

**2023 Annual Land-Use Covenant
Inspection Report
for DOE Areas at the
Laboratory for Energy-Related
Health Research/Old Campus
Landfill Superfund Site
University of California, Davis**

January 2024



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

Report Distribution

Yang Dong
State of California
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Rusty Harris-Bishop
U.S. Environmental Protection Agency,
Region 9
75 Hawthorne Street, SFD-7-3
San Francisco, CA 94105

Durin Linderholm
California Regional Water Quality Control Board,
Central Valley Region
11020 Sun Center Drive, No. 200
Rancho Cordova, CA 95670

Kathleen Whysner
U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

Christopher Wright
University of California, Davis
Environmental Health and Safety Unit
One Shields Avenue
Davis, CA 95616

Contents

Abbreviations	ii
1.0 Introduction	1
1.1 Inspection and Reporting Requirements	4
1.2 Reporting Period	4
1.3 Activities Conducted During the Reporting Period	4
1.3.1 Field Activities	4
1.3.2 Report and Work Plan Preparation	5
1.3.2.1 SMP Revision	5
1.3.2.2 Hydrogeologic Analysis	5
2.0 Inspections	6
2.1 Inspection of Survey Monuments	6
2.2 Inspection of DSS 4 Area for Prohibited Land Uses	6
2.3 Inspection of DOE Areas for Evidence of Soil-Disturbing Activities and Tree or Shrub Removal	6
2.4 Inspections of Groundwater Monitoring Wells	7
2.5 Post-Inspection Walkthrough	8
3.0 SMP Implementation	8
3.1 Training	8
3.2 Soil-Disturbing and Tree or Shrub Removal Activities	9
3.3 Waste Disposal	9
4.0 References	9
5.0 Certification	10

Figures

Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California	2
Figure 2. DOE Areas of the LEHR Federal Facility Subject to Land-Use Controls and Locations of DOE Groundwater Monitoring Wells and Survey Monuments	3

Appendixes

Appendix A	Inspection Checklists
Appendix B	Photographs of Survey Monuments at Permanent Reference Points for Areas Subject to Land-Use Controls
Appendix C	Photographs of DOE Areas Subject to Land-Use Controls
Appendix D	Photographs of Groundwater Monitoring Wells
Appendix E	Vegetation Management Documentation
Appendix F	Maintenance Issue Documentation

Abbreviations

DOE	U.S. Department of Energy
DSS	Domestic Septic System
DTSC	California Department of Toxic Substances Control
EDPs Area	Eastern Dog Pens Area
EH&S	Environmental Health and Safety
EPA	U.S. Environmental Protection Agency
LEHR	Laboratory for Energy-Related Health Research
PFAS	per- and polyfluoroalkyl substances
Ra/Sr Treatment Systems Area	Radium/Strontium Treatment Systems Area
ROD	Record of Decision
SMP	Soil Management Plan
SWT Area	Southwest Trenches Area
UC Davis	University of California, Davis
Weiss	Weiss Associates

1.0 Introduction

This report documents inspections of land-use controls implemented by the U.S. Department of Energy (DOE) to control exposure to residual soil contaminants at DOE Areas of the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund site (also called the LEHR site) at the University of California, Davis (UC Davis) (Figure 1). Inspection activities documented herein apply to the reporting period from December 10, 2022, to December 9, 2023. A detailed annual inspection was conducted on October 10 and 11, 2023, with a confirmatory walkthrough on December 8, 2023. The inspection and this report fulfill the requirements of the *Covenant to Restrict Use of Property, Environmental Restriction* (hereafter referred to as the Covenant) recorded by Solano County on July 11, 2014 (DTSC 2014).

The requirements for land-use controls at the site's DOE Areas are documented in the Record of Decision (ROD) (DOE 2009) and in the Covenant. The implementation procedures for land-use controls are documented in the Remedial Design/Remedial Action Work Plan (DOE 2010) and the Soil Management Plan (SMP) (DOE 2022).

The DOE Areas subject to land-use controls (Figure 2) are the Radium/Strontium Treatment Systems Area (Ra/Sr Treatment Systems Area), Domestic Septic System (DSS) 3 and DSS 4 Areas, Dry Wells A–E Area, Eastern Dog Pens Area (EDPs Area), and Southwest Trenches Area (SWT Area). The DSS 2 Area is within the Ra/Sr Treatment Systems Area. The DSS 4 Area contains a portion that is subject to a prohibition on residential use.

The Western Remediation Support Area and Eastern Remediation Support Area shown in Figure 2 do not contain residual contamination but are required to be accessible for the staging of equipment and supplies if contingent remedial actions were to be implemented at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, or SWT Area.

The Covenant states that the following conditions must be maintained until the concentrations of contaminants in the soil are at or below cleanup levels specified in the ROD:

- Residential use, use for day care for children, and cultivation of crops for human consumption are prohibited in the DSS 4 Area (Figure 2)
- Soil-disturbing activities at the Ra/Sr Treatment Systems Area, DSS 3 and DSS 4 Areas, Dry Wells A–E Area, EDPs Area, and SWT Area must be implemented in accordance with the SMP
- Interference, tampering, or destruction of the groundwater monitoring system is prohibited
- The California Department of Toxic Substances Control (DTSC) and U.S. Environmental Protection Agency (EPA) Region 9 must have reasonable right-of-entry and access to the site for periodic inspections to ensure compliance with land-use controls
- Access must be granted to DOE to conduct operation and maintenance activities
- An inspection verifying compliance with the Covenant must be conducted annually and a report of the inspection provided to DTSC and EPA by January 15

