

Final (#4) Preliminary Environmental Assessment of Proposed Katherine Johnson Middle School 2641 Kent Drive Sacramento, California

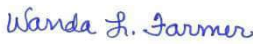
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Quality Information

Prepared by	Checked by	Verified by	Approved by
			
Wanda L. Farmer Project Manager Wanda.l.farmer@aecom.com 843 209 1534	Ed Tarter, PE Program Manager Edmund.Tarter@aecom.com 916 361 6429	Agatha Kim PE Senior Project Manager Agatha.kim@aecom.com 415 562 7117	Matthew Gerken Project Manager Matthew.gerken@aecom.com 916 205 4385

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01	01	Michael Barber & Nic Arps/San Juan Unified School District
		Martha Estrada, Ilona McLaren, & Dan Porter/Kitchell
		Lisa Holcomb & Jose Salcedo/DTSC

Prepared for:
San Juan Unified School District

Prepared by:
Wanda L. Farmer, Project Manager
T: 843 209 1534
E: wanda.l.farmer@aecom.com

AECOM Technical Services, Inc.
2020 L Street, Suite 300
Sacramento, CA 95811
aecom.com

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EXECUTIVE SUMMARY

AECOM Technical Services, Inc. (AECOM) conducted a Preliminary Environmental Assessment (PEA) of the Proposed Katherine Johnson Middle School located at 2641 Kent Drive in Sacramento, California (Subject Property) located north of El Camino Avenue and east of Fulton Avenue in the City of Sacramento, California (Figure 1). The PEA was conducted for the San Juan Unified School District (SJUSD). The California Department of Toxic Substances Control (DTSC) provided regulatory oversight for the PEA.

The subject property consists of one parcel of land that is designated as Assessor Parcel Number (APN) 268-029-000-10000, approximately 9.75-acres. The subject property was an active adult center (Creekside Adult Center) built in 1953 as an elementary school. The school consisted of gymnasium/multi-purpose room with stage, front office, library/media center, kitchen, classrooms, restrooms, utility rooms, server room, electrical rooms, breezeways, grass field, large, fenced vegetable garden, baseball field, basketball courts, four mobile trailers, and asphalt parking lots (Figure 2).

Historical documents indicate that the subject property has been developed since at least 1954 through present day as an elementary school, head-start program/pre-school, and adult learning center. The school added basketball courts, what appears to be tennis courts, baseball field, and parking lots between the 1950s until the 1970s. Prior to the 1950s the subject property was cleared fields that appear to be agricultural.

The PEA field investigation was performed from March to July 2023, by Atlas Technical Consultants (Atlas) and TEG-Northern California (TEG), a licensed C-57 drilling contractor under contract with SJUSD. Soil samples were collected from 81 locations and submitted to environmental laboratories for analysis of various chemicals of concern (COCs), such as metals like arsenic and lead, volatile organic compounds (VOCs), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs). Active soil-vapor samples were also collected at 5 ft below ground surface (ft bgs) and 10 ft bgs from dual-nested soil vapor points at two locations (SV-1 to SV-2) and submitted to an environmental laboratory for analysis of VOCs. Elevated concentrations of COCs were detected in five soil and both soil vapor samples. After discussions with the SJUSD and DTSC, follow-up soil vapor sampling was performed on April 7, 2023. The follow-up sampling included three additional soil vapor locations (SV-3 through SV-5) with samples collected from 5 ft bgs ("s") and 10 ft bgs ("d") dual-nested soil vapor points at each location. On April 28 and May 1, 2023, ten additional boring locations (SV-6 through SV-15) were drilled and dual-nested soil vapor points at 5 ("s") and 10 ft bgs ("d") were installed within proposed building footprint.

The Department of Toxic Substances Control (DTSC) sent a letter dated June 22, 2023 that requested additional soil samples around the former building foundation for organochlorine pesticides (OCPs) at six inches, two to three feet, and four feet below ground surface (bgs.). A second round of soil sampling was conducted at sixteen additional locations in July, 2023.

The limited investigative sampling information, sampling, implementation, and data was conducted by a third party (Atlas) and have been furnished to AECOM by SJUSD to prepare this report. AECOM has relied on this information as furnished and is neither responsible for nor has confirmed the accuracy of this information.

A human health screening level evaluation was conducted using the laboratory analytical results. The maximum detected concentrations in on-site soil were compared to residential soil screening levels established by DTSC, the San Francisco Bay Regional Water Quality Control Board (SFRWQCB), and the United States Environmental Protection Agency (USEPA). The maximum detected concentrations in soil-gas were multiplied by an assumed indoor-air attenuation factor of 0.03 and then compared to residential air screening levels.

The PEA findings are summarized as follows:

- Arsenic was detected in all discrete soil samples that were analyzed (Table 1). The maximum detected arsenic concentration in discrete soil samples was 5.0 milligrams per kilogram (mg/kg), which is less than background levels (Section 7.4.4). Elevated arsenic concentrations were limited to the native soil on cleared grassy fields to the north and west of the school structures. (Figure 2). A background data set was compiled from Arden Middle School and Katherine Johnson Middle School data sets to establish a general background arsenic concentration from the 95% Upper Tolerance Limit (UTL) to establish the Upper Threshold Value (UTV) of 6.2 mg/kg. Concentrations of all samples were less than the UTV of 6.2 mg/kg.
- Lead was detected in all discrete soil samples that were analyzed (Table 1). The maximum detected lead concentration was 27 mg/kg, (Section 7.4.4). All lead detections were at concentrations less than the DTSC HERO residential screening level (SL) of 80 mg/kg.
- A PCB compound identified as PCB-1260 was detected at concentrations of 0.0027 J¹ mg/kg at KJMS-3, 0.0023 J mg/kg at KJMS-6, and 0.0086 J mg/kg at KJMS-11. These surface soil samples were collected near the southernmost classrooms and office buildings. The detected concentrations are less than the residential screening level of 0.24 mg/kg. No other PCBs were detected in any other soil samples.
- Several OCPs were detected in one soil sample (KJMS-OP4) and its duplicate (Table 2). The following OCPs were detected: 4,4-DDD at a concentration of 0.00035 J mg/kg, 4,4,-DDE at a concentration of 0.0052 mg/kg, and 4,4-DDT at a concentration of 0.0082 mg/kg. All concentrations are less than their respective DTSC HERO residential SLs of 1.9 mg/kg, 2.0 mg/kg, and 1.9 mg/kg.
- Three additional OCPs sampling locations identified Aldrin exceeded the HHRA Note 3 SLs and RSLs of 0.039 mg/kg in four samples (KJMS-31-0.5 feet (ft.), KJMS-32-.05 ft. and 2.5 ft., and KJMS-35-2 ft.) at concentrations of 0.64 to 0.47 mg/kg. Chlordane (Technical) exceeded HHRA Note 3 SLs and RSLs of 1.7 mg/kg in one sample KJMS-

¹ The J Laboratory flag. Result is less than the RL but greater than or equal to the MDL and the concentration is an estimated value

31-0.5 ft. at a concentration of 6.6 J mg/kg. Dieldrin exceeded the HHRA Note 3 SLs and RSLs of 0.034 mg/kg in three samples (KJMS-31-0.5 ft, KJMS-32-0.5 ft and 2.5 ft.) at concentrations from 0.043-0.17 mg/kg.

- VOCs were detected in the active soil-gas samples (Table 5). Chemicals with detection(s) that exceeded residential indoor air screening levels (following application of an attenuation factor of 0.03) were benzene, chloroform, tetrachloroethylene (PCE), trichloroethylene (TCE), and total petroleum hydrocarbons in the C5-C12 range (TPH C5-C12).
- Two surface soil samples were collected at 0.5 ft bgs near the shed. Neither soil sample had detections of VOCs.
- A human health screening evaluation was performed in accordance with PEA guidance. For COCs detected in soil, the cumulative calculated excess cancer risk was $2\text{E-}05$ which is greater than the insignificant risk value of $1\text{E-}06$, but is within the risk management range of $1\text{E-}06$ to $1\text{E-}04$. The calculated hazard index is 0.5, which is within the point of departure value of 1. For COCs detected in soil vapor, applying an attenuation factor of 0.03, the total cumulative calculated excess cancer risk associated with the maximum concentration of each COC was $5\text{E-}05$ which is greater than $1\text{E-}06$ but falls within the risk management range. The hazard index was 3, which is greater than the point of departure value of 1.

AECOM conducted an evaluation of potential health risk from vapor intrusion for each proposed building location based on the current soil gas analytical data collected in July 2023.

- Site-wide hypothetical cancer risk is $5\text{x}10^{-5}$ which falls within the risk management range of $1\text{x}10^{-6}$ to $1\text{x}10^{-4}$. Typically, cancer risk exceeding $1\text{x}10^{-4}$ supports some sort of action.
- Site-wide hypothetical noncancer health hazard is 3 which slightly exceeds the safe level of 1. This result should be weighed with the highly conservative attenuation factor and the use of residential exposure assumptions.
- No vapor intrusion risk was calculated for the planned parking lot area as there are no buildings.
- Proposed Building A hypothetical cancer risk is $4\text{x}10^{-6}$, which slightly exceeds the insignificant risk level of $1\text{x}10^{-6}$ and falls within the risk management range.
- Proposed Building A hypothetical noncancer health hazard is 0.2, which is acceptable.
- Proposed Building B hypothetical cancer risk is $4\text{x}10^{-5}$, which falls within the risk management range.
- Proposed Building B hypothetical noncancer health hazard is 2, which slightly exceeds the safe level of 1.
- Proposed Building C hypothetical cancer risk is $8\text{x}10^{-6}$, which is within the risk management range.
- Proposed Building C hypothetical noncancer health hazard is 0.4, which is acceptable.

- Proposed Building D hypothetical cancer risk is 3×10^{-6} , which slightly exceeds the insignificant risk level of 1×10^{-6} and falls within the risk management range.
- Proposed Building D hypothetical noncancer health hazard is 0.3, which is acceptable.
- Proposed Building M hypothetical cancer risk is 1×10^{-5} , which falls within the risk management range.
- Proposed Building M hypothetical noncancer health hazard is 1, which is acceptable.

Risk drivers were benzene and chlorinated solvents (TCE & PCE).

Based on these findings, AECOM recommends installation of a soil vapor barrier beneath the foundations of the proposed school buildings to mitigate potential vapor encroachment concerns. Post-implementation seasonal indoor air sampling is recommended to ensure vapor intrusion does not continue to impact indoor air. Also continued operation and maintenance (O&M) of the vapor barrier will need to be implemented with annual inspections. Any possible breaks in the vapor barrier will need to be repaired and maintained on a regular basis.

AECOM also recommends digging out soil in three locations (KJMS-31, KJMS-32, and KJMS-35) in a 2-foot x 2-foot square and to a depth of three feet below ground surface, segregate the soil, store on a polyurethane sheeting, cover with polyurethane sheeting, manifest, and dispose off site at a licensed landfill. Excavation operations will follow the DTSC Updated Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based paint, Termiticides, and Electrical Transformers dated June 2006.

Confirmation soil samples will be collected at the bottom edge of all four side walls and floor of excavation and analyzed for OCPs by EPA Method 8081A. Upon review of analytical data and confirmation of clean soil limits, the excavations will be filled with clean fill material.

The soil quantity is approximated to be less than one truck load and can be removed as investigation derived waste in accordance with the DTSC Updated Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based paint, Termiticides, and Electrical Transformers (DTSC 2006).

1 INTRODUCTION

This report presents the methods and results of a Preliminary Environmental Assessment (PEA) of the Proposed Katherine Johnson Middle School at 2641 Kent Drive in Sacramento, California (Figure 1). The PEA was conducted by AECOM Technical Services, Inc. (AECOM) for the San Juan Unified School District (SJUSD). The SJUSD entered an Environmental Oversight Agreement (EOA) with the California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) signed on September 8, 2022. In accordance with the EOA, DTSC provided regulatory oversight for the PEA, which was conducted to fulfill the requirements of California Education Code section 17213.1.

SJUSD is building a new school campus on the Subject Property. The school will contain up to approximately 28 classrooms and 650 students at full capacity with a completion date of August 2024. Water and sewer services for the school will be provided by Sacramento Suburban Water District and the Sacramento County sanitary sewer system.

This report was prepared in accordance with DTSC guidelines, as detailed in the PEA Guidance Manual [DTSC, 2015] and supplemental written guidelines for conducting PEAs of planned K-12 school Subject Properties. Project-specific direction was provided by the DTSC project manager, Ms. Lisa Holcomb, in the Sacramento office. The PEA was conducted in accordance with the PEA Workplan for the Subject Property [AECOM, 2023].

The limited investigative sampling information, sampling, implementation, and data was conducted by a third party (Atlas) and have been furnished to AECOM by SJUSD to prepare this report. AECOM has relied on this information as furnished and is neither responsible for nor has confirmed the accuracy of this information.

This report is organized as follows:

- The Executive Summary briefly presents the PEA methods and results.
- Section 1.0 presents an introduction to the project.
- Section 2.0 presents the objective and scope of the project.
- Section 3.0 presents the Subject Property location and description.
- Section 4.0 presents background information regarding the Subject Property.
- Section 5.0 presents the environmental setting of the Subject Property.
- Section 6.0 presents the potential problem addressed by this PEA.
- Section 7.0 presents the sampling activities and results.
- Section 8.0 presents the human health screening evaluation.
- Section 9.0 presents the ecological screening evaluation.
- Section 10.0 presents public participation information.
- Section 11.0 presents project quality assurance/quality control (QA/QC) information.
- Section 12.0 describes health and safety plan implementation.
- Section 13.0 describes variances from the approved PEA Workplan.
- Section 14.0 presents conclusions and recommendations.
- Section 15.0 presents limitations of this report.
- Section 16.0 presents relevant references.

- Tables, figures, and appendices are presented after Section 15.0.

2 OBJECTIVE AND SCOPE

The objective of the PEA was to evaluate whether current or past hazardous material management practices at the Subject Property have resulted in a release or releases of hazardous materials that pose a threat to public health or the environment. To meet this objective, the PEA included the following scope of work:

- Evaluating available information for indications of the past use, storage, disposal, or release of hazardous wastes/substances at the Subject Property.
- Preparing the PEA Workplan that summarized existing Subject Property data and presented a proposed field sampling plan, quality assurance plan, and health and safety plan.
- Evaluating through a field sampling and analysis program the nature and general extent of hazardous materials present in environmental media at the Subject Property.
- Estimating the potential threat to public health posed by hazardous materials at the Subject Property using a residential land-use scenario.
- Performing an ecological screening evaluation to assess the potential risk to ecological receptors posed by hazardous materials at the Subject Property.
- Preparing this report summarizing the rationale, methods, and findings of the investigation.

3 SUBJECT PROPERTY LOCATION AND DESCRIPTION

The subject property is located at 2641 Kent Drive, north of El Camino Avenue and west of Fulton Avenue in the City of Sacramento, California (Figure 1). The approximately 9.75-acre Subject Property consists of the entirety of the parcel, Assessor Parcel Number: 268-029-000-10000. The assessor's maps are provided in Appendix A. The parcel is owned by the San Juan Unified School District.

The Subject Property was developed with six buildings, four mobile trailer classrooms, one restroom building, and a storage shed. The school consisted of a main office, multi-purpose gymnasium/cafeteria/stage, kitchen, hallways, classrooms, utility closets, server room, storage rooms, custodian office/mechanical room, two storage sheds, covered walkways, grass fields, basketball courts, large vegetable garden, and asphalt-paved parking lots. (Figure 2).

Land use adjacent to the Subject Property consists of residential development to the north, west, south, and east. The Town and Country Pre-school and Daycare is adjacent to the subject property on the southwest corner. Commercial development is located further east and south of the subject property along Fulton Avenue and El Camino Avenue. The Chicken Ranch Slough runs along the northern property boundary.

4 BACKGROUND INFORMATION

This section presents a summary of background information for the Subject Property. Additional information was provided in the AECOM Phase I Environmental Site Assessment (ESA) (AECOM, 2022) and PEA Workplan [AECOM, 2023]. The Subject Property consists of one parcel of land, designated as Assessor's Parcel Number 268-0290-001. The Site is generally surrounded to the north, west, east, and south by residential development. Town and Country Preschool and Child Daycare (2550 Belport Lane), adjoining the southwestern corner of the Site, and Chicken Ranch Slough, adjoining the northern Site boundary, are two sensitive receptors. No other sensitive receptors (i.e., day care centers, schools, hospitals) are located adjacent to the Site. Beyond the neighboring residential properties, the area is developed for commercial use further east and south along Fulton Avenue and El Camino Avenue.

The Subject Property was most recently utilized as the Creekside Adult Center, assisting individuals with various needs, such as obtaining their Graduate Equivalency Degree, learning English as a second language, or career development courses. The Subject Property has been developed since at least 1953 through present day as an elementary school, head-start program/pre-school, and adult education center.

A Sacramento Municipal Utility District (SMUD) pad-mounted transformer and electrical switch box were located south of the mechanical room within a fenced exterior area. The transformer was not marked as to whether it contains PCBs or non-PCBs material. No signs of spills or releases were observed under or around the transformer during the August 2022 ESA Site visit.

A storage shed was located on the southeastern corner of the southeastern parking lot. The shed housed empty shelving, furniture, and miscellaneous items. Historically, the shed may have also stored chemicals for cleaning (solvents), maintenance (oils and fluids), lawn care (gasoline), and other school-related activities.

During AECOM's ESA Site visit in 2022, no visual evidence of aboveground storage tanks or underground storage tanks (USTs), (i.e., vent pipes, fill ports, or piping), irrigation or potable water wells, monitoring wells, dry wells, clarifiers, or septic systems was observed. In addition, no evidence of discolored soil, standing surface water, stressed vegetation, or unusual odors was observed during the ESA Site visit.

During AECOM's ESA, the Site was identified in the Environmental Database Resources (EDR) environmental database report as Creekside Adult Center. The Site is listed in the Hazardous Waste Tracking System with Environmental Protection Agency (EPA) Identification Number CAL000033748, issued in 1990 then listed as inactive in 1995. In 2007, the Site generated one 55-gallon drum of nonfriable asbestos mastic and disposed off site at an appropriate facility. No other records were noted in the EDR database report.

During AECOM's historical review for the ESA, a number of surrounding sites were identified in the EDR database report. The majority of these sites were listed for compliance or administrative issues in various databases, closed dry cleaners, or closed Leaking UST cases. AECOM noted

Bates Cleaners, formerly located at 3007 El Camino Avenue, approximately 559 ft to the south of the Site. Bates Cleaners operated as a dry cleaner in 1965, but no information was available in the EnviroStor database or the State Water Resources Control Board's (SWRCB's) online GeoTracker database. Based on the limited information and topographically cross-gradient location of this historical dry cleaner facility, it presents a recognized environmental condition (REC) and off-site gas encroachment condition in connection with the Site. AECOM's ESA did not identify any other recognized environmental conditions (RECs).

5 ENVIRONMENTAL SETTING

This section summarizes available information on the topography, geology, hydrology, and climatology of the Subject Property and vicinity.

5.1 Topography

According to the United States Geological Survey (USGS) topographic map of the subject property area (Rio Linda, Carmichael, Citrus Heights, and Sacramento East CA quadrangles) and a review of Geocheck Physical Setting in the EDR report, the elevation of the subject property is approximately 59 ft above mean sea level (msl). Based on a review of these technical resources and AECOM's site visit, the subject property appears to be generally flat with a slight downward slope toward the west/southwest.

5.2 Geology

The Subject Property lies within the northeastern part of the Great Valley Geomorphic Province of California. The valley is approximately 400 miles long and averages 50 miles wide. The valley has been filled with a thick sequence of marine and nonmarine sediments dating from the late Jurassic to the Holocene periods. The uppermost strata of the Great Valley represent, for the most part, the alluvial, flood, and delta plains of two major rivers (Sacramento and San Joaquin Rivers) and their tributaries.

The Subject Property is located in the Sacramento Valley, bounded to the north by the Northern Sacramento-Valley and bounded to the south by the San Joaquin Valley.

The Subject Property is located within the South American groundwater Subbasin. This subbasin comprises the following types of sediments (California Groundwater Bulletin 118):

- Flood plain deposits comprising silt and clay interbedded with sands from Sacramento River;
- Younger alluvium comprising silt, fine- to medium-grained sand, and gravel occurring along Sacramento River; and
- Older alluvium sediments comprising loosely to moderately compacted sand, silt, and gravel deposited in alluvial fans during the Pliocene and Pleistocene.

USEPA's Map of Radon Zones assigns each county in the United States to one of three zones based on radon potential, with Zone 1 having the highest potential and Zone 3 the lowest (<http://www.epa.gov/radon/zonemap.html>). Sacramento County is mapped in Zone 3. Counties in Zone 3 are predicted to have average indoor radon screening levels of less than 2 picoCuries per liter. The California Department of Public Health has not posted a special report on radon for Sacramento County on its website for the Subject Property.

(<http://www.cdph.ca.gov/HealthInfo/envirohealth/Pages/RadoninCalifornia.aspx>)

DTSC does not require further radon evaluation for proposed school Subject Property unless they are located within USEPA Zone 1 or within an area identified as significant for radon potential based on other local or regional information. Based on the available information summarized above, radon is not considered a concern for the Subject Property.

5.3 Hydrology

The Subject Property lies in the South American Subbasin is bounded on the east Sierra Nevada, 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. There is interaction between groundwater of adjacent subbasins at greater depths. The present-day drainage system outfalls to the American River.

According to information provided by the California State Water Resources Control Board (SWRCB) online GeoTracker database, depth to groundwater measured at the Chevron No. 9-8966 site located at 2500 Fulton Avenue, approximately 1,560 ft to the southwest of the subject property, was measured at depths of approximately 94 to 96 ft below ground surface (bgs) in 2009 and the groundwater flow direction was calculated as southwest. It should be noted that the actual depth and flow direction of groundwater beneath the subject property cannot be determined without site-specific groundwater monitoring well data.

5.4 Climatology

The climate at the Subject Property is characterized by mild winters and hot, dry summers. Winter low temperatures at the Subject Property are occasionally below 40° Fahrenheit, and summer high temperatures often exceed 100° Fahrenheit. Prevailing winds are typically from the northwest. Average annual precipitation ranges from about 14 inches along the western boundary to greater than 20 inches along the eastern boundary; (DWR 2003). Evaporation amounts in the region significantly exceed precipitation amounts over the course of a typical year.

6 POTENTIAL SOURCES OF CONTAMINATION

Locations of the current and former structures are shown on Figures 2. The six existing structures were constructed between the 1950s and 1970s. Approximately the entire parcel of 9.75 acres was an agricultural until the 1950s.

Potential sources of hazardous materials contamination for the Subject Property includes the following:

- Application of pesticides to cropland, including arsenic, lead, and organochlorine pesticides (OCPs).
- Lead from lead-based paint potentially used on current or former structures constructed prior to the early 1990s when it was no longer permitted for lead-based paint to be used on industrial/commercial buildings.
- Termiticides potentially used near structures constructed prior to 1989.
- Polychlorinated biphenyls (PCBs) potentially used in window caulking in on-Subject Property structures constructed prior to 1979.
- PCBs potentially used in electrical transformers installed prior to 1979.
- Hazardous materials that may have been used at a former dry-cleaning shop (located at 3007 El Camino Avenue, approximately 559 ft south of the Subject Property) and operated in 1965.

7 SAMPLING ACTIVITIES AND RESULTS

The subsections below describe the PEA field sampling activities and results completed by a third-party environmental consultant, Atlas Technical Consultants (Atlas). The services of Atlas were contracted by SJUSD. Section 7.1 provides a summary of the sampling activities. Section 7.2 describes clearance for underground utilities prior to the subsurface investigation. Section 7.3 provides details on the sampling rationale and methodology. Section 7.4 discusses the results of the PEA.

The limited investigative sampling procedures, implementation, and data was conducted by a third party (Atlas) and have been furnished to AECOM by SJUSD to prepare this report. AECOM has relied on this information as furnished and is neither responsible for nor has confirmed the accuracy of this information.

7.1 Summary of Activities

The PEA field sampling was performed on March 13 -16, April 7, April 28, and May 1, 2023. Soil and soil-gas samples were collected from areas of concern and analyzed for COCs. Groundwater was not sampled or analyzed for this PEA. The complete Atlas Limited Investigation Report for Katherine Middle School, 2641 Kent Drive in Sacramento, California is attached in Appendix A.

The sampling was conducted in accordance with the PEA Workplan. Summaries of the analyses of discrete, composite samples on the Subject Property, are presented in the Atlas Report: Table 1 – Lead and Arsenic in Soil, Table 2 – Organochlorine Pesticides in Soil, Table 3 – Polychlorinated Biphenyls in Soil, Table 4 – Volatile Organic Compounds in Soil and Table 5 – Summary of Soil Vapor Sample Analytical Results. These tables are included in “*Limited Investigation Report and Addendum*” by Atlas and attached as Appendix A.

Elevated concentrations of COCs were detected in some of the original soil samples. After discussions with SJUSD and DTSC, follow-up soil gas sampling was performed on April 7, April 28, and May 1, 2023, discussed further in Section 7.3.1.

Follow-up comments for the PEA Investigation requested additional sampling locations for OCPs at depth around the former building structures. July 10, 13, and 14, 2023, Atlas collected 48 additional OCPs samples and five duplicates the results are discussed further in Section 7.4.1.

AECOM's ESA (2022) also included review of previously prepared environmental reports in connection with the Subject Property. The Entek Consulting Group Inc. (Entek) Hazardous Materials Survey Final Report (Entek 2022) identified asbestos-containing materials and lead-based paint within the Site structures. Entek also supplied requirements for the containment and disposal of these hazardous materials during any proposed demolition activities.

7.2 Boring Clearance

It is AECOM's understanding, at least 48 hours prior to commencement of subsurface investigations, Underground Services Alert (USA) was notified of the intent to conduct such

investigations at the Subject Property by Atlas. Proposed locations of subsurface investigation were marked with white paint or surveyors flagging as required by USA. USA contacted utility owners of record within the Subject Property vicinity and notified them of the intention to conduct subsurface investigations in proximity to buried utilities. Utility owners of record, or their designated agents, were expected to clearly mark the position of their utilities on the ground surface throughout the area designated for investigation.

7.3 Sampling and Analysis

The following subsections describe soil sampling and analysis performed for the PEA by Atlas. Subsection 7.3.1 discusses sampling locations and rationale. Detailed sampling protocols for soil and soil-gas sampling are presented below in separate subsections.

7.3.1 Sampling Locations and Rationale

Soil and soil-gas samples were collected to evaluate the areas of concern described in Phase I ESA conducted by AECOM (2022). Locations and rationale are described below.

Sample locations on the Subject Property comprised the following:

- Ten surface soil sample locations (KJMS-OP1 – KJMS-OP5, plus duplicate (KJMS OP Dup for OCPs) and (KJMS-AR1 – KJMS-AR5, plus one duplicate KJMS-AR Dup for arsenic) addressed the former agricultural area in the northern and west portions of the Subject Property (Figure 2, Tables 1 and 2) to assess for arsenic and OCP impacts. At each of these locations, a surface soil sample was collected from 0 to 6 inches bgs. The OCPs samples were composited at a 4:1 ratio and arsenic samples were collected as discrete samples.
- Twenty-nine surface soil sample locations (KJMS-1 – KJMS-29, plus three duplicates KJMS-Dup#1, #2, & #3) were collected from each side of each existing structure, within 2 ft of each wall. Surface soil samples, from 0.0 to 0.6 ft bgs were collected to assess for lead and PCBs impacts (Figures 2, Tables 1 and 3). Due to wet conditions, sample locations KJMS-25 through KJMS-29 were newly covered with up to 18 inches of clean road base material to allow construction vehicles to transverse the Subject Property. At these locations, the road base material was removed and the samples were collected from the native soil at 0 to 6 inches bgs.
- Two soil samples were collected for VOCs analysis on each side of a shed located on the southeast corner of the Subject Property that was used to house lawn mowers, landscaping equipment, and small containers of gas and oil. These sample locations (Shed-1 and Shed-2) were collected from 0 to 6 inches bgs on the west and east side of the shed.
- Four soil sample locations (KJMS-T1 through KJMS-T4) were placed underneath each side of the electrical transformer pad to assess for PCB impacts (Figure 2, Table 3). At each of these locations, a surface soil sample was collected from 0 to 6 inches bgs and a subsurface soil sample was collected at 1.5 ft bgs.
- Two sets (dual nested at 5 and 10 ft bgs) temporary active soil gas sampling locations (SV-1s, SV-1d, SV-2s, and SV-2d) were placed near the southeast boundary of the

Subject Property to assess for possible impacts from the nearby former dry cleaner (Figure 2, Table 5). At each of the four sampling locations, active soil gas samples were collected at approximately 5 and 10 ft bgs. The samples were analyzed for volatile organic compounds (VOCs) by EPA Method TO-15. Elevated concentrations of COCs were detected in some of the original soil gas samples (Figures 2, Table 5), including elevated levels of tetrachloroethene (PCE) and benzene. This information is in the *“Limited Investigation Report”* by Atlas. This report is attached in Appendix A-1.

