared: 02/12/19 Analyzed: 02/13/19						
Lead	52.4	0.50	mg/L	50.0	0.0818	105	75-125			
Matrix Spike Dup (1901160-MSD1)	**Source: 19B0438-17**			Prepared: 02/12/19 Analyzed: 02/13/19						
Lead	52.5	0.50	mg/L	50.0	0.0818	105	75-125	0.3	30	

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WRECO - Walnut Creek	Project:	North 12th Street Complete Street Project	
1243 Alpine Rd Suite 108	Project Number:	[none]	**CLS Work Order #: 19B0438**
Walnut Creek, CA 94596	Project Manager:	Melissa McAssey	COC #: GREEN

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Appendix C ProUCL 5.1 - 95% Upper Confidence Limit Calculations

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	A	B	C	D	E	F
1	Company:	WRECO				
2	Computed by:	F. Banks				
3	Checked by:	M. McAssey				
4	Date:	2/20/2019				
5	Subject:	P18121 North 12th St. UCL Sample Set without Outliers				
6						
7	Sample Data	Not Detected	Sample Data	Not Detected	Sample Data	Not Detected
8	Lead_0_1	D_Lead_0_1	Lead_1_2	D_Lead_1_2	Lead_2_3	D_Lead_2_3
9	3.7	1	4.8	1	4.5	1
10	7.9	1	3.2	1	4.8	1
11	30	1	4.2	1	3.9	1
12	79	1	5.9	1	4.2	1
13	73	1	72	1		0
14	130	1	2.5	0	5.7	1
15	2.5	0	12	1	4.6	1
16	2.8	1	19	1		0
17	8.6	1	9.6	1	2.5	0
18	65	1	17	1	6.8	1
19	36	1	29	1		0
20	31	1	53	1	7.7	1
21	35	1	6.8	1		
22	45	1				

	Outlier Tests for Selected Variables excluding nondetects	
User Selected Options		
Date/Time of Computation	ProUCL 5.12/20/2019 8:12:56 AM	
From File	20190219 UCL w_ProUCL.xls	
Full Precision	OFF	

Dixon's Outlier Test for Lead_0_1

Total N = 15

Number NDs = 1

Number Detects = 14

10% critical value: 0.492

5% critical value: 0.546

1% critical value: 0.641

Note: NDs excluded from Outlier Test

1. Data Value 250 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.706

For 10% significance level, 250 is an outlier.

For 5% significance level, 250 is an outlier.

For 1% significance level, 250 is an outlier.

2. Data Value 2.8 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.067

For 10% significance level, 2.8 is not an outlier.

For 5% significance level, 2.8 is not an outlier.

For 1% significance level, 2.8 is not an outlier.

Dixon's Outlier Test for Lead_1_2

Total N = 15

Number NDs = 1

Number Detects = 14

10% critical value: 0.492

5% critical value: 0.546

1% critical value: 0.641

Note: NDs excluded from Outlier Test

1. Data Value 470 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.856

For 10% significance level, 470 is an outlier.

For 5% significance level, 470 is an outlier.

For 1% significance level, 470 is an outlier.

	A	B	C	D	E	F	G	H	I	J	K	L
53	2. Data Value 3.2 is a Potential Outlier (Lower Tail)?											
54												
55	Test Statistic: 0.023											
56												
57	For 10% significance level, 3.2 is not an outlier.											
58	For 5% significance level, 3.2 is not an outlier.											
59	For 1% significance level, 3.2 is not an outlier.											
60												
61												
62	Dixon's Outlier Test for Lead_2_3											
63												
64	Total N = 12											
65	Number NDs = 1											
66	Number Detects = 11											
67	10% critical value: 0.517											
68	5% critical value: 0.576											
69	1% critical value: 0.679											
70	Note: NDs excluded from Outlier Test											
71												
72	1. Data Value 100 is a Potential Outlier (Upper Tail)?											
73												
74	Test Statistic: 0.898											
75												
76	For 10% significance level, 100 is an outlier.											
77	For 5% significance level, 100 is an outlier.											
78	For 1% significance level, 100 is an outlier.											
79												
80	2. Data Value 3.9 is a Potential Outlier (Lower Tail)?											
81												
82	Test Statistic: 0.015											
83												
84	For 10% significance level, 3.9 is not an outlier.											
85	For 5% significance level, 3.9 is not an outlier.											
86	For 1% significance level, 3.9 is not an outlier.											
87												

	Outlier Tests for Selected Variables excluding nondetects	
User Selected Options		
Date/Time of Computation	ProUCL 5.12/20/2019 8:36:21 AM	
From File	20190219 UCL w_ProUCL.xls	
Full Precision	OFF	

Dixon's Outlier Test for Lead_0_1

Total N = 14

Number NDs = 1

Number Detects = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs excluded from Outlier Test

1. Data Value 130 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.451

For 10% significance level, 130 is not an outlier.

For 5% significance level, 130 is not an outlier.

For 1% significance level, 130 is not an outlier.

2. Data Value 2.8 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.067

For 10% significance level, 2.8 is not an outlier.

For 5% significance level, 2.8 is not an outlier.

For 1% significance level, 2.8 is not an outlier.

Dixon's Outlier Test for Lead_1_2

Total N = 14

Number NDs = 1

Number Detects = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs excluded from Outlier Test

1. Data Value 250 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.801

For 10% significance level, 250 is an outlier.

For 5% significance level, 250 is an outlier.

For 1% significance level, 250 is an outlier.

	A	B	C	D	E	F	G	H	I	J	K	L
53	2. Data Value 3.2 is a Potential Outlier (Lower Tail)?											
54												
55	Test Statistic: 0.023											
56												
57	For 10% significance level, 3.2 is not an outlier.											
58	For 5% significance level, 3.2 is not an outlier.											
59	For 1% significance level, 3.2 is not an outlier.											
60												
61												
62	Dixon's Outlier Test for Lead_2_3											
63												
64	Total N = 11											
65	Number NDs = 1											
66	Number Detects = 10											
67	10% critical value: 0.409											
68	5% critical value: 0.477											
69	1% critical value: 0.597											
70	Note: NDs excluded from Outlier Test											
71												
72	1. Data Value 44 is a Potential Outlier (Upper Tail)?											
73												
74	Test Statistic: 0.754											
75												
76	For 10% significance level, 44 is an outlier.											
77	For 5% significance level, 44 is an outlier.											
78	For 1% significance level, 44 is an outlier.											
79												
80	2. Data Value 3.9 is a Potential Outlier (Lower Tail)?											
81												
82	Test Statistic: 0.030											
83												
84	For 10% significance level, 3.9 is not an outlier.											
85	For 5% significance level, 3.9 is not an outlier.											
86	For 1% significance level, 3.9 is not an outlier.											
87												

	A	B	C	D	E	F	G	H	I	J	K	L
1					Outlier Tests for Selected Variables excluding nondetects							
2				User Selected Options								
3				Date/Time of Computation	ProUCL 5.12/20/2019 8:43:26 AM							
4				From File	20190219 UCL w_ProUCL.xls							
5				Full Precision	OFF							
6												
7												
8				Dixon's Outlier Test for Lead_0_1								
9												
10	Total N = 14											
11	Number NDs = 1											
12	Number Detects = 13											
13	10% critical value: 0.467											
14	5% critical value: 0.521											
15	1% critical value: 0.615											
16	Note: NDs excluded from Outlier Test											
17												
18	1. Data Value 130 is a Potential Outlier (Upper Tail)?											
19												
20	Test Statistic: 0.451											
21												
22	For 10% significance level, 130 is not an outlier.											
23	For 5% significance level, 130 is not an outlier.											
24	For 1% significance level, 130 is not an outlier.											
25												
26	2. Data Value 2.8 is a Potential Outlier (Lower Tail)?											
27												
28	Test Statistic: 0.067											
29												
30	For 10% significance level, 2.8 is not an outlier.											
31	For 5% significance level, 2.8 is not an outlier.											
32	For 1% significance level, 2.8 is not an outlier.											
33												
34												
35				Dixon's Outlier Test for Lead_1_2								
36												
37	Total N = 13											
38	Number NDs = 1											
39	Number Detects = 12											
40	10% critical value: 0.49											
41	5% critical value: 0.546											
42	1% critical value: 0.642											
43	Note: NDs excluded from Outlier Test											
44												
45	1. Data Value 72 is a Potential Outlier (Upper Tail)?											
46												
47	Test Statistic: 0.634											
48												
49	For 10% significance level, 72 is an outlier.											
50	For 5% significance level, 72 is an outlier.											
51	For 1% significance level, 72 is not an outlier.											
52												

	A	B	C	D	E	F	G	H	I	J	K	L
53	2. Data Value 3.2 is a Potential Outlier (Lower Tail)?											
54												
55	Test Statistic: 0.032											
56												
57	For 10% significance level, 3.2 is not an outlier.											
58	For 5% significance level, 3.2 is not an outlier.											
59	For 1% significance level, 3.2 is not an outlier.											
60												
61												
62	Dixon's Outlier Test for Lead_2_3											
63												
64	Total N = 10											
65	Number NDs = 1											
66	Number Detects = 9											
67	10% critical value: 0.441											
68	5% critical value: 0.512											
69	1% critical value: 0.635											
70	Note: NDs excluded from Outlier Test											
71												
72	1. Data Value 14 is a Potential Outlier (Upper Tail)?											
73												
74	Test Statistic: 0.643											
75												
76	For 10% significance level, 14 is an outlier.											
77	For 5% significance level, 14 is an outlier.											
78	For 1% significance level, 14 is an outlier.											
79												
80	2. Data Value 3.9 is a Potential Outlier (Lower Tail)?											
81												
82	Test Statistic: 0.079											
83												
84	For 10% significance level, 3.9 is not an outlier.											
85	For 5% significance level, 3.9 is not an outlier.											
86	For 1% significance level, 3.9 is not an outlier.											
87												

	Outlier Tests for Selected Variables excluding nondetects	
User Selected Options		
Date/Time of Computation	ProUCL 5.12/20/2019 8:46:08 AM	
From File	20190219 UCL w_ProUCL.xls	
Full Precision	OFF	

Dixon's Outlier Test for Lead_0_1

Total N = 14

Number NDs = 1

Number Detects = 13

10% critical value: 0.467

5% critical value: 0.521

1% critical value: 0.615

Note: NDs excluded from Outlier Test

1. Data Value 130 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.451

For 10% significance level, 130 is not an outlier.

For 5% significance level, 130 is not an outlier.

For 1% significance level, 130 is not an outlier.

2. Data Value 2.8 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.067

For 10% significance level, 2.8 is not an outlier.

For 5% significance level, 2.8 is not an outlier.

For 1% significance level, 2.8 is not an outlier.

Dixon's Outlier Test for Lead_1_2

Total N = 13

Number NDs = 1

Number Detects = 12

10% critical value: 0.49

5% critical value: 0.546

1% critical value: 0.642

Note: NDs excluded from Outlier Test

1. Data Value 72 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.634

For 10% significance level, 72 is an outlier.