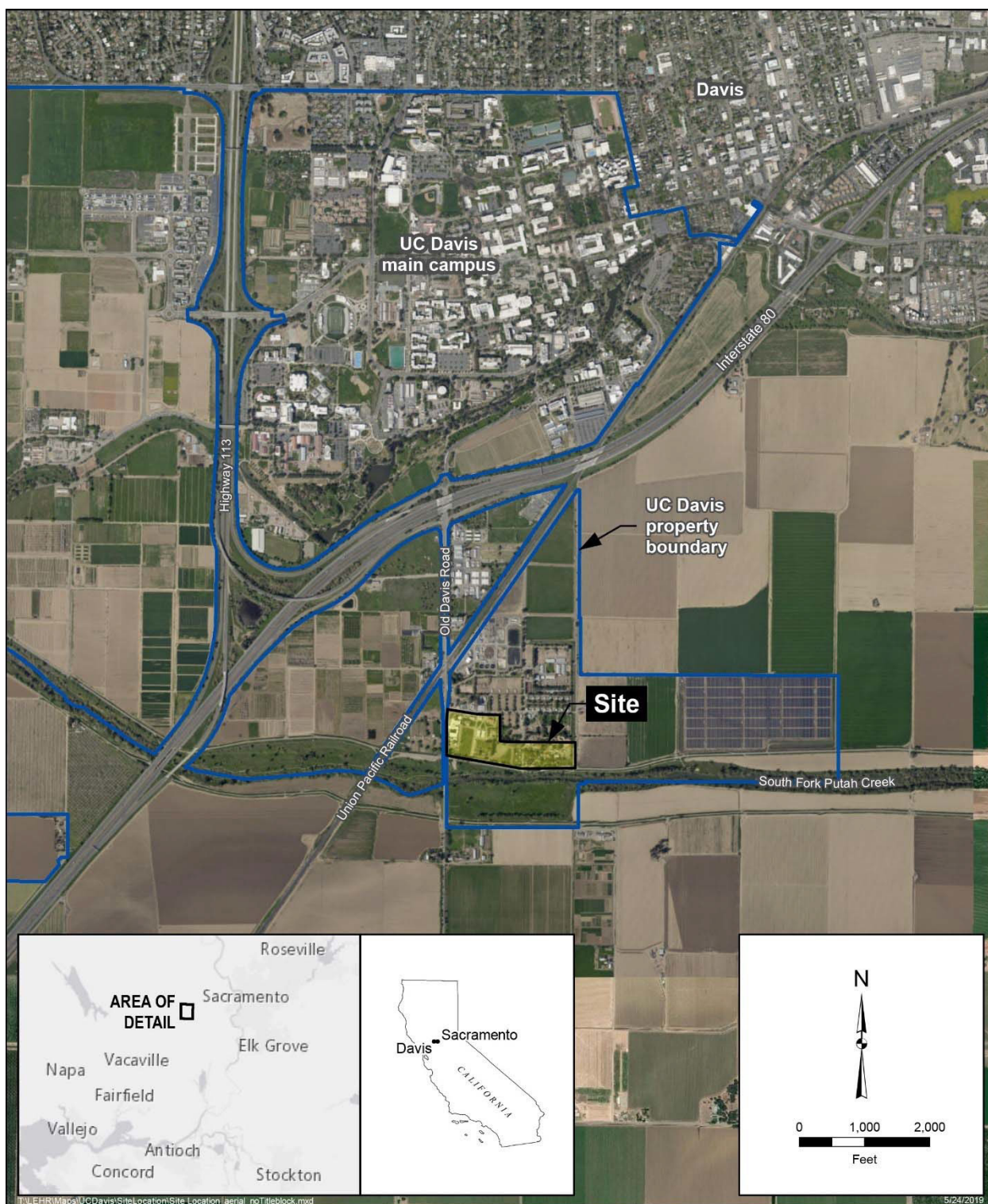


Figure 1. Location of the LEHR Superfund Site, UC Davis, Solano County, California

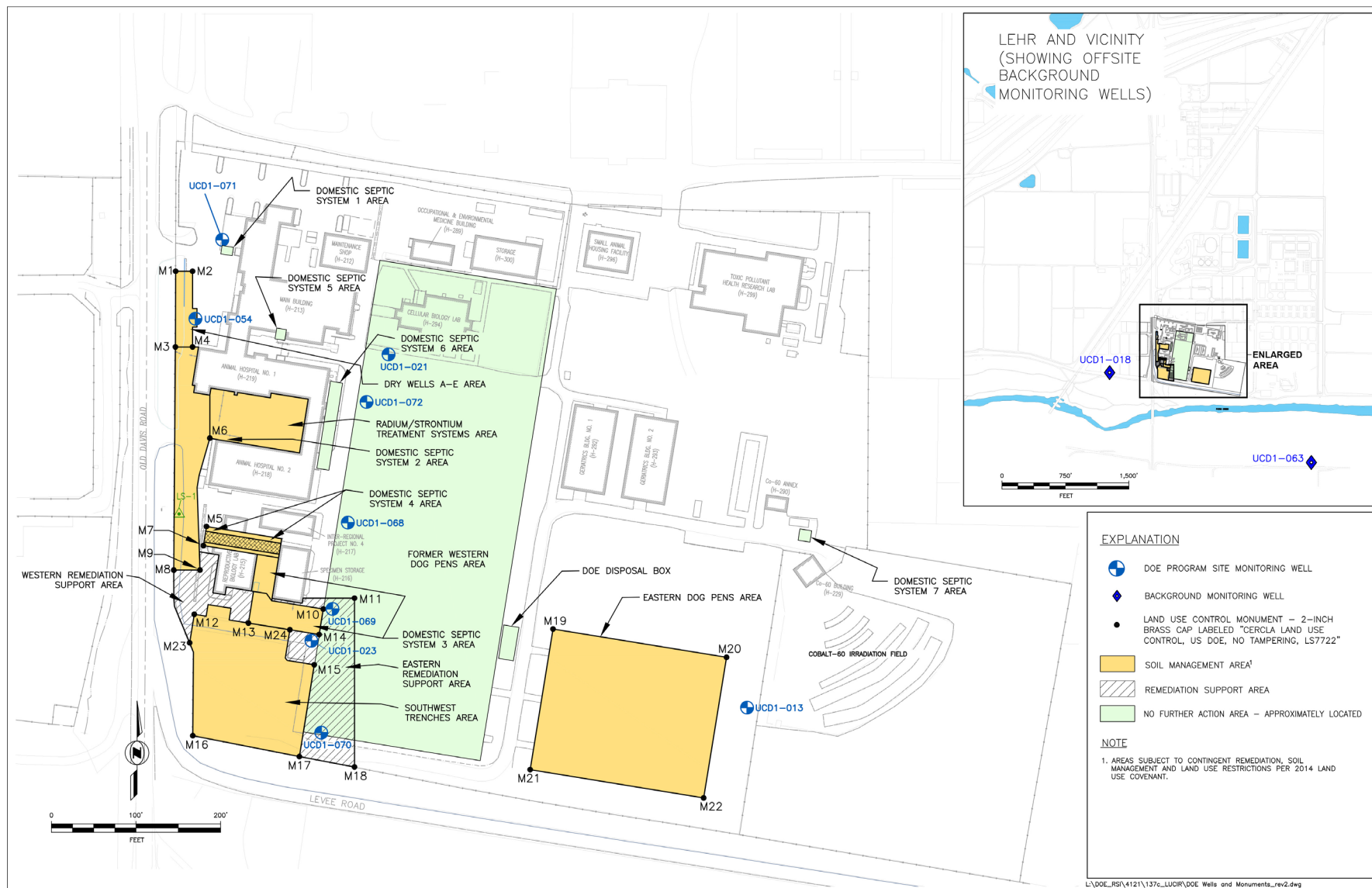


Figure 2. DOE Areas of the LEHR Federal Facility Subject to Land-Use Controls and Locations of DOE Groundwater Monitoring Wells and Survey Monuments

1.1 Inspection and Reporting Requirements

This section contains the inspection and reporting requirements specified in the Covenant, Section 4.06, which includes verification of permits obtained for soil-disturbing activities, a review of soil-disturbing activities for compliance with the SMP, a review of disposal practices for waste generated during soil-disturbing activities, and suggested changes to the SMP.

In accordance with the Covenant, Section 4.06, it is required that the inspection report contains:

- The dates and times of inspection, and the names of people who conducted the inspection and reviewed the report.
- An explanation of how the observations, which were the basis for the statements and conclusions, were performed (e.g., drive-by, flyover, walkthrough).
- The annual inspection results.
- A review of compliance with the requirements of the SMP.
- A certification of compliance with the Covenant.
- A description of any soil-disturbing activities and wastes generated.

If violations are noted, the annual inspection report must detail the steps taken to restore compliance. The inspection report is due to DTSC and EPA on or before January 15 each year.

1.2 Reporting Period

This report covers the period from December 10, 2022, to December 9, 2023.

1.3 Activities Conducted During the Reporting Period

1.3.1 Field Activities

DOE performed limited field activities during the reporting period including groundwater sample collection, water-level monitoring, monitoring well maintenance, and vegetation stockpile management.

On December 22, 2022, DOE performed wellhead maintenance on monitoring wells UCD1-021, UCD1-054, UCD1-068, UCD1-069, UCD1-071, and UCD1-072 as documented in Appendix F, Table F-1.

On January 12, 2023, DOE installed temporary access controls surrounding tree limbs, mainly from Aleppo pine tree 16204 (Appendixes E1 and E2), that fell upon the shoulder of Old Davis Road. The fallen limbs originated from trees located within the Ra/Sr Treatment Systems and Western Remediation Support Areas (Figure 2), and are likely to have fallen during a storm event that occurred between January 8 and 10, 2023.