After discussions with SJUSD and DTSC, follow-up soil gas sampling was performed to assess the lateral and vertical extents of soil containing elevated COC concentrations (Figures 2, Table 5). Three additional soil gas locations (KJMS-SV-3s, KJMS-SV3d, KJMS-SV4s, KJMS-SV4d, KJMS-SV5s, and KJMS-SV5d) were installed to the north of the first two sampling locations at 5 and 10 ft bgs to further delineate the lateral extent of the impact towards the proposed new school building locations. At each of the six sampling locations, active soil gas samples were collected at approximately 5 and 10 ft bgs. The samples were analyzed for VOCs by EPA Method TO-15. This information is in the *“Limited Investigation Report Addendum”* by Atlas. This report is attached in Appendix A-2.

After discussions with SJUSD and DTSC, follow-up soil gas sampling was performed to assess the footprint of each proposed new school building locations for soil containing elevated COC concentrations (Figures 2, Table 5). Ten additional soil gas locations (KJMS-SV-6s through KJMS-SV-15s and KJMS-SV-6d through KJMS-SV-15d) at 5 and 10 ft bgs to further delineate the impact within the proposed new school building locations. At each of the ten sampling locations, active soil gas samples were collected at approximately 5 and 10 ft bgs. The samples were analyzed for VOCs by EPA Method TO-15. This information is in the *“Limited Investigation Report Addendum #2”* by Atlas. This report is attached in Appendix A-3.

After discussions with SJUSD and DTSC, follow-up soil samples were collected from sixteen locations around the former building foundations at 6 inches, two to three foot, and four foot bgs the samples were analyzed for OCPs (termiticides) by EPA Method 8081A. This information is in the *“Limited Investigation Report Addendum #3”* by Atlas. This report is attached in Appendix A-4.

- “Blind” field duplicate soil samples were collected and analyzed at a minimum rate of 10% of the total number of primary samples (Tables 1 to 5). The field duplicate samples were given unique names that did not indicate to the laboratory that they were duplicate samples.

7.1.1 Discrete Soil Sample Collection Procedures

Soil and Soil Gas sample collection procedures are described in the attached *“Limited Investigation Report and Addendums”* by Atlas and is attached in Appendix A-1 through A-4.

7.1.1.1 Decontamination

All non-disposable equipment that came into contact with potentially contaminated soil was decontaminated to assure the quality of samples collected. Such equipment included the hand auger, drive sampler, and equipment used to loosen surface soil for sampling. Disposable equipment intended for one-time use was not decontaminated but was packaged for appropriate disposal. Decontamination included a detergent/water wash followed by double rinsing in clean water. Decontamination occurred before and after each use of a piece of equipment. Since there was no contact with apparently grossly contaminated material, water generated during equipment decontamination was spread on the ground at the Subject Property.

7.1.1.2 Collection of Background Soil Samples

Background soil samples were collected for the PEA from Creekside Adult Center. As set forth in the PEA Workplan the analytical results for arsenic on the Subject Property soil samples were compared to a background data set from a nearby previous school-site PEA project. The school site known as the Arden Middle School (DTSC Subject Property Code 104836) is located at 1640 Watt Avenue in Sacramento, California, approximately 1.5 miles south/southeast of the Subject Property in a similar geologic/soil setting. Discussion of the background data set is provided in Section 7.4.4.

7.1.2 Active Soil-Gas Sampling

A total of fifteen (15) dual-nested temporary soil gas probes were installed by TEG, a third-party contractor under contract with SJUSD. The installation information is attached in the *“Limited Investigation Report and Addendums”* by Atlas and is included in Appendix A-1 through A-3.

7.1.3 Field Documentation and Sample Handling Procedures

During field activities, field reports were used to document where, when, how, and from whom any vital project information was obtained. Field report entries were complete and accurate enough to permit reconstruction of field activities. Each page was dated and the time of entry noted. All entries were legible, written in black ink, and signed by the individual making the entries. If an error was made, corrections were made by crossing a line through the error and entering the correct information. Corrections were dated and initialed. No entries were obliterated or rendered unreadable. At a minimum, the following items were recorded in the field reports:

- Subject Property name and address.
- Recorder’s name.
- Team members and their responsibilities.
- Time of Subject Property arrival/entry on Subject Property and time of Subject Property departure.
- Other personnel on-Subject Property.
- A summary of any on-Subject Property meetings.

- Health and safety monitoring data.
- Deviations from sampling plans and Subject Property safety plans.
- Changes in personnel and responsibilities as well as reasons for the changes.
- Levels of safety protection.
- Calibration readings for any equipment used and equipment model and serial number.

COC records were used to document sample collection and shipment to the laboratory for analysis. All sample shipments for analyses were accompanied by a COC record. The COC record identified the contents of each shipment and maintained the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in their view, locked up, or kept in a secured area that is restricted to authorized personnel. Until receipt by the laboratory, the custody of the samples was the responsibility of the sample collector.

These records are attached in the *"Limited Investigation Report and Addendums"* by Atlas in Appendix A-1 through A-4.

7.1.4 Analytical Procedures

Analytical services for soil, soil-gas, and water samples were provided by one or more laboratories that are accredited under the California Department of Health Services, Environmental Laboratory Accreditation Program (ELAP). Pace Analytical Environmental Sciences of Bakersfield, California analyzed the soil samples for PCBs by EPA Method 8082, lead and arsenic by EPA Method 6010B with Total Concentrations (TTLC), OPCs by EPA Method 8081A, and VOCs by EPA Method 8260D. H&P Mobile Geochemistry Inc. of Carlsbad, California analyzed the soil-gas samples were analyzed for TO-15, and for leak check compound 1.1-DFA (difluoroethane). The laboratories were instructed to report estimated values, i.e., between the method detection limit and reporting limit, with a "J" qualifier. The laboratory results are included in the *"Limited Investigation Report and Addendums"* by Atlas attached in Appendix A-1 through A-4.

7.4 DISCUSSION OF RESULTS

Results of the PEA are discussed in the subsections below. Appendix A-1 through A-4 contains the laboratory reports.

7.4.1 Analytical Results for Soil Samples

A summary of the chemicals detected in soil, including the maximum concentrations detected on the Subject Property, is presented in Tables 1-5 of the attached *"Limited Investigation Report and Addendums"* by Atlas included in Appendix A-1 through A-4.

Some of the soil samples contained chemicals of concern (COCs) at concentrations exceeding their respective DTSC residential screening levels set forth in Human Health Risk Assessment (HHRA) Note Number 3, June 2020 (revised May 2022), DTSC-Modified Screening Levels for

Residential Land Use [DTSC, June 2020 (revised May 2022)] and US EPA Regional Screening Levels for residential soils reflecting the lower of the carcinogenic or noncarcinogenic endpoints (US EPA, May 2023). The original surface soil samples with COC concentrations exceeding the screening levels are reported in Tables 1-11 of the attached *“Limited Investigation Report and Addendums”* by Atlas in Appendix A-1 through A-4.

Based on laboratory analysis of the soil samples collected in March 2023, lead, OCPs, PCBs, and VOCs were not detected in any soil samples collected during this investigation at concentrations exceeding the DTSC and US EPA Screening Levels.

Arsenic was detected in all discrete soil samples that were analyzed (Table 1) with concentrations ranging from 2.6 mg/kg to 5.0 mg/kg, which exceeds the HHRA Note 3 SL of 0.11 mg/kg and US EPA RSL of 0.68 mg/kg.

Lead was detected in all discrete soil samples that were analyzed (Table 1) with concentrations ranging from 3.6 mg/kg to 27 mg/kg. The maximum detected lead concentration in discrete soil samples was 27 mg/kg. Lead concentrations did not exceed the HHRA Note 3 SL of 80 mg/kg and US EPA RSL of 400 mg/kg for residential soils.

Lead and several OCPs were detected in several of the soil samples that were analyzed (Table 1 and 2). All detections were at concentrations less than the respective residential screening levels. The 95-percent upper confidence limit of the mean (95%-UCL) concentrations was calculated using ProUCL version 5.2 (attached Work Sheet) for lead which resulted in 95% UCL is 10.05 mg/kg. These calculations are presented in the attached tables (Tables 8, 9, & 10). The 95%-UCL concentrations are less than the respective residential screening level of 80 mg/kg.

Additional soil sampling was conducted according to the approved Technical Memorandum # 1 for Additional Organochlorine Pesticides and/or Termiticides (July 10, 2023). On July 10, 13, and 14, a total of forty-eight soil samples were collected at depths of 0-0.5 feet, 2 feet, and 4 feet at 16 locations on each side of the former building pads and analyzed for OCPs by EPA Method 8081A. Results were compared to Human Risk Assessment (HHRA) Note 3, June 2020, Table 1 DTSC-Recommended Screening Levels for Soil Analytes, Rev. May 2022A, and United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs), May 2021. See attached Atlas *“Limited Investigation Report Addendum No. 3”* dated July 26, 2023.

Analytical results identified the following:

- Aldrin exceeded the HHRA Note 3 Screening Levels (SLs) and RSLs of 0.039 milligrams per kilogram (mg/kg) in four samples (KJMS-31-0.5 feet (ft.), KJMS-32-.05 ft. and 2.5 ft., and KJMS-35-2 ft.) at concentrations of 0.64 to 0.47 mg/kg.
- Chlordane (Technical) exceeded HHRA Note 3 SLs and RSLs of 1.7 mg/kg in one sample KJMS-31-0.5 ft. at a concentration of 6.6 J mg/kg.

- Dieldrin exceeded the HHRA Note 3 SLs and RSLs of 0.034 mg/kg in three samples (KJMS-31-0.5 ft, KJMS-32-0.5 ft, and 2.5 ft. at concentrations from 0.043-0.17.

7.4.2 Analytical Results for Soil-Gas Samples

The laboratory analytical results for active soil-gas samples are summarized in Table 5 “*Limited Investigation Report and Addendum*” by Atlas included in Appendix A. Several VOCs, including benzene, tetrachloroethene (PCE), trichloroethene (TCE), and total petroleum hydrocarbons (C5-C12) were detected in the soil-gas samples. Detected concentrations in March 2023, April 2023, and May 2023 were relatively similar. Benzene was detected in 14 of 15 sampling locations (Figure 2), throughout the subject property. PCE was detected at locations SV-1, SV-6, SV-7, and SV-8. TCE was detected at SV-6 and SV-7. These results were included in the human health screening evaluation discussed in Section 8.0.

The leak-test compound, 1,1-DFA, was not detected in any of the soil gas samples. The soil-gas sampling guidance allows the leak-test compound to be detected at up to 5 percent of the concentration inside the shroud [DTSC, 2023]. See the attached “*Limited Investigation Report and Addendums*” by Atlas included in Appendix A-1 through A-4.

7.4.3 Analytical Results for Background Soil Samples

As stated in Section 7.3.2.2, no background soil samples were collected for the PEA. As proposed in the PEA Workplan, the analytical results for arsenic in the Subject Property soil samples were compared to a background data set from a nearby previous school-Subject Property PEA project. The previous PEA was for a school Subject Property called Arden Middle School (DTSC Subject Property Code 104836) located at 1640 Watt Avenue in Sacramento, California, which is approximately 1.5 miles south/southeast of the current Subject Property in a similar geologic/soil setting as the current Subject Property. The geology of these two Subject Properties has been compared by AECOM. Both Subject Properties are geologically mapped as being in the same area of unconsolidated deposits of Quaternary older alluvium [Page & LeBlanc, 1969]. A geologic map showing the locations of the current “Subject Property” and the previous “Arden Middle School Subject Property” is provided in Appendix C. Geomorphically, both Subject Properties lie within the compound alluvial fan of intermittent streams north of the Sacramento and American Rivers. According to the U.S. Department of Agriculture, Natural Resources Conservation Service (<http://websoilsurvey.nrcs.usda.gov>), soils at both school sites are younger alluvium comprising silt, fine- to medium-grained sand, and gravel occurring along Sacramento River; and older alluvium sediments comprising loosely to moderately compacted sand, silt, and gravel deposited in alluvial fans during the Pliocene and Pleistocene. Based on these considerations, the school sites are considered to have similar geologic/soil settings. The background data set consisted of 12 samples from Arden Middle School and 5 samples from Katherine Johnson Middle School and where summed for a mean of 3.759 mg/kg, with a standard deviation of 0.974, and a Background Threshold Value (BTV) was established at 6.179 mg/kg from the data, which is provided in (Table 11) and in attached (Appendix C).

7.4.4 Targeted Excavation

It is recommended that soil with previously detected elevated OCPs impacts (KJMS-31-0.5 feet (ft.), KJMS-32-.05 ft. and 2.5 ft., and KJMS-35-2 ft.) be physically removed and disposed off site to an appropriate landfill under appropriate manifesting procedures. Each excavation should be a minimum of 2 feet by 2 feet in area, to a minimum depth of 3 feet bgs. Excavated soil will be segregated from other soil stockpiles, stored on and covered with polyurethane sheeting, profiled, manifested, then transported and disposed off site appropriately. Procedures will follow the DTSC *Update Interim Guidance Evaluation of School Sites with Potential Contamination from Lead-Based Paint, Termiticides, and Electrical Transformers* (DTSC 2006). Confirmation soil samples will be collected at the bottom edge of the side walls and floor of each excavation, for a minimum of 5 samples per excavation and analyzed for OCPs by EPA Method 8081A. Upon review of analytical data and confirmation of clean soil limits, the excavations will be filled with clean fill material. No post-implementation activities are required after elevated OCP impacts are removed from the Site.

7.4.5 Investigation-Derived Waste

In the process of collecting environmental samples, the sampling team may generate different types of potentially contaminated investigation-derived waste (IDW) that includes the following:

- Used personal protective equipment (PPE),
- Disposable sampling equipment,
- Decontamination fluids,
- Soil cuttings from soil boreholes, and
- Rinse/purge water.

The IDW generated during field activities, including soil cuttings and decontamination of sampling equipment, will be containerized in 55-gallon drums, sealed, properly labeled, and temporarily stored on site in an area secured from the general public. A composite soil and water sample will be collected from the IDW containers and analyzed for necessary waste criteria which may include arsenic and lead by EPA Method 6010B, VOCs by EPA Method 8260B, OCPs by EPA Method 8081A, and PCBs by EPA Method 8082 to generate an accurate waste profile. Following approval from the final treatment, storage, and disposal facility (TSDF), the IDW will be properly disposed off site.

Used PPE and disposable equipment will be double-bagged and placed in a municipal refuse dumpster. These wastes are not considered hazardous and can be sent to a municipal landfill.

8 HUMAN HEALTH SCREENING EVALUATION

The subsections below present the methodology and results of the human health screening evaluation.

The PEA screening evaluation for human health effects consisted of three steps:

- 1) Identifying potentially complete exposure pathways based on the conceptual Subject Property model (CSM);
- 2) Identifying COCs; and
- 3) Estimating representative COC concentrations in soil and soil vapor and comparing the concentrations to health-based levels developed by Cal/EPA and, if not available, USEPA. In compliance with the PEA Guidance Manual [DTSC, 2015], a residential land-use scenario was used to estimate human health risks at the Subject Property.

Exposure to chemicals can only occur if there is a complete pathway by which chemicals on Subject Property soil, water, or air can be contacted by humans. Therefore, the evaluation of exposure pathways is the first step in the human health screening evaluation. Potential health risks are then calculated based on a comparison to health-based concentrations derived by Cal/EPA or, if not available, USEPA (Section 8.3). The findings of the human health screening evaluation are summarized in the risk characterization summary. The uncertainty section presents factors in the risk assessment that may have resulted in an overestimation or underestimation of risk in this screening evaluation and is provided for assistance in the risk management decision-making process.

8.1 Exposure Pathways and Media Of Concern

The subsections below present the exposure pathways and media of concern.

8.1.1 Conceptual Subject Property Model

The CSM, included as Figure 5, provides a description of the links between potential contaminant sources and release mechanisms at the Subject Property and exposure point media (soil, groundwater, air, etc.), potential exposure routes (ingestion, inhalation, dermal contact, etc.), and potential receptors. The receptors identified in the CSM include future construction workers and school students and staff. However, as discussed above and in accordance with DTSC, 2015, for this school-site assessment, a residential land-use scenario is used for evaluating potential health effects to receptors. The residential land-use scenario is used in the screening evaluation because it is intended to provide a more stringent or health-conservative preliminary evaluation of potential health risks for any human receptors.

8.1.2 Soil Exposure Pathways

Chemicals detected in soil at the Subject Property are lead, arsenic, PCBs, and OCPs (Tables 1 to 4). The potential exists for humans to contact these chemicals through direct dermal contact

with the soil, incidental soil ingestion, and, as discussed below, inhalation of airborne particulate matter in outdoor air for non-volatile chemicals. For the purposes of the PEA, these pathways were considered complete and evaluated in the human health screening evaluation.

8.1.3 Water Exposure Pathways

Groundwater samples were not collected for this PEA. The water supply for the school will be obtained from Sacramento Suburban Water District. Surface water is not present at the Subject Property. Therefore, a water exposure pathway was not evaluated for the human health screening evaluation.

8.1.4 Air Exposure Pathways

Exposure to chemicals present in soil may occur through inhalation of airborne particulates to which chemicals have become absorbed, or through inhalation of VOCs in indoor or outdoor air. Residential exposure to fugitive dust was evaluated for all COCs detected in the Subject Property soil. For VOCs detected in soil-gas samples (Table 5), residential exposure to inhalation of VOCs in indoor air was evaluated.

8.1.5 Summary of Selected Exposure Pathways

For the purpose of this PEA screening evaluation, it was assumed that the school-site receptor would be exposed to chemicals detected in the Subject Property soil through direct dermal contact, incidental ingestion, and inhalation of airborne particulates, and to chemical detected in on-Subject Property soil-gas through inhalation of VOCs in indoor air.

8.2 Exposure Point Concentrations and Chemicals

Tables 1 through 4 present the list of chemicals detected in the Subject Property soil and identifies which of those chemicals were included as COCs for the human health screening evaluation. In accordance with PEA guidance for the screening evaluation, the maximum chemical concentrations detected in soil were evaluated as potential exposure point concentrations (EPCs).

Table 5 presents the list of VOCs detected in on-site soil-gas – all chemicals were included as COCs for the human health screening evaluation (excluding the leak-test compound 1,1-DFA). In accordance with DTSC guidance, the maximum chemical concentrations detected in the Subject Property soil-gas were multiplied by an attenuation factor of 0.03 to obtain the estimated indoor-air EPC.

8.3 Screening Levels

Except for lead and arsenic, which are discussed at the end of this subsection, the EPCs were compared to screening levels for residential soil and air in accordance with DTSC's Human Health Risk Assessment (HHRA) Note 3, dated June 2020 (revised May 2022). Different screening levels were used to evaluate carcinogenic (cancer causing) impacts and non-carcinogenic impacts (e.g., liver or kidney damage). Carcinogenic screening levels are based upon a predicted excess long-term cancer risk of 1.0E-06 (one in a million). Non-carcinogenic screening levels are based upon maintaining the daily COC intake below the level at which deleterious health effects are

considered possible. Screening levels are obtained from DTSC and, if not available, USEPA. Most of the screening levels consisted of Regional Screening Levels (RSLs) developed by USEPA, except for a few more-conservative DTSC-recommended values. For TPH, the screening level developed by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) was used.

For carcinogenic COCs, the screening evaluation was performed by calculating the ratio of the EPC to the carcinogenic screening level in accordance with the following equation from the PEA Guidance Manual:

$$\frac{\text{Maximum concentration}}{\text{Screening Level}} \times 10^{-6} = \text{Cancer Risk}$$

For non-carcinogenic COCs, the screening evaluation was performed by calculating the ratio of the EPC to the non-carcinogenic screening level in accordance with the following equation from the PEA Guidance Manual:

$$\frac{\text{Maximum concentration}}{\text{Screening Level}} = \text{Hazard Quotient}$$

To evaluate potential cumulative impacts, the calculated cancer risks were summed and hazard quotients were summed for all COCs to provide cumulative cancer risks and noncancer hazard indices, respectively. The cumulative cancer risk and noncancer hazard index using soil data is presented in Table 6 and the cumulative cancer risk and noncancer hazard index using soil vapor data is presented in Table 7.

The evaluation for lead used Worksheet 1 (Table 10) of the DTSC Lead Risk Assessment Spreadsheet (LeadSpread 9, 2022). Worksheet 1 is based on a residential land use scenario. The EPC for lead of 10.05 mg/kg was entered as input into the spreadsheet calculations.

8.4 Evaluation Results

Human health screening evaluation results, divided into carcinogenic and non-carcinogenic health effects, are discussed in the following two subsections.

8.4.1 Cancer Risks

As shown in Table 6, chemicals detected in soil that are considered as potentially carcinogenic include 4,4 DDD, 4,4 DDE, 4,4 DDT, and Aroclor 1260. The cumulative cancer risk from exposure to chemicals in soil was 2E-05. This result is within the risk management range of 1E-06 to 1E-04.

As shown in Table 7, chemicals detected in soil vapor that are considered as potentially carcinogenic include benzene, chloroform, ethylbenzene, trichloroethylene, and tetrachloroethylene. The cumulative cancer risk from exposure to chemicals in soil vapor that may migrate to indoor air was 5E-05. This result falls within the risk management range of 1E-06

to 1E-04. Chemicals driving the cancer risk were, in descending order, benzene, chloroform, trichloroethylene, and tetrachloroethylene.

8.4.2 Non-Carcinogenic Health Effects

As shown in Table 6, the cumulative noncancer hazard index from exposure to chemicals detected in soil was 0.5. This result does not exceed the noncancer point-of-departure value of 1.

As shown in Table 7, the cumulative noncancer hazard index from exposure to chemicals in soil vapor that may migrate to indoor air was 3. The chemicals driving the noncancer hazard index were TPH (C5-C12), trichloroethylene, and benzene.

8.4.3 Future vapor risks for new school buildings

Future vapor risks were calculated conservatively based on residential criteria, which includes children. The exposure assumptions include being in the building 24 hours a day, for seven days a week, for 250 days a year, and for 26 years. This evaluation is also protective of workers at the Site.

It should be noted that the attenuation factor used to predict indoor air concentrations is highly conservative and does not take into account the type of future building (i.e., the same attenuation factor would also be used for a small single-family house under the residential scenario). Commercial buildings such as school buildings would be much larger which supports greater dilution and air mixing indoors as well as having commercial HVAC systems for increased circulation and in most cases, designed for positive building pressure.

AECOM conducted an evaluation of potential health risk from vapor intrusion for each proposed building location based on the current soil gas analytical data collected in July 2023.

- Site-wide hypothetical cancer risk is 5×10^{-5} which falls within the risk management range of 1×10^{-6} to 1×10^{-4} . Typically, cancer risk exceeding 1×10^{-4} supports some sort of action.
- Site-wide hypothetical noncancer health hazard is 3 which slightly exceeds the safe level of 1. This result should be weighed with the highly conservative attenuation factor and the use of residential exposure assumptions.
- No vapor intrusion risk was calculated for the planned parking lot area as there are no buildings.
- Proposed Building A hypothetical cancer risk is 4×10^{-6} , which slightly exceeds the insignificant risk level of 1×10^{-6} and falls within the risk management range.
- Proposed Building A hypothetical noncancer health hazard is 0.2, which is acceptable.
- Proposed Building B hypothetical cancer risk is 4×10^{-5} , which falls within the risk management range.
- Proposed Building B hypothetical noncancer health hazard is 2, which slightly exceeds the safe level of 1.
- Proposed Building C hypothetical cancer risk is 8×10^{-6} , which is within the risk management range.
- Proposed Building C hypothetical noncancer health hazard is 0.4, which is acceptable.

- Proposed Building D hypothetical cancer risk is 3×10^{-6} , which slightly exceeds the insignificant risk level of 1×10^{-6} and falls within the risk management range.
- Proposed Building D hypothetical noncancer health hazard is 0.3, which is acceptable.
- Proposed Building M hypothetical cancer risk is 1×10^{-5} , which falls within the risk management range.
- Proposed Building M hypothetical noncancer health hazard is 1, which is acceptable.

Risk drivers were benzene and chlorinated solvents (TCE & PCE).

8.4.4 Evaluation of Potential Blood Lead Concentrations

Based on the LeadSpread 9 output, using the maximum detected concentration of 27 mg/kg is estimated to result in a 90th percentile increase in a blood lead concentration of 0.4 micrograms per deciliter ($\mu\text{g/dL}$) in children. Using the 95% UCL concentration of 10.5 is estimated to result in a 90th percentile increase in a blood lead concentration of 0.1 $\mu\text{g/dL}$. The blood lead levels using either the maximum or 95% UCL concentrations are less than the benchmark level of 1.0 $\mu\text{g/dL}$ presented by the Office of Environmental Health Hazard Assessment (OEHHA). A copy of the LeadSpread 9 spreadsheets using the maximum detected and 95% UCL concentrations are provided in Tables 8 and 9, respectively. The 95% UCL calculations are provided in Table 10.

8.5 Discussion

Results of the soil risk assessment showed that chemicals detected in soil resulted in a cumulative cancer risk exceeding 1×10^{-6} (ie, one in a million) and a cumulative noncancer hazard index of 0.5. The hypothetical future soil exposure risks were calculated based on conservative residential assumptions. The conservative exposure assumptions include being onsite 24 hours a day, for seven days a week, for 250 days a year, and for 26 years. The maximum detected concentration from the entire site and all available depths was used as the exposure point concentration. This likely over-estimates the risks since significant portions of the Site will be covered (i.e., no exposure and therefore no risk) and USEPA (1989) recommends using the 95% upper confidence level of the mean to be used as the exposure point concentration. This evaluation is also protective of workers at the Site. The Site-wide hypothetical cancer risk from exposure to soil is 2×10^{-5} , which is within the risk management range of 1×10^{-6} to 1×10^{-4} . The Site-wide hypothetical noncancer hazard index (HI) from exposure to soil is 0.5, which falls within the acceptable level of 1.

Arsenic and lead were evaluated separately from the other COCs. Arsenic is a naturally occurring element found in soil, water, air, and food as well as in many man-made products including pesticides, wood preservatives, paints, dyes, electrical components and medical drugs. Levels of naturally occurring arsenic in rocks and minerals differ widely across geographic regions, resulting in varying levels of arsenic in their soil and water erosion products. In addition to the naturally occurring arsenic, many soils are contaminated with anthropogenic sources of arsenic including arsenical pesticides, wood preservatives and mine tailings.

When arsenic in soil is evaluated using standard exposure intake assumptions, background soil arsenic levels almost always have an associated cancer risk far in excess of 1×10^{-6} . Evaluation

in the risk assessment process and the development of clean-up goals for arsenic are conducted on a Site-by-Site basis and may include considerations of additional ambient data, bioavailability, and incremental risk. A background data set was compiled from Arden Middle School and Katherine Johnson Middle School data sets to establish a general background arsenic concentration from the 95% Upper Tolerance Limit (UTL) to establish the Upper Threshold Value (UTV) of 6.2 mg/kg. All samples were below the UTV of 6.2 mg/kg.

Exposure to lead is evaluated differently within the human health risk assessment from the excess cancer risk and health hazard index assessments. Health risk from lead exposure is estimated using the Lead Risk Assessment Spreadsheet, termed LeadSpread 9. The most current version can be found at: <http://www.dtsc.ca.gov/AssessingRisk/leadspread9.cfm>. For school evaluations, the home grown produce feature in the LeadSpread 9 is set to zero, assuming that home grown produce is not a significant contribution. Using default input values and a blood lead concentration for a non-pica child of 1 microgram per deciliter, the soil screening level for lead for school Subject Property is 80 mg/kg. Subject Property specific input requires the approval from DTSC. Neither the maximum detected concentration of lead (27 mg/kg) or the 95% UCL concentration (10.5) resulted in blood lead levels for the 90th percentile child of greater than 1.

8.6 Uncertainty Analysis

The human health screening evaluation requires the use of several generic and Subject Property-specific assumptions regarding the representativeness of sampling data, environmental fate and transport, human exposures, chemical toxicity, and associated cancer and noncancer health risks. These assumptions are discussed below.

- The predicted risks and hazards are based on the maximum COC concentrations detected in the Subject Property soil and soil-gas samples that were collected during this PEA. Actual exposures for humans at the Subject Property may be at lower concentrations than the maximum most of the time.
- Use of the attenuation factor of 0.03 may overestimate calculated health risks. The assumed attenuation factor of 0.03 is based on a USEPA database of measured attenuation factors for primarily residential buildings [USEPA, 2012]. The attenuation factor for large modern classroom buildings that will be designed and constructed according to the strict standards required of publicly funded schools in California is likely less than 0.03, because such buildings are expected to have higher-quality floors less susceptible to vapor intrusion, higher indoor-air exchange rates, and higher ceilings.
- The evaluation assumed no degradation of COCs over time or space. This assumption may be conservative for the VOC concentrations measured at 5 feet bgs, which likely diminish substantially at lesser depths due to natural attenuation. The concentrations of petroleum COCs are expected to attenuate over time due to various mechanisms of degradation, including biological degradation and volatilization.
- Assumptions related to human exposure are built into the calculations used for the screening evaluation. These assumptions include such parameters as soil ingestion rates, potential dermal exposure to soil, dust generation rates, daily breathing rates, human activity patterns, and time spent at the Subject Property.