For 5% significance level, 72 is an outlier.

For 1% significance level, 72 is not an outlier.

	A	B	C	D	E	F	G	H	I	J	K	L
53	2. Data Value 3.2 is a Potential Outlier (Lower Tail)?											
54												
55	Test Statistic: 0.032											
56												
57	For 10% significance level, 3.2 is not an outlier.											
58	For 5% significance level, 3.2 is not an outlier.											
59	For 1% significance level, 3.2 is not an outlier.											
60												
61												
62	Dixon's Outlier Test for Lead_2_3											
63												
64	Total N = 9											
65	Number NDs = 1											
66	Number Detects = 8											
67	10% critical value: 0.479											
68	5% critical value: 0.554											
69	1% critical value: 0.683											
70	Note: NDs excluded from Outlier Test											
71												
72	1. Data Value 7.7 is a Potential Outlier (Upper Tail)?											
73												
74	Test Statistic: 0.257											
75												
76	For 10% significance level, 7.7 is not an outlier.											
77	For 5% significance level, 7.7 is not an outlier.											
78	For 1% significance level, 7.7 is not an outlier.											
79												
80	2. Data Value 3.9 is a Potential Outlier (Lower Tail)?											
81												
82	Test Statistic: 0.103											
83												
84	For 10% significance level, 3.9 is not an outlier.											
85	For 5% significance level, 3.9 is not an outlier.											
86	For 1% significance level, 3.9 is not an outlier.											
87												

Normal UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.12/20/2019 11:11:12 AM
From File	20190219 UCL w_ProUCL.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Lead_0_1

General Statistics

Total Number of Observations	14	Number of Distinct Observations	14
Number of Detects	13	Number of Non-Detects	1
Number of Distinct Detects	13	Number of Distinct Non-Detects	1
Minimum Detect	2.8	Minimum Non-Detect	2.5
Maximum Detect	130	Maximum Non-Detect	2.5
Variance Detects	1354	Percent Non-Detects	7.143%
Mean Detects	42.08	SD Detects	36.79
Median Detects	35	CV Detects	0.874
Skewness Detects	1.134	Kurtosis Detects	1.341
Mean of Logged Detects	3.234	SD of Logged Detects	1.214

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.893	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.866	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.181	Lilliefors GOF Test
5% Lilliefors Critical Value	0.234	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	39.25	KM Variance	9.891
KM SD	35.56	KM Standard Error of Mean	1264
95% KM (BCA) UCL	54.19	97.5% KM (BCA) UCL	60.89
95% KM (t) UCL	56.77	95% KM (Percentile Bootstrap) UCL	55.41
95% KM (z) UCL	55.52	95% KM Bootstrap t UCL	62.61
90% KM Chebyshev UCL	68.92	95% KM Chebyshev UCL	82.36
97.5% KM Chebyshev UCL	101	99% KM Chebyshev UCL	137.7

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	39.16	Mean in Log Scale	3.019
SD in Original Scale	36.99	SD in Log Scale	1.417
95% t UCL (Assumes normality)	56.67	95% H-Stat UCL	223.8

DL/2 is not a recommended method, provided for comparisons and historical reasons

Suggested UCL to Use

95% KM (t) UCL	56.77

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

	A	B	C	D	E	F	G	H	I	J	K	L
53	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
54												
55	Lead_1_2											
56												
57	General Statistics											
58					Total Number of Observations	13			Number of Distinct Observations	13		
59					Number of Detects	12			Number of Non-Detects	1		
60					Number of Distinct Detects	12			Number of Distinct Non-Detects	1		
61					Minimum Detect	3.2			Minimum Non-Detect	2.5		
62					Maximum Detect	72			Maximum Non-Detect	2.5		
63					Variance Detects	471.9			Percent Non-Detects	7.692%		
64					Mean Detects	19.71			SD Detects	21.72		
65					Median Detects	10.8			CV Detects	1.102		
66					Skewness Detects	1.733			Kurtosis Detects	2.315		
67					Mean of Logged Detects	2.5			SD of Logged Detects	1.004		
68												
69	Normal GOF Test on Detects Only											
70					Shapiro Wilk Test Statistic	0.756			Shapiro Wilk GOF Test			
71					5% Shapiro Wilk Critical Value	0.859			Detected Data Not Normal at 5% Significance Level			
72					Lilliefors Test Statistic	0.263			Lilliefors GOF Test			
73					5% Lilliefors Critical Value	0.243			Detected Data Not Normal at 5% Significance Level			
74	Detected Data Not Normal at 5% Significance Level											
75												
76	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
77					KM Mean	18.38			KM Variance	5.939		
78					KM SD	20.5			KM Standard Error of Mean	420.3		
79					95% KM (BCA) UCL	29.38			97.5% KM (BCA) UCL	32.67		
80					95% KM (t) UCL	28.97			95% KM (Percentile Bootstrap) UCL	28.8		
81					95% KM (z) UCL	28.15			95% KM Bootstrap t UCL	43.66		
82					90% KM Chebyshev UCL	36.2			95% KM Chebyshev UCL	44.27		
83					97.5% KM Chebyshev UCL	55.47			99% KM Chebyshev UCL	77.48		
84												
85	DL/2 Statistics											
86	DL/2 Normal							DL/2 Log-Transformed				
87					Mean in Original Scale	18.29			Mean in Log Scale	2.325		
88					SD in Original Scale	21.42			SD in Log Scale	1.15		
89					95% t UCL (Assumes normality)	28.88			95% H-Stat UCL	55.71		
90	DL/2 is not a recommended method, provided for comparisons and historical reasons											
91												
92	Suggested UCL to Use											
93	Data appear Gamma, May want to try Gamma Distribution											
94												
95	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
96	Recommendations are based upon data size, data distribution, and skewness.											
97	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
98	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
99												
100	Lead_2_3											
101												
102	General Statistics											
103					Total Number of Observations	9			Number of Distinct Observations	9		
104									Number of Missing Observations	3		

105				Number of Detects	8					Number of Non-Detects	1	
106				Number of Distinct Detects	8					Number of Distinct Non-Detects	1	
107				Minimum Detect	3.9					Minimum Non-Detect	2.5	
108				Maximum Detect	7.7					Maximum Non-Detect	2.5	
109				Variance Detects	1.816					Percent Non-Detects	11.11%	
110				Mean Detects	5.275					SD Detects	1.348	
111				Median Detects	4.7					CV Detects	0.255	
112				Skewness Detects	1.024					Kurtosis Detects	-0.166	
113				Mean of Logged Detects	1.637					SD of Logged Detects	0.24	
114												
115				Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use								
116				guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.								
117				For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).								
118				Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1								
119												
120				Normal GOF Test on Detects Only								
121				Shapiro Wilk Test Statistic	0.879					Shapiro Wilk GOF Test		
122				5% Shapiro Wilk Critical Value	0.818					Detected Data appear Normal at 5% Significance Level		
123				Lilliefors Test Statistic	0.263					Lilliefors GOF Test		
124				5% Lilliefors Critical Value	0.283					Detected Data appear Normal at 5% Significance Level		
125				Detected Data appear Normal at 5% Significance Level								
126												
127				Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs								
128				KM Mean	4.967					KM Variance	0.525	
129				KM SD	1.474					KM Standard Error of Mean	2.173	
130				95% KM (BCA) UCL	5.856					97.5% KM (BCA) UCL	5.978	
131				95% KM (t) UCL	5.944					95% KM (Percentile Bootstrap) UCL	5.8	
132				95% KM (z) UCL	5.831					95% KM Bootstrap t UCL	6.277	
133				90% KM Chebyshev UCL	6.543					95% KM Chebyshev UCL	7.257	
134				97.5% KM Chebyshev UCL	8.247					99% KM Chebyshev UCL	10.19	
135												
136				DL/2 Statistics								
137				DL/2 Normal						DL/2 Log-Transformed		
138				Mean in Original Scale	4.828					Mean in Log Scale	1.48	
139				SD in Original Scale	1.841					SD in Log Scale	0.522	
140				95% t UCL (Assumes normality)	5.969					95% H-Stat UCL	7.642	
141				DL/2 is not a recommended method, provided for comparisons and historical reasons								
142												
143				Suggested UCL to Use								
144				95% KM (t) UCL	5.944							
145												
146				Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.								
147				Recommendations are based upon data size, data distribution, and skewness.								
148				These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).								
149				However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.								
150												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Gamma UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation	ProUCL 5.12/20/2019 11:15:10 AM										
5	From File	20190219 UCL w_ProUCL.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Number of Bootstrap Operations	2000										
9												
10	Lead_0_1											
11												
12	General Statistics											
13	Total Number of Observations	14				Number of Distinct Observations	14					
14	Number of Detects	13				Number of Non-Detects	1					
15	Number of Distinct Detects	13				Number of Distinct Non-Detects	1					
16	Minimum Detect	2.8				Minimum Non-Detect	2.5					
17	Maximum Detect	130				Maximum Non-Detect	2.5					
18	Variance Detects	1354				Percent Non-Detects	7.143%					
19	Mean Detects	42.08				SD Detects	36.79					
20	Median Detects	35				CV Detects	0.874					
21	Skewness Detects	1.134				Kurtosis Detects	1.341					
22	Mean of Logged Detects	3.234				SD of Logged Detects	1.214					
23												
24	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
25	KM Mean	39.25				KM Standard Error of Mean	9.891					
26	KM SD	35.56				95% KM (BCA) UCL	56.19					
27	95% KM (t) UCL	56.77				95% KM (Percentile Bootstrap) UCL	55.17					
28	95% KM (z) UCL	55.52				95% KM Bootstrap t UCL	63.67					
29	90% KM Chebyshev UCL	68.92				95% KM Chebyshev UCL	82.36					
30	97.5% KM Chebyshev UCL	101				99% KM Chebyshev UCL	137.7					
31												
32	Gamma GOF Tests on Detected Observations Only											
33	A-D Test Statistic	0.349				Anderson-Darling GOF Test						
34	5% A-D Critical Value	0.756				Detected data appear Gamma Distributed at 5% Significance Level						
35	K-S Test Statistic	0.186				Kolmogorov-Smirnov GOF						
36	5% K-S Critical Value	0.243				Detected data appear Gamma Distributed at 5% Significance Level						
37	Detected data appear Gamma Distributed at 5% Significance Level											
38												
39	Gamma Statistics on Detected Data Only											
40	k hat (MLE)	1.126				k star (bias corrected MLE)	0.918					
41	Theta hat (MLE)	37.36				Theta star (bias corrected MLE)	45.86					
42	nu hat (MLE)	29.28				nu star (bias corrected)	23.86					
43	Mean (detects)	42.08										
44												
45	Gamma ROS Statistics using Imputed Non-Detects											
46	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
47	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)											
48	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
49	This is especially true when the sample size is small.											
50	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
51	Minimum	0.01				Mean	39.07					
52	Maximum	130				Median	33					