During a storm event that occurred between January 14 and 16, 2023, an Aleppo pine tree fell onto a portion of Building H-215. The fallen tree is most likely specimen 16207 (tag not recovered) located within the Western Remediation Support area (Appendix E2), between the southern

boundary of the Ra/Sr Treatment Systems Area and the northwest boundary of the SWT Area (Figure 2). UC Davis Facilities Management deemed the fallen tree an immediate threat to safety and cleared it on January 17, 2023, according to the procedures established in the SMP for conducting emergency work (DOE 2022), as discussed in Section 3.2. In addition, on January 17, 2023, UC Davis Facilities Management staff cut Aleppo pine tree 16204, which had been severely damaged during the January 8 and 10, 2023, storm event, to the stump, gathered the limbs that had fallen previously upon the shoulder of Old Davis Road, and cut, chipped, and stockpiled the trees and limbs at a location in the southwest portion of the Ra/Sr Treatment Systems Area, adjacent to the western boundary fence. On January 19, 2023, DOE raked and gathered small tree debris that remained in the vicinity of the previously fallen tree and placed the debris on the stockpile accumulated by UC Davis Facilities Management staff. DOE also installed and secured plastic tarp over the tree debris stockpile along with access controls surrounding the stockpile including stanchions, rope, and signage that instructs personnel to contact the UC Davis Environmental Health and Safety (EH&S) Unit before disturbing the stockpile. The stockpile will remain onsite until an in-progress SMP revision addressing the management of these materials is completed.

A continuous and manual water level monitoring program was conducted through July 7, 2023, in support of a hydrogeologic analysis in the northwest corner of the site (see Section 1.3.2.2). Continuous water level monitoring was performed using pressure transducers installed in wells UCD1-054, UCD1-071, UCD1-072, UCD1-073, UCD1-079, UCD1-081, UCD2-016, UCD2-037, and UCD2-039. Manual water level measurements were collected from wells UCD1-019, UCD1-020, UCD1-054, UCD1-071, UCD1-072, UCD1-073, UCD1-078, UCD1-079, UCD1-080, UCD1-081, UCD1-082, UCD2-016, UCD2-017, UCD2-036, UCD2-037, and UCD2-039 on a monthly basis. After July 7, 2023, the water level monitoring program was reduced to continuous measurements in wells UCD1-071, UCD1-079, and UCD1-081, with manual water level measurements from these wells on an approximately bimonthly basis.

On August 24, 2023, DOE collected vegetation samples in the EDPs Area in preparation for UC Davis landfill capping activities that will include removal of trees and shrubs to prepare the area for construction. The vegetation samples were collected from trees and shrubs more than 6 feet in height, except elderberry shrubs which will be disposed of in the landfill units, according to a written field sampling protocol. Results from the EDPs Area vegetation sampling event are expected to be reported in 2024.

1.3.2 Report and Work Plan Preparation

1.3.2.1 SMP Revision

DOE prepared a draft update to methodology in the SMP for the evaluation of potential residual contamination in vegetation removed from DOE Areas so that any waste or reused material is properly managed. The draft SMP update containing the new vegetation management methodology was issued for agency review in September 2023.

1.3.2.2 Hydrogeologic Analysis

DOE prepared a draft hydrogeologic analysis report containing an evaluation of groundwater elevation data, including particle tracking calculations, to refine the conceptual hydrogeologic

model for the northwest corner of the site. The hydrogeologic analysis report is scheduled to be issued for agency review in January 2024.

2.0 Inspections

On behalf of DOE, Tim Utterback, a California Professional Engineer, of Weiss Associates (Weiss) performed walkthrough inspections of the DOE Areas from 9 a.m. to 5 p.m. on October 10, 2023, and from 8 a.m. to 4 p.m. on October 11, 2023, as discussed in this section. The inspection checklists are included in Appendix A, and photographs documenting the inspection are included in Appendixes B, C, and D.

2.1 Inspection of Survey Monuments

All 24 survey monuments (Figure 2) were found in good condition on October 10, 2023, as documented in the checklists and photographs in Appendixes A and B, respectively.

2.2 Inspection of DSS 4 Area for Prohibited Land Uses

No evidence of residential use, use for day care for children, cultivation of crops for human consumption, or indications of a change in land use were observed in the DSS 4 Area (Figure 2) during the inspection on October 10, 2023, as documented in the checklists and photographs in Appendixes A and C, respectively.

2.3 Inspection of DOE Areas for Evidence of Soil-Disturbing Activities and Tree or Shrub Removal

No evidence of soil-disturbing activities was observed in the DOE Areas during the site inspection on October 10 and 11, 2023. Walkthrough observations of the DOE Areas indicated no topographic changes such as excavations, areas of subsidence, soil piles, or deep vehicle tire ruts. No equipment or materials that could cause soil disturbance or obscure the ability to identify soil disturbance was identified. As reported by Chris Wright of the EH&S Unit at UC Davis, no permit-required soil-disturbing or tree or shrub removal activities were performed during the reporting period. No soil was disposed of offsite.

On October 10 and 11, 2023, Mr. Utterback performed a walkthrough inspection of trees and shrubs identified in the modified baseline vegetation inventory table and map included in Appendix E. Brass tags with embossed numbers are attached to each listed tree or shrub at a height of approximately 5 feet to facilitate inspections.

Two trees in the inventory table were found removed, and two trees and one shrub were found disturbed but healthy since the 2022 inspection. As presented in Section 1.3.1, UC Davis generated a stockpile of debris upon removing trees 16204 and 16207 to address an immediate safety hazard. The tree debris stockpile remains in a posted area adjacent to the western boundary of the Ra/Sr Treatment Systems Area. These trees will be sampled after the next revision of the SMP is completed, and they will either be reused or disposed based on the analytical results.

The trees and the shrub found disturbed but healthy were:

- Aleppo pine 16234 in the EDPs Area: The uppermost section of trunk was found collapsed and dead but not detached from this tree. The trunk and limbs below the collapsed section of trunk were found healthy.
- Aleppo pine sapling (tag number 56) adjacent to the northeast corner of the SWT Area: Approximately one-third of the trunk was found collapsed and dead but not detached. The trunk and limbs below the collapsed section of trunk were found healthy.
- Oleander shrub 16252 in the planter along the west perimeter of Building H-215 and within the Western Remediation Support Area (Appendix E2 and Figure 2) between the Ra/Sr Treatment Systems Area and SWT Area: The shrub was found significantly trimmed and healthy. However, the limb having the previously attached identification tag was not found, nor were trimmings found nearby. This shrub and its cutting are not managed under the SMP because it lies outside of a designated soil management area.

The remaining 55 trees and shrubs whose status is maintained in the inventory table were found undisturbed since the 2022 inspection. The basis for this determination was that the trees and shrubs were still standing and there was no new evidence of saw cuts or torn branches or other serious physical trauma to the trees and shrubs since the 2022 inspection period. However, a tag was not found on almond tree 16232 in the EDPs Area and the embossed numbers were becoming illegible on the tag attached to almond tree 16245 in the UC Davis Eastern Trenches Area, immediately east of the EDPs. Planned activities to address tree and shrub tag maintenance issues identified during the inspection are presented in Appendix F.