- Sample locations were selected with the objective of finding elevated concentrations if present, but the possibility exists that other locations are present at the Subject Property that have higher COC concentrations than the locations that were sampled, or that have other detectable chemicals that were not detected during this PEA.
- The screening evaluation assumed that risks resulting from simultaneous exposure to multiple COCs is additive. It is possible that simultaneous exposure to multiple chemicals may result in synergistic or antagonistic effects which may alter the toxicity of other chemicals.
- Most of the assumptions for the human health screening evaluation were conservative in nature. The use of conservative assumptions tends to produce upper-bound estimates of risk. Although it is exceedingly difficult to quantify the uncertainties associated with all the assumptions used, the multiplicative relationship of the series of assumptions involved in the screening evaluation may well create a substantial overestimate of health risks.

8.7 Conclusions

The results summarized above indicate that some on-site surficial soil vapor contains elevated concentrations of VOCs that exceed residential screening levels.

A human health screening evaluation was performed in accordance with PEA guidance. For COCs detected in soil, the cumulative cancer risk and noncancer hazard index were $2\text{E-}05$ and 0.5 , which is less than 1.0 . For COCs detected in soil vapor, the cumulative calculated excess cancer risk was $5.0\text{E-}05$, which is greater than $1.0\text{E-}06$. The calculated hazard index is 3 , which is greater than 1.0 . It is suggested that mitigation measures be considered to decrease the potential health risks associated with vapor intrusion to indoor air.

9 ECOLOGICAL SCREENING EVALUATION

Consistent with the PEA guidance, an ecological screening evaluation (ESE) was performed for the Subject Property. The ESE is the first phase of the ecological risk assessment (ERA) process in the DTSC's ERA guidance (DTSC 1996). This qualitative scoping assessment provides a description of the ecological setting at the Subject Property, describing the conditions and quality of ecological habitat or lack thereof. A desktop search for sensitive ecological species reported within a 1-mile radius of the Subject Property was conducted, and the potential for these species to occur at the Subject Property was assessed. Finally, an ecological CSM was developed that describes and illustrates the potential exposure pathways for the Subject Property.

Ultimately, the ESE is used to identify the presence/absence of potentially complete exposure pathways and, thus, to determine if there is potential risk to ecological receptors from hazardous materials present at the Subject Property. If potentially complete exposure pathways are identified for ecological receptors, further evaluation may be warranted.

9.1 Ecological Setting

As described in Sections 3 and 4, the Subject Property consists of an approximately 9.75 acre parcel of land, generally surrounded to the north, west, east, and south by residential development. The Subject Property has been developed since at least 1953 through present day as an elementary school, head-start program/pre-school, and adult education center. The Subject property is currently under construction for development of the Proposed Katherine Johnson Middle School. AECOM biologists conducted a reconnaissance-level biological survey at and immediately adjacent to the Subject Property on April 20, 2022 to support the Biological Resources Survey Report (AECOM, June 2022). The following provides a summary of the ecological setting as detailed in the Biological Resources Survey Report.

The Subject Property is generally flat, with elevations ranging from approximately 60 to 62 feet above sea level (AMSL), gradually increasing from west to east. Prior to the current construction activities, the property consisted of developed areas (buildings/walkways) and managed field with residential landscape grasses, ruderal vegetation, and a few scattered trees. Future use and ecological setting of the Subject Property will be similar.

The Subject Property is not located within any identified habitat conservation plan, natural communities conservation plan, or other conservation plans. The managed field habitat provides limited foraging, roosting, and nesting sites for birds and some small mammals, but is unlikely to support a small mammal population large enough to attract raptor foraging. Urban-tolerant wildlife that may be present include opportunistic birds like American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), California scrub jay (*Aphelocoma californica*), and European starling (*Sturnus vulgaris*). Other wildlife that are tolerant of human disturbance may use developed areas for cover and foraging including opportunistic birds, the western fence lizard (*Sceloporus occidentalis*), and the eastern fox squirrel (*Sciurus niger*).

Chicken Ranch Slough is located just outside the northern property boundary. Chicken Ranch Slough is an intermittent stream. The banks are steep and vegetated with ruderal species including wall barley (*Hordeum murinum*), ripgut brome (*Bromus diandrus*), and English plantain (*Plantago lanceolata*). One mallard duck (*Anas platyrhynchos*) was observed swimming downstream. The slough is surrounded on both sides by riparian woodland with a non-native grassland understory. Given its urban setting, this section of Chicken Ranch Slough is heavily disturbed. It is unlikely that the slough provides quality habitat for aquatic species and fish are not likely to be present. Trash was observed in the waterway and along the banks. An encampment was observed between the schoolyard's fence and the slough. Due to the disturbed nature of this area and proximity to residential areas with heavy human influence, only wildlife species that can successfully coexist alongside human activity are likely to use the riparian woodland adjacent to the slough, such as squirrels and transient songbirds.

In addition, a small portion of the approximately 0.5-acre Creekside Nature Area, administered by the Fulton-El Camino Recreation and Park District, is adjacent to the Subject Property's northeastern boundary. This nature recreational area supports native California plants and foliage (FECRPD 2022).

As described in Section 5.3, depth to groundwater measured at the Chevron No. 9-8966 site located at 2500 Fulton Avenue, approximately 1,560 ft to the southwest of the subject property, was measured at depths of approximately 94 to 96 ft bgs in 2009. Actual depth and flow direction of groundwater beneath the Subject Property cannot be determined without site-specific groundwater monitoring well data. However, given the depth to groundwater nearby, groundwater at the Subject Property is presumably at a depth that precludes the potential for discharge to the nearby surface water bodies (including Chicken Ranch Slough).

In summary, there is a lack of quality terrestrial ecological habitat at the Subject Property, and the adjacent Chicken Ranch Slough provides disturbed, urban aquatic and riparian habitat. See the Biological Resources Survey Report (AECOM, 2022) for further details on the ecological setting, including documentation of wildlife and plant observations and representative photographs taken during the reconnaissance-level biological survey on April 20, 2022.

9.2 General Food Web Description

This section presents a brief account of the types of ecological receptors that are typically present at each level of the food web when sufficient habitat is available for foraging, resting, and/or breeding activities. Each general group of potential receptors represents some level of ecosystem structure or function, for example: primary producers (plants), primary consumers (herbivores and granivores like mourning doves and rock pigeon), higher-order omnivores and carnivores (crows and raptors), and detritivores and decomposers. The following is a general discussion of potential ecological receptors at the Subject Property.

Detritivores and Decomposers. Detritivores and decomposers are ultimately responsible for the recycling of chemical and nutrient energy back into simpler forms for reuse in the ecosystem. They include bacteria and fungi as well as a diversity of invertebrate species. The macroscopic

invertebrates that serve this function (e.g., spiders, arthropods) may also serve as important food resources for higher-order consumers.

Plant Community. Plants are the primary producers in ecosystems and are responsible for the photosynthetic conversion of solar energy to chemical energy. These types of organisms are obviously critical in the initial creation of energy inputs to the terrestrial ecosystem and, thus, have a crucial role. Given their immobility and direct contact with soil, plants could potentially be affected by chemical stressors.

Terrestrial Invertebrate Communities. Terrestrial invertebrates include aerial and soil-dwelling insects, spiders, worms, and other organisms that generally feed on plants, detritus, or other soil-dwelling species. The terrestrial invertebrate communities include primary and higher-order consumers that are themselves important prey species for resident wildlife. Because of their direct, intimate contact with soil, some of these types of organisms are highly exposed and are, therefore, useful for evaluating soil-bound chemicals.

Terrestrial Wildlife. In addition to the plant, terrestrial invertebrate, and decomposer communities, the wildlife community of the region includes a diversity of species of amphibians, reptiles, birds, and mammals, with a correspondingly diverse array of life-history habits. To characterize ecological risks to the wildlife community, individual species are typically identified within each group of organisms that are representative of the major types life-history habits for that group (primarily based on trophic level and foraging strategy).

The wildlife community can be differentiated into two general food-web categories: those that forage in the terrestrial habitats and those that forage in the aquatic environment. For these organisms, ingestion of site-related analytes (in food, soil or sediment, and surface water) is the primary route of exposure to reptiles, birds, and mammals, and although dermal and inhalation exposures occur, these routes are poorly characterized for most wildlife species and are also expected to be much less important than ingestion. Dietary preferences of the reptiles, birds, and mammals can then be broadly divided into a few general types, depending on environment in which the organism generally feeds. Wildlife feeding in the terrestrial environment generally feed on terrestrial plants or terrestrial invertebrates (e.g., beetles, spiders, and earthworms). Higher-level carnivores are unlikely to be present at the Subject Property because the managed field is unlikely to support a small mammal population large enough to attract raptor foraging (AECOM, June 2022).

As noted in Section 9.1.1, since there is a lack of quality ecological habitat at the Subject Property, no specific receptors of interest were identified.

9.3 California Natural Diversity Database

As documented in the Biological Resources Survey Report (AECOM, June 2022), prior to the reconnaissance-level biological survey on April 20, 2022, AECOM biologists evaluated the potential for special-status species to occur at and within the immediate vicinity of the Subject Property. This evaluation included special-status species occurrence queries of the California Natural Diversity Database (CNDDB) (CDFW, 2022b) for species within a 3-mile radius of the

Subject Property, query of the California Native Plant Society Rare Plant Inventory (CNPS, 2022) to identify sensitive plant species within a nine-quadrangle of the area, as well as review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) project planning tool (USFWS 2022a), USFWS National Wetlands Inventory (NWI) (USFWS 2022b), and the USFWS Critical Habitat Mapper (USFWS 2022c). Although special-status species were identified based on the query parameters, no special-status species were observed and no suitable habitat for special-status species was identified at the biological survey area (i.e., Subject Property and Chicken Ranch Slough) during the reconnaissance. Due to a lack of suitable habitat and the highly disturbed nature of the ruderal vegetation and trees within the biological survey area, combined with the site's proximity to the busy Watt Avenue and neighboring residences, it was determined that special-status wildlife species occurrence within the biological survey area, including the Subject Property, would be unlikely (AECOM, June 2022).

To support this ESE, a current query of the CNDDDB was conducted to identify sensitive species and habitats that occur within a 1-mile radius of the Subject Property. Only actual sightings of species or species previously known to be present on a given site are recorded. The CNDDDB output is provided in Appendix D. The output was reviewed in relation to the species and habitat observations made during the April 2022 biological reconnaissance.

Of the five species reported by the CNDDDB to be present within a one-mile radius of the Subject Property, only the three bird species are protected. Table D-1 lists these species, their regulatory status, habitat requirements, and potential to occur at within the immediate vicinity of the Subject Property. As illustrated in Figure D-1 (Appendix D) all three species occurrences are to the west and approximately 0.88 miles from the Subject Property. The following summarizes the evaluation for the three bird species:

- The Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is listed as threatened under the Federal Endangered Species Act, endangered under the California Endangered Species Act, and a species of special concern according to the California Department of Fish and Wildlife (CDFW 2023a). The cuckoo requires riparian forests of willows and cottonwoods to nest. The most recent sighting of the cuckoo within a one-mile radius of the Subject Property was recorded in 1877. There are no recent records of this species within 15 miles of the Subject Property. There is no potential for occurrence because urban development has eliminated the habitat required for the cuckoo in this area.
- The burrowing owl (*Athene cunicularia*) is not listed federally or by the state of California but is listed as a species of concern by the CDFW (2023b). The owl requires an open, dry habitat with low growing vegetation, short grass, and bare soils. They have been observed to frequent grasslands and shrublands with perches and burrows, typically relying on other burrowing mammals, most notably the California ground squirrel (*Otospermophilus beecheyi*), to provide underground burrows. The most recent sighting within a one-mile radius of the Subject Property was recorded in 1901 and there are no recent records of this species within 3 miles of the Subject Property. There is no suitable habitat available

for the burrowing owl, including small mammal burrows or other refugia, at the Subject Property.

- The song sparrow ("Modesto" population) (*Melospiza melodia* pop. 1). is not listed federally or by the state of California but is listed as a species of special concern by the CDFW (2023b). The song sparrow requires moderately dense vegetation to provide cover for nesting sites, a source of water, and exposed ground for foraging. They prefer riparian, wetland, and meadow habitats. The most recent sighting of the song sparrow within a one-mile radius of the Subject Property was recorded in 1900. There are no recent records of this species within 10 miles of the Subject Property. Urban development has replaced much of the wetlands, vegetation, and other suitable habitat in the area. The song sparrow is not likely to occur within the biological survey area, including the Subject Property.

9.4 Ecological Conceptual Subject Property Model

The ecological CSM, included as Figure 6, provides a description of the links between potential contaminant sources (see Section 6) and release mechanisms at the Subject Property and exposure point media (soil, groundwater, air, etc.), potential exposure routes (ingestion, inhalation, dermal contact, root uptake, etc.), and potential ecological receptors. The receptors shown in the CSM include general food web receptors (see Section 9.1.2), i.e., terrestrial plants, soil invertebrates, terrestrial plants, and terrestrial mammals.

Professional judgment was used to determine the completeness of the potential exposure pathways identified on the CSM. The importance of each exposure route associated with each receptor is represented by a solid circle for potentially significant (complete) pathways and by an open circle for minor or unquantifiable pathways.

Chemicals detected in soil at the Subject Property include arsenic, lead, OCPs, and Aroclor 1260 (Tables 1 through 3). While VOCs were not detected in soil (Table 4), VOCs were detected in soil gas (Table 5). The predominant potential ecological exposure pathways at the Subject Property would be related to chemicals detected in surface soil (0 to 2 inches bgs), and burrowing mammals could be exposed to soils down to 6 feet bgs (DTSC 1998). Potential ecological exposure pathways from soil include direct contact with and incidental ingestion of soil, and indirect contact by consumption of dietary items (e.g., plants or prey) that have been exposed to chemicals in soil. Due to the presence of VOCs, burrowing mammals may also be exposed via inhalation of burrow air.

As noted in Section 9.1.1, the Subject Property is and will continue to be comprised of developed and disturbed areas with heavy human influence (i.e., middle school buildings, concrete pathways, landscaping, and maintained field used by students/staff). Although the maintained field, landscape trees, and developed area could provide limited and likely transient foraging, roosting, and/or nesting sites for opportunistic birds (e.g., crows, doves, jays), some small mammals (e.g., eastern fox squirrel), and reptiles (e.g., western fence lizard) that are tolerant of human disturbance, the Subject Property lacks adequate quality foraging resources to result in significant presence of birds, mammals, and other wildlife. Thus, the primary mechanism of exposure to chemicals for wildlife, i.e., dietary consumption, is minor or absent (e.g., raptors). As

such, direct/dermal contact with soil is also considered minor. Exposure to subsurface soils and soil gas by burrowing wildlife is likewise considered an insignificant/minor pathway because of the lack of quality ecological habitat at the Subject Property. In reality, these exposure pathways are incomplete for the majority of the Subject Property (i.e., developed areas covered by buildings, walkways, and other structures/surfaces).

The closest surface water feature is the Chicken Ranch Slough, an intermittent stream, located adjacent to the Subject Property along then northern boundary. The Subject Property is generally flat (see Section 9.1) and will be covered by buildings, paved areas, and a maintained vegetated field; therefore, potential overland flow to the Chicken Ranch Slough is not anticipated. In addition, groundwater is presumably at a depth that preclude the potential for discharge to the Chicken Ranch Slough (see Section 9.1). Therefore, the potential leaching of chemicals present in soil to groundwater and eventually discharging to surface water is an incomplete exposure pathway.

9.5 Conclusions

The findings of ESE indicate that the habitat at the Subject Property is highly urban in nature and will continue to support a high level of human activity in the future. This is also true of the surrounding, primarily residential, properties. The limited terrestrial habitat that will be present after construction of the middle school will offer minimal foraging and nesting resources for wildlife receptors, and even common species of wildlife, primarily transient song birds, are not likely to be abundant. No threatened or endangered or otherwise protected species are likely to occur at the Subject Property. The potential for overland soil migration to Chicken Ranch Slough, along the northern property boundary, is expected to be low based on site (flat) topography and because the Subject Property will be covered by buildings, paved areas, and a maintained vegetated field.

Based on these findings, a quantitative evaluation (i.e., ecological screening assessment) is not warranted.

10 PUBLIC PARTICIPATION

Public notification of PEA activities was performed in accordance with California Education Code requirements and the guidance of DTSC.

10.1 PEA Work Notice

Prior to conducting the field sampling for the PEA, a work notice, notifying residents/businesses within view of the Subject Property of the upcoming sampling activities, was hand delivered to the nearby neighborhoods on April 6, 2023, pursuant to the requirements of California Education Code Section 17210.1(b). A copy of the PEA work notice is included in Appendix E.

10.2 Public Comment Period and Public Hearing

SJUSD provided a 30-day public comment period for the Draft PEA Report from April 18 through May 19, 2023, and held a public hearing on May 9, 2023, pursuant to the requirements of California Education Code Section 17213.1(a). Notice of the public comment period was published in a general circulation newspaper. During the public comment period, the Draft PEA Report was available for public review and comment at the following addresses:

San Juan Unified School District
3738 Walnut Avenue
Carmichael, California 95608

San Juan Unified School District
5320 Hemlock Street
Sacramento, California 95841

Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

The Draft PEA Report also was available on the Internet at the DTSC “EnviroStor” database – see “Activities” tab at the following Internet address:

<http://www.envirostor.dtsc.ca.gov/public/profile>

Anyone interested in reviewing the Draft PEA Report, or providing comments, was instructed to contact Ms. Lisa Holcomb, DTSC Project Manager, by telephone at (916) 255-6523 or by electronic mail at lisa.holcomb@dtsc.ca.gov, or Mr. Nicholas Arps, SJUSD Director, Facilities, Construction & Modernization, by telephone at (919) 971-5780 or by electronic mail at Nicholas.arps@sanjuan.edu.

One comment was made by resident Mr. Michael Seaman at the San Juan Unified School District Board of Trustees Agenda Item 1-3, Public Hearing on Preliminary Environmental Assessment (PEA), Katherine Johnson Middle School Construction Project at Board of Trustees’ meeting of May 9, 2023.

Mr. Seaman's comments have been addressed in this report and a copy of the comment is attached in Appendix D.

A letter from Kassoni Law addressed to DTSC c/o Mr. Jose Salcedo, Unit Chief and SJUSD c/o Nicholas Arps was received dated May 16, 2023.

Kassoni Law comments have been addressed in this report and a copy of the comment is attached in Appendix D.

11 QA/QC PROGRAM

The QA/QC Program was implemented in accordance with the procedures set forth in Section 7.3 of the PEA Workplan.

Atlas Technical Consultants are responsible for implementing their own QA/QC program. This information is not in the current “*Limited Investigation Report and Addendum*” by Atlas.

Atlas states the sampling and reporting was conducted under generally accepted professional engineering and environmental consulting practices. Overall, the data is considered useable for decision-making purposes.

12 HEALTH AND SAFETY

During the PEA field activities, the site-specific Safe Work Plan (SWP) included in the PEA Workplan was followed to provide for the Subject Property worker health and safety. Atlas and TEG field personnel reviewed their own Health and Safety Plan prior to commencing field work. During field activities, appropriate “Level D” personal protective equipment was worn by all personnel. No conditions were encountered that required an upgrade above “Level D” personal protective equipment. No health and safety incidents or emergency actions occurred during the field program.

13 VARIANCES TO THE WORKPLAN

Variances to the PEA Workplan were required during implementation.

Nomenclature of soil and soil gas samples was changed by Atlas during the collection of samples in May through June 2023.

Soil Sample ID numbers were established by Atlas during the collection of samples.

- The acronym Katherine Johnson Middle School (KJMS) -AR1 through KJMS-AR5 was used for field samples for arsenic.
- The acronym Katherine Johnson Middle School (KJMS) – 1- 29 was used for samples collected around the existing school buildings for Lead and PCBs.
- The acronym Katherine Johnson Middle School (KJMS) – OP1 through OP5 and KJMS-30-6", 2.5', and 4' through 45 - 6", 2.5', and 4' was used for samples collected around the existing school buildings for OCPs.
- The acronym Katherine Johnson Middle School (KJMS) – 1- 29 was used for samples collected around the existing school buildings for Lead.
- The acronym Shed -1 and Shed-2 at 6 inches for VOCs soil samples collected on each side of the shed structure.
- The acronym SV-1s (s) shallow 5 ft. bgs and SV-1d (d) deep at 10 ft. bgs through SV-2s and SV-2d. for soil gas samples for VOCs collected on the southeast corner of the property.
- The acronym SV-3s (s) shallow 5 ft. bgs and SV-3d (d) deep at 10 ft. bgs through SV-5s and SV-5d. for soil gas samples for VOCs collected on as step outs to the north of the first two soil gas locations.
- Soil gas samples in the proposed building footprint used the acronym – SV-6s (s) shallow 5 ft. bgs and SV-6d (d) deep at 10 ft. bgs through SV-15s and SV-15d. for soil gas samples for VOCs.

14 CONCLUSIONS AND RECOMMENDATIONS

The subsections below present the conclusions and recommendations for this PEA.

14.1 Summary and Conclusions

The subject property consists of one parcel of land that are designated as APN 268-029-000-10000 (9.75 acres). The subject property was an active adult center built in 1953 as an elementary school. The school consisted of gymnasium/multi-purpose room with stage, front office, library/media center, kitchen, classrooms, restrooms, utility rooms, server room, electrical rooms, breezeways, grass field, large, fenced vegetable garden, baseball field, basketball courts, four mobile trailers, and asphalt parking lots.

Historical documents indicate that the subject property has been developed since at least 1954 through present day as an elementary school, head-start program/pre-school, and adult learning center. The school added basketball courts, what appears to be tennis courts, baseball field, and parking lots between the 1950s until the 1970s. Prior to the 1950s the subject property was cleared fields that appear to be agricultural.

The PEA field investigation was performed in March, April, May, and July 2023, conducted by Atlas and TEG under contract by SJUSD. Soil samples were collected at numerous locations and submitted to environmental laboratories for analysis of various COCs, such as metals like arsenic and lead, VOCs, OCPs, and PCBs that may be present in the Subject Property subsurface. Active soil-vapor samples were also collected at 5 ft bgs and 10 ft bgs dual nested soil vapor points at two locations on the Subject Property (SV-1 to SV-2) and submitted to an environmental laboratory for analysis of VOCs. Elevated concentrations of COCs were detected in some soil and both soil vapor samples. After discussions with the SJUSD and DTSC, follow-up soil vapor sampling was performed on April 7, 2023. The follow-up sampling included three additional soil vapor locations with samples collected from 5 ft bgs ("s") and 10 ft bgs ("d") dual-nested vapor points at each location. On April 28 and May 1, 2023, ten additional boring locations (SV-6 through SV-15) were drilled and dual-nested soil vapor points at 5 ("s") and 10 ft bgs ("d") were installed at each location. On July 10, 13, and 14, 2023 soil samples were collected at 0.5 ft, 2.5 ft, and 4 ft. at 48 locations around the former building foundations and analyzed for organochlorine pesticides (OCPs) to determine if termiticides are present in site soil.

A human health screening evaluation was conducted using the laboratory analytical results. The maximum detected concentrations in the Subject Property soil were compared to residential soil screening levels established by DTSC, the SFRWQCB, and the USEPA. The maximum detected concentrations in the Subject Property soil-gas were multiplied by an assumed indoor-air attenuation factor of 0.03 and then compared to residential air screening levels.

The PEA findings for the human health screening are summarized as follows:

- Arsenic was detected in all discrete soil samples that were analyzed (Table 1). The maximum detected arsenic concentration in discrete soil samples was 5.0 mg/kg, which is less than background levels (Section 7.4.4). Elevated arsenic concentrations

were limited to the native soil on cleared grassy fields to the north and west of the school structures. (Figure 2). A background data set was compiled from Arden Middle School and Katherine Johnson Middle School data sets to establish a general background arsenic concentration from the 95% UTL to establish the UTV of 6.2 mg/kg. Concentrations of all samples were less than the UTV of 6.2 mg/kg.

- Lead was detected in all discrete soil samples that were analyzed (Table 1). The maximum detected lead concentration was 27 mg/kg, (Section 7.4.4). All lead detections were at concentrations less than the DTSC HERO residential SL of 80 mg/kg.
- A PCB compound identified as PCB-1260 was detected at concentrations of 0.0027 J² mg/kg at KJMS-3, 0.0023 J mg/kg at KJMS-6, and 0.0086 J mg/kg at KJMS-11. These surface soil samples were collected near the southernmost classrooms and office buildings. The detected concentrations are less than the residential screening level of 0.24 mg/kg. No other PCBs were detected in any other soil samples.
- Several OCPs were detected in one soil sample (KJMS-OP4) and its duplicate (Table 2). The following OCPs were detected: 4,4-DDD at a concentration of 0.00035 J mg/kg, 4,4,-DDE at a concentration of 0.0052 mg/kg, and 4,4-DDT at a concentration of 0.0082 mg/kg. All concentrations are less than their respective DTSC HERO residential SLs of 1.9 mg/kg, 2.0 mg/kg, and 1.9 mg/kg.
- Additional OCPs were collected at 0.5 ft., 2.5 ft., and 4 ft., bgs. around the former building foundation to determine if termiticides were present (Table 2). Aldrin exceeded the HHRA Note 3 SLs) and RSLs of 0.039 milligrams per kilogram (mg/kg) in four samples (KJMS-31-0.5 feet (ft.), KJMS-32-.05 ft. and 2.5 ft., and KJMS-35-2 ft.) at concentrations of 0.64 to 0.47 mg/kg. Chlordane (Technical) exceeded HHRA Note 3 SLs and RSLs of 1.7 mg/kg in one sample KJMS-31-0.5 ft. at a concentration of 6.6 J mg/kg. Dieldrin exceeded the HHRA Note 3 SLs and RSLs of 0.034 mg/kg in three samples (KJMS-31-0.5 ft, KJMS-32-0.5 ft, and 2.5 ft. at concentrations from 0.043-0.17.
- VOCs were detected in the active soil-gas samples (Table 5). Chemicals with detection(s) that exceeded residential indoor air screening levels (following application of an attenuation factor of 0.03) were benzene, chloroform, PCE, TCE, and total petroleum hydrocarbons in the C5-C12 range (TPH C5-C12).
- Two surface soil samples were collected at 0.5 ft bgs near the shed. Neither soil sample had detections of VOCs.
- A human health screening evaluation was performed in accordance with PEA guidance. For COCs detected in soil, the cumulative calculated excess cancer risk was 2E-05 which is greater than 1.0E-06. The calculated hazard index is 0.5, which is below 1. For COCs detected in soil vapor, applying an attenuation factor of 0.03, the total cumulative calculated excess cancer risk associated with the maximum

² The J Laboratory flag. Result is less than the RL but greater than or equal to the MDL and the concentration is an estimated value

concentration of each COC was $5E-05$ which is greater than $1E-06$. The hazard index was 3, which is greater than 1.

- An ESE was also conducted for the Subject Property. The findings of ESE indicate that the habitat at the Subject Property is highly urban in nature and will continue to support a high level of human activity in the future. This is also true of the surrounding, primarily residential, properties. The limited terrestrial habitat that will be present after construction of the middle school will offer minimal foraging and nesting resources for wildlife receptors, and even common species of wildlife, primarily transient songbirds, are not likely to be abundant. No threatened or endangered or otherwise protected species are likely to occur at the Subject Property. The potential for overland soil migration to Chicken Ranch Slough, along the northern property boundary, is expected to be low based on site (flat) topography and because the Subject Property will be covered by buildings, paved areas, and a maintained vegetated field.

Based on these findings, a quantitative evaluation (i.e., ecological screening assessment) is not warranted.

14.2 Recommendations

Based on these findings, AECOM recommends installation of a soil vapor barrier beneath the foundations of the proposed school buildings to mitigate potential vapor encroachment concerns. Post-implementation seasonal indoor air sampling is recommended to ensure vapor intrusion does not continue to impact indoor air. Also continued operation and maintenance (O&M) of the vapor barrier will need to be implemented with annual inspections. Any possible breaks in the vapor barrier will need to be repaired and maintained on a regular basis.

AECOM also recommends digging out soil in three locations (KJMS-31, KJMS-32, and KJMS-35) in a 2-foot x 2-foot square and to a depth of three feet below ground surface, segregate the soil, store on a polyurethane sheeting, cover with polyurethane sheeting, manifest, and dispose off site at a licensed landfill. Excavation operations will follow the DTSC Updated Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based paint, Termiticides, and Electrical Transformers dated June 2006.

Confirmation soil samples will be collected from each of the side walls at the depths of previously detected exceedances and from the floor of excavation. Confirmation soil samples will be analyzed for OCPs by EPA Method 8081A. Upon review of analytical data and confirmation of clean soil limits, the excavations will be filled with clean fill material.

The soil quantity is approximated to be less than one truck load and can be removed as investigation derived waste in accordance with the DTSC Updated Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based paint, Termiticides, and Electrical Transformers (DTSC 2006).