53					SD	37.09					CV	0.949
54					k hat (MLE)	0.62					k star (bias corrected MLE)	0.535
55					Theta hat (MLE)	63.01					Theta star (bias corrected MLE)	73.05
56					nu hat (MLE)	17.36					nu star (bias corrected)	14.98
57					Adjusted Level of Significance (β)	0.0312						
58					Approximate Chi Square Value (14.98, α)	7.245					Adjusted Chi Square Value (14.98, β)	6.543
59					95% Gamma Approximate UCL (use when n>=50)	80.77					95% Gamma Adjusted UCL (use when n<50)	89.43
60												
61					Estimates of Gamma Parameters using KM Estimates							
62					Mean (KM)	39.25					SD (KM)	35.56
63					Variance (KM)	1264					SE of Mean (KM)	9.891
64					k hat (KM)	1.219					k star (KM)	1.005
65					nu hat (KM)	34.12					nu star (KM)	28.14
66					theta hat (KM)	32.21					theta star (KM)	39.05
67					80% gamma percentile (KM)	63.14					90% gamma percentile (KM)	90.26
68					95% gamma percentile (KM)	117.4					99% gamma percentile (KM)	180.3
69												
70					Gamma Kaplan-Meier (KM) Statistics							
71					Approximate Chi Square Value (28.14, α)	17.04					Adjusted Chi Square Value (28.14, β)	15.9
72					95% Gamma Approximate KM-UCL (use when n>=50)	64.83					95% Gamma Adjusted KM-UCL (use when n<50)	69.47
73												
74					Suggested UCL to Use							
75					Data appear Normal, May want to try Normal Distribution.							
76												
77					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
78					Recommendations are based upon data size, data distribution, and skewness.							
79					These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).							
80					However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.							
81												
82	Lead_1_2											
83												
84					General Statistics							
85					Total Number of Observations	13					Number of Distinct Observations	13
86					Number of Detects	12					Number of Non-Detects	1
87					Number of Distinct Detects	12					Number of Distinct Non-Detects	1
88					Minimum Detect	3.2					Minimum Non-Detect	2.5
89					Maximum Detect	72					Maximum Non-Detect	2.5
90					Variance Detects	471.9					Percent Non-Detects	7.692%
91					Mean Detects	19.71					SD Detects	21.72
92					Median Detects	10.8					CV Detects	1.102
93					Skewness Detects	1.733					Kurtosis Detects	2.315
94					Mean of Logged Detects	2.5					SD of Logged Detects	1.004
95												
96					Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs							
97					KM Mean	18.38					KM Standard Error of Mean	5.939
98					KM SD	20.5					95% KM (BCA) UCL	28.83
99					95% KM (t) UCL	28.97					95% KM (Percentile Bootstrap) UCL	28.39
100					95% KM (z) UCL	28.15					95% KM Bootstrap t UCL	43.02
101					90% KM Chebyshev UCL	36.2					95% KM Chebyshev UCL	44.27
102					97.5% KM Chebyshev UCL	55.47					99% KM Chebyshev UCL	77.68
103												
104					Gamma GOF Tests on Detected Observations Only							

105				A-D Test Statistic		0.484	Anderson-Darling GOF Test					
106				5% A-D Critical Value		0.753	Detected data appear Gamma Distributed at 5% Significance Level					
107				K-S Test Statistic		0.16	Kolmogorov-Smirnov GOF					
108				5% K-S Critical Value		0.251	Detected data appear Gamma Distributed at 5% Significance Level					
109	Detected data appear Gamma Distributed at 5% Significance Level											
110												
111	Gamma Statistics on Detected Data Only											
112				k hat (MLE)		1.178	k star (bias corrected MLE)				0.939	
113				Theta hat (MLE)		16.74	Theta star (bias corrected MLE)				20.99	
114				nu hat (MLE)		28.26	nu star (bias corrected)				22.53	
115				Mean (detects)		19.71						
116												
117	Gamma ROS Statistics using Imputed Non-Detects											
118	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
119	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)											
120	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
121	This is especially true when the sample size is small.											
122	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
123				Minimum		0.01	Mean				18.19	
124				Maximum		72	Median				9.6	
125				SD		21.5	CV				1.182	
126				k hat (MLE)		0.645	k star (bias corrected MLE)				0.547	
127				Theta hat (MLE)		28.2	Theta star (bias corrected MLE)				33.23	
128				nu hat (MLE)		16.77	nu star (bias corrected)				14.23	
129				Adjusted Level of Significance (β)		0.0301						
130				Approximate Chi Square Value (14.23, α)		6.732	Adjusted Chi Square Value (14.23, β)				6.011	
131				95% Gamma Approximate UCL (use when n>=50)		38.47	95% Gamma Adjusted UCL (use when n<50)				43.08	
132												
133	Estimates of Gamma Parameters using KM Estimates											
134				Mean (KM)		18.38	SD (KM)				20.5	
135				Variance (KM)		420.3	SE of Mean (KM)				5.939	
136				k hat (KM)		0.804	k star (KM)				0.67	
137				nu hat (KM)		20.91	nu star (KM)				17.42	
138				theta hat (KM)		22.86	theta star (KM)				27.45	
139				80% gamma percentile (KM)		30.26	90% gamma percentile (KM)				46.63	
140				95% gamma percentile (KM)		63.58	99% gamma percentile (KM)				104.2	
141												
142	Gamma Kaplan-Meier (KM) Statistics											
143				Approximate Chi Square Value (17.42, α)		8.97	Adjusted Chi Square Value (17.42, β)				8.119	
144				95% Gamma Approximate KM-UCL (use when n>=50)		35.7	95% Gamma Adjusted KM-UCL (use when n<50)				39.44	
145	95% Gamma Adjusted KM-UCL (use when k<=1 and n <= 15)											
146												
147	Suggested UCL to Use											
148				95% KM Bootstrap t UCL		43.02	Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)				39.44	
149												
150	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
151	Recommendations are based upon data size, data distribution, and skewness.											
152	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
153	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
154												
155	Lead_2_3											
156												

	A	B	C	D	E	F	G	H	I	J	K	L
157	General Statistics											
158	Total Number of Observations					9	Number of Distinct Observations					9
159							Number of Missing Observations					3
160	Number of Detects					8	Number of Non-Detects					1
161	Number of Distinct Detects					8	Number of Distinct Non-Detects					1
162	Minimum Detect					3.9	Minimum Non-Detect					2.5
163	Maximum Detect					7.7	Maximum Non-Detect					2.5
164	Variance Detects					1.816	Percent Non-Detects					11.11%
165	Mean Detects					5.275	SD Detects					1.348
166	Median Detects					4.7	CV Detects					0.255
167	Skewness Detects					1.024	Kurtosis Detects					-0.166
168	Mean of Logged Detects					1.637	SD of Logged Detects					0.24
169												
170	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
171	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
172	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
173	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
174												
175	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
176	KM Mean					4.967	KM Standard Error of Mean					0.525
177	KM SD					1.474	95% KM (BCA) UCL					5.833
178	95% KM (t) UCL					5.944	95% KM (Percentile Bootstrap) UCL					5.789
179	95% KM (z) UCL					5.831	95% KM Bootstrap t UCL					6.211
180	90% KM Chebyshev UCL					6.543	95% KM Chebyshev UCL					7.257
181	97.5% KM Chebyshev UCL					8.247	99% KM Chebyshev UCL					10.19
182												
183	Gamma GOF Tests on Detected Observations Only											
184	A-D Test Statistic					0.442	Anderson-Darling GOF Test					
185	5% A-D Critical Value					0.716	Detected data appear Gamma Distributed at 5% Significance Level					
186	K-S Test Statistic					0.254	Kolmogorov-Smirnov GOF					
187	5% K-S Critical Value					0.294	Detected data appear Gamma Distributed at 5% Significance Level					
188	Detected data appear Gamma Distributed at 5% Significance Level											
189												
190	Gamma Statistics on Detected Data Only											
191	k hat (MLE)					19.18	k star (bias corrected MLE)					12.07
192	Theta hat (MLE)					0.275	Theta star (bias corrected MLE)					0.437
193	nu hat (MLE)					306.8	nu star (bias corrected)					193.1
194	Mean (detects)					5.275						
195												
196	Gamma ROS Statistics using Imputed Non-Detects											
197	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
198	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)											
199	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
200	This is especially true when the sample size is small.											
201	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
202	Minimum					2.378	Mean					4.953
203	Maximum					7.7	Median					4.6
204	SD					1.588	CV					0.321
205	k hat (MLE)					10.38	k star (bias corrected MLE)					6.993
206	Theta hat (MLE)					0.477	Theta star (bias corrected MLE)					0.728
207	nu hat (MLE)					186.8	nu star (bias corrected)					125.9
208	Adjusted Level of Significance (β)					0.0231						