2.4 Inspections of Groundwater Monitoring Wells

On October 11, 2023, Mr. Utterback inspected monitoring wells UCD1-013, UCD1-018, UCD1-021, UCD1-023, UCD1-054, UCD1-063, and UCD1-068 through UCD1-073 (Figure 2). Monitoring wells with standpipe completions (UCD1-013, UCD1-018, UCD1-063, UCD1-070, and UCD1-073) were observed to be in good condition and secured with functioning padlocks, and there was no evidence of tampering such as pry marks or indentations on the standpipes or locks. The concrete pads at the foot of the standpipe wells were observed to be undamaged and in sturdy condition. However, before inspection, the dedicated pumps in standpipe wells UCD1-013 and UCD1-018 had been removed by UC Davis for their per- and polyfluoroalkyl substances (PFAS) sample collection program. Testing of dedicated pump performance was not conducted in wells UCD1-013 and UCD1-018 because the pumps were removed by UC Davis for PFAS sampling. The dedicated pumps in these wells will be replaced and tested when UC Davis's PFAS sampling is completed. The pumps in wells UCD1-069 and UCD1-070 were not tested due to low water levels. The depth to water in well UCD1-069 was 59 feet (same as the depth to the top of pump) and water level measurement was not possible in well UCD1-070 because the level was below the top of pump at the time of the inspection which blocked the water level probe. The tests of pumps in wells UCD1-021, UCD1-023, UCD1-054, UCD1-063, UCD1-068, UCD1-071, UCD1-072, and UCD1-073 indicated these pumps produced water within the target flow rate range of 0.1 to 0.5 liter per minute, as specified in the Remedial Design/Remedial Action Work Plan (DOE 2010).

Monitoring wells UCD1-021, UCD1-023, UCD1-054, UCD1-069, UCD1-071, and UCD1-072 have surface completions, with lids secured by bolts or a screw-on lid (UCD1-023). The vaults,

lids, and bolts on the surface completion wells were observed to be in good condition with no evidence of tampering such as pry marks or indentations. All components inside the wells, including well casings, pump ports, suspension hardware, port plugs, and caps, were found in good condition, except pump controller port plugs were missing at wells UCD1-068 and UCD1-073. Identification plates were present and in acceptable condition on all wells except plates at wells UCD1-021 and UCD1-054 were becoming illegible. Identification plates were not found within the standpipes of wells UCD1-013, UCD1-018, but were confirmed to be in good condition and stored with the dedicated pumps removed from these wells. Appendix D includes photographs of the groundwater monitoring wells and well boxes. Activities to address the missing port plugs and illegible and missing identification plates observed during the inspection are presented in Appendix F.

2.5 Post-Inspection Walkthrough

A post-inspection walkthrough of the DOE Areas was performed by Tim Utterback on December 8, 2023, between 10 a.m. and 12 p.m. No evidence of soil disturbing, tree/shrub disturbing, or changed conditions were noted over those observed during the October inspection.

3.0 SMP Implementation

DOE is responsible for implementing the SMP. DOE has agreed with the Regents of the University of California that the EH&S Unit at UC Davis will implement selected requirements of the SMP. DOE retains ultimate accountability for compliance with the requirements of the ROD executed by this SMP.

3.1 Training

Personnel at the EH&S Unit at UC Davis conducted annual training to communicate soil management and tree or shrub removal requirements to applicable units that may perform, manage, or contract for work at and near the site. Additionally, personnel working in departments on or near the site also received annual training.

Information was provided on the following topics:

- Roles and responsibilities for soil management and tree or shrub removal in DOE Areas
- Areas and contaminants subject to soil management and tree or shrub removal requirements
- Soil management and tree or shrub removal during excavation or construction
- Permits for soil-disturbing and tree or shrub removal activities
- Plans and documentation for soil-disturbing and tree or shrub removal activities
- Soil management and tree or shrub removal during emergency work
- Waste management
- Waste characterization and disposal
- Inspections

3.2 Soil-Disturbing and Tree or Shrub Removal Activities

On the basis of site inspections and information provided by Chris Wright of the EH&S Unit at UC Davis and provided to Bob Devany of Weiss on December 8, 2023 (UC Davis 2023), no soil disturbance and tree or shrub removal permits were issued and no observations of soil-disturbing activities were recorded by the EH&S Unit. However, as discussed in Section 1.3.1, an emergency condition required the removal of two trees in the Ra/Sr Treatment Systems and Western Remediation Support Areas (Figure 2). As specified in SMP Section 5.0, campus emergency tree removal personnel notified the UC Davis EH&S Unit of the work on January 11 and 17, 2023, and properly staged the material at the LEHR site as directed by the UC Davis EH&S Unit.

3.3 Waste Disposal

On the basis of site inspections and the interview documented in this report, no soil or tree or shrub waste from DOE Areas was disposed of or recycled during the 2023 reporting period.

4.0 References

DOE (U.S. Department of Energy), 2009. *Record of Decision for DOE Areas at the Laboratory for Energy-Related Health Research, University of California, Davis*, LMS/LEH/S05069, Office of Legacy Management, September.

DOE (U.S. Department of Energy), 2010. *Remedial Design/Remedial Action Work Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S05822, Office of Legacy Management, November.

DOE (U.S. Department of Energy), 2022. *Soil Management Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S35365, Office of Legacy Management, August 30.

DTSC (California Department of Toxic Substances Control), 2014. *Covenant to Restrict Use of Property, Environmental Restriction, (Re: Portions of County of Solano Assessor's Parcel No. 110-05-04 UC Davis Laboratory for Energy-Related Health Research/Old Campus Landfill [LEHR/OCL] Superfund Site, Site Code 100424)*, Solano County Recorder's Office Document No. 201400051822, July 11.

UC Davis (University of California, Davis), 2023. Chris Wright, UC Davis Environmental Health and Safety Unit, email communication to Bob Devany, Weiss Associates, December 8.

5.0 Certification

DOE hereby certifies to the best of its knowledge that the information contained in this inspection report is true and accurate and no exceptions to the Covenant terms and conditions occurred during this reporting period.

**KATHLEEN
WHYSNER**

Digitally signed by KATHLEEN
WHYSNER

Date: 2023.12.28 14:58:32 -07'00'

Kathleen Whysner, DOE Site Manager
U.S. Department of Energy
Office of Legacy Management
2597 Legacy Way
Grand Junction, CO 81503

Date

The University of California hereby certifies to the best of its knowledge that the information contained in this inspection report is true and accurate and no exceptions to the Covenant terms and conditions occurred during this reporting period.



Chris Wright
cn=Chris Wright, o=University of California - Davis,
ou=Environmental Health and Safety,
email=cvwright@ucdavis.edu, c=US
2024.01.04 11:06:55 -08'00'

Christopher Wright, Director
UC Davis Environmental Health and Safety
One Shields Avenue
Davis, CA 95616

Date

Appendix A

Inspection Checklists

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Monuments

Reporting Period: December 10, 2022–December 9, 2023

Monument No.	Close-up Photo ¹	Setting Photo ²	Damaged or missing? (Yes/No) If Yes, explain	Comments
1	4939	4940	No	
2	4942	4941	No	
3	4943	4944	No	
4	4946	4945	No	
5	4973	4975	No	
6	4958	4957	No	
7	4976	4977	No	
8	4981	4982	No	
9	4978	4979	No	
10	5002	5003	No	
11	5004	5006	No	
12	4983	4984	No	
13	4996	4997	No	
14	5000	5001	No	
15	5007	5008	No	
16	5031	5033	No	
17	5019	5021	No	
18	5014	5015	No	
19	5044	5045	No	
20	5051	5052	No	
21	5038	5042	No	
22	5054	5055	No	
23	5034	5035	No	
24	4998	4999	No	

Notes:

¹ Take zoom photograph of monument. Record photograph number.

² Place orange ring marker around monument and step back to take photo of monument location with recognizable site features (buildings, fence, road, etc.) in view. Record photograph number.