15 LIMITATIONS

This report was prepared in accordance with the scope of services set forth in the written agreement signed by SJUSD and AECOM. No other services beyond those explicitly stated should be inferred or are implied. This report was prepared by AECOM for SJUSD in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists, and environmental scientists in the geographic area of the Subject Property at the time AECOM's services were provided. AECOM provides no other warranties, either express or implied, concerning the contents of this report, which was prepared under the technical direction of the AECOM staff whose signatures appear on the cover letter included with this report. This report is intended for use in its entirety. No excerpts may be taken to be representative of the findings of this assessment.

The conclusions presented in this report are professional opinions based solely on AECOM's review of available historical information, observations of the Subject Property, review of lithologic/chemical data from borings drilled at the Subject Property, and review of other readily available information, as referenced in this report. The conclusions presented herein are intended exclusively for the objective stated herein, at the Subject Property indicated, and for the project indicated. Subsurface investigations inherently involve some measure of uncertainty due to the impossibility of fully characterizing the entire subsurface volume beneath a Subject Property. Analytical results from this PEA are believed to be representative of the concentrations of those chemicals selected for analysis at the locations and depths from which the samples were collected. There may be other chemicals present in the samples that were not detectable using the selected analytical methods. In addition, these analytical results may not be representative of conditions at other locations and depths at the Subject Property. Conditions may change with the passage of time. The limited investigation sampling procedures, implementation, and data have been furnished to AECOM by SJUSD and was conducted by a third party (Atlas and TEG), which AECOM has used in preparing this report. AECOM has relied on this information as furnished and is neither responsible for nor has confirmed the accuracy of this information.

This report is intended for use solely by SJUSD. The scope of services performed during this investigation may not be appropriate for other users, and any use or re-use of this document, or the findings, conclusions, or recommendations presented herein, is at the sole risk of said users.

Opinions and recommendations presented in this report apply to Subject Property conditions and features as they existed at the time of AECOM's Subject Property visits. They do not necessarily apply to conditions or features of which AECOM is unaware and has not had the opportunity to evaluate.

16 REFERENCES

- AECOM Technical Services, Inc. (AECOM), 2023. Preliminary Environmental Assessment Workplan, Planned School Site for Katherine Johnson Middle School, 2641 Kent Drive, Sacramento, California. April 2023.
- AECOM Technical Services, Inc. (AECOM), 2022. Phase I Environmental Site Assessment of Creekside Adult Center. August 2.
- California Environmental Protection Agency (CalEPA), 2023. Final Draft Supplemental Guidance: Screening and Evaluating Vapor. *February 2023*.
- California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), 2006. Interim Guidance, Evaluation of School Subject Properties with Potential Soil Contamination As a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers. Revised June 9, 2006.
- California Resources Agency, Department of Water Resources (DWR), 1980. *Ground Water Basins in California, Bulletin 118-80*. January 1980.
- Department of Toxic Substances Control (DTSC). 2008. *Interim Guidance for Sampling Agricultural Properties* (Third Revision). August 7, 2008.
- Department of Toxic Substances Control (DTSC). 2011. Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October.
- Department of Toxic Substances Control (DTSC). 2015a. *Advisory Active Soil Gas Investigations*. July.
- Department of Toxic Substances Control (DTSC), Cal EPA, and California State Water Resources Control Board. *Final Draft of Supplemental Guidance: Screening and Evaluating Vapor*. February 2023.
- Department of Toxic Substances Control (DTSC). 2015b. Preliminary Endangerment Assessment (PEA) Process Quick Reference Guide. October.
- Department of Toxic Substances Control (DTSC). 2022. Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs). May.
- Entek Consulting Group Inc. (Entek). 2022. *Hazardous Materials Survey Final Report: Creekside Adult Center*. April 1
- Interstate Technology & Regulatory Council (ITRC), 2012. Incremental Sampling Methodology. February 2012.
- Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A) Interim Final. EPA/540/1-89/002. Office of Emergency and Remedial Response U.S. Environmental Protection Agency. December 1989. Available for downloading at: <https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part>

United States Environmental Protection Agency (USEPA), 2015. EPA's Vapor Intrusion Database: Evaluation and Characterization of Attenuation Factors for Chlorinated Volatile Organic Compounds and Residential Buildings, EPA 530-R-10-002. June 2015.

United States Environmental Protection Agency (EPA). 2015a. *Guidance on Environmental Data Verification and Data Validation*. June.

United States Environmental Protection Agency (EPA). 2015b. OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. June.

United States Environmental Protection Agency (EPA). 2021. *Regional Screening Levels*. Accessible at <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>. November.

Figures

C:\Users\Bhargava\AECOM\GIS Services - GIS CAD PROJECTS\DCS AMERICAS\REINVEST\FB15A\Creekside Adult Center\WORKSPACE\20220816-Phase 1- Site Location Map.dwg Aug 17, 2022 - 4:31pm



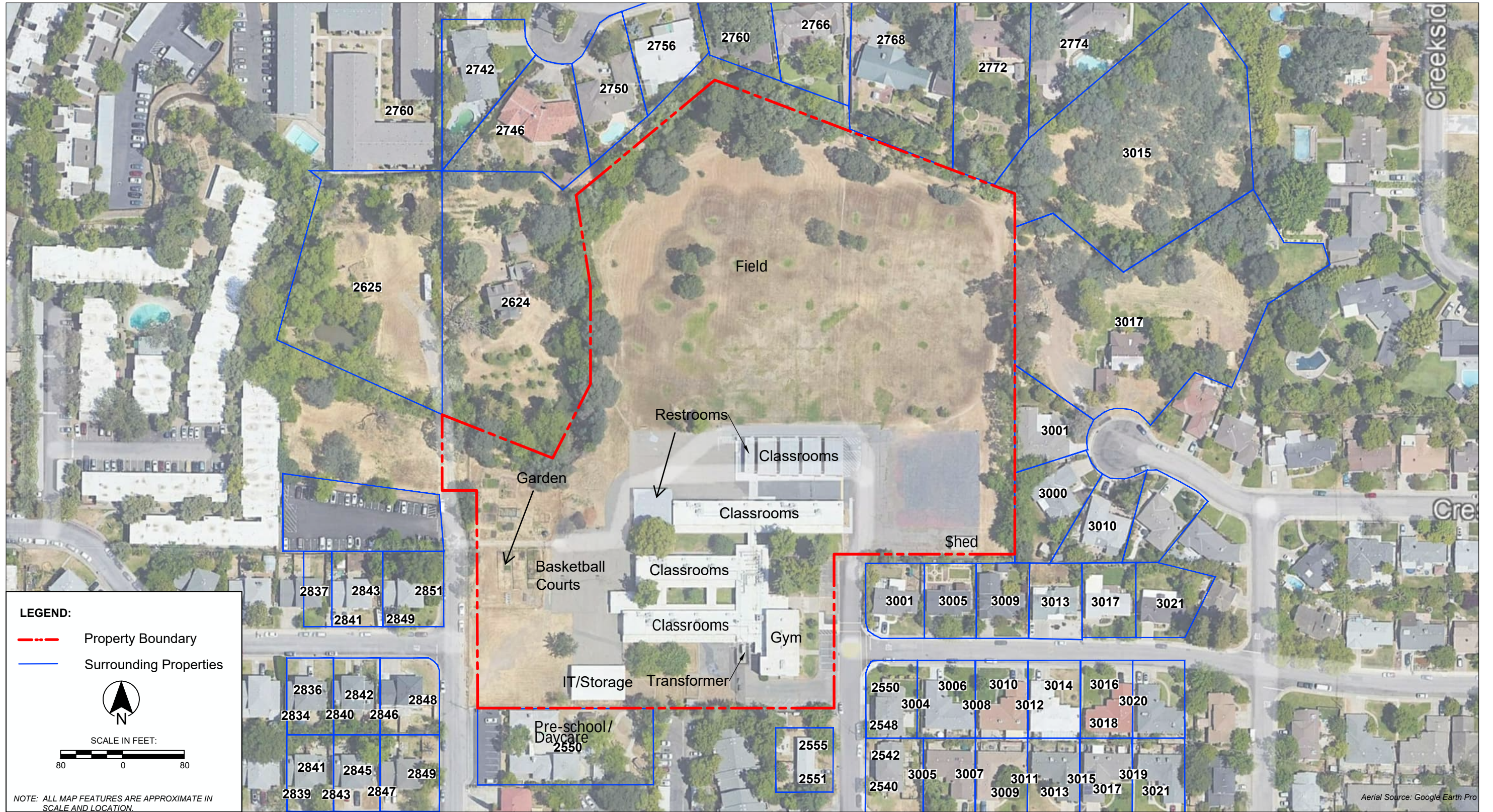
SITE LOCATION MAP

CREEKSIDE ADULT CENTER
2641 KENT DR
SACRAMENTO CA 95821

FIGURE 1



C:\Users\Bhadrar\AECOM\GIS Services - GIS CAD PROJECTS\DCS AMERICAS\REINVEST\FB15A\Creekside Adult Center\WORKSPACE\20220816-Phase 1 ESA\Figure 2- Site Layout Map.dwg Aug 17, 2022 - 5:45pm

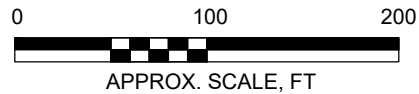


SITE LAYOUT MAP

CREEKSIDE ADULT CENTER
2641 KENT DR
SACRAMENTO CA 95821

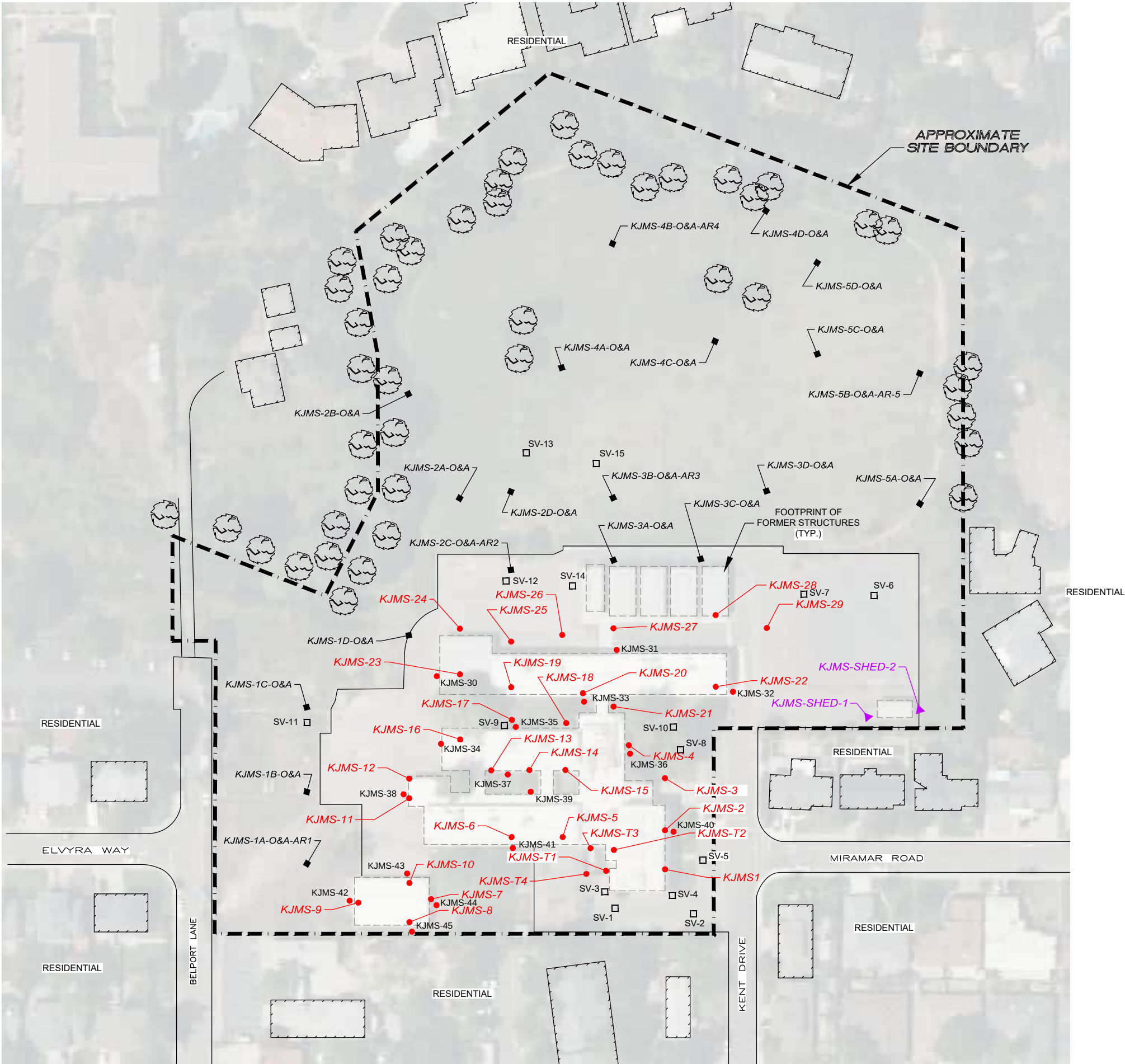
FIGURE 2

S:\Projects-BST\KITCHEN CM\2054000356 KJ MIDDLE SCHOOL\SITEPLAN.dwg



LEGEND

- SOIL SAMPLE
- ▲ SOIL SAMPLE
- SOIL SAMPLE
- SOIL VAPOR SAMPLE



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

SITE PLAN & SAMPLE LOCATIONS

KATHERINE JOHNSON MIDDLE SCHOOL
2641 KENT DRIVE
SACRAMENTO, CA

PROJECT NUMBER: Z054000356	DATE: 4/11/23	FIGURE
APPROVED BY: JH	DRAWN BY: BK	3

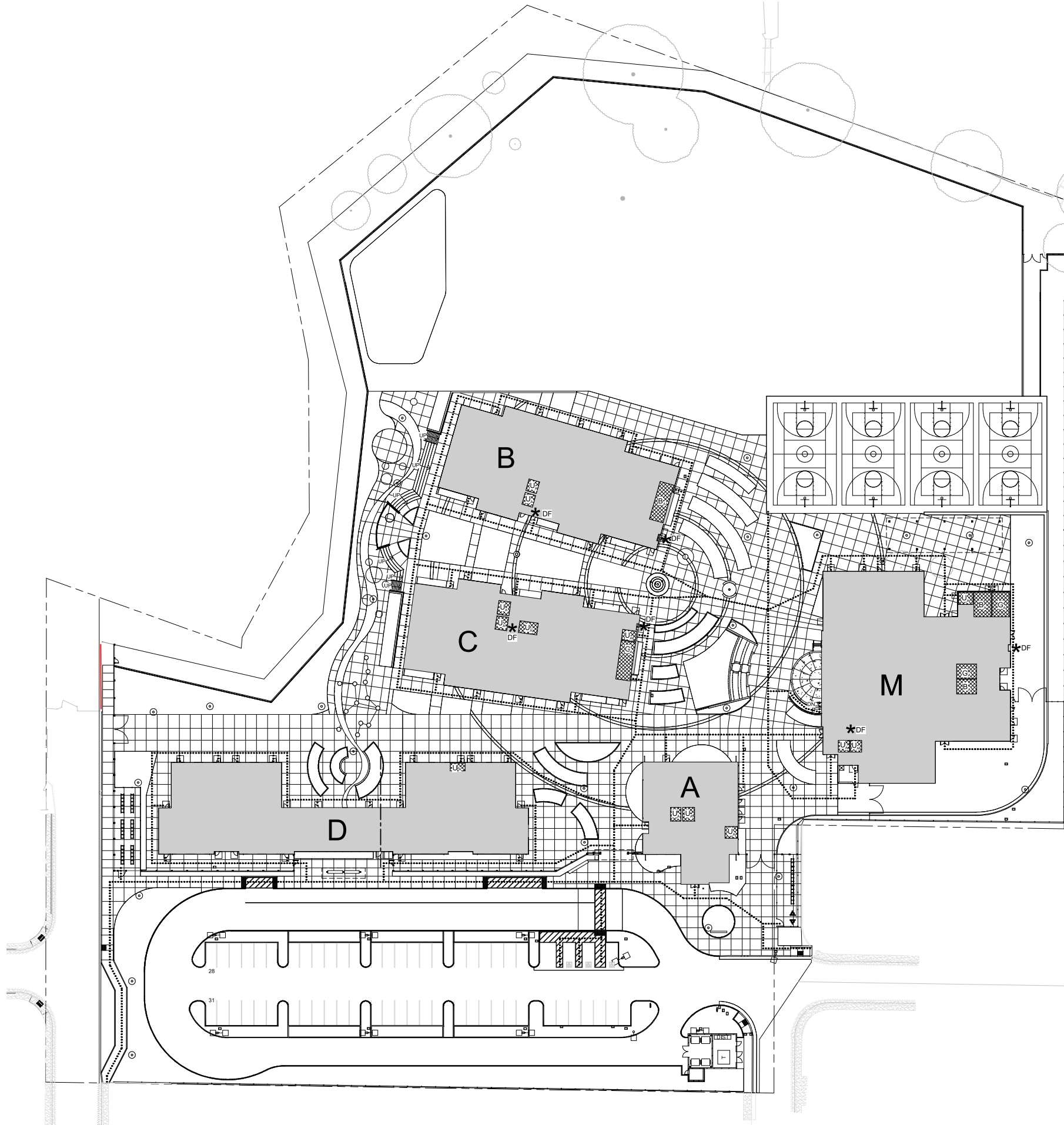
ATLAS
1117 Lone Palm Avenue, Ste. 201
Modesto, California 95351
Ph: (209) 579-2221 *** Fax: (209) 579-2225

IF THIS SHEET IS NOT 30"x42" IT IS A REDUCED PRINT - SCALE ACCORDINGLY

BM 3610102001 5.0.00 AutoCAD MS 2022/02_ARCH/MSD_ARCH/MSD_ARCH_CENTRAL.vrt

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1 ACCESSIBILITY SITE PLAN
SCALE 1" = 30'-0"



LEGEND

..... ACCESSIBLE PATH OF TRAVEL

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

- PROPERTY LINE AND LIMITS OF ARCHITECTURAL SCOPE OF WORK
- [Hatched Box] ACCESSIBLE DROP OFF ZONE
- [Square with X] PARKING LIGHT STANDARD
- [Star with DF] ACCESSIBLE DRINKING FOUNTAIN
- [Square with PH] PANIC HARDWARE AT GATES
- [Hatched Box with B] BOY'S RESTROOM (A' = ACCESSIBLE)
- [Hatched Box with G] GIRLS RESTROOM (A' = ACCESSIBLE)
- [Hatched Box with U] UNISEX RESTROOM (A' = ACCESSIBLE)

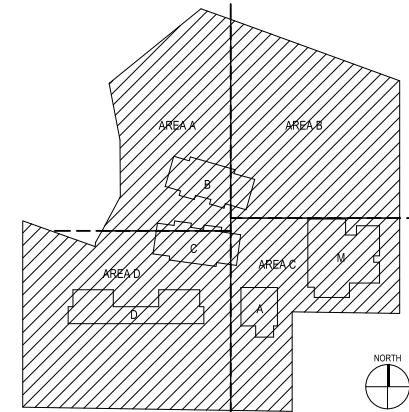
PARKING SUMMARY

STAFF / VISITOR PARKING						
	NON ACCESSIBLE SPACES	STANDARD ACCESSIBLE REQUIRED	STANDARD ACCESSIBLE PROVIDED	VAN SPACES REQUIRED	VAN SPACES PROVIDED	TOTAL
TOTAL	56	3	3	1	1	59
REQUIRED CLEAN AIR / VANPOOL / CARPOOL PER 2019 CBC 5.106.5.2:						
						9
REQUIRED FUTURE ELECTRIC VEHICLE (EV) CHARGING SPACES (QUALIFY AS DESIGNATED PARKING FOR CLEAN AIR VEHICLES) PER 2019 CBC 5.106.5.3.3:						
						7

ACCESSIBLE PATH OF TRAVEL:

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLANS IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF REVEALED AT 1:2 MAXIMUM SLOPE OF VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAXIMUM AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL ABOVE 27" AND LESS THAN 80". ARCHITECT SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

KEY PLAN



LIONÄKIS

2025 Nineteenth Street
Sacramento, CA 95818
P 916.558.1900
www.lionakis.com

CONSULTANT

SEAL

PROJECT
KATHERINE JOHNSON
MIDDLE SCHOOL
INCREMENT #2
2641 KENT DR.
SACRAMENTO, CA 95821

CLIENT
SAN JUAN UNIFIED SCHOOL DISTRICT
3738 WALNUT AVENUE
CARMICHAEL, CA 95608

ISSUED		
MARK	DATE	DESCRIPTION

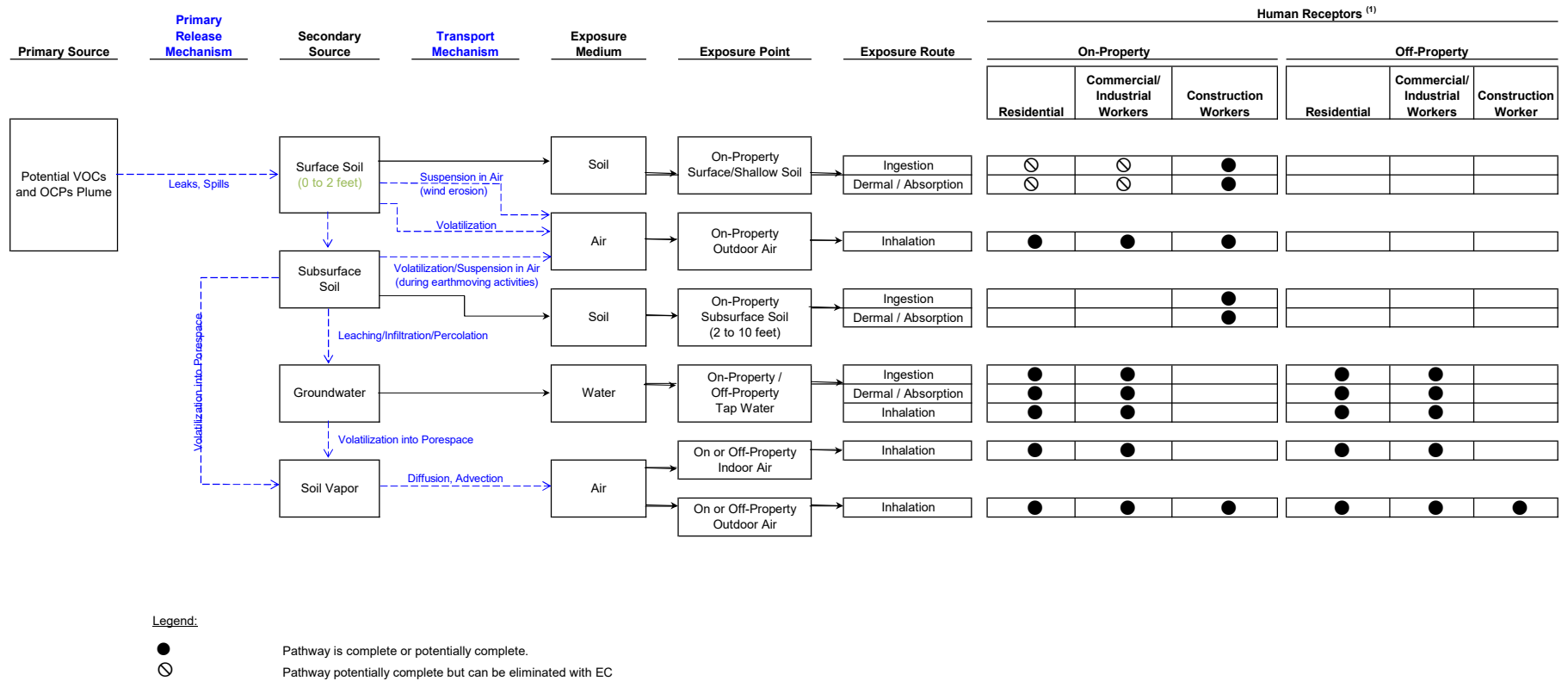
MANAGEMENT
LIONAKIS PROJECT NO.: 022002
DSA APPLICATION NO.: 02-120501
COPYRIGHT: LIONAKIS 2022

Figure 4
Proposed New
KJMS Layout Plan

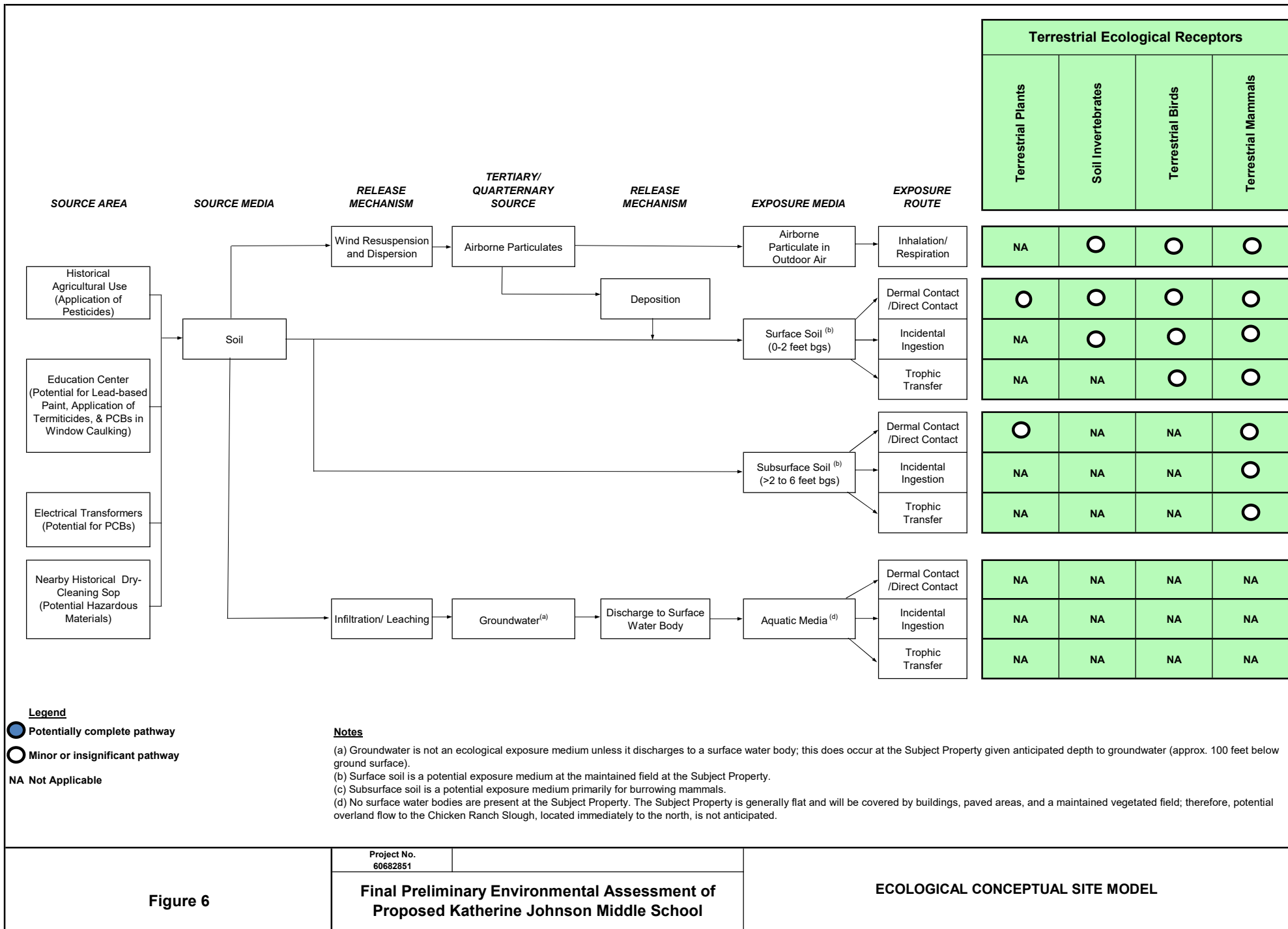
TITLE
ACCESSIBILITY SITE
PLAN

SHEET
GA101

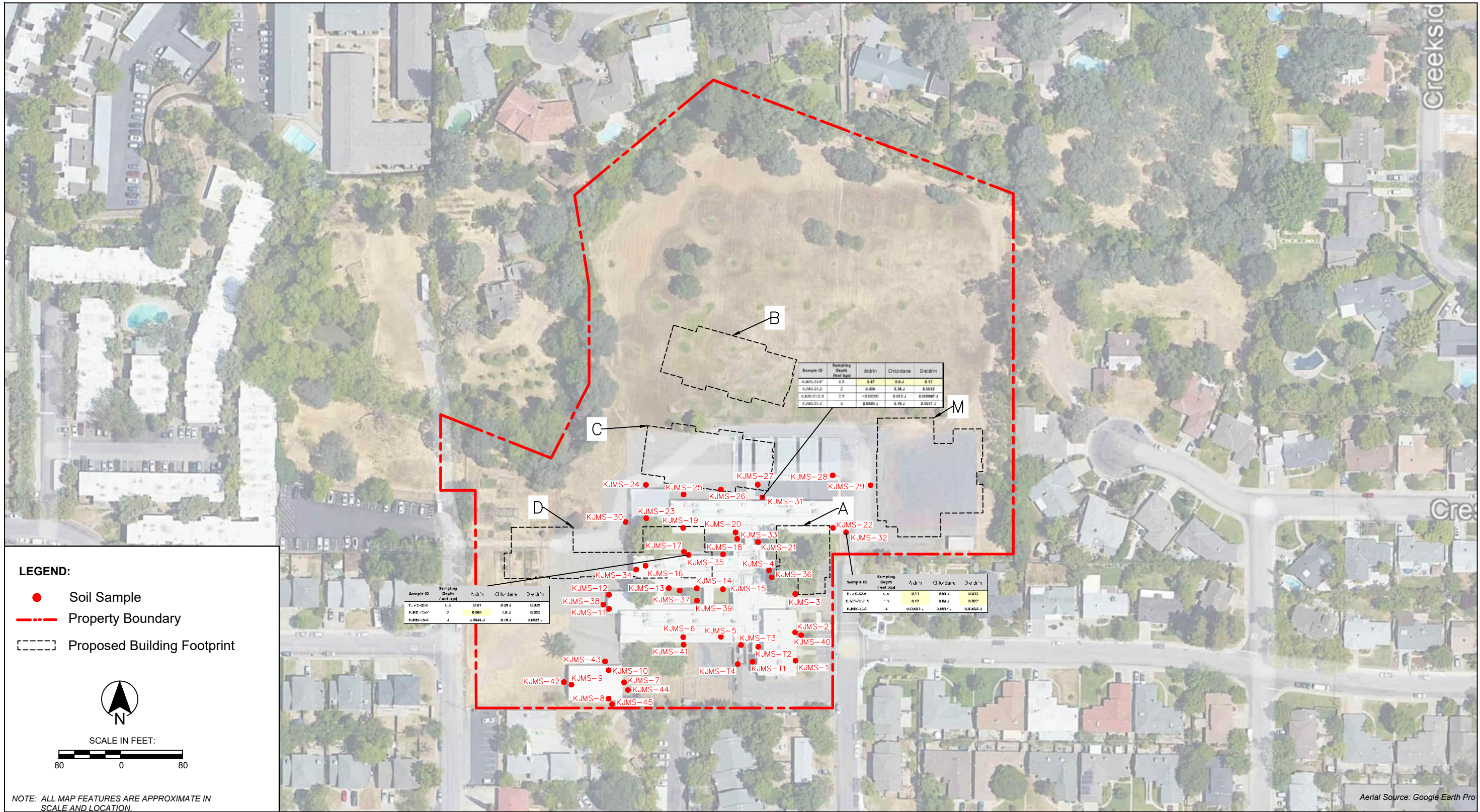
Figure 5
Conceptual Site Model
Katherine Johnson Middle School
2641 Kent Drive
Sacramento, California



⁽¹⁾ Ecological Receptors are not present on or off Property.