	A	B	C	D	E	F	G	H	I	J	K	L
209	Approximate Chi Square Value (125.88, α)					101	Adjusted Chi Square Value (125.88, β)					96.27
210	95% Gamma Approximate UCL (use when n>=50)					6.175	95% Gamma Adjusted UCL (use when n<50)					6.477
211												
212	Estimates of Gamma Parameters using KM Estimates											
213	Mean (KM)					4.967	SD (KM)					1.474
214	Variance (KM)					2.173	SE of Mean (KM)					0.525
215	k hat (KM)					11.35	k star (KM)					7.641
216	nu hat (KM)					204.3	nu star (KM)					137.5
217	theta hat (KM)					0.438	theta star (KM)					0.65
218	80% gamma percentile (KM)					6.382	90% gamma percentile (KM)					7.363
219	95% gamma percentile (KM)					8.243	99% gamma percentile (KM)					10.07
220												
221	Gamma Kaplan-Meier (KM) Statistics											
222	Approximate Chi Square Value (137.54, α)					111.4	Adjusted Chi Square Value (137.54, β)					106.5
223	95% Gamma Approximate KM-UCL (use when n>=50)					6.13	95% Gamma Adjusted KM-UCL (use when n<50)					6.415
224												
225	Suggested UCL to Use											
226	Data appear Normal, May want to try Normal Distribution.											
227												
228	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
229	Recommendations are based upon data size, data distribution, and skewness.											
230	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
231	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
232												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Lognormal UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation	ProUCL 5.12/20/2019 10:47:14 AM										
5	From File	20190219 UCL w_ProUCL.xls										
6	Full Precision	OFF										
7	Confidence Coefficient	95%										
8	Number of Bootstrap Operations	2000										
9												
10	Lead_0_1											
11												
12	General Statistics											
13	Total Number of Observations					14	Number of Distinct Observations					14
14	Number of Detects					13	Number of Non-Detects					1
15	Number of Distinct Detects					13	Number of Distinct Non-Detects					1
16	Minimum Detect					2.8	Minimum Non-Detect					2.5
17	Maximum Detect					130	Maximum Non-Detect					2.5
18	Variance Detects					1354	Percent Non-Detects					7.143%
19	Mean Detects					42.08	SD Detects					36.79
20	Median Detects					35	CV Detects					0.874
21	Skewness Detects					1.134	Kurtosis Detects					1.341
22	Mean of Logged Detects					3.234	SD of Logged Detects					1.214
23												
24	Lognormal GOF Test on Detected Observations Only											
25	Shapiro Wilk Test Statistic					0.909	Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value					0.866	Detected Data appear Lognormal at 5% Significance Level					
27	Lilliefors Test Statistic					0.247	Lilliefors GOF Test					
28	5% Lilliefors Critical Value					0.234	Detected Data Not Lognormal at 5% Significance Level					
29	Detected Data appear Approximate Lognormal at 5% Significance Level											
30												
31	Lognormal ROS Statistics Using Imputed Non-Detects											
32	Mean in Original Scale					39.17	Mean in Log Scale					3.029
33	SD in Original Scale					36.98	SD in Log Scale					1.396
34	Geometric d_mean					20.67	95% Percentile Bootstrap UCL					54.99
35	95% t UCL (assumes normality of ROS data)					56.68	95% BCA Bootstrap UCL					58.34
36	95% Bootstrap t UCL					62.02	95% H-UCL (Log ROS)					211.8
37												
38	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
39	KM Mean (logged)					3.068	KM Geo Mean					21.5
40	KM SD (logged)					1.272	95% Critical H Value (KM-Log)					3.266
41	KM Standard Error of Mean (logged)					0.354	95% H-UCL (KM -Log)					153
42												
43	DL/2 Statistics											
44	DL/2 Normal						DL/2 Log-Transformed					
45	Mean in Original Scale					39.16	Mean in Log Scale					3.019
46	SD in Original Scale					36.99	SD in Log Scale					1.417
47	95% t UCL (Assumes normality)					56.67	95% H-Stat UCL					223.8
48	DL/2 is not a recommended method, provided for comparisons and historical reasons											
49												
50	Suggested UCL to Use											
51	Data appear Normal, May want to try Normal Distribution.											
52	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											

53	Recommendations are based upon data size, data distribution, and skewness.											
54	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
55	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
56												
57	Lead_1_2											
58												
59	General Statistics											
60						Total Number of Observations	13			Number of Distinct Observations	13	
61						Number of Detects	12			Number of Non-Detects	1	
62						Number of Distinct Detects	12			Number of Distinct Non-Detects	1	
63						Minimum Detect	3.2			Minimum Non-Detect	2.5	
64						Maximum Detect	72			Maximum Non-Detect	2.5	
65						Variance Detects	471.9			Percent Non-Detects	7.692%	
66						Mean Detects	19.71			SD Detects	21.72	
67						Median Detects	10.8			CV Detects	1.102	
68						Skewness Detects	1.733			Kurtosis Detects	2.315	
69						Mean of Logged Detects	2.5			SD of Logged Detects	1.004	
70												
71	Lognormal GOF Test on Detected Observations Only											
72						Shapiro Wilk Test Statistic	0.95			Shapiro Wilk GOF Test		
73						5% Shapiro Wilk Critical Value	0.859			Detected Data appear Lognormal at 5% Significance Level		
74						Lilliefors Test Statistic	0.136			Lilliefors GOF Test		
75						5% Lilliefors Critical Value	0.243			Detected Data appear Lognormal at 5% Significance Level		
76	Detected Data appear Lognormal at 5% Significance Level											
77												
78	Lognormal ROS Statistics Using Imputed Non-Detects											
79						Mean in Original Scale	18.27			Mean in Log Scale	2.309	
80						SD in Original Scale	21.44			SD in Log Scale	1.182	
81						Geometric d_mean	10.06			95% Percentile Bootstrap UCL	28.25	
82						95% t UCL (assumes normality of ROS data)	28.87			95% BCA Bootstrap UCL	31.22	
83						95% Bootstrap t UCL	43.92			95% H-UCL (Log ROS)	59.8	
84												
85	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
86						KM Mean (logged)	2.378			KM Geo Mean	10.78	
87						KM SD (logged)	1.015			95% Critical H Value (KM-Log)	2.875	
88						KM Standard Error of Mean (logged)	0.294			95% H-UCL (KM -Log)	41.94	
89												
90	DL/2 Statistics											
91						DL/2 Normal				DL/2 Log-Transformed		
92						Mean in Original Scale	18.29			Mean in Log Scale	2.325	
93						SD in Original Scale	21.42			SD in Log Scale	1.15	
94						95% t UCL (Assumes normality)	28.88			95% H-Stat UCL	55.71	
95	DL/2 is not a recommended method, provided for comparisons and historical reasons											
96												
97	Suggested UCL to Use											
98	Data appear Gamma, May want to try Gamma Distribution											
99	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
100	Recommendations are based upon data size, data distribution, and skewness.											
101	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
102	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
103												
104	Lead_2_3											

105												
106	General Statistics											
107					Total Number of Observations	9			Number of Distinct Observations	9		
108									Number of Missing Observations	3		
109					Number of Detects	8			Number of Non-Detects	1		
110					Number of Distinct Detects	8			Number of Distinct Non-Detects	1		
111					Minimum Detect	3.9			Minimum Non-Detect	2.5		
112					Maximum Detect	7.7			Maximum Non-Detect	2.5		
113					Variance Detects	1.816			Percent Non-Detects	11.11%		
114					Mean Detects	5.275			SD Detects	1.348		
115					Median Detects	4.7			CV Detects	0.255		
116					Skewness Detects	1.024			Kurtosis Detects	-0.166		
117					Mean of Logged Detects	1.637			SD of Logged Detects	0.24		
118												
119	Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use											
120	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
121	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
122	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1											
123												
124	Lognormal GOF Test on Detected Observations Only											
125					Shapiro Wilk Test Statistic	0.914			Shapiro Wilk GOF Test			
126					5% Shapiro Wilk Critical Value	0.818			Detected Data appear Lognormal at 5% Significance Level			
127					Lilliefors Test Statistic	0.237			Lilliefors GOF Test			
128					5% Lilliefors Critical Value	0.283			Detected Data appear Lognormal at 5% Significance Level			
129	Detected Data appear Lognormal at 5% Significance Level											
130												
131	Lognormal ROS Statistics Using Imputed Non-Detects											
132					Mean in Original Scale	5.005			Mean in Log Scale	1.571		
133					SD in Original Scale	1.498			SD in Log Scale	0.299		
134					Geometric d_mean	4.812			95% Percentile Bootstrap UCL	5.756		
135					95% t UCL (assumes normality of ROS data)	5.934			95% BCA Bootstrap UCL	5.856		
136					95% Bootstrap t UCL	6.159			95% H-UCL (Log ROS)	6.221		
137												
138	Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
139					KM Mean (logged)	1.557			KM Geo Mean	4.743		
140					KM SD (logged)	0.31			95% Critical H Value (KM-Log)	2.022		
141					KM Standard Error of Mean (logged)	0.11			95% H-UCL (KM -Log)	6.212		
142												
143	DL/2 Statistics											
144					DL/2 Normal				DL/2 Log-Transformed			
145					Mean in Original Scale	4.828			Mean in Log Scale	1.48		
146					SD in Original Scale	1.841			SD in Log Scale	0.522		
147					95% t UCL (Assumes normality)	5.969			95% H-Stat UCL	7.642		
148	DL/2 is not a recommended method, provided for comparisons and historical reasons											
149												
150	Suggested UCL to Use											
151	Data appear Normal, May want to try Normal Distribution.											
152	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
153	Recommendations are based upon data size, data distribution, and skewness.											
154	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006)											
155	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
156												

APPENDIX B - COMMUNITY WORKFORCE AND TRAINING AGREEMENT

EXHIBIT A

SUMMARY OF COMMUNITY WORKFORCE AND TRAINING AGREEMENT REQUIREMENTS

(Federally-Funded Projects)

Introduction

On August 21, 2018, the City of Sacramento approved a Community Workforce and Training Agreement (CWTA) with the Sacramento-Sierra Building and Construction Trades Council, AFL-CIO (Trades Council), and the unions represented by the Trades Council, to support the City's efforts to increase employment opportunities for workers who are local area residents, and to provide construction career training and employment opportunities for the City's at-risk youth, military veterans, women and other disadvantaged residents through local apprenticeship and pre-apprentice programs. A complete copy of the CWTA is attached hereto. This summary is provided for convenience only. All contractors must read and understand the full CWTA prior to submitting a bid.

Application

The CWTA applies to all City public works construction contracts for projects where either the engineer's estimate of the total construction cost of the project or the actual cumulative bid amounts submitted by the contractor or contractors awarded the contract exceeds One Million Dollars ($1,000,000). The CWTA applies to all "Covered Work" which is further defined in section 2.2 of the CWTA. Exclusions from Covered Work are further defined in section 2.3 of the CWTA.

Prior to award of this contract, the contractor must agree to be bound by each and every provision of the Agreement (except as noted below), and must execute the Agreement to be Bound in the form attached to the CWTA as Addendum A. In addition, any time the awarded contractor enters into a subcontract with any subcontractor for Covered Work, the contractor must provide a copy of the CWTA to the subcontractor and require the subcontractor to execute the Agreement to be Bound in the form attached to the CWTA as Addendum A. All Addendum A's must be executed by subcontractors and provided to the City prior to the subcontractor performing any work.

Due to the state and/or federal funds applied to this project, Article IX of the CWTA, detailing the local hire requirements, is not applicable to this project.

Requirements

In addition to the requirement to execute the Agreement to be Bound in the form attached to the CWTA as Addendum A, Contractor and its employees must comply with the following requirements:

Utilize Union Hiring Halls. Pursuant to Article VIII of the CWTA, Contractor and its subcontractors performing construction work, in filing craft job requirements, must utilize and be bound by the registration facilities and referral systems established or authorized by the local unions that are signatories to the CWTA (except that Contractors shall have the right to select and hire directly all supervisors above general foreman, without going through the local union).

Pay Union Dues and Fees. All employees performing Covered Work (that is not otherwise excluded) must, as a condition of employment, pay the applicable periodic working dues and associated fees required or union membership to the applicable local union that is a signatory to the CWTA, as required in Article VII of the CWTA. ***Please Note*:** The CWTA has been amended, and no longer requires all employees performing Covered Work to pay working dues, fees required, or union membership to the applicable local union that is a signatory to the CWTA, unless the employee **elects** to join the union.

Hold Pre-Job and Periodic Meetings. Pursuant to Article V, Contractor must convene a pre-job conference with representatives of all involved contractors (including subcontractors) and the unions at least 21 days prior to the commencement of work. For long-term projects with multiple phases, conferences can be held with subcontractors for later phases 21 days prior to the commencement of the applicable phase.