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2022, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Southwest Trenches

Reporting Period: December 10, 2022–December 9, 2023

Photograph Description	Photo No.	Comments
View southeast of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background.	5009	
View south of Southwest Trenches Area: North Levee of the South Fork of Putah Creek in background.	5010	
View southeast of Southwest Trenches Area: Former washdown pad in left.	5012	
View west of Southwest Trenches Area: Shoulder of Old Davis Road in background.	5013	
View northwest of Southwest Trenches Area.	5023	
View north of Southwest Trenches Area: Buildings H-215 and H-216 in background.	5024	
View north from center of Southwest Trenches Area: Buildings H-215 and H-216 in background.	5025	
View west from center of Southwest Trenches Area.	5026	Stanchions and rope surrounding fallen limbs from trees 16219 and 16220 in upper right and upper left of photo, respectively.
View south from center of Southwest Trenches Area.	5027	
View east from center of Southwest Trenches Area: Western Dog Pens Area and UC Davis Southern Trenches Area in background.	5028	
View north of northwest corner of Southwest Trenches Area.	5029	Tree 16219 fallen limb behind stanchions, posting, and rope on left side of photo
View east of Southwest Trenches Area: Western Dog Pens Area and UC Davis Southern Trenches Area in background.	5030	
View northeast from northeast corner of Southwest Trenches Area; Former washdown pad in background.	5036	Former washdown pad roofing material deposited in Southwest Trenches Area in center of photo.
Close-up view northeast from northeast corner of Southwest Trenches Area.	5037	Former washdown pad roofing material in center of photo.
Close-up view northeast from northeast corner of Southwest Trenches Area.	5093	Box found in Southwest Trenches Area in center of photo.

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²		<input checked="" type="checkbox"/>		
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2022, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Domestic Septic System 3

Reporting Period: December 10, 2022–December 9, 2023

Photograph Description	Photo No.	Comments
View east over former leach field part of Domestic Septic System 3 Area: Building H-216 in upper left; Former washdown pad in upper right; Western Dog Pens Area in background.	4985	
View east of eastern half of Domestic Septic System 3 Area.	4986	
View west of former leach field part of Domestic Septic System 3: Buildings H-215 and H-216 to right; Old Davis Road obscured by trees in background.	4987	
View south of septic tank part of Domestic Septic System 3 Area: Building H-216 to left; Building H-215 to right.	4988	
View north of portions of Domestic Septic System 3 and 4 Areas: Building H-215 to left; Building H-216 to right; Domestic Septic System 4 Area in background.	4990	
View south of east end of Domestic Septic System 3 Area leach field: Building H-215 to right; Former washdown pad in background/center.	4992	
View east of Domestic Septic System 3 Area: Building H-216 in background, standing north/left of tree.	4993	
View east of Domestic Septic System 3 Area: Building H-216 in background, standing south/right of tree.	4994	
View south below a vehicle that was parked partially over southern boundary of Domestic Septic System 3 Area at the time of inspection; located adjacent/east of monument 13.	4995	

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Domestic Septic System 4

Reporting December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any indications of a residence, growing plants for human consumption, or a day care center for children observed during walkthrough inspection? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Did UC Davis Environmental Health and Safety (EH&S) Unit observe or receive report of any indications of a residence, growing plants for human consumption, or a day care center for children in this DOE Area since December 10, 2022. ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any indications of a change in land use observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permit requests filed with UC Davis Environmental EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. The DSS 4 area does not contain trees or shrubs. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Domestic Septic System 4

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were permitted soil disturbing activities conducted in this DOE Area since December 10, 2022?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page A-9 note 2.
If permitted soil disturbing activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page A-9 note 2.
If waste was generated due to soil disturbing activities since December 10, 2022, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page A-9 note 2.
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See page A-9 note 2.

Photograph Description	Photo No.	Comments
View north of Domestic Septic System 4 Area septic tank location and east end of leach field: Building H-215 to left; Building H-216 to right; Building H-217 in background.	4967	
View west of east end of Domestic Septic System 4 Area leach field; Building H-215 in background.	4970	
View east of Domestic Septic System 4 Area septic tank location: Building H-216 in background.	4971	
View east of western portion of Domestic Septic System 4 Area: Building H-215 in background/center.	4972	


Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Radium/Strontium Treatment Systems Area
Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trees 16204 and 16207 removed down to stumps and vegetation waste from tree removal stored in Ra/Sr Treatment Systems Area adjacent to west perimeter fence.
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Campus arborists trained to SMP responded to downed Trees 16204 and 16207 in roadway in January 2023 (See Section 1.3.1). SMP procedures properly followed.
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A permit for emergency works is not required under the SMP.
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A permit for emergency works is not required under the SMP.
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain. ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2022, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tree waste is being properly managed. Waste will be disposed of after revised vegetation management procedures in the 2023 draft SMP are approved.
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).

Certification:

I certify that the inspection information presented above is true and accurate.

By:



Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By:



Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Radium/Strontium Treatment Systems Area
Inclusive of Domestic Septic System 2

Reporting Period: December 10, 2022–December 9, 2023

Photograph Description	Photo No.	Comments
View north over southern portion of Radium/Strontium Treatment Systems Area (Ra/Sr Area). Building H-215 to right; Buildings H-218 and H-219 in background.	4952	Stump from former tree 16204 shown in far left of photo.
View north of middle portion of Radium/Strontium Treatment Systems Area: building cooling unit and Building H-218 northwest corner in upper right portion of photo; Building H-219 in background	4954	
View south over southern portion of Ra/Sr Area. Building H-215 to left.	4956	Stanchions, rope, and signage surrounding vegetation waste from fallen limbs and removal of trees 16204 and 16207 shown in center right of photo.
View north over northern portion of Ra/Sr Area. Building H-219 in upper right portion of photo.	4959	
View south over middle-south portion of Ra/Sr Area. Building H-218 to left; west perimeter gate and fence to right.	4960	
View east over central portion of Ra/Sr Area. Building H-218 to right; Building H-219 to left.	4961	
View west over Domestic Septic System 2 area within middle-west portion of Ra/Sr Area.	4962	
Roof-level view west over middle portion of Ra/Sr Area. Building H-219 to right; Building H-218 to left.	4963	
Roof-level view southwest over central portion of Ra/Sr Area; Building H-218 in background/left.	4966	
Roof-level view northwest over central portion of Radium/ Strontium Treatment Systems Area; Building H-219 in background.	4965	
View south over northern portion of Ra/Sr Area: Building H-219 to left; west perimeter fence and Old Davis Road to right.	4951	

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2022, was the soil or vegetation managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).


Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Dry Wells A–E Area

Reporting Period: December 10, 2022–December 9, 2023

Photograph Description	Photo No.	Comments
View north of Dry Wells A–E Area: Old Davis Road to left monuments M3 and M4 in left and right foreground, respectively.	4947	
View south of Dry Wells A–E Area: Building H-219 in Background/left.	4948	
View west of Dry Wells A–E Area and main gate; Old Davis Road in background.	4949	
View southwest of Dry Wells A–E Area.	4950	

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2022–December 9, 2023

Inspection Item	Yes	No	Not Applicable	Comments
Were any indications of soil disturbance or tree/shrub removal observed during walkthrough inspection? If yes, explain. ¹	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were there any emergency responses in this DOE Area that resulted in soil or tree disturbance since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permit requests filed with UC Davis Environmental Health and Safety (EH&S) Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were any soil disturbance or tree/shrub removal permits issued by the EH&S Unit for this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Were permitted soil disturbing or tree/shrub removal activities conducted in this DOE Area since December 10, 2022? ²	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If permitted soil disturbing or tree/shrub removal activities were conducted in this DOE Area since December 10, 2022, were the activities in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If waste was generated due to soil disturbing or tree/shrub removal activities since December 10, 2022, was the soil managed and/or disposed in compliance with the Soil Management Plan? If no, explain.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are there any suggested changes to the Soil Management Plan at this time? If yes, explain.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Notes:

¹ Soil-disturbing activities include, but are not limited to excavation, grading, trenching, utility installation or repair, and any other human activities that could potentially bring contaminated soil to the surface. Tree/shrub removal also includes any partial removal resulting from pruning or fallen branches. This does not apply to landscaping, fire protection, or maintenance work that is conducted at depths less than 1 foot below ground surface and less than 5 cubic yards of soil waste is significantly displaced (e.g., stockpiled, placed in containers) and all soil is returned to the disturbed area. Such work may proceed without restriction.