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PROPOSED SOIL REMOVAL MAP

CREEKSIDE ADULT CENTER
2641 KENT DR
SACRAMENTO CA 95821

FIGURE 7

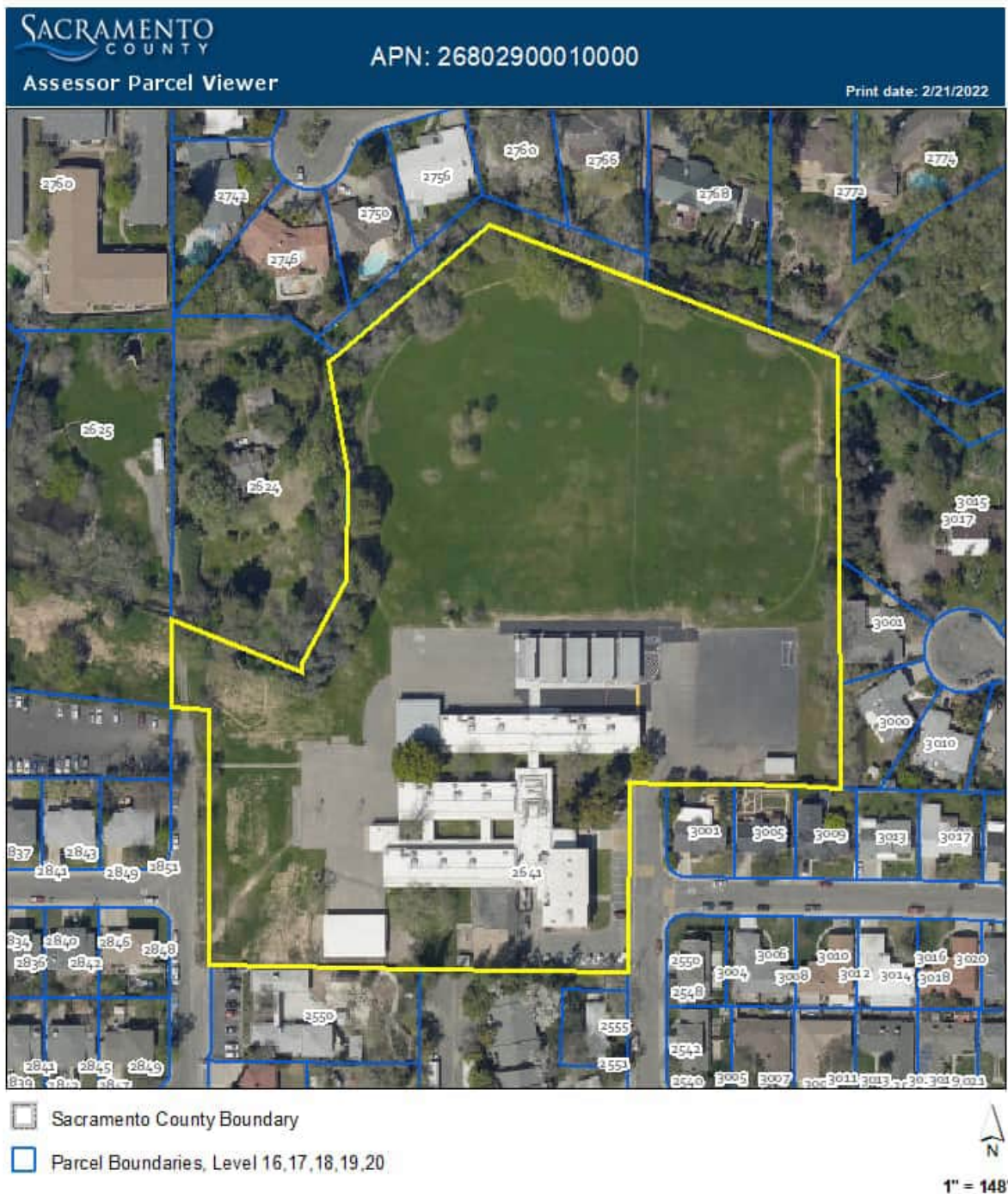


Figure 8: Sacramento County GIS Map and Assessor Information

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**Information for Parcel:**

268-0290-001-0000

[Read Our Data Disclaimer](#)**PROPERTY INFORMATION**

Assessor Parcel #	26802900010000
Address	2641 KENT DR
Postal City, Zip	SACRAMENTO 95821
Jurisdiction	Unincorporated Area of Sacramento County
County Supervisor District	Rich Desmond - District 3
Assessor Roll Status	ACTIVE
Assessor's Map	Assessor's Map Book 268, Page 029

PROPERTY TAX BILL

A summary of the most recent property tax bill is available on the [e-PropTax](#) site.

Tax Rate Area Code	54-496
Jurisdiction Used on Most Recent Tax Roll	UNINCORPORATED
Last Roll Year	2021

ASSESSOR'S ROLL VALUES

as of September 20, 2021

Tax Roll Year	2021	
Land Value		\$0
Improvement Value		\$0
Personal Property Value		\$0
Fixtures		\$0
Homeowner's Exemption		-\$0
Other Exemption		-\$0
Net Assessed Value		\$0
Property tax bill information	Link to ePropTax	

Additional information regarding Assessor's roll values can be obtained by contacting the Assessor's Office at [916-875-0700](tel:916-875-0700) or assessor@saccounty.net.

LAND INFORMATION

Thomas Brothers Map	278 E 6
Assessor Land Use Code	WFA00A
Assessor's Property Description	ALL POR TRACTS 212 & 213 DEL PASO PARK VIEW TRAC T NO 2 EXC PENLAND PARK CREST HAVEN AND THAT PAR T DEEDED TO INDIV OWNERS LESS THAT POR IN BELLPO RT LANE
Approx. Parcel Area	424710 sq ft / 9.75 acres

ZONING

Zoning:	RD-5 - RESIDENTIAL
---------	--------------------

Additional zoning information can be obtained by contacting the Sacramento County Planning and Environmental Review Division at sacplan@saccounty.net.

OWNER INFORMATION

California Government Code Section 6254.21 states that “No state or local agency shall post the home address or telephone number of any elected or appointed official on the internet without first obtaining the written permission of that individual.” As the cost to collect and continuously update that information is prohibitive, the Assessor’s website does not display the Assessee name. It may be obtained by calling [916-875-0700](tel:916-875-0700) or by visiting the Assessor's Office at 3636 American River Drive, Suite 200, in Sacramento.

Last Ownership Transfer Document Type	TENANCY IN COMMON DEED
County Recorder's Document Number	(unavailable)
Event Date	(unavailable)

PROPERTY BUILDING INFORMATION

No Property Characteristics are available for this property

Additional information regarding property building information can be obtained by contacting the Assessor's Office at [916-875-0700](tel:916-875-0700) or assessor@saccounty.net.

Tables

TABLE 1
LEAD AND ARSENIC IN SOIL
KATHERINE JOHNSON MIDDLE SCHOOL
2641 KENT DRIVE
SACRAMENTO, CALIFORNIA

Sample ID	Sample Date	Sampling Depth (feet bgs)	Arsenic	Lead
KJMS-1	3/13/2023	0.5	--	4.8
KJMS-2	3/13/2023	0.5	--	7.1
KJMS-3	3/13/2023	0.5	--	12
KJMS-4	3/13/2023	0.5	--	7.5
KJMS-5	3/13/2023	0.5	--	5.6
KJMS-6	3/13/2023	0.5	--	5.1
KJMS-7	3/13/2023	0.5	--	5.3
KJMS-8	3/13/2023	0.5	--	3.6
KJMS-9	3/13/2023	0.5	--	27
KJMS-10	3/13/2023	0.5	--	9.4
KJMS-11	3/13/2023	0.5	--	4.1
KJMS-12	3/13/2023	0.5	--	16
KJMS-13	3/13/2023	0.5	--	4.8
KJMS-14	3/13/2023	0.5	--	3.9
KJMS-15	3/13/2023	0.5	--	6.2
KJMS-16	3/15/2023	0.5	--	7.5
KJMS-17	3/15/2023	0.5	--	8.3
KJMS-18	3/15/2023	0.5	--	19
KJMS-19	3/15/2023	0.5	--	4.8
KJMS-20	3/16/2023	0.5	--	6.8
KJMS-21	3/16/2023	0.5	--	7.7
KJMS-22	3/16/2023	0.5	--	25
KJMS-23	3/16/2023	0.5	--	6.6
KJMS-24	3/16/2023	0.5	--	6.2
KJMS-25	3/16/2023	0.5	--	6.8
KJMS-26	3/16/2023	0.5	--	7.0
KJMS-27	3/16/2023	0.5	--	7.4
KJMS-28	3/16/2023	0.5	--	4.8
KJMS-29	3/16/2023	0.5	--	6.7
KJMS-AR1	3/14/2023	0.5	3.6	--
KJMS-AR2	3/15/2023	0.5	3.2	--
KJMS-AR3	3/15/2023	0.5	5.0	--
KJMS-AR4	3/15/2023	0.5	2.6	--
KJMS-AR5	3/15/2023	0.5	3.6	--
KJMS-Dup#1 (KJMS-1)	3/13/2023	0.5	--	6.8
KJMS-Dup#2 (KJMS-16)	3/15/2023	0.5	--	6.0
KJMS-Dup#3 (KJMS-27)	3/16/2023	0.5	--	7.8
KJMS AR DUP (KJMS AR4)	3/15/2023	0.5	2.5	--
HHRA Note 3 ⁽¹⁾			0.11	80
USEPA RSLs ⁽²⁾			0.68	400
Notes: All analyses were conducted at Pace Analytical in Bakersfield, California. Environmental Laboratory Accreditation Program (ELAP) #1186. All results expressed in milligrams per kilogram (mg/kg), unless otherwise indicated. Total Metals analysis via EPA Method 6010B. bgs = Below ground surface < 0.003 = Less than the laboratory reporting limit (RL). Bold text = Laboratory Detection -- = Not applicable or not analyzed for listed constituent ^[1] - Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (June 2020). These values are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. ^[2] - United States Environmental Protection Agency (USEPA, May 2021) Regional Screening Levels for residential soils reflecting the lower of the carcinogenic or noncarcinogenic endpoints. Represents a detected concentration in excess of the Note Number 3, DTSC-Modified Screening Levels Represents a detected concentration in excess of the USEPA Regional Screening Levels and the DTSC-Modified Screening Levels				

TABLE 2
ORGANOCHLORINE PESTICIDES IN SOIL
KATHERINE JOHNSON MIDDLE SCHOOL
2641 KENT DRIVE
SACRAMENTO, CALIFORNIA

Sample ID	Sample Date	Sampling Depth (feet bgs)	Aldrin	Alpha BHC	Beta BHC	Delta BHC	Gamma BHC	Chlordane (Technical)	4,4-DDD	4,4-DDE	4,4-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	
KJMS-OP1	3/14/2023	0.5	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.25	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.25	
KJMS-OP2	3/15/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-OP3	3/15/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-OP4	3/15/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	0.00035 J	0.0052	0.0082	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-OP5	3/15/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-30-6"	7/10/2023	0.5	0.012	<0.0025	<0.0025	<0.0025	<0.0025	0.23 J	0.0030	0.0016 J	<0.0025	0.0092	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0047	<0.0025	<0.0025	<0.25
KJMS-30-2.5'	7/10/2023	2.5	0.0051	<0.0025	<0.0025	<0.0025	<0.0025	<0.25	0.0065	0.0020 J	<0.0025	0.0040	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0076	<0.0025	<0.0025	<0.25
KJMS-30-4'	7/13/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-31-6"	7/10/2023	0.5	0.47	<0.12	<0.12	<0.12	<0.12	6.6 J	0.075 J	<0.12	<0.12	0.17	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.099 J	<0.12	<0.12	<12
KJMS-31-2'	7/13/2023	2.0	0.0060	<0.0050	<0.0050	<0.0050	<0.0050	0.38 J	0.0043 J	0.0012 J	<0.0050	0.0052	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.010	<0.0050	<0.0050	<0.50	
KJMS-31-2.5'	7/10/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.013 J	0.00017 J	0.00017 J	<0.00050	0.000097 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-31-4'	7/13/2023	4.0	0.0020 J	<0.0025	<0.0025	<0.0025	<0.0025	0.10 J	0.0016 J	<0.0025	<0.0025	0.0017 J	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0023 J	<0.0025	<0.0025	<0.25	
KJMS-32-6"	7/10/2023	0.5	0.11	<0.010	<0.010	<0.010	<0.010	0.58 J	0.0068 J	<0.010	<0.010	0.043	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0051 J	<0.010	<0.010	<1.0	
KJMS-32-2.5'	7/10/2023	2.5	0.17	<0.025	<0.025	<0.025	<0.025	0.84 J	0.0079 J	<0.025	<0.025	0.077	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0057 J	<0.025	<0.025	<2.5	
KJMS-32-4'	7/10/2023	4.0	0.00031 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0097 J	<0.00050	<0.00050	<0.00050	0.00024 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-33-6"	7/10/2023	0.5	0.032	<0.0050	<0.0050	<0.0050	<0.0050	0.42 J	0.0044 J	0.0026 J	<0.0050	0.018	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0076	<0.0050	<0.0050	<0.50	
KJMS-33-2.5'	7/10/2023	2.5	0.000056 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-33-4'	7/10/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-34-6"	7/10/2023	0.5	0.0073 J	<0.010	<0.010	<0.010	<0.010	0.29 J	<0.010	<0.010	<0.010	0.0072 J	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0036 J	<0.010	<0.010	<1.0	
KJMS-34-2.5'	7/13/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-34-4'	7/13/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-35-6"	7/13/2023	0.5	0.010	<0.0050	<0.0050	<0.0050	<0.0050	0.26 J	0.0045 J	<0.0050	<0.0050	0.0060	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0083	<0.0050	<0.0050	<0.50	
KJMS-35-2'	7/13/2023	2.0	0.064	<0.025	<0.025	<0.025	<0.025	1.0 J	0.015 J	<0.025	<0.025	0.032	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.040	<0.025	<0.025	<2.5	
KJMS-35-4'	7/13/2023	4.0	0.0044 J	<0.0050	<0.0050	<0.0050	<0.0050	0.16 J	0.0026 J	<0.0050	<0.0050	0.0026 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0040 J	<0.0050	<0.0050	<0.50	
KJMS-36-6"	7/13/2023	0.5	0.029	<0.00050	<0.00050	<0.00050	<0.00050	0.37 J	0.0032 J	0.0030 J	<0.00050	0.016	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0072	<0.00050	<0.00050	<0.050	
KJMS-36-2.5'	7/13/2023	2.5	0.014	<0.00050	<0.00050	<0.00050	<0.00050	0.21 J	0.0017 J	<0.00050	<0.00050	0.0074	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0031 J	<0.00050	<0.00050	<0.050	
KJMS-36-4'	7/13/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.32 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-37-4.5'	7/14/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0033 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-37-2.5'	7/14/2023	2.5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.31	0.0017	0.00090 J	0.00047 J	0.0036	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0033	<0.0010	<0.0010	<0.10	
KJMS-37-4'	7/14/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-38-6"	7/13/2023	0.5	0.0014	<0.00050	<0.00050	<0.00050	<0.00050	0.010 J	<0.00050	<0.00050	<0.00050	0.00019 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-38-2'	7/13/2023	2.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-38-4'	7/13/2023	4.0	0.000028 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0067 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-39-0.5'	7/14/2023	0.5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.19	0.0015	0.00086 J	<0.0010	0.0048	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0028	<0.0010	<0.0010	<0.10	
KJMS-39-2.5'	7/14/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0051 J	<0.00050	<0.00050	<0.00050	0.00016 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-39-4'	7/14/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
KJMS-40-0.5'	7/14/2023	0.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.50	<0.0050	<0.0050	<0.0050	0.0011 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.50	
KJMS-40-2.5'	7/14/2023	2.5	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.13 J	0.0018 J	0.00074 J	.000075 J	0.0050	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.00061 J	<0.0025	<0.0025	<0.25	
KJMS-40-4'	7/14/2023	4.0	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.036 J	0.00024 J	<0.0010	<0.0010	0.0034	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00034 J	<0.0010	<0.0010	<0.10	
KJMS-41-6"	7/13/2023	0.5	0.00018 J	<0.00050	<0.00050	<0.00050	<0.00050	0.010 J	<0.00050	<0.00050	<0.00050	0.00023 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	
HHRA Note 3 ⁽¹⁾			0.039	0.086	0.30	--	0.57	1															

TABLE 2
ORGANOCHLORINE PESTICIDES IN SOIL
KATHERINE JOHNSON MIDDLE SCHOOL
2641 KENT DRIVE
SACRAMENTO, CALIFORNIA

Sample ID	Sample Date	Sampling Depth (feet bgs)	Aldrin	Alpha BHC	Beta BHC	Delta BHC	Gamma BHC	Chlordane (Technical)	4,4-DDD	4,4-DDE	4,4-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
KJMS-41-2.5'	7/13/2023	2.5	0.00016 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0069 J	<0.00050	<0.00050	<0.00050	0.00012 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-41-4'	7/13/2023	4.0	0.000067 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0073 J	<0.00050	<0.00050	<0.00050	0.000077 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-42-6"	7/13/2023	0.5	0.00023 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0098 J	0.00010 J	<0.00050	<0.00050	0.000087 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-42-2.5'	7/13/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-42-4'	7/13/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-43-6"	7/13/2023	0.5	0.00064 J	<0.0050	<0.0050	<0.0050	<0.0050	0.033 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.50
KJMS-43-2'	7/13/2023	2.0	0.00010 J	<0.00050	<0.00050	<0.00050	<0.00050	0.0063 J	<0.00050	<0.00050	<0.00050	0.000060 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-43-4'	7/13/2023	4.0	0.00052 J	<0.0050	<0.0050	<0.0050	<0.0050	0.020 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.50
KJMS-44-6"	7/13/2023	0.5	0.00035 J	<0.00050	<0.00050	<0.00050	<0.00050	0.015 J	<0.00050	<0.00050	0.000061 J	0.00028 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00014 J	<0.00050	<0.00050	<0.050
KJMS-44-2.5'	7/13/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-44-4'	7/13/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-45-0.5'	7/14/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.011 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-45-2.5'	7/14/2023	2.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS-45-4'	7/14/2023	4.0	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
KJMS OP Dup (KJMS OP4)	3/15/2023	0.5	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	0.00088	0.0035	0.026	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.050
HHRA Note 3 ^[1]			0.039	0.086	0.30	--	0.57	1.7	1.9	2.0	1.9	0.034	450	450	380	19	--	--	0.13	0.07	320	0.45
USEPA RSLs ^[2]			0.039	0.086	0.30	--	0.57	1.7	1.9	2.0	1.9	0.034	470	--	380	19	--	--	0.13	0.07	320	0.49
Notes: All analyses were conducted at Pace Analytical in Bakersfield, California. Environmental Laboratory Accreditation Program (ELAP) #1186. All results expressed in milligrams per kilogram (mg/kg). Organochlorine Pesticides (OCPs) were analyzed by EPA Method 8081A. bgs = Below ground surface < 0.003 = Less than the laboratory reporting limit (RL). Bold text = Laboratory Detection -- = Not applicable or not analyzed for listed constituent J = Estimated value (CLP Flag)																						
^[1] - Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (June 2020). These values are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints.																						
^[2] - United States Environmental Protection Agency (USEPA, May 2021) Regional Screening Levels for residential soils reflecting the lower of carcinogenic or noncarcinogenic endpoints.																						
Represents a detected concentration in excess of the Note Number 3, DTSC-Modified Screening Levels																						
Represents a detected concentration in excess of the USEPA Regional Screening Levels and the DTSC-Modified Screening Levels																						

TABLE 3 PCBs IN SOIL KATHERINE JOHNSON MIDDLE SCHOOL 2641 KENT DRIVE SACRAMENTO, CALIFORNIA										
Sample ID	Sample Date	Sampling Depth (feet bgs)	Total PCBs	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
KJMS-1	3/13/2023	0.5	0.014	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.014
KJMS-2	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-3	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0027 J
KJMS-4	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-5	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-6	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0023 J
KJMS-7	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-8	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-9	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-10	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-11	3/13/2023	0.5	0.0086 J	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0086 J
KJMS-12	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-13	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-14	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-15	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-16	3/15/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-17	3/15/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-18	3/15/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-19	3/15/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-20	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-21	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-22	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-23	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-24	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-25	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-26	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-27	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-28	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-29	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T1-6"	3/14/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T2-6"	3/14/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T3-6"	3/14/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T4-6"	3/14/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T1-18"	3/15/2023	1.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T2-18"	3/15/2023	1.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T3-18"	3/15/2023	1.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T4-18"	3/15/2023	1.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-Dup#1 (KJMS-1)	3/13/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0027 J
KJMS-Dup#2 (KJMS-16)	3/15/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-Dup#3 (KJMS-27)	3/16/2023	0.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
KJMS-T-Dup#1 (KJMS -T3-18")	3/15/2023	1.5	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
HHRA Note 3 ⁽¹⁾			0.23	4.0	0.20	0.17	0.23	0.23	0.24	0.24
USEPA RSLs ⁽²⁾			0.23	4.1	0.20	0.17	0.23	0.23	0.24	0.24
Notes: All analyses were conducted at Pace Analytical in Bakersfield, California. Environmental Laboratory Accreditation Program (ELAP) #1186. All results expressed in milligrams per kilogram (mg/kg). Polychlorinated biphenyls (PCBs) were analyzed by EPA Method 8082. bgs = Below ground surface < 0.003 = Less than the laboratory reporting limit (RL). Bold text = Laboratory Detection J = Estimated value (CLP Flag) ^[1] - Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (June 2020). These values are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. ^[2] - United States Environmental Protection Agency (USEPA, May 2021) Regional Screening Levels for residential soils reflecting the lower of carcinogenic or noncarcinogenic endpoints. Represents a detected concentration in excess of the Note Number 3, DTSC-Modified Screening Levels Represents a detected concentration in excess of the USEPA Regional Screening Levels and the DTSC-Modified Screening Levels										

TABLE 4
VOLATILE ORGANIC COMPOUNDS IN SOIL
 KATHERINE JOHNSON MIDDLE SCHOOL
 2541 KENT DRIVE
 SACRAMENTO, CALIFORNIA

Sample ID	Sample Date	Sampling Depth (feet bgs)	VOCs
Shed-1	3/15/2023	0.5	Not Detected
Shed-2	3/15/2023	0.5	Not Detected
Duplicate (Shed-2)	3/15/2023	0.5	Not Detected
<i>HHRA Note 3⁽¹⁾</i>			<i>Varies</i>
<i>USEPA RSLs⁽²⁾</i>			<i>Varies</i>
Notes: All analyses were conducted at Pace Analytical in Bakersfield, California. Environmental Laboratory Accreditation Program (ELAP) #1186. All results expressed in milligrams per kilogram (mg/kg). Volatile Organic Compounds (VOCs) were analyzed by EPA Method 8260D. bgs = Below ground surface See the laboratory report for a full list of constituents analyzed and their respective laboratory reporting limit (RL). Bold text = Laboratory Detection ^[1] - Human Health Risk Assessment (HHRA) Note Number 3, DTSC-Modified Screening Levels (June 2020). These values are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. ^[2] - United States Environmental Protection Agency (USEPA, May 2021) Regional Screening Levels for residential soils reflecting the lower of carcinogenic or noncarcinogenic endpoints. Represents a detected concentration in excess of the Note Number 3, DTSC-Modified Screening Levels Represents a detected concentration in excess of the USEPA Regional Screening Levels and the DTSC-Modified Screening Levels			

Table 5
Summary of Soil Vapor Sample Analytical Results
2641 Kent Drive, Sacramento, CA