The Project Manager and the contractors must be prepared to discuss in detail: (i) the scope of work for each Contractor; (ii) craft assignments; (iii) estimated number of craft workers required to perform the work; (iv) transportation arrangements; (v) estimated start and completion dates of the work; (vi) planned use of pre-fabricated materials; and (vii) any specialized or technical work exempted[1] from the CWTA. The meeting shall be held at a location mutually agreeable to the parties.

Contractor must also hold joint labor/management meetings between the City, the Project Manager, the contractor(s), and the unions periodically to promote harmonious labor relations and ensure adequate communications.

Helmets to Hardhats. Contractor must participate in the Helmets to Hardhats program, as outlined in Article X of the CWTA.

Comply with Master Agreement Terms on Wages, Hours, Benefits, and other Terms and Conditions of Employment. As set forth in Article XI, Contractor must pay applicable contributions to the established vacation, pension and other deferred compensation plan, apprenticeship, worker protection and assistance, and health benefit funds for each hour worked on the project in the amounts designated in the Master Agreements of the appropriate local unions. By signing the Agreement to be Bound, Contractor also adopts and agrees to be bound by the written terms of established Trust Agreements for these benefit funds.

The wages, hours, and other terms and conditions of employment on the project shall be governed by the applicable union's Master Agreement, as required in Article XI of the CWTA.

Only Just Cause Dismissal and/or Discipline. All disputes involving discipline and/or the discharge of employees working on the project must be resolved through the grievance and arbitration provision contained in the applicable Master Agreement. As set forth in Article XIII of the CWTA, no employee working on the project shall be disciplined or dismissed without just cause.

Arbitrate Disputes. Any disputes relating to the interpretation or application of the CWTA, excluding work stoppages, strikes, and lockouts, must be resolved through the grievance arbitration procedures in Article XIV of the CWTA. At the time a grievance is submitted, the union may request that the City withhold and retain an amount from what is due and owing to the contractor against whom the grievance is filed. The amount shall be retained by the City until the grievance is withdrawn, settled, or otherwise resolved.

Any jurisdictional disputes on the project amongst the unions and/or the contractor shall be settled according to the plan established by the Building and Construction Trades Department. Its decisions shall be final, binding, and conclusive.

Drug-Free Workplace. Contractors agree to use the Substance Abuse Program contained in each applicable union's Master Agreement, except as it may conflict with the City's Drug-Free Workplace Policy. In the event of a conflict, the City's policy shall control.

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[1] Work can only be exempted with notice and agreement of Trades Council (see Section 2.3 of CWTA, as amended).

COMMUNITY WORKFORCE AND TRAINING AGREEMENT
CITY OF SACRAMENTO

INTRODUCTION/FINDINGS

The purpose of this Community Workforce and Training Agreement is to promote efficiency of construction operations in the construction of major projects set forth in the City of Sacramento's Capital Improvement Plan and other public works projects that are subject to this Agreement, thereby promoting the public interest in assuring the timely and cost-effective completion of such projects, and supporting the efforts of the City to increase employment opportunities for workers who are local area residents, and to provide construction career training and employment opportunities for the City's at-risk youth, military veterans, women and other disadvantaged residents through local apprenticeship and pre-apprentice programs.

A. The City adopts a five-year Capital Improvement Plan that identifies the public projects necessary to maintain and improve the physical properties of the City, including construction or repair of City buildings and facilities, such as streets, roads, storm drains, traffic signals, parks, and community centers.

B. The City undertakes and anticipates undertaking projects identified in the Capital Improvement Plan and other City public works projects that involve significant construction costs in excess of the threshold set forth in this Agreement.

C. The City Council has determined that the successful and cost-effective completion of these Capital Improvement Plan projects and other major City public works projects is of the utmost importance to the City and its taxpayers and the residents it serves.

D. The City has determined that applying a uniform workforce agreement to the Capital Improvement Plan and other public works construction projects that exceed the threshold set forth in this Agreement during the term of this Agreement will provide efficiencies for the City and its contractors.

E. Community workforce and training agreements and similar workforce agreements have been used successfully to achieve the goals and objectives set forth in this Agreement by other public agencies and private entities on major construction projects in the region, including on the Golden 1 Center project.

F. Large numbers of workers of various skills will be required in the performance of the construction work, including those workers represented by the Local Unions signatory to this Agreement and employed by contractors and subcontractors who are signatory to this Agreement.

G. The use of skilled labor on construction work increases the safety of construction operations and the quality of completed work.

H. Major projects subject to this Agreement will require multiple contractors and bargaining units to be on the job site at the same time over an extended period of time, increasing the potential for work disruption in the absence of an overriding commitment to maintain continuity of work.

I. The interests of the general public and taxpayers, the City, the Contractor(s) and the Unions would be best served if the construction work proceeded in an orderly manner without disruption and delay.

J. The Contractor(s) and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the construction projects subject to this Agreement in order to promote a satisfactory, continuous and harmonious relationship among the parties to this Agreement.

K. This Agreement is not intended to replace, interfere with, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Project, insofar as a legally binding agreement exists between the Contractor(s) and the affected Union(s), except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail.

L. The contracts for the construction of the Project will be awarded in accordance with the applicable provisions of the Sacramento City Code, the California State Public Contract Code and other applicable state, local and federal laws.

M. The City has the right and is legally obligated, subject to certain exceptions, to select the lowest responsive and responsible bidder for the award of construction contracts on the Project or to reject all bids.

N. The City places high priority upon the development of comprehensive programs for the recruitment, training and employment of local area residents and military veterans, and also recognizes the ability of local apprenticeship programs to provide meaningful and sustainable careers in the building and construction industry.

O. The parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory completion of the Capital Improvement Plan projects and other major City public works projects subject to this Agreement.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE I
DEFINITIONS

1.1 "Agreement" means this Community Workforce and Training Agreement.

1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Addendum A) required to be executed by any Contractor(s) working on the Project as a precondition to performing Covered Work on the Project.

1.3 "City" means the City of Sacramento.

1.4 "Completion" means the point at which there is Final Acceptance by the City, which occurs when the City determines that the entire project is complete in accordance with the City's Standard Specifications. The date of completion of the entire Project shall be specified in any Notice of Completion filed pursuant to Civil Code Section 3093.

1.5 "Construction Contract" means all public works contracts approved by the City for a Project, including design-bid, design-build, lease-leaseback or other contracts under which Covered Work is performed.

1.6 "Contractor "or "Contractor(s)" means any person, firm, corporation, or other entity, or any combination thereof, including joint ventures, and any successor or assigns of such persons or entities, that has entered into a contract with the City, or with any other person or entity contracting for work on the Project on behalf of the City (whether by design-bid, design-build, lease-leaseback or other means), with respect to the construction of any part of the Project under contract terms and conditions approved by the City, and any of its contractors or subcontractors of any tier.

1.7 "Master Agreement" or "Schedule A" means the Master Collective Bargaining Agreement of each craft union signatory hereto, copies of which shall be provided to the City.

1.8 "Project" means any City public works project where any bid solicitation for any Construction Contract related to the Project is issued on or after January 1, 2019,[1] where either the engineer's estimate of the total construction cost of the project or the actual cumulative bid amounts submitted by the contractor or contractors awarded the Construction Contracts for the Project exceeds One Million Dollars ($1,000,000). All Construction Contracts required to complete an integrated City construction project shall be considered in determining the threshold value of the Project.

1.9 "Project Manager" means the person or business entity designated by, or under

[1] This Agreement will apply to the following City Construction Contracts, regardless of the date of bidding: Sacramento Convention Center, Community Center Theater, Natomas Aquatic Center, McKinley Vault, Third Street Sewer, and Fire Station 14. This Agreement will not apply to any remaining Construction Contracts, even if bid after January 1, 2019, that are part of the City's Accelerated Water Meter Program approved by the City Council prior to the execution of this Agreement (commonly referred to as "Meters Matter").

contract with the City to oversee all phases of construction on the Project.

1.10 "Trades Council" means the Sacramento-Sierra Building and Construction Trades Council, AFL-CIO.

1.11 "Union" or "Unions" means the labor organizations that are signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement ("Local Unions"). The Trades Council and the Unions are collectively referred to herein as the "Unions."

ARTICLE II
SCOPE OF AGREEMENT

2.1 Parties. This Agreement applies and is limited to all Contractor(s), performing Construction Contracts on the Project, the City, the Trades Council and the Local Unions that are signatory to this Agreement.

2.2 Applicability. This Agreement governs all Construction Contracts awarded on the City Projects subject to this Agreement. For purposes of this Agreement, a Construction Contract is considered completed as described in Section 1.4, except when the City's authorized representative directs a Contractor to engage in repairs, warranty work, or modifications as required under the original Construction Contract with the City.

2.2.1 Covered Work. This Agreement covers, without limitation, all on-site site preparation, surveying, construction, alteration, demolition, installation, improvement, painting or repair of buildings, structures and other works, and related activities for the Project that is within the craft jurisdiction of one of the Unions and which is directly or indirectly part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, and modular furniture installation. On-site work includes work done solely for the Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification in which a prevailing wage determination has been published.

2.2.2 This Agreement applies to any start-up, calibration, commissioning, performance testing, repair, maintenance or operational revisions to systems and/or subsystems for the Project that are part of the original Construction Contract, including when performed after Completion, unless it is performed by City employees.

2.2.3 This Agreement covers all on-site fabrication work over which the City, Contractor(s) or their subcontractors possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site fabrication work necessary for the Project that is traditionally

performed by any of the Unions and that is covered by a Master Agreement or local addenda to a National Agreement of the applicable Union(s) in effect as of the execution date of this Agreement.

2.2.4 The furnishing of supplies, equipment or materials that are stockpiled for later use are not covered by this Agreement. However, construction trucking work, such as the delivery of ready-mix, asphalt, aggregate, sand, or other fill or material that is incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement to the fullest extent allowed by law. Contractor(s), including brokers, of persons providing construction trucking work shall provide certified payroll records to the City within ten (10) calendar days of written request or as required by the Construction Contract.

2.2.5 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the National Transient Lodge (NTL) Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and the National Agreement of Elevator Constructors, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Technicians, with the exception that Articles IV, XIV and XV of this Agreement shall apply to such work.

2.3 Exclusions from Covered Work

2.3.1 The Agreement is limited to construction work on a Project and is not intended to and shall not affect or govern the award of construction contracts by the City which are not a part of a Project.

2.3.2 The Agreement does not apply to a Contractor(s)' non-construction craft employees, including but not limited to executives, managerial employees, contract and/or construction managers, engineering employees and supervisors above the level of General Foreman (except those covered by existing Master Agreements), staff engineers or other professional engineers, administrative, management, office, professional, and clerical employees.