² Interview information provided by email from Chris Wright, UC Davis EH&S Unit, to Robert Devany, Weiss Associates, dated December 8, 2023 (UC Davis 2023).

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

I certify that the interview information presented above is true and accurate.

By: 

Date: December 8, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Date: October 10, 2023

Area Inspected: Eastern Dog Pens Area

Reporting Period: December 10, 2022–December 9, 2023

Photograph Description	Photo No.	Comments
View northeast over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek showing southwest corner monument location in center.	5056	
View east over central Eastern Dog Pens Area.	5043	Tree 16236 fallen limbs slightly above center of photo, behind stanchions and rope.
View southeast over Eastern Dog Pens Area from northwest corner showing northwest corner monument location.	5046	
View south over central Eastern Dog Pens Area.	5047	Shrub 16233 and fallen limbs in center/left of photo behind stanchions and rope
View southwest over Eastern Dog Pens Area from northeast corner showing location of northeast corner monument.	5050	
View west over central Eastern Dog Pens Area.	5053	Dead limbs on ground but attached to tree 16228 in right center of photo.
View northwest into Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek showing location of southeast corner monument.	5060	
View north over Eastern Dog Pens Area from North Levee of the South Fork of Putah Creek.	5057	

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback

Inspection Dates: October 10 and 11, 2023

Area Inspected: Trees and Shrubs

Reporting Period: December 10, 2022–December 9, 2023

Tree ID	Tag Number	Tag Photo ¹	Damaged or missing tag? If Yes, explain	Tree/shrub changed since last inspection? If Yes, explain	Comments
16196	096	5061	No	No	
16197	097	5080	No	No	
16198	098	5063	No	No	
16199	099	5081	No	No	
16200	100	5068	No	No	
16201	001	5069	No	No	
16202	002	5082	No	No	
16203	003	5083	No	Yes	Tagged limb leaning near ground due to weight of new growth.
16204	004	NA	Yes	Yes	Tree removed; waste stored in Ra/Sr Treatment Systems Area adjacent to west perimeter fence. Stump photo 5075.
16205	005	5071	No	No	
16206	006	5072	No	No	
16207	007	NA	Yes	Yes	Tree removed; waste stored in Ra/Sr Treatment Systems Area adjacent to west perimeter fence. Stump photo 5074.
16208	008	5073	No	No	
16209	009	5077	No	No	
16210	010	5086	No	No	
16211	011	5085	No	No	Tag becoming obscured by growth.
16212	012	5084	No	No	
16213	013	5096	No	No	
16214	014	5115	No	No	
16215	015	5114	No	No	
16216	016	5095	No	No	
16217	017	5091	No	No	
16218	018	5092	No	No	
16219	019	5087	No	No	
16220	020	5088	No	No	
16221	021	5089	No	No	
16223	023	5097	No	No	Tag becoming obscured by growth.
16224	024	5098	No	No	
16225	025	5099	No	No	
16226	026	5100	No	No	
16227	027	5101	No	No	
16228	028	5103	No	No	
16229	029	5102	No	No	
16230	030	5104	No	No	
16231	031	5105	No	No	
16232	032	NA	Yes	No	Tag not found on tree; photo 5117.
16233	033	5106	No	No	

LAND-USE CONTROL INSPECTION CHECKLIST (continued)

Inspector: Tim Utterback

Inspection Dates: October 10 and 11, 2023

Area Inspected: Trees and Shrubs (continued)

Reporting Period: December 10, 2022–December 9, 2023

Tree ID	Tag Number	Tag Photo ¹	Damaged or missing tag? If Yes, explain	Tree/shrub changed since last inspection? If Yes, explain	Comments
16234	034	5111	No	Yes	Trunk top collapsed but attached (photo 5138).
16235	035	5112	No	No	
16236	036	5116	No	No	
16237	037	5113	No	No	Tag becoming obscured by growth.
16238	038	5110	No	No	
16239	039	5109	No	No	
16240	040	5118	No	No	
16241	041	5119	No	No	
16242	042	5120	No	No	
16243	043	5121	No	No	
16244	044	5130	No	No	
16245	045	5131	Yes	No	Tag becoming obscured by growth and embossed numbers have lost ink.
16246	046	5123	No	No	
16247	047	5124	No	No	
16248	048	5129	No	No	
16249	049	5126	No	No	
16250	050	5127	No	No	
16251	051	5128	No	No	
16252	052	NA	Yes	Yes	Tagged limb not found. Shrub substantially trimmed (photo 5078).
16253	053	5067	No	No	
16254	054	5066	No	No	
16255	055	5065	No	No	
NA	056	5094	No	Yes	Upper trunk section collapsed but attached (photo 5139).

Note:

¹ Take zoom photograph of tag. Record photograph number.

Abbreviation:

NA= not applicable

Certification:

I certify that the inspection information presented above is true and accurate.

By: 
Date: November 30, 2023

LAND-USE CONTROL INSPECTION CHECKLIST

Inspector: Tim Utterback
Area Inspected: Monitoring Wells

Inspection Date: October 11, 2023
Reporting Period: December 10, 2022–December 9, 2023

Well ID and Completion Type	Photographs		Evidence of Tampering? (Yes/No) If Yes, explain	Locks/Bolts Secure? ³ (Yes/No) If No, explain	ID Plates OK? ⁴ (Yes/No) If No, explain	Vault and Seal Sound? ⁵ (Yes/No) If No, explain	Pump OK? ⁶ (Yes/No) If No, explain	Maintenance Needed? (Yes/No) If Yes, explain	Comments
	Wellhead/ Tag ¹	Vault/ Tag ²							
UCD1-013 standpipe	5132 5134	5136 IMG_0384 ⁷	Yes	Yes	Unknown ⁷	Yes	Not tested	Yes	Dedicated pump and interior ID plate removed temporarily for UC Davis PFAS sampling program.
UCD1-018 standpipe	5176 5177	5181 IMG_0385 ⁷	Yes	Yes	Unknown ⁷	Yes	Not tested	Yes	Dedicated pump and interior ID plate removed temporarily for UC Davis PFAS sampling program.
UCD1-021 flush	5164 5165	5166 5167	No	Yes	No	Yes	Yes	Yes	Vault lid identification plate becoming illegible.
UCD1-023 flush	5160 5161	5162 5163	No	Yes	Yes	Yes	Yes	No	
UCD1-054 flush	5168 5169	5170 5171	No	Yes	No	Yes	Yes	Yes	Vault lid and interior identification plates becoming illegible.
UCD1-063 standpipe	5186 5190	5188 5189	No	Yes	Yes	Yes	Yes	No	
UCD1-068 flush	5151 5152	5153 5154	No	Yes	Yes	Yes	Yes	Yes	Pump controller port plug missing.
UCD1-069 flush	5146 5147	5150 5149	No	Yes	Yes	Yes	Not tested	No	Depth to water at top of pump (59 feet); too low to accurately test pump.
UCD1-070 standpipe	5142 5143	5144 5145	No	Yes	Yes	Yes	Not tested	No	Depth to water below top of pump (59 feet); too low to test pump.
UCD1-071 flush	5172 5173	5174 5175	No	Yes	Yes	Yes	Yes	No	
UCD1-072 flush	5155 5156	5157 5159	No	Yes	Yes	Yes	Yes	No	
UCD1-073 standpipe	5182 5183	5184 5185	No	Yes	Yes	Yes	Yes	Yes	Pump controller port plug missing.