Boring ID	Sample ID	Sample Date	Sample Depth (feet bgs)	TPHv (C5-C12)	PCE	TCE	Benzene	Toluene	Ethyl- benzene	m,p- Xylene	o- Xylene	Styrene	1,2,4-TMB	Carbon Disulfide	MEK	Chloroform	Chloro- methane
SV-1s	SV-1	3/17/2023	3.5 to 5	1,200	<6.9	<5.5	8.8	19	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	2.2
SV-1d	SV-1	3/17/2023	9 to 10	1,600	19	<5.5	4.6	22	<4.4	9.9	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-2s	SV-2	3/17/2023	4 to 5	390	<6.9	<5.5	<3.2	31	5.2	31	7.1	<4.3	8.9	<6.3	<30	<4.9	<2.1
SV-2d	SV-2	3/17/2023	9 to10	790	9.2	<5.5	5.2	9.6	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-3s	SV-3 5'	4/7/2023	4 to 5	320	<6.9	<5.5	4.1	20	<4.4	<8.8	<4.4	45	<5.0	<6.3	<30	<4.9	<2.1
SV-3d	SV-3 10'	4/7/2023	9 to10	620	<6.9	<5.5	5.8	24	<4.4	<8.8	<4.4	59	<5.0	<6.3	<30	<4.9	<2.1
SV-3d	DUP	4/7/2023	9 to10	350	<6.9	<5.5	3.9	19	<4.4	<8.8	<4.4	72	<5.0	<6.3	<30	<4.9	<2.1
SV-4s	SV-4 5'	4/7/2023	4 to 5	1,300	<6.9	<5.5	14	27	4.6	<8.8	<4.4	52	<5.0	7.6	<30	<4.9	<2.1
SV-4d	SV-4 10'	4/7/2023	9 to10	1,800	<6.9	<5.5	11	31	<4.4	<8.8	<4.4	63	<5.0	<6.3	<30	<4.9	<2.1
SV-5s ^[6]	SV-5 5'	4/7/2023	4 to 5	770	<6.9	<5.5	5.8	13	<4.4	<8.8	<4.4	57	<5.0	<6.3	50	<4.9	<2.1
SV-5d	SV-5 10'	4/7/2023	9 to10	2,300	<6.9	<5.5	11	25	<4.4	<8.8	4.7	68	<5.0	<6.3	<30	<4.9	<2.1
SV-6s		4/28/2023	4 to 5	640	<6.9	<5.5	4.8	6.2	<4.4	<8.8	<4.4	<4.3	<5.0	9.3	<30	<4.9	<2.1
SV-6d		4/28/2023	9 to10	520	55	66	<3.2	5.8	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-6d	DUP	4/28/2023	9 to10	710	<6.9	<5.5	<3.2	5.7	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	8.1
SV-7s		4/28/2023	4 to 5	290	39	29	5.8	10	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	15	<2.1
SV-7d		4/28/2023	9 to10	880	20	7.1	6.9	6.8	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-8s		4/28/2023	4 to 5	190	23	9.8	<3.2	5.5	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-8d		4/28/2023	9 to10	510	21	<5.5	<3.2	<3.8	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-9s		4/28/2023	4 to 5	4,100	11	<5.5	<3.2	5.8	<4.4	<8.8	<4.4	<4.3	<5.0	20	<30	<4.9	<2.1
SV-9d		4/28/2023	9 to10	560	<6.9	<5.5	8.9	8.3	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-10s		4/28/2023	4 to 5	580	12	<5.5	5.0	7.1	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-10d ^[8]		4/28/2023	9 to10	170	11	<5.5	<3.2	<3.8	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-11s		5/1/2023	4 to 5	<100	<6.9	<5.5	<3.2	5.5	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-11s	DUP3	5/1/2023	4 to 5	210	<6.9	<5.5	<3.2	<3.8	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-11d		5/1/2023	9 to10	1,900	<6.9	<5.5	8.6	12	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-12s		5/1/2023	4 to 5	110	<6.9	<5.5	<3.2	5.6	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	2.7
SV-12d		5/1/2023	9 to10	1,600	<6.9	<5.5	3.7	5.6	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-13s ^[7]		5/1/2023	4 to 5	17,000	<6.9	<5.5	82	47	5.8	27	8.3	100	<5.0	22	350	63	<2.1
SV-13d		5/1/2023	9 to10	1,200	<6.9	<5.5	8.7	12	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-14s ^[8]		5/1/2023	4 to 5	2,400	<6.9	<5.5	25	27	5.8	<8.8	<4.4	<4.3	<5.0	14	<30	<4.9	<2.1
SV-14d ^[8]		5/1/2023	9 to10	1,000	<6.9	<5.5	9.7	11	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-15s		5/1/2023	4 to 5	1,200	<6.9	<5.5	15	15	<4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
SV-15d		5/1/2023	9 to10	1,500	<6.9	<5.5	17	17	4.4	<8.8	<4.4	<4.3	<5.0	<6.3	<30	<4.9	<2.1
Tier 1 ESLs ^[1]				3,300	--	--	--	--	--	--	--	--	--	--	--	--	--
Residential DTSC-SLs ^[2]				--	0.46	--	0.097	310	--	--	--	940	--	--	--	--	--
with 0.03 AF				--	15	--	3.2	10,000	--	--	--	31,000	--	--	--	--	--
Commercial DTSC-SLs ^[3]				--	2	--	0.42	1,300	--	--	--	3,900	--	--	--	--	--
with 0.03 AF				--	67	--	14	43,000	--	--	--	130,000	--	--	--	--	--
Residential ESLs ^[4]				--	--	0.48	--	--	1.1	100	100	--	63	730	5,200	0.12	94
with 0.03 AF				--	--	16	--	--	37	3,300	3,300	--	2,100	24,000	170,000	4.0	3,100
Commercial ESLs ^[5]				--	--	3.0	--	--	4.9	440	440	--	260	3,100	22,000	0.53	390
with 0.03 AF				--	--	100	--	--	160	15,000	15,000	--	8,700	100,000	730,000	18	13,000

Table 5
Summary of Soil Vapor Sample Analytical Results
2641 Kent Drive, Sacramento, CA

Boring ID	Sample ID	Sample Date	Sample Depth (feet bgs)	TPHv (C5-C12)	PCE	TCE	Benzene	Toluene	Ethyl-benzene	m,p-Xylene	o-Xylene	Styrene	1,2,4-TMB	Carbon Disulfide	MEK	Chloroform	Chloro-methane
Notes: bgs Below ground surface PCE Tetrachloroethene TCE Trichloroethene TMB Trimethylbenzene MEK Methyl Ethyl Ketone, 2-Butanone -- Not applicable, sample not analyzed, or no applicable standard identified All values expressed in micrograms per cubic meter (µg/m3) Samples analyzed for Volatile Organic Compounds (VOCs) by Method TO-15. Only detected VOCs are tabulated. See laboratory report for full list of analytes and method detection limits. ESLs: Environmental Screening Levels, San Francisco Bay Regional Water Quality Control Board, August 2019 (Revision 2). ^[1] - Tier 1 ESLs for soil vapor reflect the lower of values that are protective of human health under a residential or commercial/industrial land use scenario. These values are intended to be protective of human health under any land use scenario ^[2] - Residential soil vapor DTSC-SLs are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. These values are intended to be protective of potential human exposures to shallow soil under a Residential land use scenario ^[3] - Commercial (Industrial) soil vapor DTSC-SLs are human health-based screening levels for Commercial/Industrial Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. These values are intended to be protective of potential human exposures to shallow soil under a commercial/industrial land use scenario ^[4] - Residential soil vapor ESLs are human health-based screening levels for Residential Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. These values are intended to be protective of potential human exposures to shallow soil under a Residential land use scenario. For chemicals that do not have a DTSC-SL, the ESL will be used as the screening level. ^[5] - Commercial (Industrial) soil vapor ESLs are human health-based screening levels for Commercial/Industrial Land Use and reflect the lower of carcinogenic or noncarcinogenic endpoints. These values are intended to be protective of potential human exposures to shallow soil under a commercial/industrial land use scenario. For chemicals that do not have a DTSC-SL, the ESL will be used as the screening level. ^[6] - Sample contained detectable concentration of the leak check compound (LCC) 1,1-difluoroethane ; other detected analytes may have been diluted or introduced by ambient air. ^[7] - Sample contained a detectable concentration of 4-Methyl-2-pentanone (MIBK), which does not have established ESLs. ^[8] - Sample contained a detectable concentration of Trichlorofluoromethane (Freon 11), which does not have established ESLs. XXX Represents a detected concentration in excess of the chemical-specific Residential Health-Based ESL, but equal to or less than the chemical-specific Commercial ESL XXX Represents a detected concentration in excess of the chemical-specific Residential ESL and Commercial Health-Based ESL																	

Table 6
Health Risk Assessment - Soil
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

Chemicals of Potential Concern (COPCs)	Total Samples Analyzed	Number of Detections	Detection Frequency	Maximum Detected (mg/kg)	Location / Sample ID of Maximum Detected	Cancer Screening Level (mg/kg)	Noncancer Screening Level (mg/kg)	Cancer Risk	Noncancer Hazard Index
Aldrin	55	26	47%	0.47	KJMS-31-6"	0.039	2.3	1.2E-05	0.20
Chlordane (Technical)	55	33	60%	6.6	KJMS-31-6"	1.7	35	3.9E-06	0.19
4,4-DDD	55	21	38%	0.075	KJMS-31-6"	2.3	1.9	3.3E-08	0
4,4-DDE	55	11	20%	0.0052	KJMS-OP4	2	23	2.6E-09	0.00023
4,4-DDT	55	5	9%	0.026	KJMS OP4	1.9	37	1.4E-08	0.00070
Dieldrin	55	29	53%	0.17	KJMS-31-6"	0.034	3.2	5.0E-06	0.053
Heptachlor	55	19	35%	0.099	KJMS-31-6"	0.13	38	7.6E-07	0.0026
Aroclor 1260	41	5	12%	0.014	KJMS-1	0.24	--	5.8E-08	--
								Excess Lifetime Cancer Risk	2E-05
								Noncancer Hazard Index	0.5

Notes:

COPCs are detected analytes

The more conservative value between DTSC May 2022 and USEPA May 2023 used for SLs

Table 7B
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

			Proposed Parking Lot (VI Does Not Apply)										
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-1s	SV-1d	SV-2s	SV-2d	SV-3s	SV-3d	SV-3d	SV-4s	SV-4d	SV-5s	SV-5d
			SV-1	SV-1	SV-2	SV-2	SV-3 5'	SV-3 10'	DUP	SV-4 5'	SV-4 10'	SV-5 5'	SV-5 10'
			3/17/2023	3/17/2023	3/17/2023	3/17/2023	4/7/2023	4/7/2023	4/7/2023	4/7/2023	4/7/2023	4/7/2023	4/7/2023
			3.5 to 5	9 to 10	4 to 5	9 to10	4 to 5	9 to10	9 to10	4 to 5	9 to10	4 to 5	9 to10
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m³)	1,200	1,600	390	790	320	620	350	1,300	1,800	770	2,300
Tetrachloroethene	127-18-4	(µg/m³)	<6.9	19	<6.9	9.2	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9
Trichloroethene	79-01-6	(µg/m³)	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5
Benzene	71-43-2	(µg/m³)	8.8	4.6	<3.2	5.2	4.1	5.8	3.9	14	11	5.8	11
Toluene	108-88-3	(µg/m³)	19	22	31	9.6	20	24	19	27	31	13	25
Ethylbenzene	100-41-4	(µg/m³)	<4.4	<4.4	5.2	<4.4	<4.4	<4.4	<4.4	4.6	<4.4	<4.4	<4.4
m,p-Xylene	108-38-3	(µg/m³)	<8.8	9.9	31	<8.8	<8.8	<8.8	<8.8	<8.8	<8.8	<8.8	<8.8
o-Xylene	95-47-6	(µg/m³)	<4.4	<4.4	7.1	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	4.7
Styrene	100-42-5	(µg/m³)	<4.3	<4.3	<4.3	<4.3	45	59	72	52	63	57	68
1,2,4-Trimethylbenzene	95-63-6	(µg/m³)	<5.0	<5.0	8.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon Disulfide	75-15-0	(µg/m³)	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	7.6	<6.3	<6.3	<6.3
2-Butanone (MEK)	78-93-3	(µg/m³)	<30	<30	<30	<30	<30	<30	<30	<30	<30	50	<30
Chloroform	67-66-3	(µg/m³)	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
Chloromethane	74-87-3	(µg/m³)	2.2	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

$$\text{Cancer risk} = (\text{Soil vapor Concentration}) / (\text{Ambient Air SL} / 0.03) \times 10^{-6}$$

$$\text{NonCancer} = (\text{Soil vapor Concentration}) / (\text{Ambient Air SL} / 0.03)$$

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation factor is not needed

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 7C
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

		Proposed Building M								
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-6s	SV-6d	SV-6d DUP	SV-7s	SV-7d	Maximum Detected Concentration	Cancer	Noncancer
			4/28/2023	4/28/2023	4/28/2023	4/28/2023	4/28/2023			
			4 to 5	9 to10	9 to10	4 to 5	9 to10			
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m ³)	640	520	710	290	880	880	--	0.044
Tetrachloroethene	127-18-4	(µg/m ³)	<6.9	55	<6.9	39	20	55	3.6E-06	0.039
Trichloroethene	79-01-6	(µg/m ³)	<5.5	66	<5.5	29	7.1	66	4.1E-06	0.94
Benzene	71-43-2	(µg/m ³)	4.8	<3.2	<3.2	5.8	6.9	6.9	2.1E-06	0.07
Toluene	108-88-3	(µg/m ³)	6.2	5.8	5.7	10	6.8	10	--	0.0010
Ethylbenzene	100-41-4	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	<4.4	-	--	--
m,p-Xylene	108-38-3	(µg/m ³)	<8.8	<8.8	<8.8	<8.8	<8.8	-	--	--
o-Xylene	95-47-6	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	<4.4	-	--	--
Styrene	100-42-5	(µg/m ³)	<4.3	<4.3	<4.3	<4.3	<4.3	-	--	--
1,2,4-Trimethylbenzene	95-63-6	(µg/m ³)	<5.0	<5.0	<5.0	<5.0	<5.0	-	--	--
Carbon Disulfide	75-15-0	(µg/m ³)	9.3	<6.3	<6.3	<6.3	<6.3	9.3	--	0.00038
2-Butanone (MEK)	78-93-3	(µg/m ³)	<30	<30	<30	<30	<30	--	--	--
Chloroform	67-66-3	(µg/m ³)	<4.9	<4.9	<4.9	15	<4.9	15	3.8E-06	0.0045
Chloromethane	74-87-3	(µg/m ³)	<2.1	<2.1	8.1	<2.1	<2.1	8.1	--	0.0026

BUILDING M: Excess Lifetime Cancer Risk =	1E-05
BUILDING M: Noncancer Hazard Index (HI) =	1

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

Cancer risk = (Soil vapor Concentration) / (Ambient Air SL / 0.03) x 10⁻⁴

NonCancer = (Soil vapor Concentration) / (Ambient Air SL / 0.03)

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 7D
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

			Proposed Building A						
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-8s	SV-8d	SV-10s	SV-10d	Maximum Detected Concentration	Cancer	Noncancer
			4/28/2023	4/28/2023	4/28/2023	4/28/2023			
			4 to 5	9 to 10	4 to 5	9 to 10			
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m ³)	190	510	580	170	580	--	0.029
Tetrachloroethene	127-18-4	(µg/m ³)	23	21	12	11	23	1.5E-06	0.016
Trichloroethene	79-01-6	(µg/m ³)	9.8	<5.5	<5.5	<5.5	9.8	6.1E-07	0.140
Benzene	71-43-2	(µg/m ³)	<3.2	<3.2	5.0	<3.2	5	1.5E-06	0.048
Toluene	108-88-3	(µg/m ³)	5.5	<3.8	7.1	<3.8	7.1	--	0.001
Ethylbenzene	100-41-4	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	--	--	--
m,p-Xylene	108-38-3	(µg/m ³)	<8.8	<8.8	<8.8	<8.8	--	--	--
o-Xylene	95-47-6	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	--	--	--
Styrene	100-42-5	(µg/m ³)	<4.3	<4.3	<4.3	<4.3	--	--	--
1,2,4-Trimethylbenzene	95-63-6	(µg/m ³)	<5.0	<5.0	<5.0	<5.0	--	--	--
Carbon Disulfide	75-15-0	(µg/m ³)	<6.3	<6.3	<6.3	<6.3	--	--	--
2-Butanone (MEK)	78-93-3	(µg/m ³)	<30	<30	<30	<30	--	--	--
Chloroform	67-66-3	(µg/m ³)	<4.9	<4.9	<4.9	<4.9	--	--	--
Chloromethane	74-87-3	(µg/m ³)	<2.1	<2.1	<2.1	<2.1	--	--	--

BUILDING A: Excess Lifetime Cancer Risk =	4E-06
BUILDING A: Noncancer Hazard Index (HI) =	0.2

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

Cancer risk = (Soil vapor Concentration) / (Ambient Air SL / 0.03) x 10⁻⁶

NonCancer = (Soil vapor Concentration) / (Ambient Air SL / 0.03)

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation factor is not needed

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 7E
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

			Proposed Building D							
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-9s	SV-9d	SV-11s	SV-11s DUP3	SV-11d	Maximum Detected Concentration	Cancer	Noncancer
			4/28/2023	4/28/2023	5/1/2023	5/1/2023	5/1/2023			
			4 to 5	9 to 10	4 to 5	4 to 5	9 to 10			
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m ³)	4,100	560	<100	210	1,900	4100	--	0.21
Tetrachloroethene	127-18-4	(µg/m ³)	11	<6.9	<6.9	<6.9	<6.9	11	7.2E-07	0.0079
Trichloroethene	79-01-6	(µg/m ³)	<5.5	<5.5	<5.5	<5.5	<5.5	--	--	--
Benzene	71-43-2	(µg/m ³)	<3.2	8.9	<3.2	<3.2	8.6	8.9	2.8E-06	0.086
Toluene	108-88-3	(µg/m ³)	5.8	8.3	5.5	<3.8	12	12	--	0.0012
Ethylbenzene	100-41-4	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	<4.4	--	--	--
m,p-Xylene	108-38-3	(µg/m ³)	<8.8	<8.8	<8.8	<8.8	<8.8	--	--	--
o-Xylene	95-47-6	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	<4.4	--	--	--
Styrene	100-42-5	(µg/m ³)	<4.3	<4.3	<4.3	<4.3	<4.3	--	--	--
1,2,4-Trimethylbenzene	95-63-6	(µg/m ³)	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--
Carbon Disulfide	75-15-0	(µg/m ³)	20	<6.3	<6.3	<6.3	<6.3	20	--	0.00082
2-Butanone (MEK)	78-93-3	(µg/m ³)	<30	<30	<30	<30	<30	--	--	--
Chloroform	67-66-3	(µg/m ³)	<4.9	<4.9	<4.9	<4.9	<4.9	--	--	--
Chloromethane	74-87-3	(µg/m ³)	<2.1	<2.1	<2.1	<2.1	<2.1	--	--	--

BUILDING D: Excess Lifetime Cancer Risk =	3E-06
BUILDING D: Noncancer Hazard Index (HI) =	0.3

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

$$\text{Cancer risk} = (\text{Soil vapor Concentration}) / (\text{Ambient Air SL} / 0.03) \times 10^{-4}$$

$$\text{NonCancer} = (\text{Soil vapor Concentration}) / (\text{Ambient Air SL} / 0.03)$$

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation factor is not needed

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 7F
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

			Proposed Building C						
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-12s	SV-12d	SV-14s	SV-14d	Maximum Detected Concentration	Cancer	Noncancer
			5/1/2023	5/1/2023	5/1/2023	5/1/2023			
			4 to 5	9 to 10	4 to 5	9 to 10			
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m ³)	110	1,600	2,400	1,000	2400	--	0.12
Tetrachloroethene	127-18-4	(µg/m ³)	<6.9	<6.9	<6.9	<6.9	--	--	--
Trichloroethene	79-01-6	(µg/m ³)	<5.5	<5.5	<5.5	<5.5	--	--	--
Benzene	71-43-2	(µg/m ³)	<3.2	3.7	25	9.7	25	7.7E-06	0.2419
Toluene	108-88-3	(µg/m ³)	5.6	5.6	27	11	27	--	0.0026
Ethylbenzene	100-41-4	(µg/m ³)	<4.4	<4.4	5.8	<4.4	5.8	1.6E-07	0.00017
m,p-Xylene	108-38-3	(µg/m ³)	<8.8	<8.8	<8.8	<8.8	--	--	--
o-Xylene	95-47-6	(µg/m ³)	<4.4	<4.4	<4.4	<4.4	--	--	--
Styrene	100-42-5	(µg/m ³)	<4.3	<4.3	<4.3	<4.3	--	--	--
1,2,4-Trimethylbenzene	95-63-6	(µg/m ³)	<5.0	<5.0	<5.0	<5.0	--	--	--
Carbon Disulfide	75-15-0	(µg/m ³)	<6.3	<6.3	14	<6.3	14	--	0.00058
2-Butanone (MEK)	78-93-3	(µg/m ³)	<30	<30	<30	<30	--	--	--
Chloroform	67-66-3	(µg/m ³)	<4.9	<4.9	<4.9	<4.9	--	--	--
Chloromethane	74-87-3	(µg/m ³)	2.7	<2.1	<2.1	<2.1	2.7	--	0.00086

BUILDING C: Excess Lifetime Cancer Risk =	8E-06
BUILDING C: Noncancer Hazard Index (HI) =	0.4

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

Cancer risk = (Soil vapor Concentration) / (Ambient Air SL / 0.03) x 10⁻⁶

NonCancer = (Soil vapor Concentration) / (Ambient Air SL / 0.03)

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation factor is not needed

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 7G
Summary of Health Risk Screening Levels for Soil Gas
Katherine Johnson Middle School
2641 Kent Drive, Sacramento, CA

			Proposed Building B						
Analytes	CAS Number	Boring ID Sample ID Date Depth (feet bgs)	SV-13s	SV-13d	SV-15s	SV-15d	Maximum Detected Concentration	Cancer	Noncancer
			5/1/2023	5/1/2023	5/1/2023	5/1/2023			
			4 to 5	9 to10	4 to 5	9 to10			
TPHv (C5-C12) Gasoline Range	TPH-Gasoline	(µg/m ³)	17,000	1,200	1,200	1,500	17000	--	0.856
Tetrachloroethene	127-18-4	(µg/m ³)	<6.9	<6.9	<6.9	<6.9	--	--	--
Trichloroethene	79-01-6	(µg/m ³)	<5.5	<5.5	<5.5	<5.5	--	--	--
Benzene	71-43-2	(µg/m ³)	82	8.7	15	17	82	2.5E-05	0.794
Toluene	108-88-3	(µg/m ³)	47	12	15	17	47	--	0.005
Ethylbenzene	100-41-4	(µg/m ³)	5.8	<4.4	<4.4	4.4	5.8	1.6E-07	0.000
m,p-Xylene	108-38-3	(µg/m ³)	27	<8.8	<8.8	<8.8	27	--	0.008
o-Xylene	95-47-6	(µg/m ³)	8.3	<4.4	<4.4	<4.4	8.3	--	0.002
Styrene	100-42-5	(µg/m ³)	100	<4.3	<4.3	<4.3	100	--	0.003
1,2,4-Trimethylbenzene	95-63-6	(µg/m ³)	<5.0	<5.0	<5.0	<5.0	--	--	--
Carbon Disulfide	75-15-0	(µg/m ³)	22	<6.3	<6.3	<6.3	22	--	0.001
2-Butanone (MEK)	78-93-3	(µg/m ³)	350	<30	<30	<30	350	--	0.002
Chloroform	67-66-3	(µg/m ³)	63	<4.9	<4.9	<4.9	63	1.6E-05	0.019
Chloromethane	74-87-3	(µg/m ³)	<2.1	<2.1	<2.1	<2.1	--	--	--

BUILDING B: Excess Lifetime Cancer Risk =	4E-05
BUILDING B: Noncancer Hazard Index (HI) =	2

NOTES:

All concentrations in ug/m³

Agency residential screening levels (SLs) sourced from DTSC (2022) Note 3 as the primary and USEPA (2023) Regional Screening Levels (RSLs) as the secondary. Total Petroleum Hydrocarbons (TPH) gasoline uses San Francisco Bay Area Regional Water Quality Control Board (RWQCB)(2019) Environmental Screening Levels (ESLs).

The default screening level attenuation factor (DTSC 2023) of 0.03 was applied to the agency ambient screening levels to calculate soil vapor risk using the following calculations:

Cancer risk = (Soil vapor Concentration) / (Ambient Air SL / 0.03) x 10

NonCancer = (Soil vapor Concentration) / (Ambient Air SL / 0.03)

-- = not available or not detected

Building M had elevated detection limits for TPH-gasoline

The maximum detected concentration was used as the exposure point concentration (EPC). Duplicate (QC Samples) results were also included in consideration of maximum detected concentrations.

Grey Shading represents Duplicate sample results

TPH agency values are presented for soil vapor; therefore an attenuation factor is not needed

VI = vapor intrusion (only applies to future building sites and does not apply to open space or parking lots)

Table 8: LeadSpread 9 - Lead Risk Assessment Spread Sheet - 95% UCL Concentration

LeadSpread 9- LEAD RISK ASSESSMENT SPREADSHEET
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[USERS GUIDE to Leadsread Version 9](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (µg/g)	10.05
Respirable Dust (µg/cubic m)	1.5

EXPOSURE PARAMETERS			
Parameter	units	adults	children
Days per week	days/wk	7	
Days per week, occupational	-	5	
Geometric Standard Deviation	-	1.6	
Blood lead level of concern	(µg/dl)	1.1	1
Skin area, residential	square cm	6032	2373
Skin area occupational	square cm	6032	
Soil adherence	µg/square cm	70	200
Dermal uptake constant	(µg/dl)/(µg/day)	0.00027	0.00048
Soil ingestion	mg/day	30	80
Soil ingestion, pica	mg/day		1000
Ingestion constant	(µg/dl)/(µg/day)	0.09	0.16
Bioavailability	unitless	0.6	
Breathing rate	cubic meter/day	20	10
Inhalation constant	(µg/dl)/(µg/day)	0.082	0.192

[Click here for REFERENCES](#)

OUTPUT					
ENDPOINT and RECEPTOR	50th Percentile Change in Blood Pb (µg/dl)	90th Percentile Change in Blood Pb (µg/dl)	95th Percentile Change in Blood Pb (µg/dl)	PRG-90 (µg/g)	PRG-95 (µg/g)
BLOOD Pb, ADULT	0.02	0.03	0.04	356	301
BLOOD Pb, CHILD	0.1	0.1	0.2	70	59
BLOOD Pb, PICA CHILD	1.0	1.8	2.1	6	5
BLOOD Pb, OCCUPATIONAL	0.0	0.0	0.0	499	421

PATHWAYS						
ADULTS	Residential Pathway Contribution	Residential Pathway Contribution	Residential Pathway Contribution	Occupational Pathway contribution	Occupational Pathway contribution	Occupational Pathway contribution
Pathway	PEF*	µg/dl	percent	PEF	µg/dl	percent
Soil Contact	6.8E-5	0.00	4%	4.9E-5	0.00	4%
Soil Ingestion	1.6E-3	0.02	96%	1.2E-3	0.01	96%
Inhalation	2.5E-6	0.00	0.1%	1.8E-6	0.00	0.1%

CHILDREN	Typical Pathway contribution	Typical Pathway contribution	Typical Pathway contribution	with pica Pathway contribution	with pica Pathway contribution	with pica Pathway contribution
Pathway	PEF*	µg/dl	percent	PEF	µg/dl	percent
Soil Contact	1.4E-4	0.00	1.7%		0.00	0.1%
Soil Ingestion	7.7E-3	0.08	98%	9.6E-2	0.96	100%
Inhalation	2.9E-6	0.00	0.0%		0.00	0.0%

[Click here for Equations](#)

*Pathway Exposure Factor

Table 9: LeadSpread 9 - Lead Risk Assessment Spread Sheet - Max Concentration

LeadSpread 9- LEAD RISK ASSESSMENT SPREADSHEET
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[USERS GUIDE to Leadsread Version 9](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (µg/g)	27
Respirable Dust (µg/cubic m)	1.5

EXPOSURE PARAMETERS			
Parameter	units	adults	children
Days per week	days/wk	7	
Days per week, occupational	-	5	
Geometric Standard Deviation	-	1.6	
Blood lead level of concern	(µg/dl)	1.1	1
Skin area, residential	square cm	6032	2373
Skin area occupational	square cm	6032	
Soil adherence	µg/square cm	70	200
Dermal uptake constant	(µg/dl)/(µg/day)	0.00027	0.00048
Soil ingestion	mg/day	30	80
Soil ingestion, pica	mg/day		1000
Ingestion constant	(µg/dl)/(µg/day)	0.09	0.16
Bioavailability	unitless	0.6	
Breathing rate	cubic meter/day	20	10
Inhalation constant	(µg/dl)/(µg/day)	0.082	0.192

[Click here for REFERENCES](#)

OUTPUT					
ENDPOINT and RECEPTOR	50th Percentile Change in Blood Pb (µg/dl)	90th Percentile Change in Blood Pb (µg/dl)	95th Percentile Change in Blood Pb (µg/dl)	PRG-90 (µg/g)	PRG-95 (µg/g)
BLOOD Pb, ADULT	0.05	0.08	0.10	356	301
BLOOD Pb, CHILD	0.2	0.4	0.5	70	59
BLOOD Pb, PICA CHILD	2.6	4.7	5.6	6	5
BLOOD Pb, OCCUPATIONAL	0.0	0.1	0.1	499	421

PATHWAYS						
ADULTS	Residential Pathway Contribution	Residential Pathway Contribution	Residential Pathway Contribution	Occupational Pathway contribution	Occupational Pathway contribution	Occupational Pathway contribution
Pathway	PEF*	µg/dl	percent	PEF	µg/dl	percent
Soil Contact	6.8E-5	0.00	4%	4.9E-5	0.00	4%
Soil Ingestion	1.6E-3	0.04	96%	1.2E-3	0.03	96%
Inhalation	2.5E-6	0.00	0.1%	1.8E-6	0.00	0.1%

CHILDREN	Typical Pathway contribution	Typical Pathway contribution	Typical Pathway contribution	with pica Pathway contribution	with pica Pathway contribution	with pica Pathway contribution
Pathway	PEF*	µg/dl	percent	PEF	µg/dl	percent
Soil Contact	1.4E-4	0.00	1.7%		0.00	0.1%
Soil Ingestion	7.7E-3	0.21	98%	9.6E-2	2.59	100%
Inhalation	2.9E-6	0.00	0.0%		0.00	0.0%

[Click here for Equations](#)

*Pathway Exposure Factor

1	UCL Statistics for Uncensored Full Data Sets										
2	Table 10: Work Sheet - ProUCL 5.2 Statistics for Lead										
3	User Selected Options										
4	Date/Time of Computation		ProUCL 5.2 5/24/2023 12:20:15 PM								
5	From File		WorkSheet.xls								
6	Full Precision		OFF								
7	Confidence Coefficient		95%								
8	Number of Bootstrap Operations		2000								
9											
10											
11	Lead KJ Middle School										
12											
13	General Statistics										
14	Total Number of Observations			32	Number of Distinct Observations			25			
15					Number of Missing Observations			0			
16	Minimum			3.6	Mean			8.363			
17	Maximum			27	Median			6.8			
18	SD			5.634	Std. Error of Mean			0.996			
19	Coefficient of Variation			0.674	Skewness			2.343			
20											
21	Normal GOF Test										
22	Shapiro Wilk Test Statistic			0.668	Shapiro Wilk GOF Test						
23	1% Shapiro Wilk Critical Value			0.904	Data Not Normal at 1% Significance Level						
24	Lilliefors Test Statistic			0.321	Lilliefors GOF Test						
25	1% Lilliefors Critical Value			0.18	Data Not Normal at 1% Significance Level						
26	Data Not Normal at 1% Significance Level										
27											
28	Assuming Normal Distribution										
29	95% Normal UCL				95% UCLs (Adjusted for Skewness)						
30	95% Student's-t UCL			10.05	95% Adjusted-CLT UCL (Chen-1995)			10.44			
31					95% Modified-t UCL (Johnson-1978)			10.12			
32											
33	Gamma GOF Test										
34	A-D Test Statistic			2.374	Anderson-Darling Gamma GOF Test						
35	5% A-D Critical Value			0.751	Data Not Gamma Distributed at 5% Significance Level						
36	K-S Test Statistic			0.264	Kolmogorov-Smirnov Gamma GOF Test						
37	5% K-S Critical Value			0.156	Data Not Gamma Distributed at 5% Significance Level						
38	Data Not Gamma Distributed at 5% Significance Level										
39											
40	Gamma Statistics										
41	k hat (MLE)			3.693	k star (bias corrected MLE)			3.368			
42	Theta hat (MLE)			2.264	Theta star (bias corrected MLE)			2.483			
43	nu hat (MLE)			236.4	nu star (bias corrected)			215.6			
44	MLE Mean (bias corrected)			8.363	MLE Sd (bias corrected)			4.557			
45					Approximate Chi Square Value (0.05)			182.6			
46	Adjusted Level of Significance			0.0416	Adjusted Chi Square Value			181			
47											
48	Assuming Gamma Distribution										
49	95% Approximate Gamma UCL			9.873	95% Adjusted Gamma UCL			9.961			
50											
51	Lognormal GOF Test										
52	Shapiro Wilk Test Statistic			0.865	Shapiro Wilk Lognormal GOF Test						

	A	B	C	D	E	F	G	H	I	J	K	L	
53	10% Shapiro Wilk Critical Value					0.941	Data Not Lognormal at 10% Significance Level						
54	Lilliefors Test Statistic					0.223	Lilliefors Lognormal GOF Test						
55	10% Lilliefors Critical Value					0.142	Data Not Lognormal at 10% Significance Level						
56	Data Not Lognormal at 10% Significance Level												
57													
58	Lognormal Statistics												
59	Minimum of Logged Data					1.281	Mean of logged Data					1.982	
60	Maximum of Logged Data					3.296	SD of logged Data					0.49	
61													
62	Assuming Lognormal Distribution												
63	95% H-UCL					9.698	90% Chebyshev (MVUE) UCL					10.36	
64	95% Chebyshev (MVUE) UCL					11.37	97.5% Chebyshev (MVUE) UCL					12.76	
65	99% Chebyshev (MVUE) UCL					15.49							
66													
67	Nonparametric Distribution Free UCL Statistics												
68	Data do not follow a Discernible Distribution												
69													
70	Nonparametric Distribution Free UCLs												
71	95% CLT UCL					10	95% BCA Bootstrap UCL					10.48	
72	95% Standard Bootstrap UCL					9.941	95% Bootstrap-t UCL					11.04	
73	95% Hall's Bootstrap UCL					10.68	95% Percentile Bootstrap UCL					10.04	
74	90% Chebyshev(Mean, Sd) UCL					11.35	95% Chebyshev(Mean, Sd) UCL					12.7	
75	97.5% Chebyshev(Mean, Sd) UCL					14.58	99% Chebyshev(Mean, Sd) UCL					18.27	
76													
77	Suggested UCL to Use												
78	95% Student's-t UCL					10.05							
79													
80	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
81	Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.												
82	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												

Table 11
Background Threshold Value for Arsenic
Proposed Katherine Johnson Middle School, Sacramento, CA

Analyte	Unit	Number of Samples	Detection Rate	Mean	Std Dev	Min Detected	Max Detected	Distribution	Background Threshold Value (BTV) Method	Selected BTV
Arsenic	mg/kg	17	100%	3.759	0.974	2.55	6.6	Normal	95% UTL (Normal) with 95% Coverage	6.179

Notes:

The background data set consists of 12 Arden data points and 5 Katherine Johnson data points.