2.3.3 The Agreement does not apply to work by employees of the City.

2.3.4 The Agreement does not apply to off-site maintenance of leased equipment and on-site supervision of such work.

2.3.5 The Agreement does not apply to work performed by employees of an Original Equipment Manufacturer ("OEM") or vendor on the OEM's or vendor's equipment if required by the warranty agreement between the OEM or vendor and the City in order to maintain the warranty or guarantee on such equipment, and provided that the warranty agreement is the OEM's or vendor's usual and customary warranty agreement for such equipment.

2.3.6 The Agreement does not apply to specialized or technical work requiring specialized training, unique skills, and/or a level of specific technical experience that the Unions do not possess, including the use of specialty equipment and tools. Before any Contractor subcontracts any work subject to this exception, such Contractor shall give the

Trades Council at least three (3) days advance notice. Any specialized or technical work subject to this Section anticipated by the Project Manager or any Contractor shall be discussed at the Pre-Job Conference held pursuant to Article V. Any disputes regarding the application of this Section shall be resolved by the parties through the expedited arbitration process in Section 4.2 to determine whether any violation of this section has occurred.

2.3.7 The Agreement does not apply to laboratory work for specialty testing or inspections and all testing or inspections not covered by the Master Agreement of one of the signatory Unions.

2.3.8 The Agreement does not apply to any work performed on, near, or leading to the Project and undertaken by state, county, or other governmental bodies or their contractors, or public utilities or their contractors.

2.3.9 The Agreement does not apply to any work related to the creation or installation of any Art Work by an individual Artist as part of the City's Art in Public Places requirement. For purposes of this Agreement, "Art Work" is a unique, one-of-a-kind decorative element to be incorporated into the building or site, the design, illustration, and detailing of which can only be fully completed in the field and can only be performed by the individual Artist. An "Artist" is an individual that is engaged by the City or the Primary Employer to create and install Art Work. The Artist shall perform all final adjustments, finishing touches, and final painting of any Art Work.

2.3.10 The Agreement does not apply to work on any housing or residential component of a Project that is otherwise covered by this Agreement.

2.4 Award and Enforcement of Construction Contracts. Notwithstanding any other provision of this Agreement, the City has the absolute right to select any qualified bidder for the award of Construction Contracts and to enforce all provisions of its Construction Contracts. The bidder need only be willing, ready and able to execute the Addendum A Agreement to be Bound and comply with this Agreement. This Agreement shall be included in all invitations to bid or solicitations for proposals from contractors or subcontractors for work on the Project that are issued on and after the effective date of this Agreement.

ARTICLE III
EFFECT OF AGREEMENT

3.1 By executing the Agreement, the Unions and the City agree to be bound by the terms and conditions of the Agreement.

3.2 By accepting the award of a Construction Contract for the Project, whether as contractor or subcontractor, the Contractor(s) agrees to be bound by each and every provision of the Agreement, and agrees that it will evidence its acceptance prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.3 At the time that any Contractor(s) enters into a subcontract with any subcontractor providing for the performance of a Construction Contract, the Contractor(s) shall provide a copy of this Agreement to such subcontractor, and shall require their subcontractor,

as a condition to accepting an award of a construction subcontract, to agree in writing to be bound by each and every provision of this Agreement prior to the commencement of work by executing the Agreement to be Bound in the form attached hereto as Addendum A.

3.4 This Agreement is only binding on the signatories and their successors and assigns, and does not apply to the parents, affiliates, subsidiaries, or other ventures of any such party. Each Contractor and subcontractor is alone liable and responsible for its own individual acts and conduct and for any breach or alleged breach of this Agreement, except as otherwise provided by law or the applicable Schedule A. Any dispute between the Union(s) and the Contractor(s) respecting compliance with the terms of the Agreement, shall not affect the rights, liabilities, obligations and duties between the signatory Union(s) and other Contractor(s) party to this Agreement. Any liability by a signatory Union to this Agreement shall be several and not joint. Any alleged breach of this Agreement by a signatory Union does not affect the rights, liabilities, obligations and duties between the signatory Contractor(s) and the other Union(s) party to this Agreement.

3.5 The provisions of this Agreement, including the Master Agreements of the Local Unions having jurisdiction over the work on the Project, incorporated herein by reference, shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreements which may conflict with or differ from the terms of this Agreement. Where a subject covered by the provisions of this Agreement is also covered by a Master Agreement, the provisions of this Agreement shall prevail. Where a subject is covered by the provisions of a Master Agreement and is not covered by this Agreement, the provisions of the Master Agreement shall prevail.

ARTICLE IV
WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, City and Contractor(s) covered by the Agreement agree that for the duration of the Project:

4.1.1 There shall be no strikes, sympathy strikes, work stoppages, picketing, handbilling or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or employees employed on the Project, at the job site of the Project or at any other facility of the City because of a dispute on the Project. Disputes arising between the Unions and Contractor(s) on other City projects are not governed by the terms of the Agreement or this Article.

4.1.2 There shall be no lockout of any kind by a Contractor of workers employed on the Project.

4.1.3 If a Master Agreement expires before the Contractor completes the performance of work under the Construction Contract and the Union or Contractor gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike on work covered under this Agreement and the Union and the Contractor agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached.

4.1.4 In the case of nonpayment of wages or trust fund contributions on the Project, the Union shall give the City and the Contractor(s) three (3) business days' notice when nonpayment of trust fund contributions has occurred and one (1) business days' notice when nonpayment of wages has occurred or when paychecks being tendered to a financial institution normally recognized to honor such paychecks will not honor such paycheck as a result of insufficient funds, of the intent to withhold labor from the Contractor(s) or their subcontractor's workforce, during which time the Contractor shall have the opportunity to correct the default. In this instance, a Union's withholding of labor (but not picketing) from a Contractor who has failed to pay its fringe benefit contributions or failed to meet its weekly payroll shall not be considered a violation of this Article.

4.1.5 If the City contends that any Union has violated this Article, it will notify in writing (including email) the Senior Executive of the Trades Council and the Senior Executive of the Union, setting forth the facts alleged to violate the Article, prior to instituting the expedited arbitration procedure set forth below. The Senior Executive of the Trades Council will immediately use his/her best efforts to cause the cessation of any violation of this Article. The leadership of the Union will immediately inform the membership of their obligations under this Article. A Union complying with this obligation shall not be held responsible for unauthorized acts of employees it represents.

4.2 Expedited Arbitration. Any party to this Agreement shall institute the following procedure, prior to initiating any other action at law or equity, when a breach of this Article is alleged to have occurred:

4.2.1 A party invoking this procedure shall notify Barry Winograd, as the permanent arbitrator, or John Kagel, as the alternate arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators as set forth in Section 14.2. Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile, email or telephone to the City and the party alleged to be in violation, and to the Trades Council and involved Local Union if a Union is alleged to be in violation.

4.2.2 Upon receipt of said notice, the City will contact the designated arbitrator named above or his alternate who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

4.2.3 The arbitrator shall notify the parties by facsimile, email or telephone of the place and time for the hearing. The hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend such hearings shall not delay the hearing of evidence or the issuance of an award by the arbitrator.

4.2.4 The sole issue at the hearing shall be whether or not a violation of Article IV, Section 4.1 of the Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) calendar days, but its issuance shall not delay compliance with or enforcement of the award.

The arbitrator may order cessation of the violation of this Article and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

4.2.5 Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2.4 of this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

4.2.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure, or which interfere with compliance, are waived by the parties.

4.2.7 The fees and expenses of the arbitrator shall be divided equally between the party instituting the arbitration proceedings and the party alleged to be in breach of its obligation under this Article.

ARTICLE V
JOINT LABOR/MANAGEMENT MEETINGS AND PRE-JOB CONFERENCES

5.1 Joint Labor/Management Meetings. During the period of any work performed under this Agreement, joint Labor/Management meetings between the City, the Project Manager, the Contractor(s) and the Unions shall be held on a periodic basis to be determined by the parties. The purpose of these meetings is to promote harmonious labor/management relations, ensure adequate communications and advance the proficiency and efficiency of the craft workers and contractors performing work at the Project. These meetings will include a discussion of safety, craft resource requirements, scheduling and productivity of work performed at the Project.

5.2 Pre-Job Conferences. The Project Manager shall convene and conduct a Pre-Job Conference with representatives of all involved Contractor(s) and the Unions at least twenty-one (21) calendar days prior to the commencement of any Covered Work on the Project and prior to the commencement of any Covered Work on each subsequently awarded Construction Contract or phase of the Project. The conference shall be attended by a representative of each participating Contractor and each affected Union. The Trades Council and City may attend at their discretion. The Project Manager and the Contractor(s) shall be prepared to discuss in detail: (i) the scope of work for each Contractor; (ii) craft assignments; (iii) estimated number of craft workers required to perform the work; (iv) transportation arrangements; (v) estimated start and completion dates of the work; and (vi) planned use of pre-fabricated materials. The meeting shall be held at a location mutually agreeable to the parties.

ARTICLE VI
NO DISCRIMINATION

6.1 The Contractor(s) and Unions agree to comply with all anti-discrimination provisions of federal, state and local law, to protect employees and applicants for employment, on the Project.

ARTICLE VII
UNION SECURITY

7.1 The Contractor(s) recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of this Agreement.

7.2 All employees performing work covered by this Agreement shall, as a condition of employment on or before the eighth (8th) day of consecutive or cumulative employment on the Project, be responsible for the payment of the applicable periodic working dues and any associated fees uniformly required for union membership in the Local Union that is signatory to this Agreement for the duration of his or her employment on the Project. Nothing in this Agreement is intended to prevent any non-union employees from joining the Local Union.

7.3 Authorized representatives of the Unions shall have reasonable access to the Project whenever work covered by this Agreement is being, has been, or will be performed on the Project. All authorized representatives of the Union(s) must comply with the required check-in procedure prior to visiting the work area.

ARTICLE VIII
REFERRAL

8.1 Contractor(s) performing construction work on the Project described in the Agreement shall, in filling craft job requirements, utilize and be bound by the registration facilities and referral systems established or authorized by the Local Unions ("Job Referral System"). Such Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Contractor(s) shall have the right to reject any applicant referred by the Union(s) in accordance with this Article VIII.

8.2 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Union(s) consistent with Section 2.3.2 of this Agreement.

8.3 In the event that referral facilities maintained by the Union(s) are unable to fill the requisition of a Contractor(s) for employees within a forty-eight (48) hour period (Saturdays, Sundays and Holidays excluded) after such requisition is made by the Contractor(s), the Contractor(s) shall be free to obtain work persons from any source. A Contractor who hires any personnel to perform covered work on the Project pursuant to this Section shall immediately provide the appropriate Union with the name and address of such employee(s) and shall immediately refer such employee(s) to the appropriate Union to satisfy the requirements of Article VII of this Agreement.