Notes:

¹ Take photograph inclusive of wellhead features including concrete pad. Take zoom photograph of wellhead identification plaque (tag). Record photograph numbers. Photo date stamp shows specific date and time of inspection.

² Open well vault and take photograph inclusive of vault inner features. Take zoom photograph of identification plaque (tag) stored in vault. Record photograph numbers.

³ Verify that standpipe well locks are present, in good condition, and secured with the lock at the time of inspection. Verify that flush mount well bolts are present, in good condition, and properly secured at the time of inspection. Document any issues.

⁴ Verify that well identification plates are fixed to the outside of the well and stored inside the well are legible and in good condition (two plates per well). Document any issues.

⁵ Verify that concrete pads are structurally sound. Document any issues.

⁶ Connect pump to controller and discharge approximately 300 milliliters of water to bucket. Document any issues.

⁷ Photographs of ID plates taken on October 31, 2023, upon confirming them stored with well pumps in UC Davis Interim Removal Action Building.

Certification:

I certify that the inspection information presented above is true and accurate.

By: 

Date: November 30, 2023

Appendix B

Photographs of Survey Monuments at Permanent Reference Points for Areas Subject to Land-Use Controls



*Survey Monument 1: Northwest Corner of Dry Wells A-E Area
(Photo No. 4939)*



*View Northwest: Survey Monument 1 Within Orange Ring
(outside diameter, 14 inches); West Perimeter Fence and Center
for Health and the Environment Entrance Sign in Background
(Photo No. 4940)*



*Survey Monument 2: Northeast Corner of Dry Wells A-E Area
(Photo No. 4942)*



*View West: Survey Monument 2 Within Orange Ring; Retracted
Entrance Gate in Background (Photo No. 4941)*



*Survey Monument 3: Southwest Corner of Dry Wells A-E Area
(Photo No. 4943)*



*View Northwest: Survey Monument 3 Within Orange Ring; West
Perimeter Fence Behind Survey Monument; Old Davis Road in
Background (Photo No. 4944)*



*Survey Monument 4: Southeast Corner of Dry Wells A-E Area
(Photo No. 4946)*



*View East: Survey Monument 4 Within Orange Ring;
Building H-219 in Background (Photo No. 4945)*



*Survey Monument 5: Northwest Corner of DSS 4 Area
(Photo No. 4973)*



*View East: Survey Monument 5 Within Orange Ring;
Building H-215 in Background (Photo No. 4975)*



*Survey Monument 6: Adjacent to Northwest Corner of Building H-218;
Ra/Sr Treatment Systems Area (Photo No. 4958)*



*View East: Survey Monument 6 Within Orange Ring; Corner of
Building H-218 in Background (Photo No. 4957)*



*Survey Monument 7: Southwest Corner of DSS 4 Area
(Photo No. 4976)*



*View East: Survey Monument 7 Within Orange Ring;
Building H-215 in Background (Photo No. 4977)*



*Survey Monument 8: Southwest Corner of Radium-226
Leach Trench; Ra/Sr Treatment Systems Area (Photo No. 4981)*



*View Southwest: Survey Monument 8 Within Orange Ring;
West Perimeter Fence Behind Survey Monument;
Old Davis Road in Background (Photo No. 4982)*



*Survey Monument 9: Southeast Corner of Radium-226 Leach Trench;
Ra/Sr Treatment Systems Area (Photo No. 4978)*



*View Northeast: Survey Monument 9 Within Orange Ring;
Building H-215 in Background (Photo No. 4979)*



*Survey Monument 10: Northeast Corner of Former Leach Field
in DSS 3 Area (Photo No. 5002)*



*View Southeast: Survey Monument 10 Within Orange Ring;
Delineator Behind Survey Monument;
EDPs Area in Background (Photo No. 5003)*



Survey Monument 11: Northeast Corner of Eastern Remediation Support Area (Photo No. 5004)



View Northeast: Survey Monument 11 Within Orange Ring; Delineator Right of Survey Monument; Building H-216 in Background (Photo No. 5006)



Survey Monument 12: Northwest Corner of SWT Area (Photo No. 4983)



View Southwest: Survey Monument 12 Within Orange Ring in Center; Water Hydrant in Background (Photo No. 4984)



*Survey Monument 13: Southwest Corner of DSS 3 Area
(Photo No. 4996)*



*View South: Survey Monument 13 Within Orange Ring at
Edge of Concrete Swale; Southwest
Trenches Area in Background (Photo No. 4997)*



*Survey Monument 14: Southeast Corner of DSS 3 Area
(Photo No. 5000)*



*View Southeast: Survey Monument 14 Within Orange Ring;
Delineator Behind Survey Monument; Western Dog Pens and
Southern Trenches Areas in Background (Photo No. 5001)*



*Survey Monument 15: Eastern Corner of SWT Area
(Photo No. 5007)*



*View North: Survey Monument 15 Within Orange Ring;
Delineator Right of Survey Monument; Building H-216 in Top Left
(Photo No. 5008)*



*Survey Monument 16: Southwest Corner of SWT Area
(Photo No. 5031)*



*View Southwest: Survey Monument 16 Within Orange Ring;
Delineator Left of Survey Monument; Southwest Corner of Perimeter
Fence Behind Survey Monument (Photo No. 5033)*



*Survey Monument 17: Southeast Corner of SWT Area
(Photo No. 5019)*



*View Southeast: Survey Monument 17 Within Orange Ring;
Delineator Left of Survey Monument; South Perimeter Fence
Behind Survey Monument; North Levee in Background
(Photo No. 5021)*



*Survey Monument 18: Southeast Corner of
Eastern Remediation Support Area (Photo No. 5014)*



*View South: Survey Monument 18 Within Orange Ring;
Delineator Left of Survey Monument; South Perimeter Fence
Behind Survey Monument; North Levee in Background
(Photo No. 5015)*



*Survey Monument 19: Northwest Corner of EDPs Area
(Photo No. 5044)*



*View North: Survey Monument 19 Within Orange Ring;
Delineator Left of Survey Monument; Geriatrics Building 1 in Upper
Right (Photo No. 5045)*



*Survey Monument 20: Northeast Corner of EDPs Area
(Photo No. 5051)*



*View Northwest: Survey Monument 20 Within Orange Ring;
Delineator Right of Survey Monument; Geriatrics Building 1 in Upper
Right (Photo No. 5052)*



*Survey Monument 21: Southwest Corner of EDPs Area
(Photo No. 5038)*



*View Southeast: Survey Monument 21 Within Orange Ring;
Delineator Right of Survey Monument; North Levee in Upper Right
(Photo No. 5042)*



*Survey Monument 22: Southeast Corner of EDPs Area
(Photo No. 5054)*



*View Southwest: Survey Monument 22 Within Orange Ring;
Delineator Left of Survey Monument, North Levee in Background
(Photo No. 5055)*