If duplicate exists, the average of primary and duplicate results is used as a single data point.

UTL - Upper Tolerance Limit

USEPA. 2022. ProUCL Version 5.2 (Software). Retrieved from <https://www.epa.gov/land-research/proucl-software>. June.

APPENDIX A

Limited Investigation Report and Addendum by Atlas Technical Consultants

A-1 Limited Investigation Report by Atlas

A-2 Limited Investigation Report Addendum by Atlas

A-3 Limited Investigation Report Addendum #2 by Atlas

A-4 Limited Investigation Report Addendum #3 by Atlas

APPENDIX B

Work Notice Letter dated April 5, 2023



San Juan Unified School District

Nicholas Arps, Director – Facilities, Construction & Modernization

6135 Sutter Avenue, Carmichael, CA 95608

Telephone (916) 971-5780

Internet Web Site: www.sanjuan.edu

Melissa Bassanelli, Superintendent
Frank Camarda, Chief Operations Officer

Date: April 5, 2023

To: Community Members and Neighbors of Creekside Adult Center, 2641 Kent Drive, Sacramento, Ca.

RE: Preliminary Endangerment Assessment (PEA) for the Katherine Johnson Middle School Project

San Juan Unified School District (District) would like to provide you with notice of a Preliminary Endangerment Assessment (PEA) that will be conducted on the former Creekside Adult Center located at 2641 Kent Drive in Sacramento, California. This project is known as the Katherine Johnson Middle School that will be built on the same parcel of land.

The PEA will be performed by a licensed contractor under the oversight of the Department of Toxic Substances Control (DTSC). Although an endangerment assessment will be conducted, this does not mean hazardous substances are located on the property. State laws and regulations require that all proposed new and expanding school sites undergo a complete environmental review, and if necessary, a cleanup to protect students, faculty, and staff who will occupy the school.

Field work is scheduled to occur during the day 8:00 am to 5:00 pm from April 07, 2023 through April 14, 2023. All field work will be conducted during normal business hours, and street closures will not be required during the investigation.

The District will submit the results of the PEA as a draft to DTSC for review and approval. Upon comments from DTSC, a final PEA Report will be submitted. The PEA will include an assessment of whether hazardous materials are present, and if so, whether the materials are present at concentrations that will require cleanup before implementing the school construction project. The District will hold a 30-day public review and comment period for the draft PEA report. Additionally, the District will hold a public hearing to discuss the assessment results and receive comments from the public. All comments received in this process shall be forwarded to DTSC for consideration.

The draft PEA will be made available for review at two District repositories. Notice of the 30-day review period, date of the public hearing, and location of the repositories, will be published in a local newspaper. When the public participation process is complete, DTSC will issue a final determination with regard to the PEA Report.

If you have any questions concerning the upcoming PEA, please contact Mr. Nicholas Arps, Director of Facilities, Construction, and Modernization, San Juan Unified School District, at (916) 971-5780,

Nicholas.arps@sanjuan.edu .

Nicholas Arps, LEED AP
Director, Facilities, Construction & Modernization
San Juan Unified School District

APPENDIX C

Geologic Map and Background Data Set for Arsenic

Table 11
Background Threshold Value for Arsenic
Proposed Katherine Johnson Middle School, Sacramento, CA

Analyte	Unit	Number of Samples	Detection Rate	Mean	Std Dev	Min Detected	Max Detected	Distribution	Background Threshold Value (BTV) Method	Selected BTV
Arsenic	mg/kg	17	100%	3.759	0.974	2.55	6.6	Normal	95% UTL (Normal) with 95% Coverage	6.179

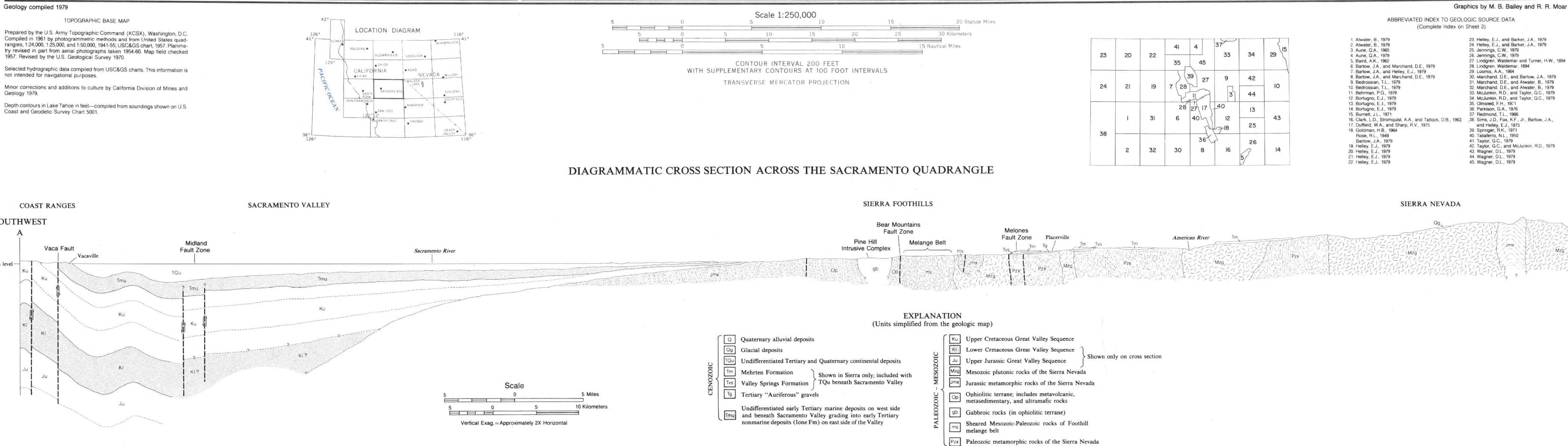
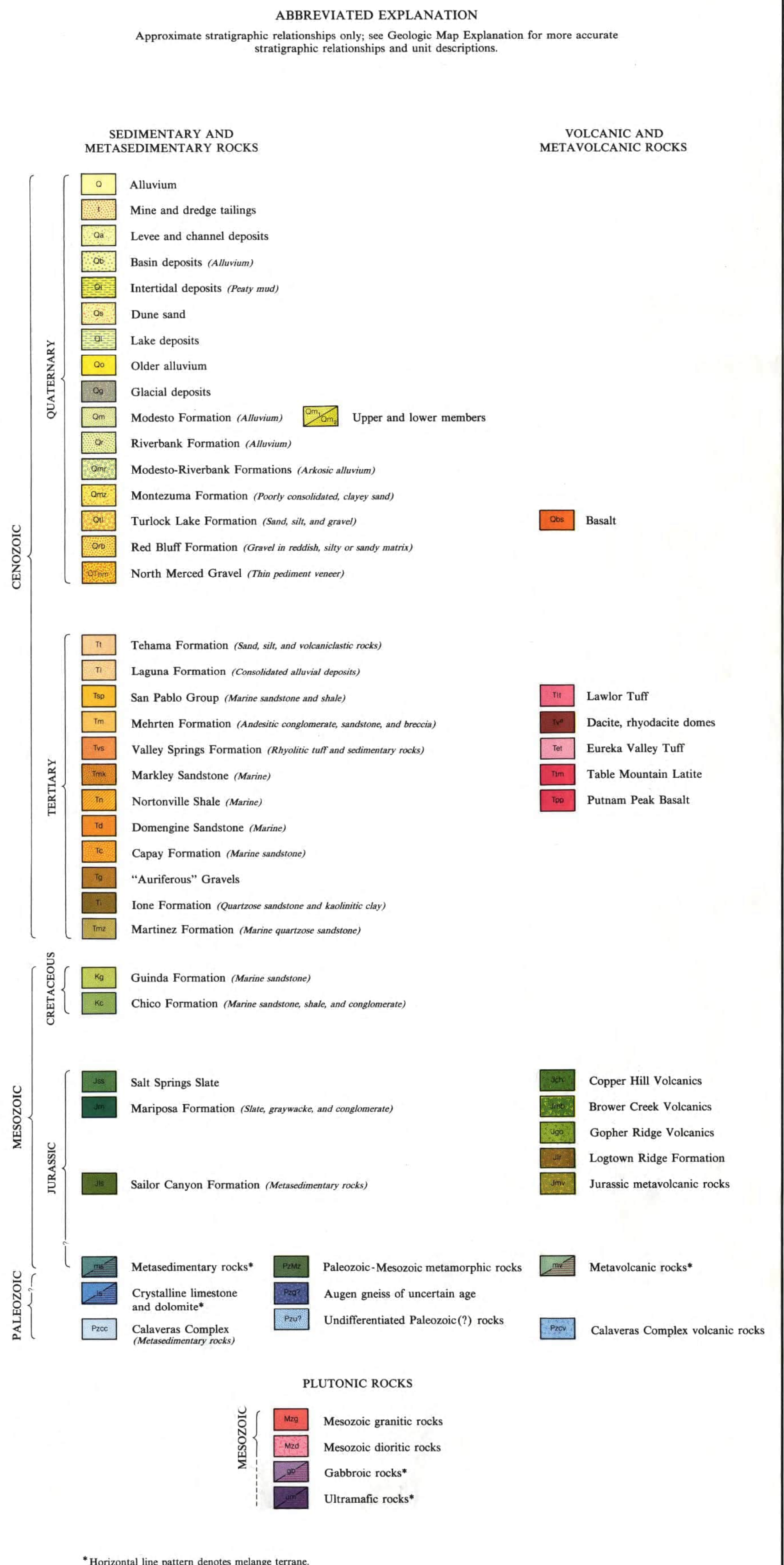
Notes:

The background data set consists of 12 Arden data points and 5 Katherine Johnson data points.

If duplicate exists, the average of primary and duplicate results is used as a single data point.

UTL - Upper Tolerance Limit

USEPA. 2022. ProUCL Version 5.2 (Software). Retrieved from <https://www.epa.gov/land-research/proucl-software>. June.



GEOLOGIC MAP OF THE SACRAMENTO QUADRANGLE, CALIFORNIA, 1:250,000

Compilation by
D. L. Wagner, C.W. Jennings, T.L. Bedrossian, and E.J. Bortugno

Published

1981

Appendix D

California Natural Diversity Database Output Files

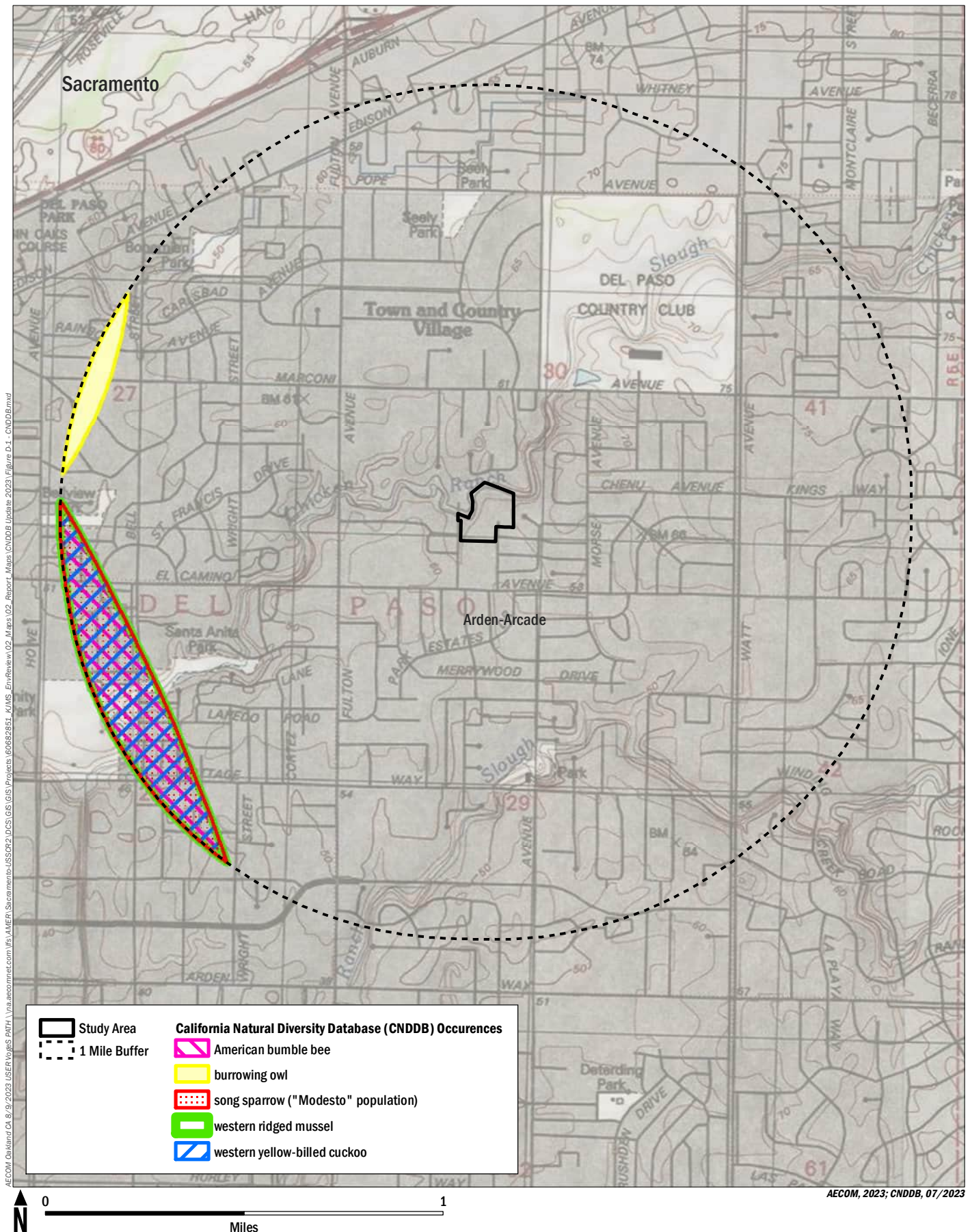


FIGURE D-1

*Sensitive Species in CNDDDB
Noted within 1-Mile Radius of the Site*

Table D-1. CNDDDB Wildlife Species with Potential to Occur in the Proposed Project Site

[illegible]



GIS Calculation Delivery Cover Sheet

AECOM GIS Group

Date: 8/9/2023
Project: CNDDDB map for School in Sacramento
Project number: 60682851
Requestor: Heather Patterson
GIS originator: Stefan Voge

GIS internal reviewer: Alex Remar

Date review completed: 8/9/2023

Note: This is GIS internal review of the data presented herein. Standard AECOM review (e.g., Detail Check) of any modification of the data beyond what is presented herein is the responsibility of the Requestor/Project Manager.

Brief description of analysis:

Please include all steps and tools used to develop final product.

CNDDDB clipped to a 1 mile buffer of the study area. Near tool to find distance of CNDDDB Occurences to study area.

Reference MXD/Model/Pro: [\\na.aecomnet.com\ifs\AMER\Sacramento-USSCR2\DCS\GIS\GIS\Projects\60682851_KJMS_EnvReview\02_Maps\02_Report_Maps\CNDDDB Update 2023\Figure D-1 - CNDDDB.mxd](\\na.aecomnet.com\ifs\AMER\Sacramento-USSCR2\DCS\GIS\GIS\Projects\60682851_KJMS_EnvReview\02_Maps\02_Report_Maps\CNDDDB Update 2023\Figure D-1 - CNDDDB.mxd)

Github Task: CNDDDB map for School in Sacramento #3991

SNAME

Bombus pensylvanicus
Gonidea angulata
Coccyzus americanus occidentalis
Melospiza melodia pop. 1
Athene cunicularia

CNAME

American bumble bee
western ridged mussel
western yellow-billed cuckoo
song sparrow ("Modesto" population)
burrowing owl

NEAR DISTANCE (FEET)	ELMCODE	OCCNUMBER
4,475.74	IIHYM24260	72
4,475.74	IMBIV19010	132
4,475.74	ABNRB02022	194
4,475.74	ABPBXA3013	83
4,959.94	ABNSB10010	569

MAPNDX	EONDX	KEYQUAD	KQUADNAME	KEYCOUNTY
90034	124139	3812154	Sacramento East	SAC
90034	118977	3812154	Sacramento East	SAC
90034	96966	3812154	Sacramento East	SAC
90034	91047	3812154	Sacramento East	SAC
51256	51256	3812154	Sacramento East	SAC

PLSS	ELEVATION	PARTS	ELMTYPE
T08N, R04E, Sec. 01 (M)	20	1	2
T08N, R04E, Sec. 01 (M)	20	1	2
T08N, R04E, Sec. 01 (M)	20	1	2
T08N, R04E, Sec. 01 (M)	20	1	2
T09N, R05E, Sec. 21 (M)	45	1	2

TAXONGROUP	EOCOUNT	ACCURACY	PRESENCE
Insects		4 5 miles	Presumed Extant
Mollusks		4 5 miles	Presumed Extant
Birds		4 5 miles	Extirpated
Birds		4 5 miles	Presumed Extant
Birds		1 1 mile	Presumed Extant

OCCTYPE	OCCRANK	SENSITIVE	SITEDATE
Natural/Native occurrence	Unknown	N	19820512
Natural/Native occurrence	Unknown	N	XXXXXXXX
Natural/Native occurrence	None	N	187707XX
Natural/Native occurrence	Unknown	N	19000609
Natural/Native occurrence	Unknown	N	19010508

ELMDATE	OWNERMG	FEDLIST	CALLIST	GRANK
19820512	UNKNOWN	None	None	G3G4
XXXXXXXX	UNKNOWN	None	None	G3
187707XX	UNKNOWN	Threatened	Endangered	G5T2T3
19000609	UNKNOWN	None	None	G5T3?Q
19010508	UNKNOWN	None	None	G4

SRANK	RPLANTRANK	CDFWSTATUS	OTHRSTATUS
S2			IUCN_VU
S2			IUCN_VU
S1			BLM_S; USFS_S
S3?		SSC	
S2		SSC	BLM_S; IUCN_LC; USFWS_BCC

LOCATION

SACRAMENTO.

SACRAMENTO.

SACRAMENTO.

SACRAMENTO.

HAGGINWOOD. VICINITY OF ARCADE CREEK, BL

LOCDETAILS

EXACT LOCATION UNKNOWN. MAPPED NON-SPECIFICALLY TO LOCATIONS STATED AS "SACRAMENTO," "SACRAMI
SPECIMEN LOCALITY GIVEN ONLY AS "SACRAMENTO." EXACT COLLECTION LOCATION UNKNOWN, MAPPED GENE
1877 EXPEDITION CONDUCTED IN "VICINITY OF SACRAMENTO CITY...WHERE VEGETATION WAS NOURISHED BY TH
1877 EXPEDITION CONDUCTED AT "VICINITY OF SACRAMENTO CITY...WHERE VEGETATION WAS NOURISHED BY TH
COLLECTION FROM "HAGGIN'S RANCH, 5 MILES NORTH OF SACRAMENTO". THIS IS NOW THE HAGGINWOOD NEIC

ECOLOGICAL

NEST "MADE OF DECAYED GRASSES, BITS OF TULE AND DEAD LEAVES. LINING OF FINER STUFF OF THE SAME."

GENERAL

ADULTS AND/OR QUEENS COLLECTED IN 1925, 1929, 1930, 1931, 1947, 1950, 1951, 1952, 1953, 1954, 1956, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025. 5 COLLECTED ON UNKNOWN DATE, LIKELY A HISTORICAL OCCURRENCE.

FOUND BREEDING IN VICINITY OF SACRAMENTO BETWEEN 6 JUN AND 4 JUL 1877.

FOUND BREEDING AT SACRAMENTO BETWEEN 6 JUN-4 JUL 1877. 3 EGGS COLLECTED (MVZ EGG/NEST #1003) ON 10 JUN 1877. MVZ EGG SET #893 COLLECTED 8 MAY 1901 BY R. H. ELLIOTT.

THREAT

DEVELOPMENT HAS ELIMINATED HABITAT IN THE AREA. THOUGHT TO HAVE BEEN EXTIRPATED IN SACRAMENTO ,
DEVELOPMENT HAS REPLACED MUCH OF THE WETLANDS AND OTHER SUITABLE HABITAT IN THE AREA.

THREATLIST

Development

Altered flood/tidal/hydrologic regime; Development; Surface water diversion

LASTUPDATE	PERIMETER	AVLCODE	Symbology
20230614	50264.84447	21004	810
20200803	50264.84447	21004	810
20150403	50264.84447	21004	810
20130813	50264.84447	21004	810
20040217	10052.96885	20901	209

shape_Length	shape_Area	area
10763.98493	2825756.519	201051722.1
10763.98493	2825756.519	201051722.1
10763.98493	2825756.519	201051722.1
10763.98493	2825756.519	201051722.1
5183.326676	545625.1664	8042068.816

Appendix E
Responsiveness Summary for Public Comments
Public Hearing for Katherine Johnson Middle School
Construction Project
May 9, 2023

I. INTRODUCTION

A Public Notice was placed in the Daily Recorder on April 20, 2023, announcing the public comment period for the Proposed Katherine Johnson Middle School Site Preliminary Environmental Assessment (PEA) in Sacramento, Sacramento County, California. The notice announced the comment period, the date and time of the public meeting and the location of the information repositories. The 30-day public comment period ran from April 18, 2023, through May 19, 2023. On May 9, 2023, at 6:30 pm, San Juan Unified School District conducted a School Board Meeting open to the public. The purpose of the meeting was to provide information on the draft PEA and to solicit public comments on the adequacy of the plan. A work notice was posted at the Site and handed out to the nearby residents on April 5, 2023. Copies of the work notice and the publication are included in Attachments #1 and #2.

This PEA summarizes the soil and soil gas investigation of the proposed Katherine Johnson Middle School Site. The Site is a former elementary school, head-start program/pre-school, and adult learning center (Creskide Adult Center). The San Juan School District is removing the old school and building a new middle school. The PEA Investigation was conducted in accordance with Education Code §17213.1(a). During the public comment period, the Draft PEA Report was available for public review and comment at the following addresses:

San Juan Unified School District
3738 Walnut Avenue
Carmichael, California 95608
San Juan Unified School District
5320 Hemlock Street
Sacramento, California 95841

Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

The Draft PEA Report also was available on the Internet at the DTSC “EnviroStor” database – see “Activities” tab at the following Internet address:

<http://www.envirostor.dtsc.ca.gov/public/profile>

Anyone interested in reviewing the Draft PEA Report, or providing comments, was instructed to contact Ms. Lisa Holcomb, DTSC Project Manager, by telephone at (916) 255-6523 or by electronic mail at lisa.holcomb@dtsc.ca.gov, or Mr. Nicholas Arps, SJUSD Director, Facilities, Construction & Modernization, by telephone at (919) 971-5780 or by electronic mail at Nicholas.arps@sanjuan.edu.

One comment was made by resident Mr. Michael Seaman at the San Juan Unified School District Board of Trustees Agenda Item 1-3, Public Hearing on Preliminary Environment Assessment (PEA), Katherine Johnson Middle School Construction Project at Board of Trustees’ meeting of May 9, 2023.

A letter from Kassoni Law addressed to DTSC c/o Mr. Jose Salcedo, Unit Chief and SJUSD c/o Nicholas Arps was received dated May 16, 2023.

II. COMMENTS AND RESPONSES

Mr. Seaman's Comments from public school meeting on May 9, 2023.

These comments are attachment #3.–

1. What water and sewer services will be provided to the proposed Katherine Johnson Middle School?

Response:

RESPONSES TO PUBLIC HEARING COMMENTS PRELIMINARY ENDANGERMENT ASSESSMENT REPORT KATHERINE JOHNSON MIDDLE SCHOOL CONSTRUCTION PROJECT 2641 KENT DRIVE, SACRAMENTO, CA MAY 9 2023			
ITEM	PAGE OR REFERENCE	COMMENT	RESPONSE OR ACTION
PUBLIC COMMENT by MR. MICHAEL SEAMAN			
I	Page 1-1	"Water and sewer services for the school will be provided by the municipal systems of the City of Sacramento Utilities Department" Nope, the Creekside site gets its water from the Sacramento Suburban Water District and its sewer services are provided by Sacramento County.	Comment acknowledged. The text was revised to "Water and sewer services for the school will be provided by Sacramento Suburban Water District and the Sacramento County sanitary sewer system" on page 1-1. This comment was also addressed on page 8-2 "The water supply for the school will be obtained from Sacramento Suburban Water District."

Kassoni Law Letter dated May 16, 2023 –

Below are the comments and responses addressing the Kassoni Law Letter dated May 16, 2023. The letter is attachment #4

Memorandum

To: Nicholas Arps, Director, Facilities Construction & Modernization, San Juan Unified School District

From: Matthew Gerken, Associate Vice President, AECOM

Date: June 28, 2023

Subject: Environmental Review for Katherine Johnson Middle School

We understand that the San Juan Unified School District (the District) is in receipt of a forwarded communication that went to the California Department of Substances Control (DTSC) on June 22nd, 2023 from Michael Seaman.