ARTICLE IX
LOCAL HIRE, APPRENTICESHIP AND WORKFORCE DEVELOPMENT

9.1 Local Hire. It is in the interest of the parties to this Agreement to facilitate employment of City of Sacramento and Sacramento County residents and to develop increased numbers of local skilled construction workers to meet the requirements of the regional construction economy. The "Local Area" is defined as the City of Sacramento, Sacramento County, and the additional nine counties in section 9.1.3 below. It is the objective of the parties that not less than fifty percent (50%) of the combined journey-level and apprentice hours worked on the Project, on a craft by craft basis, be worked by residents of the Local Area. The Unions agree that residents of the Local Area shall be first referred for Project Work, including journey-level workers and apprentices covered by this Agreement, in the following order of priority:

9.1.1 Priority 1: Residents of the City of Sacramento.

9.1.2 Priority 2: Residents of Sacramento County outside of the City of Sacramento.

9.1.3 Priority 3: Residents of the Counties of Yolo, Placer, El Dorado, Amador, Sutter, Yuba, Nevada, Sierra and San Joaquin.

9.2 The Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons and apprentices to fulfill the requirements of the contractor and to meet the Local Area resident hiring objectives of this Agreement, and will provide, at the time of referral, information to the City and its representatives regarding the zip code where each skilled craft persons and apprentices referred for Project Work resides. The Local Area residents referred by the Unions must possess the requisite skills and qualifications required for the position to be filled and such referrals shall be in accordance with law and consistent with the Local Union's hiring hall rules and procedures.

9.3 The parties also recognize and support the City's commitment to provide opportunities for participation of City of Sacramento businesses on Projects covered by this Agreement. In furtherance of this commitment and the local hire objectives of this Agreement, the parties agree that such City of Sacramento contractors and subcontractors awarded work on the Project may request by name, and the Local Union will honor, referral of such Contractor's "core" employees who have applied to the Local Union for Project work, and who demonstrate the following qualifications:

(1) possess any license required by state or federal law for the Project work to be performed;

(2) have worked a total of at least two thousand (2,000) hours in the construction craft during the prior two (2) years;

(3) were on the Contractor's active payroll for at least ninety (90) out of the one hundred and twenty (120) calendar days prior to the contract award;

(4) have the ability to perform safely the basic functions of the applicable trade; and

(5) are City of Sacramento residents.

For purposes of this Section 9.3, a City of Sacramento contractor or subcontractor is any construction contractor that maintains its principal place of business in the City of Sacramento. A City of Sacramento resident is any individual who six (6) months prior to the award of the Construction Contract to the Contractor can certify through a utility bill or other similar means acceptable to the parties that the individual resides within the municipal boundaries of the City of Sacramento.

9.4 The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft, and will then refer one of such Contractor's "core" employees as a journeyman and shall repeat the process, one and one, until such Contractor's crew requirements are met or until such Contractor has hired four (4) "core" employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work, the ratio shall be maintained and when the Contractor's workforce is reduced, employees shall be reduced in the same ratio of core employees to hiring hall referrals as was applied in the initial hiring.

9.5 The work hours performed by any out-of-state residents shall not be included in the total work hours on the Project in calculating the percentage of total work hours worked by Local Area residents.

9.6 Apprenticeship and Workforce Development.

9.6.1 Recognizing the need to develop adequate numbers of competent workers in the construction industry, the Contractor(s) shall employ apprentices of a California State- approved Joint Apprenticeship Training Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The apprentice ratios will comply with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination. Consistent with the Master Agreements and state law, there shall be no restriction on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

9.6.2 It is an objective of the parties that not less than twenty percent (20%) of all apprentice hours worked on the Project, on a craft by craft basis, shall be worked by "Priority Apprentices." Priority Apprentices shall reside in one of the economically disadvantaged zip codes listed in section 9.6.2.1 and meet one additional Priority Apprentice criteria in section 9.6.2.2 below. Contractors shall reach this goal through utilization of the normal hiring hall procedures. The Unions are committed to working with the Contractors to achieve these goals. All apprentices referred to Contractors under this Agreement shall be enrolled in State of California approved Joint Apprentice Training Programs.

9.6.2.1 To qualify as a Priority Apprentice, an apprentice must reside in one of the following economically disadvantaged zip codes: 95652, 95660, 95811, 95814, 95815, 95817, 95820, 95823, 95824, 95832, 95838.

9.6.2.2 In addition to residing in one of the economically disadvantaged zip codes, to qualify as a Priority Apprentice, an apprentice must satisfy one of the eligibility criteria maintained and enforced by the Sacramento Employment and Training Agency ("SETA"), including criteria for: veterans; prior offenders; public assistance recipients; foster youth; homeless; unemployed individuals; women interested in joining the trades; and/or other criteria as may be agreed to by the City and the Trades Council. Determination of an individual's satisfaction of the Priority Apprentice criteria shall be made in a manner consistent with historic eligibility determination policies and practices. The individual must also meet eligibility criteria and application requirements for applicable Union apprenticeship programs.

9.6.2.3 In the event that an insufficient number of apprentices have been identified to meet the Priority Apprentice work hour objectives of this Agreement from the economically disadvantaged zip code specified in Section 9.6.2.1 after a good faith effort to identify eligible residents, the Priority Apprentice goals may be satisfied by identifying apprentices that satisfy one of the SETA criteria described in Section 9.6.2.2 and who also are residents of the Local Area in the order of priority set forth in Section 9.1.

9.6.3 The Trades Council and Unions will determine the admission and training of Priority Apprentices placed into applicable apprenticeship programs. Upon request from a Contractor, the Unions shall timely dispatch available apprentices who satisfy specified Priority Apprentice criteria, the requirements of a specific job and such other applicable bona fide qualifications.

9.7 The Contractor and Unions shall make good faith efforts to reach the local hire, and Priority Apprentice goals set forth in Section 9 through the utilization of normal hiring hall and apprentice procedures and, when appropriate, the identification of potentially qualified apprentices through community-based organizations working in collaboration with the apprenticeship programs. The Unions are committed to working with the Contractor(s) and community-based organizations to achieve these goals. At least annually, the Unions and the City will conduct a Community Career Fair to provide at-risk youth, veterans, and others an opportunity to learn about each craft and the process for entering their apprenticeship programs.

9.7.1 To assess compliance with the local hire and Priority Apprentice goals of the CWTA, Contractor shall provide monthly workforce reports at the regular Joint Labor/Management meetings required by the CWTA. The workforce reports shall include information regarding the number of: (i) journey-level workers that are Local Area Residents; (ii) Apprentices that are Local Area Residents and satisfy the other Priority Apprentice criteria, including a breakdown of apprentices that reside within the targeted zip codes. The Contractor(s) and the Unions agree to furnish all information required to prepare these reports.

9.7.2 In the event that the workforce reports indicate that the local hire and apprenticeship goals of the CWTA are not being met, the Project Manager or his or her designee shall explore with the Contractors and subcontractors and the Unions additional actions and measures that may be taken to ensure compliance with such goals.

9.7.3 The Contractor(s) will describe the requirements, performance and enforcement mechanisms of this CWTA including this Apprenticeship Program in each subcontract. Any Contractor or subcontractor who fails to employ without just cause Apprentice(s) dispatched by an Apprenticeship Program thereby jeopardizing its opportunity to achieve the apprenticeship goals described above shall, upon receipt of written notice from the Project Manager or his or her designee, be given thirty (30) days to promptly employ such number of dispatched Apprentices as may be required to meet the stated apprentice goals available under that certain Subcontractor's subcontract. In the event of a second written notice of failure to employ without just cause dispatched Apprentices from the Unions to a Contractor or subcontractor, the Project Manager or his or her designee shall take such actions as it deems appropriate to the circumstances and necessary to achieve the purposes of the CWTA, bid documents, and the subcontractor's subcontract.

9.8 Student Internship Opportunities. All Contractors awarded Construction Contracts to perform Covered Work on the Project shall make a good faith effort to provide paid internship opportunities to eligible students. Such opportunities may include engineering, design, and/or construction management work associated with the implementation and administration of the Project.

9.9 Good Faith Efforts. A Contractor must take the following good faith steps to demonstrate that it has made every effort to reach the Local Hire, Priority Apprentice, and Student Internship goals of this Agreement. The Contractor shall attend scheduled Pre-Job meetings held under this Agreement and shall submit written workforce projections and projected work hours on a craft-by-craft basis.

9.9.1 Within seven (7) calendar days after Notice to Proceed, the Contractor shall meet with the Unions and the City to present its plan for reaching the Local Hire, Priority Apprentice and Student Internship goals.

9.9.2 The Contractor or subcontractor shall notify the Project Manager by U.S. Mail or electronic mail if a Union hiring hall cannot, upon request by the Contractor or subcontractor, dispatch Local Area residents and/or Priority Apprentices to the Project. It shall be the responsibility of the Contractor to retain all evidence of such good faith efforts.

9.10 Enforcement, Compliance and Reporting.

9.10.1 Contractors will be required to submit Certified Weekly Payrolls to the City along with monthly workforce utilization reports, described in section 9.7.1 above, documenting the Contractor's compliance with the requirements described in this Article. At a minimum, the monthly reports must include: 1) data on Local Area residents, Priority Apprentice, and Student Internship work hour utilization on the Project; and 2) documentation showing any requests made to the Union dispatchers for Local Area residents and Priority Apprentices and the Union's response to the request.

9.10.2 The City staff shall monitor the operation of the Local Hire, Priority Apprentice and Student Internship programs and shall consider allegations of non-compliance with the goals stated in this Article. If there is a determination by the City that a Contractor has not complied with the goals or demonstrated good faith efforts to do so, the City and the Contractor shall meet and confer in order to identify necessary actions to resolve the issue and ensure a good faith effort to achieve the objectives of this Article.

ARTICLE X
HELMETS TO HARDHATS

10.1 The Contractor(s) and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractor(s) and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center), a joint Labor- Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section 186(c)(9), and a charitable tax exempt organization under Section 501(c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

10.2 The Unions and Contractor(s) agree to coordinate with the Center to participate in an integrated database of veterans and members of the National Guard and Reserves interested in working on the Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

ARTICLE XI
WAGES AND BENEFITS

11.1 All Contractor(s) agree to pay contributions to the established vacation, pension and other form of deferred compensation plan, apprenticeship, worker protection and assistance, and health benefit funds established by the applicable Master Agreement for each hour worked on the Project in the amounts designated in the Master Agreements of the appropriate Local Unions.

11.2 By signing this Agreement, the Contractor(s) adopts and agrees to be bound by the written terms of the legally established Trust Agreements, as described in Section 11.1, which may from time to time be amended, specifying the detailed basis on which payments are to be made into, and benefits paid out of, such Trust Funds. The Contractor(s) authorize the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratify and accept the trustees so appointed as if made by the Contractor(s). The Contractor(s) agrees to execute a separate Subscription Agreement(s) for a Trust Fund(s) when required by such Trust Fund(s).