As you know, the entire team is coordinating very closely with DTSC to ensure protection of the public and environmental health as this new project is constructed and operated. As the coordination process with DTSC is ongoing, this Memo does not respond to topics related to those under DTSC oversight. This Memo does, however, provide clarifications to topics raised in the message to DTSC related to the environmental review process.

Comment 1: "SJUSD approved the project without the legally-required environmental review in early 2022. Some 5 months after approving the project, SJUSD initiated a California Environmental Quality Act (CEQA) review, which was the public's first opportunity to learn about the project and seek mitigation."

The District fulfilled all legal obligations related to the California Environmental Quality Act (CEQA), as documented in Findings adopted by the Board of Trustees on November 15th, 2022, and as documented in a Notice of Determination filed on November 16th, 2022 with the Sacramento County Clerk and Recorder. There was no challenge to the adequacy of the District's CEQA review, which was in the form of a full-scope Environmental Impact Report (EIR), and therefore, there is no valid outstanding question regarding the either the procedural or substantive aspects of the District's CEQA review.

Comment 2: "However, in adopting its Environmental Impact Report (EIR) for the project, SJUSD brushed off the public input obtained by the CEQA process, saying the decisions had already been made."

As noted in the District's EIR, public and agency input was invited at the initiation of the environmental review process and throughout the process. A Notice of Preparation (NOP) for the Draft EIR was circulated to inform agencies and the general public that an EIR was being prepared and to invite comments on the scope and content of the document. The District considered comments submitted in response to the NOP during preparation of the Draft EIR. The SJUSD also hosted a community workshop on June 16, 2022, at the Creekside Adult School, 2641 Kent Drive in Sacramento, to share information about the project and receive feedback on project communication.

The District prepared, published, and circulated a Draft EIR and published required notices to provide responsible agencies and other interested parties with notice that the Draft EIR was available for review. The public review period ran from September 15, 2022 to October 31, 2022. The District reviewed all comments on the Draft EIR and provided responses to all comments submitted. As required by CEQA Guidelines Section 15088(b), public agencies that commented on the Draft EIR are provided at least 10 days to review the proposed responses prior to the date for consideration of the Final EIR for certification. The SJUSD sent responses to comments from responsible agencies to those commenting agencies on November 4, 2022. The District certified the EIR and then directed staff to proceed with the project on November 15th, 2022.

Comment 3: "Further, SJUSD's adopted EIR stated no mitigation was required for potential violations of air and water quality standards and dismissed from further analysis the topic of hazards and hazardous materials."

As detailed in the District's EIR, the project would not violate any air or water quality standards. However, the District does include mitigation for construction-related air pollutant emissions – Mitigation Measure 3.2-1 requires construction emission control practices.

As detailed in the District's EIR, several existing regulations would apply to the proposed project that would reduce or avoid impacts related to erosion, sedimentation, and water quality degradation. To receive a grading permit from the County, a grading and erosion control plan must be submitted to the County Engineering Department that must incorporate stormwater pollution control as well as storm drainage design features to control increased runoff from the project site. The County's Land Grading and Erosion Control Ordinance requires implementation of erosion and sediment control best management practices to protect receiving water quality, which includes both surface water and groundwater. Projects that disturb more than one acre of land during the construction process must comply with the requirements in the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The Construction General Permit requires preparation and implementation of a stormwater pollution prevention plan with associated best management practices that are specifically designed to reduce construction-related erosion, sedimentation, and pollutant transport.

Comment 4: "However, the EIR did stipulate that a mitigation measure was necessary to minimize the potential for adverse human health and environmental effects. That measure (#4.3-1) stated the following... Prior to the start of earthmoving activities at the project site, the San Juan Unified School District shall hire a qualified remediation firm to conduct soil vapor sampling on-site to assess potential for vapor encroachment conditions associated with the historical cleaner to the south on El Camino Avenue, and ...prior to the start of earthmoving activities at the project site, the San Juan Unified School District shall hire a qualified remediation firm to collect and analyze soil sample(s) in the area of the Sacramento Municipal Utility District (SMUD) pad on the south side of the mechanical room, and ...prior to the start of earthmoving activities at the project site, the San Juan Unified School District shall hire a qualified remediation firm to collect and analyze soil samples throughout the subject property for asbestos, lead-based paint, and pesticide (termiticide), and if any constituents of concern exceed the applicable environmental screening levels, the report shall include recommendations for remediation, which may include excavation of contaminated soil and replacement with clean fill dirt. The San Juan Unified School District shall consult with the California Department of Toxic Substances Control, and shall implement the selected remedy for soil cleanup."

This process has been, and will continue to be coordinated with DTSC pursuant to applicable standards designed to be protective of the public and environmental health.

RESPONSES TO PUBLIC HEARING COMMENTS
PRELIMINARY ENDANGERMENT ASSESSMENT REPORT
KATHERINE JOHNSON MIDDLE SCHOOL CONSTRUCTION PROJECT
2641 KENT DRIVE, SACRAMENTO, CA
MAY 9 2023

ITEM	PAGE OR REFERENCE	COMMENT	RESPONSE OR ACTION
PUBLIC COMMENT by Kassouni Law – Mr. Timothy V. Kassouni			
1	Page 6	3. "What is the proper calculation for a non-action arsenic background level in this area?"	Comment acknowledged. Katherine Johnson Middle School Arsenic 95 % Upper Tolerance Limit was established from soil samples collected at Arden Middle School and Proposed Katherine Johnson Middle School and based on the same geographical area. This analytical data was used to determine a 95% Upper Tolerance Limit by using the Environmental Protection Agency (EPA) ProUCL 5.2 Software. This comment was also addressed on page 7-7 Section 7.4.3 . "The background data set consisted of 12 samples from Arden Middle School and 5 samples from Katherine Johnson Middle School and where summed for a mean of 3.759 mg/kg, with a standard deviation of 0.974, and a Background Threshold Value (BTV) was established at 6.179 mg/kg from the data, which is provided in (Table 11) and in attached (Appendix C)."
2	Page 6	What other Districts sites have been tested and presented to DTSC for screening or remediation?	This question is best answered by the Department of Toxic Substances Control School Division
3	Page 6	What are the arsenic screening results from other District sites?	This question is best answered by the Department of Toxic Substances Control School Division

ATTACHMENT #1



San Juan Unified School District

Nicholas Arps, Director – Facilities, Construction & Modernization

6135 Sutter Avenue, Carmichael, CA 95608

Telephone (916) 971-5780

Internet Web Site: www.sanjuan.edu

Melissa Bassanelli, Superintendent
Frank Camarda, Chief Operations Officer

Date: April 5, 2023

To: Community Members and Neighbors of Creekside Adult Center, 2641 Kent Drive, Sacramento, Ca.

RE: Preliminary Endangerment Assessment (PEA) for the Katherine Johnson Middle School Project

San Juan Unified School District (District) would like to provide you with notice of a Preliminary Endangerment Assessment (PEA) that will be conducted on the former Creekside Adult Center located at 2641 Kent Drive in Sacramento, California. This project is known as the Katherine Johnson Middle School that will be built on the same parcel of land.

The PEA will be performed by a licensed contractor under the oversight of the Department of Toxic Substances Control (DTSC). Although an endangerment assessment will be conducted, this does not mean hazardous substances are located on the property. State laws and regulations require that all proposed new and expanding school sites undergo a complete environmental review, and if necessary, a cleanup to protect students, faculty, and staff who will occupy the school.

Field work is scheduled to occur during the day 8:00 am to 5:00 pm from April 07, 2023 through April 14, 2023. All field work will be conducted during normal business hours, and street closures will not be required during the investigation.

The District will submit the results of the PEA as a draft to DTSC for review and approval. Upon comments from DTSC, a final PEA Report will be submitted. The PEA will include an assessment of whether hazardous materials are present, and if so, whether the materials are present at concentrations that will require cleanup before implementing the school construction project. The District will hold a 30-day public review and comment period for the draft PEA report. Additionally, the District will hold a public hearing to discuss the assessment results and receive comments from the public. All comments received in this process shall be forwarded to DTSC for consideration.

The draft PEA will be made available for review at two District repositories. Notice of the 30-day review period, date of the public hearing, and location of the repositories, will be published in a local newspaper. When the public participation process is complete, DTSC will issue a final determination with regard to the PEA Report.

If you have any questions concerning the upcoming PEA, please contact Mr. Nicholas Arps, Director of Facilities, Construction, and Modernization, San Juan Unified School District, at (916) 971-5780, Nicholas.arps@sanjuan.edu.

Nicholas Arps, LEED AP
Director, Facilities, Construction & Modernization
San Juan Unified School District

ATTACHMENT #2

THE DAILY RECORDER

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COPY OF NOTICE

Notice Type: GOV GOVERNMENT LEGAL NOTICE

Ad Description

KATHERINE JOHNSON MIDDLE SCHOOL PROJECT

To the right is a copy of the notice you sent to us for publication in the THE DAILY RECORDER. Thank you for using our newspaper. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

04/28/2023

SC# 3696003

**Public Notice
For the proposed Katherine Johnson
Middle School Project**

San Juan Unified School District is proposing building a school at 2641 Kent Dr, Sacramento, CA 95821. A draft Preliminary Endangerment Assessment has been conducted for the property. This report has been posted on the San Juan Unified School District website <https://www.sanjuan.edu/buildkjms>.

Printed copies are also available at the San Juan Unified School District offices located at 3738 Walnut Ave, Carmichael, CA 95608 and 5320 Hemlock St, Sacramento, CA 95841.

This notice will be open for 30-days for public comment from April 18th, 2023, through May 19th, 2023, and the public hearing will be held on May 9th at 6:30 PM at 3738 Walnut Ave, Carmichael, California 95608.

Written comments on the Draft PEA Report must be received no later than May 19th, 2023, at the following address: 3738 Walnut Ave, Carmichael CA 95608 or comments can be emailed to Nicholas Arps at nic.arps@sanjuan.edu
4/28/23

SC-3696003#

ATTACHMENT #3

COMMENTS OF DISTRICT RESIDENT MICHAEL SEAMAN, ON SAN JUAN UNIFIED SCHOOL DISTRICT BOARD OF TRUSTEES AGENDA ITEM I-3, PUBLIC HEARING ON PRELIMINARY ENDANGERMENT ASSESSMENT (PEA), KATHERINE JOHNSON MIDDLE SCHOOL CONSTRUCTION PROJECT AT BOARD OF TRUSTEES' MEETING OF MAY 9, 2023

WHENEVER I SEE EGREGIOUS ERRORS IN PUBLIC DOCUMENTS MY BALONEY-WARNING SYSTEM GOES OFF. AND INDEED, THERE IS SUCH A BLATANT ERROR IN YOUR P.E.A. REPORT. ON PAGE 1-1 THE REPORT STATES,

"Water and sewer services for the school will be provided by the municipal systems of the City of Sacramento Utilities Department."

NOPE. THE CREEKSIDE SITE GETS ITS WATER FROM THE SACRAMENTO SUBURBAN WATER DISTRICT AND ITS SEWER SERVICES ARE PROVIDED BY SACRAMENTO COUNTY.

THAT STATEMENT IN THE P.E.A. REPORT REMINDS ME OF THE WAY YOUR DISTRICT HANDLED THE CEQA DOCUMENT FOR THE PROJECT – YOU JUST WROTE SOME WORDS, OFFERED THEM UP FOR PUBLIC COMMENT, IGNORED THE COMMENTS AND MOVED ON. WHY SHOULD THE P.E.A. BE ANY DIFFERENT? IT ESSENTIALLY SAYS TO THE STATE THAT YOU SPENT A LOT OF MONEY ACTING LIKE DUE DILIGENCE IS HAPPENING AND, GOSH, LOOK, THERE AREN'T ANY SIGNIFICANT PROBLEMS AT THE SITE.

BUT I WONDER, HAVE YOU TOLD THE STATE THAT THE NEED FOR A 650-STUDENT MIDDLE SCHOOL AT CREEKSIDE WASN'T IN THE DISTRICT'S FACILITIES MASTER PLAN, THE ONE THAT OSTENSIBLY GUIDED YOUR MEASURE P BOND? HAVE YOU TOLD THEM THAT THE VOTERS WERE NOT TOLD THAT MEASURE P BOND MONEY WOULD BE SPENT ON THIS SPECIFIC PROJECT? OR THAT THE REQUIRED BOND OVERSIGHT COMMITTEE REVIEW DID NOT TAKE PLACE? DID YOU LET THEM KNOW THE SITE IS IN A DESIGNATED ENVIRONMENTAL JUSTICE AREA? AND DID YOU TELL THE STATE THAT YOUR DISTRICT MADE A DESCRETIONARY DECISION TO APPROVE THE PROJECT A FULL FIVE MONTHS BEFORE YOU STARTED THE REQUIRED CEQA ANALYSIS? DID YOU TELL THEM YOU REFUSED TO MITIGATE YOUR PRE-SELECTED CAMPUS BUILDINGS BECAUSE YOU HAD ALREADY LOCKED IN THE DESIGN BEFORE SEEKING PUBLIC INPUT?

I MENTION THOSE POINTS BECAUSE YOUR AGENDA ITEM SPECIFICALLY SAYS YOU WILL PROVIDE THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL WITH THE PUBLIC COMMENTS. I EXPECT YOU TO KEEP YOUR WORD.

THANK YOU.

ATTACHMENT #4



KASSOUNI LAW

May 16, 2023

State of California
Department of Toxic Substance Control
c/o José Salcedo, P.E., Unit Chief
Lisa Holcomb, Project Manager
Northern California Schools Unit
Site Mitigation and Restoration Program
8800 Cal Center Drive
Sacramento, CA 95826-3200

San Juan Unified School District
c/o Nicholas Arps
Director of Facilities, Construction &
Modernization
3738 Walnut Avenue
Carmichael, CA 95608

Via Electronic Mail to
Jose.Salcedo@dtsc.ca.gov
lisa.holcomb@dtsc.ca.gov

Via Electronic Mail to
Nicholas.Arps@sanjuan.edu

RE: Draft Preliminary Endangerment Assessment
DTSC Docket No. HAS-FY22/23-024
Creekside Adult School/New Katherine Johnson Middle School,
2642 Kent Drive, Sacramento CA 95821

Dear Mr. Salcedo, Ms. Holcomb and Mr. Arps:

We are writing concerning the Draft Preliminary Endangerment Assessment ("Draft PEA"), including its Appendices investigation and report, and the events leading up to the Report and the proposed actions pursuant to the report in connection with the San Juan Unified School District ("District") Katherine Johnson New Middle School Project ("Project"). We have serious concerns about how the District has proceeded with this Project so far, ignoring its legal obligations, proceeding with construction without DTSC site approval, proceeding with its investigation without notification to DTSC and the community, and acting in complete disregard of the District's legal obligations to the community and DTSC established policies and procedures. Furthermore, there are substantive flaws and gaps in the District's investigation and report which result in an incomplete investigation of the site and an inadequate characterization of the contaminants at the site, guaranteeing an ineffective and incomplete remediation of the site. We request that DTSC order additional testing and evaluation of the school site so that it is fully and adequately characterized and all appropriate remediation activities can be implemented for the safety of the students, staff, and community members impacted by the contamination.

The Procedures:

The District has proceeded unapologetically with its demolition, site preparation (including grading and utility work), and preliminary construction work without first obtaining the required site approval of DTSC.¹ Documents provided by the District which we have reviewed show that the environmental investigation which DTSC is overseeing is not a high priority for the District, and is subservient to the District's rushed construction schedule, falling below items such as subcontractor insurance and processing contractor payments. According to District records, it brought potentially untested fill to the site, pumped potentially contaminated water off the site, conducted footing demolition, underground utility demolition, and removal and grading activities – all without DTSC clearance of the site. These activities were done in complete disregard of the District's, and DTSC's, obligations to the public and exhibit a cavalier attitude to site safety in the interest of Project schedule. We call on DTSC to exercise its oversight authority and demand that the District proceed in a manner consistent with the law and with DTSC's procedures which govern **all** school sites in California.

The District moved forward with its purported testing of the site in March of 2023. It did so despite, and in defiance of, the DTSC's schedule that called for testing in June of 2023 and its agreement with DTSC to provide DTSC with notice **prior to** undertaking any fieldwork. Clearly, the District disregarded DTSC's oversight obligations, the agreement to provide at least seven days' notice of its activities, and its schedule and obligation to oversee site assessment activities, and proceeded without any DTSC oversight of its "investigation." The District had not even prepared, let alone obtained approval of, a PEA Workplan. The District further failed to notify the community of its testing, as required by Education Code § 17210.1. The report shows that the required notice of the March testing was not provided. The District, having discovered it is required to give the community notice, returned to the site on April 7, 2023 for "additional testing". This was the only testing of which the community was advised, with a notice served the day before the testing.

We understand that prior to this purported "site investigation," the District had fill brought onto the site. The District, in response to a Public Records Act request, states that no testing results or other information on the fill exists. There is no indication that the area where the fill was placed was tested and contradictory evidence as to whether or not the fill was ever tested either before import or since placement.

DTSC plays a critical role in the school construction process to ensure the environmental safety of California school sites. DTSC is charged with protecting the students and staff who will be occupying the school and public impacted by the school and is guided by principles and values to assure compliance with its standards. DTSC has established procedures and standards

¹ We note that DTSC records indicate the site is "vacant and unpaved, with no existing or previous structures." This is a recent condition, brought about by District demolition activities undertaken without DTSC approval of the site. The site is described as including classrooms, gymnasiums basketball courts and other improvements in the January 25, 2023 Environmental Oversight Agreement.

developed as a result of extensive experience and expertise in evaluating school site. DTSC must undertake its oversight responsibilities in a uniform manner that protects all stakeholders. SJUSD has disregarded DTSC's important role in its construction process. DTSC should not condone the District's complete disregard of DTSC and its important oversight role.

The District has been driven entirely by its rush to complete construction at all costs, with a complete disregard of its legal and moral obligations. Maintaining the construction schedule is the driving force in the District's actions and inactions.² The safety of schoolchildren, staff and the community is not an issue to be rushed and DTSC must require additional investigation, testing and analysis to assure the safety of the school site.

Deficiencies In the PEA:

Methodology:

The Draft PEA indicates multiple soil test locations shown inside EXISTING building footprints (i.e., KJMS-19, KJMS-6, KJMS-5) or in areas covered with hardscape (i.e., KJMS-27, KJMS-29, KJMS-T3, KJMS-T1). (See, Atlas Report, Figure 2 – Site Plan and Sample Locations.) The Report fails to indicate the method(s) used to penetrate EXISTING building slab on grade or foundations to reach sample area (e.g., coring?). The report further fails to identify the method used to determine whether material(s) tested were in situ materials or building base materials or artificial fill. This information is important to properly and fully characterize the site and to protect the safety of children and adults who will be at the school once constructed and the neighborhood in which the school will operate.

Benzene, VOCs and Other Hazardous Chemicals:

The District has identified the presence of dangerous levels of benzene and other dangerous chemicals at the site. The Draft PEA speculates that the source of these dangerous chemicals is offsite, left over (in the groundwater) from the operation of a dry cleaner which was located to the south of the school almost 60 years ago. If the VOCs derived from an offsite source, purportedly migrating to the school site, then it should be **presumed** that the chemicals continue to migrate across the site toward the natural drainage channel west of the site, the portion of the property **opposite** the area tested. There is no basis to presume that VOC migration stopped at the eastern edge of the site. It is curious – perhaps suspicious – that the District sampled a very specific, small area of the site, unless it has more information about the source of the contamination than is revealed in the Draft PEA.

There is no evidence to support the District's assignment of the source of contamination or the extent of contamination, and the site requires further investigation to identify the source,

² We note that on May 1, 2023, DTSC approved a PEA Workplan dated April 3, 2023, which DTSC received on April 4, 2023. The significant portion of the site testing was completed in March of 2023, before the Workplan was even prepared let alone submitted to DTSC. We are not aware of DTSC making a practice of approving PEA workplans almost two months after the work has been done at the site.

including previous activities on the site, and to more fully characterize the extent and concentrations of contamination at the site. Given that all five sample locations areas utilized by the District detected unacceptably high levels of VOCs and given that there is no affirmatively identified source or pathway for Benzene migration, there is no basis for DTSC to affirmatively conclude that VOCs are not more widespread on the school site. DTSC must require further investigation and full characterization of the site before it can properly identify the proper remediation activities which must be completed before construction resumes.

According to the Draft PEA (Atlas Table 5 – Summary of Soil Vapor Sample Analytic Results), five locations on the site were sampled for VOCs. All of these locations indicate the presence of Benzene and other chemicals in unacceptable quantities. Testing appears to have been conducted at two elevations 3.5/4 to 5 BGS and 9 to 12.0 BGS, and the results show that the concentrations of dangerous chemicals are higher at the lower elevation in all five sample locations. The Draft PEA fails to address if the concentration of dangerous chemicals continue to increase with depth (indicating or contraindicating a deep source). This is of particular concern given the fact that the District fails to identify a plausible source of these dangerous chemicals, other than a statement based upon pure speculation.

The District Draft PEA identifies two possible “pathways” for the dangerous chemicals detected on the site. (See, Atlas Figure 6 – Possible Migration Pathways for PCE Originating from Bates Cleaners to Former Creekside Adult Center.) The District speculates that (1) cleaner to ground disposal to groundwater to school site to detection location; and (2) cleaner to sanitary sewer to leak location to school site to detection location. There are no verifiable details to substantiate either of these representations or potential pathways. Additional questions and issues must be addressed by the District before DTSC approves the PEA and identifies appropriate remediation at the site.

The only identification of the former cleaners site is at Atlas Figure 1 – Site Vicinity Map, which identifies the Location of Bates Cleaners relative to the school site. No other figure identifies the location and its relation to the purported pathways of contamination. The Draft PEA fails to identify any facts to support this offsite source of contamination. The Draft PEA fails to address how or if this is a likely or viable source given its physical proximity. The Draft PEA does not establish that there was known leakage at the Bates site.

The Draft PEA fails to show either the location or elevation of the sanitary sewer relative to the school site – or, more importantly, the direction of flow within the sewer. A note in the Draft PEA (See, Atlas Figure 6 – Possible Migration Pathways for PCE Originating from Bates Cleaners to Former Creekside Adult Center) reads that: “A sewer line runs west along El Camino Drive and north along Kent Drive towards the former Creekside Adult Center.” Given the urban tendency to co-locate sewer lines with main arterials, flow direction seems more likely to flow TOWARD El Camino and the Bates site and AWAY from the school site. The Report fails to state if the Bates site is UPSTREAM or DOWNSTREAM from the campus. The Report fails to identify where exactly the – supposedly leaking – sewer line runs. It is not likely to

terminate – where does it run to once on Kent Street (unless it originated on Kent Street)? How proximate is the sewer to the school site? Is there any evidence of leakage in the sewer line? If this is the source of continuing contamination, the source must be adequately addressed. None of these issues are addressed in the Draft PEA.

The Draft PEA (Atlas Figure 6) postulates that PCE dumped in the ground at the Bates Cleaners sank to the groundwater table, then traversed toward the school site, and then percolated upwards. The Project Environmental Impact Report (“EIR”) approved by the District states that groundwater at the school site is 90 feet BGS. If this theory is correct, it is likely that PCE concentrations would continue to increase from near-surface the measured concentrations to the groundwater layer below. If this is the case, as supported by the Draft PEA and the EIR, deeper elevation testing must be completed to address this issue.

The site geologic mapping and profile indicates “hardpan” elevation(s) but fails to establish if these layers are continuous or disjointed. The Draft PEA fails to address the question of whether the “hardpan” is preventing benzene migration upwards from a lower source (i.e., groundwater) or acting as a conduit for benzene. The Draft PEA fails to state if concentrations below hardpan even higher, an issue DTSC must have addressed.

The Draft PEA (See, Atlas Figure 6 – Possible Migration Pathways from PCE Originating from Bates Cleaners to the Former Creekside Adult Center) notes: “Petroleum constituents may be due to possible vehicle maintenance being conducted on-site in an unsecured parking lot, or unknown UST could have leaked and impacted soil and soil vapor.” The report fails to address important issues needed to support (or not) this speculation about the source of contaminants. The Report fails to address

- Whether or not there are/were any above ground or any underground storage tanks on this property. The District has owned and operated this property for a significant amount of time and should be able to affirmatively declare whether or not there was any storage tanks(s). If there were tanks located on the property, the District should be able to provide compliance records related to maintenance, and removal, of the tank(s), including whether or not there were indications of any leakage from the tank(s).
- The report attributes the petroleum detections as possible illicit vehicle maintenance. There is no basis for this speculation. First, VOCs were found in five separate locations at the edge of a parking area and found at depth, such contamination would require a ridiculously large volume of “maintenance activity”-related discharges. Given that all five sample locations, limited as they are, detected petroleum products which hardly sounds like limited illicit activity. In addition, there are multiple parking lots or surface areas at the site that are just as likely to have been used for illicit vehicle maintenance which the Report

attributes as the source of contamination. None of these other areas were tested and cannot be presumed to be clear.

Arsenic:

The Draft PEA further identifies hazardous levels of arsenic at the school site. (See, Atlas Table 1.) However, the testing and analyses set forth in the Draft PEA are insufficient to allow DTSC to fully characterize the extent of arsenic contamination of the site. Without adequate characterization of this school site, correctly place in a regional complex, remediation will be incomplete and inadequate.

The Draft PEA indicates that arsenic was located near the surface across the majority of the campus. (see, Figure 1 – Site Plan and Sample Locations) Arsenic was tested for and detected in five locations all at a depth of 0.5 to 1.5 feet BGS. No additional testing was done at greater depths. No reason or rationale is provided for the failure to further test the site. The highest concentration was identified in areas that will not be surfaced and which will remain open to student contact. Given the limited testing, higher concentrations of arsenic at depth cannot be ruled out without additional testing at depth and in additional locations.

There are many additional questions that must be addressed in further, complete testing of the site.

- The Project EIR indicates that portions of the existing site are covered by fill. The Report fails to indicate if the testing completed to date has measured in situ arsenic or fill material arsenic. No protocol to distinguish between imported fill and in situ materials was used.
- The EIR states that new construction will use shallow spread footings at a depth of at least 2.5 feet. The current testing is inadequate to confirm whether footing construction will disturb arsenic at higher or lower levels. Additional testing at depth is required to answer this question.
- The Project plans indicate extensive demolition of existing buildings, foundations and buried utilities. Current testing is inadequate to determine whether or not demolition will disturb, or, more importantly has disturbed (as work was undertaken without DTSC site approval), arsenic at higher or lower concentration levels. Additional testing at depth is required to answer these questions.
- The 2020 DTSC arsenic protocol is derived from an extensive Southern California arsenic sampling program. That data indicates that arsenic commonly increases in concentration with depth, necessitating increased remediation measures than would be indicated by surface measurement alone. Why has

deeper testing at this site been excluded, especially once wide-spread arsenic is detected at near surface concentrations of concern? Additional testing must be completed to determine the concentration at depth consistent with DTSC protocol and practice and lessons learned from Southern California school sites.

The Draft PEA attempts to apply an arsenic averaging methodology to determine background levels of arsenic appropriate to this location. It purports to do that by combining data from a second school in some indeterminate manner. The District is engaged in a school bond program of such a large scope as to require construction on virtually every school site in the District. Given the similar geology underlying the entire District, arsenic is likely to be prevalent and ALL school sites should have been and/or should be getting screened for arsenic prior to construction and disturbance. This program should have generated a large volume of data (comparable in size to the LAUSD database used to establish the 2020 DTSC arsenic protocol) which should be used to establish a proper arsenic background level that avoids the skewing inevitable with a limited sample size. As has been done by DTSC in evaluating and investigating Southern school sites, the following information should be provided to allow a full assessment of the investigation and evaluation of this school site. At a minimum, the following information should be provided to the public:

- What other District sites have been tested and presented to DTSC for screening or remediation?
- What are the arsenic screening results from other District sites?
- What is the proper calculation for a non-action arsenic background level in this area?

Conclusion:

The Draft PEA for the San Juan Unified School District Creekside Adult Center/Katherine Johnson Middle School is inadequate and incomplete. Any remediation plan based upon the Draft PEA will also be inadequate and incomplete. DTSC has had procedures and guidelines in place for schools site assessments for over 20 years. DTSC has laid out a sequence and protocols designed to ensure the health and safety of schoolchildren throughout the State of California, and to provide reassurance to parents, neighbors and the community at large that schools and their construction will be safe.

In this case, the District has flaunted the DTSC protocols and procedures and the laws which they implement in the interest of maintaining an aggressive construction schedule. DTSC must require a complete and thorough evaluation of the site, and require additional testing and analysis before even considering a remedial and/or removal action plan.

Department Of Toxic Substance Control
San Juan Unified School District
Re: Creekside Adult Center, DTSC Docket No. HAS-FY22/23-024
May 16, 2023
Page 8 of 8

Thank you for your attention.

Sincerely,

A handwritten signature in black ink, appearing to read 'Timothy V. Kassouni', with a stylized, flowing script.

Timothy V. Kassouni