11.3 Wages, Hours, Terms and Conditions of Employment. The wages, hours and other terms and conditions of employment on the Project shall be governed by the Master Agreement of the respective crafts to the extent such Master Agreement is not inconsistent with this Agreement. All employees covered by this Agreement shall be classified and paid in accordance with the classification and wage scales contained in the appropriate local agreements which have been negotiated by the historically recognized bargaining entity and in compliance with the applicable general prevailing wage determination made by the Director of Industrial Relations pursuant to the California Labor Code.

11.4 During the period of construction on this Project, the Contractor(s) agrees to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Unions and the historically recognized local bargaining entity on the effective date as set forth in the applicable agreement. The Unions shall notify the Contractor(s) in writing of the specific increases in wages and recognized fringe benefits and the date on which they become effective.

11.5 Holidays. Holidays shall be in compliance with the applicable Schedule A agreement.

ARTICLE XII
COMPLIANCE

12.1 It shall be the responsibility of the Contractor(s) and Unions to investigate and monitor compliance with the provisions of the Agreement contained in Article XI. Nothing in this Agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Employers on the Project. The City shall monitor and enforce the Contractor(s)' compliance with this Agreement and with the prevailing wage requirements of the State to the extent required by law.

ARTICLE XIII
EMPLOYEE GRIEVANCE PROCEDURE

13.1 All disputes involving discipline and/or discharge of employees working on the Project shall be resolved through the grievance and arbitration provision contained in the Master Agreement for the craft of the affected employee. No employee working on the Project shall be disciplined or dismissed without just cause.

ARTICLE XIV
GENERAL GRIEVANCE PROCEDURE

14.1 Project Labor Disputes. All disputes involving the application or interpretation of the Master Agreement to which a signatory Contractor and a signatory Union are parties shall be resolved pursuant to the resolution procedures of that Master Agreement. All disputes relating to the interpretation or application of this Agreement, excluding work stoppages, strikes, sympathy strikes, and lockouts subject to Article IV, shall be subject to resolution by the grievance arbitration procedures set forth in this Article XIV.

14.2 No grievance shall be recognized unless the grieving party (Local Union or District Council on its own behalf, or on behalf of an employee whom it represents, or a Contractor on its own behalf) provides notice in writing to the party with whom it has a dispute within five (5) business days after becoming aware of the dispute but in no event more than thirty (30) business days after it reasonably should have become aware of the event giving rise to the dispute. Time limits may be extended by mutual written agreement of the parties.

Step 1: Within five (5) business days after the receipt of the written notice of the grievance, the Business Representative of the involved Local Union or District Council, or his/her designee, or the representative of the employee, and the representative of the involved Contractor shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within the five (5) business days of the Step 1 meeting, within five (5) business days thereafter, the alleged grievance may be referred in writing by either involved party to the Business Manager(s) of the affected Union(s) involved and the Manager of Labor Relations of the Contractor(s) or the Manager's designated representative, for discussion and resolution. Regardless of which party has initiated the grievance proceeding, prior to a Step 2 meeting, the Union(s) shall notify its International Union representative(s), which shall advise both parties if it intends on participating in a Step 2 meeting. The Project Manager and the Trades Council shall have the right to participate in any efforts to resolve the dispute at Step 2.

Step 3: If the grievance is not settled in Step 2 within five (5) business days, within five (5) business days thereafter, either party may request the dispute be submitted to an Arbitrator for final and binding arbitration. The request for arbitration must be in writing with a copy to Project Manager. Should the parties be unable to mutually agree on the selection of an Arbitrator, selection for that given arbitration shall be made by seeking a list of seven (7) labor arbitrators with construction experience from the Federal Mediation and Conciliation Service and alternately striking names from the list of names on the list until the parties agree on an Arbitrator or until one name remains. The first party to strike a name from the list shall alternate between the party bringing forth the grievance and the party defending the grievance. The Project Manager shall keep a record of the sequence and shall notify the parties to the grievance as to which party has the right to strike a name first. The decision of the Arbitrator shall be final and binding on all parties. The Arbitrator shall have no authority to change, amend, add to or detract from any of the provisions of the Agreement. The expense of the Arbitrator shall be borne equally by both parties. The Arbitrator shall arrange for a hearing on the earliest available date from the date of his/her selection. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the presiding arbitrator.

The time limits specified in any step of the Grievance Procedure set forth in Section 14.2 may be extended by mutual agreement of the parties. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without an agreed upon extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

In order to encourage the resolution of disputes and grievances at Steps 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

14.3 Retention. At the time a grievance is submitted under this Agreement or any Master Agreement, the Union(s) may request that the City withhold and retain an amount from what is due and owing to the Contractor(s) against whom the grievance is filed sufficient to cover the damages alleged in the grievance should the Union(s) prevail. The amount shall be retained by the City until such time as the underlying grievance giving rise to the retention is withdrawn, settled, or otherwise resolved, and the retained amount shall be paid to whomever the parties to the grievance shall decide, or to whomever an Arbitrator shall so order.

ARTICLE XV
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

15.1 The assignment of Covered Work will be solely the responsibility of the Contractor(s) performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of the Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

15.2 All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Contractor(s) subject to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Employers and Contractor(s) subject to this Agreement.

15.3 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

15.4 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature and the Contractor(s)' assignment shall be adhered to until the dispute is resolved. Individual employees violating this section shall be subject to immediate discharge. Each Contractor will conduct a pre-job conference with the Unions in accordance with Section 5.2 of this Agreement.

ARTICLE XVI
MANAGEMENT RIGHTS

16.1 The City and Contractor(s) shall retain full and exclusive authority for the management of their operations, including the right to direct their workforce in their sole discretion. Except as provided by Section 2.2.3 and by the lawful manning provisions in the

applicable Master Agreement, no rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of employees.

ARTICLE XVII
DRUG & ALCOHOL TESTING

17.1 The use, sale, transfer, purchase and/or possession of a controlled substance, alcohol and/or firearms at any time during the work day is prohibited.

17.2 The parties agree to recognize and use the Substance Abuse Program contained in each applicable Local Union's Master Agreement, except as it may conflict with the City's Drug-Free Workplace Policy. In the event of a conflict, the City's policy shall prevail.

ARTICLE XVIII
SAVINGS CLAUSE

18.1 The parties agree that in the event any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or word which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or word in question.

18.2 If a court of competent jurisdiction determines that all or part of the Agreement is invalid and/or enjoins the City from complying with all or part of its provisions and the City accordingly determines that the Agreement will not be required as part of an award to a Contractor(s), the Unions will no longer be bound by the provisions of Article IV.

18.3 The parties agree that should any Project subject to this Agreement receive a non-de minimis allocation of federal funds for construction of the Project, and such federal funding allocation, whether or not allocated through the state, includes a condition to receipt of the federal funds that prohibits the City from applying any local hiring preference in any contracts for construction of the Project, or that prohibits application of any other provision or provisions of this Agreement, the local resident hiring provisions contained in Article IX , or any other provision or provisions of this Agreement prohibited by such condition to receipt of federal funds for Project construction, shall not be applied to the Project, but all other terms and conditions of this Agreement shall remain in full force and effect.

ARTICLE XIX
AMENDMENT/COUNTERPARTS/AUTHORITY

19.1 Any substantive modification of any provision or addendum to this Agreement must be reduced to writing and signed by the City, Trades Council and Unions to be effective.

19.2 This Agreement may be executed in counterparts, such that original signatures may appear on separate pages, and when bound together all necessary signatures shall constitute an original. Facsimile or scanned signature pages transmitted to other parties to this Agreement shall be deemed equivalent to original signatures.

19.3 Each of the persons signing this Agreement represents and warrants that such person has been duly authorized to sign this Agreement on behalf of the party indicated and each of the parties by signing this Agreement warrants and represents that such party is legally authorized and entitled to enter into this Agreement.

ARTICLE XX
TERM

20.1 This Agreement shall remain in full force and effect for a period of five (5) years from the date it becomes effective. Every six to twelve months, the City and the Trades Council agree to meet and confer regarding the experience with Projects covered by the Agreement, and to determine whether any changes in the administration or implementation of the Agreement would be beneficial or would improve operation of the Agreement. Prior to the expiration of this Agreement, the parties may agree to extend the term of this Agreement or enter into a new agreement incorporating any substantive changes based on the status of and experience with Projects covered by the Agreement.

CITY OF SACRAMENTO

Francesca Lee Halbakken — Date: Nov. 9, 2018

Assistant City Manager Francesca Lee Halbakken for
City Manager Howard Chan

Title:

Approved as to form:

Jennifer V. Gose — Date: Nov. 9, 2018

City Attorney

Attested to by:

[signature] — Date: 11/5/2018

City Clerk

SACRAMENTO BUILDING AND CONSTRUCTION TRADES COUNCIL, AFL-CIO COUNCIL

_____ Date: 11/09/2018

Name:

Executive Director

Title:

UNIONS

Asbestos Workers Local #16

Iron Workers Local #118

Bricklayers Local #3

Laborers Local #185

Boilermakers Local #549

Operating Engineers Local #3

Cement Masons Local #400

Plasterers & Cement Masons Local #300

Northern California Carpenters Regional Council on behalf of itself and its affiliated Local Unions

UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

District Council #16 International Union of Painters & Allied Trades

Plumbers & Pipefitters Local #447

Elevator Constructors Local #8

Roofers Local #81

International Brotherhood of Electricians Local #340

Sheet Metal Workers Local #104

Sprinkler Fitters Local #669

Teamsters Local #150

Asbestos, Lead and Mold Laborers Local #67

Addendum A

COMMUNITY WORKFORCE AND TRAINING AGREEMENT
CITY OF SACRAMENTO

AGREEMENT TO BE BOUND

The undersigned, as a Contractor or Subcontractor, including construction material trucking company/entity, (CONTRACTOR) on the City of Sacramento Project, (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in this Community Workforce and Training Agreement (hereinafter AGREEMENT), a copy of which was received and is acknowledged, hereby:

(1) Accepts and agrees to be bound by the terms and conditions of the AGREEMENT for this Project, together with any and all amendments and supplements now existing or which are later made thereto.

(2) The CONTRACTOR agrees to be bound by the legally established local trust agreements designated in the applicable Master Agreement as described in Article XI of this AGREEMENT.

(3) The CONTRACTOR authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the CONTRACTOR.

(4) Certifies that it has no commitments or agreements which would preclude its full and complete compliance with the terms and conditions of said AGREEMENT.

(5) Agrees to secure from any CONTRACTOR(S) (as defined in said AGREEMENT) which is or becomes a subcontractor (of any tier) to it, a duly executed Agreement to be Bound in form identical to this document.

(6) This Agreement to be Bound constitutes a subscription agreement to the extent of its terms. However, the undersigned agrees to execute a separate Subscription Agreement(s) or contributing employer agreement for Trust Funds when such Trust Fund(s) requires such document(s).

Date:_____

_____
Name of Contractor

_____
(Name of Contractor Representative)

_____
(Authorized Officer & Title)

_____
CSLB # or Motor Carrier Permit