*Survey Monument 23: Western Perimeter Point of SWT Area
(Photo No. 5034)*



*View Northwest: Survey Monument 23 Within Orange Ring;
Delineator Right of Survey Monument; West Perimeter Fence
Behind Survey Monument (Photo No. 5035)*



*Survey Monument 24: Northeast Corner of SWT Area at
Southern Perimeter of DSS 3 Area (Photo No. 4998)*



*View South: Survey Monument 24 Within Orange Ring on
Edge of Concrete Swale; Former Washdown Pad in Upper Left
(Photo No. 4999)*

Appendix C

Photographs of DOE Areas Subject to Land-Use Controls



View Southeast of SWT Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 5009)



View South of SWT Area: North Levee of the South Fork of Putah Creek in Background (Photo No. 5010)



View Southeast of SWT Area: Former Washdown Pad in Left (Photo No. 5012)



View West of SWT Area: Shoulder of Old Davis Road in Background (Photo No. 5013)



View Northwest of SWT Area (Photo No. 5023)



View North of SWT Area: Buildings H-215 and H-216 in Background (Photo No. 5024)



View North from Center of SWT Area: Buildings H-215 and H-216 in Background (Photo No. 5025)



View West from Center of SWT Area; Stanchions and Rope Surrounding Fallen Limbs from Trees 16219 and 16220 in Upper Right and Upper Left of Photo, Respectively (Photo No. 5026)



View South from Center of SWT Area (Photo No. 5027)



View East from Center of SWT Area: Western Dog Pens Area and UC Davis Southern Trenches Area in Background (Photo No. 5028)



View North of Northwest Corner of SWT Area; Tree 16219 Fallen Limb Behind Stanchions, Posting, and Rope in Upper Left of Photo (Photo No. 5029)



View East of SWT Area: Western Dog Pens Area and UC Davis Southern Trenches Area in Background (Photo No. 5030)



View Northeast from Northeast Corner of SWT Area; Former Washdown Pad Roofing Material in Center of Photo (Photo No. 5036)



View Northeast from Northeast Corner of SWT Area; Former Washdown Pad Roofing Material in Center of Photo (Photo No. 5037)



View Northeast from Northeast Corner of SWT Area; Box Found in Southwest Trenches Area, Center (Photo No. 5093)



*View East Over Former Leach Field Part of DSS 3 Area:
Building H-216 in Upper Left; Former Washdown
Pad in Upper Right; Western Dog Pens Area in Background
(Photo No. 4985)*



*View East of Eastern Half of DSS 3 Area
(Photo No. 4986)*



*View West of Former Leach Field Part of DSS 3:
Buildings H-215 and H-216, Right; Old Davis Road Obscured by
Trees in Background (Photo No. 4987)*



*View South of Septic Tank Part of DSS 3 Area:
Building H-216, Left; Building H-215, Right
(Photo No. 4988)*



*View North of Portions of DSS 3 and 4 Areas:
Building H-215, Left; Building H-216, Right; DSS 4 Area in
Background (Photo No. 4990)*



*View South of East End of DSS 3 Area Leach Field:
Building H-215, Right; Former Washdown Pad in
Background (Photo No. 4992)*



*View East of DSS 3 Area: Out-of-Service Filter Canisters
in Center; Building H-216 in Background, Standing North and
Left of Tree (Photo No. 4993)*



*View East of DSS 3 Area: Building H-216 in Background,
Standing South and Right of Tree
(Photo No. 4994)*



View South Below Vehicle Parked Partially Over South Boundary of DSS 3 Area Leach Field at Time of Inspection; Adjacent/East of Monument 13: (Photo No. 4995)



View North of DSS 4 Area Septic Tank Location and East End of Leach Field: Building H-215, Left; Building H-216, Right; Building H-217 in Background (Photo No. 4967)



View West of East End of DSS 4 Area Leach Field; Building H-215 in Background (Photo No. 4970)



*View East of DSS 4 Area Septic Tank Location:
Building H-216 in Background (Photo No. 4971)*



*View East of Western Portion of DSS 4 Area: Building H-215
in Background, Center (Photo No. 4972)*



*View North of Southern Portion of Ra/St Treatment
Systems Area: Building H-215, Right; Buildings H-218 and
H-219 in Background (Photo No. 4952)*



*View North of Middle Portion of Ra/Sr Treatment Systems Area:
Building Cooling Unit and Building H-218 Corner,
Top Right; Building H-219 in Background (Photo No. 4954)*



*View South of Southern Portion of Ra/Sr Treatment Systems Area:
Building H-215, Left (Photo No. 4956)*



*View North of Northern Portion of Ra/Sr Treatment Systems Area:
Building H-219, Right (Photo No. 4959)*



*View South of Middle-South Portion of Ra/Sr Treatment Systems
Area: Building H-218, Left; West Perimeter Gate and
Fence, Right (Photo No. 4960)*



*View East of Central Portion of Ra/Sr Treatment Systems Area: Building
H-218, Right; Building H-219, Left (Photo No. 4961)*



View West of DSS 2 Area Within Middle-West Portion of Ra/Sr Treatment Systems Area; Building H-219, Top Right (Photo No. 4962)



Roof-Level View West of Central Portion of Ra/Sr Treatment Systems Area: Building H-219, Right; Building H-218, Left (Photo No. 4963)



Roof-Level View Southwest of Central Portion of Ra/Sr Treatment Systems Area: Building H-218 in Background, Left (Photo No. 4966)



Roof-Level View Northwest of Central Portion of Ra/Sr Treatment Systems Area: Building H-219 in Background (Photo No. 4965)



View South over Northern Portion of Ra/Sr Treatment Systems Area: Building H-219, Left; West Perimeter Fence and Old Davis Road, Right (Photo No. 4951)



View North of Dry Wells A–E Area: Old Davis Road, Left (Photo No. 4947)



View South of Dry Wells A–E Area: Building H-219 in Background, Left (Photo No. 4948)



*View West of Dry Wells A–E Area and Main Gate;
Old Davis Road in Background (Photo No. 4949)*



View Southwest of Dry Wells A–E Area (Photo No. 4950)



*View Northeast of EDPs Area from North Levee of South Fork
Putah Creek with Orange Delineator Showing Southwest Corner
Monument Location in Center (Photo No. 5056)*



*View East of EDPs Area; Tree 16236 Fallen Limb in Upper Center,
Behind Stanchions and Rope (Photo No. 5043)*



View Southeast of EDPs Area from Northwest Corner Showing Northwest Corner Monument Location (Photo No. 5046)



View South of EDPs Area; Shrub 16233 with Small Fallen Limbs in Center of Photo Behind Stanchions and Rope (Photo No. 5047)



View Southwest of EDPs Area from Northeast Corner Showing Location of Northeast Corner Monument (Photo No. 5050)



View West of EDPs Area (Photo No. 5053)



View Northwest into EDPs Area from North Levee of the South Fork of Putah Creek Showing Location of Southeast Corner Monument (Photo No. 5060)



View North over EDPs Area from North Levee of the South Fork of Putah Creek (Photo No. 5057)

Appendix D

Photographs of Groundwater Monitoring Wells



UCD1-013 Wellhead (Photo No. 5132)



UCD1-013 Wellhead ID Plate (Photo No. 5134)



UCD1-013 Interior (Photo No. 5136)



UCD1-013 Interior ID Plate Temporarily Stored with Pump in UC Davis Interim Removal Action Treatment System Building (Photo No. IMG_0384)



UCD1-018 Wellhead (Photo No. 5176)



UCD1-018 Wellhead ID Plate (Photo No. 5177)



UCD1-018 Interior (Photo No. 5181)



UCD1-018 Interior ID Plate Temporarily Stored with Pump in UC Davis Interim Removal Action Treatment System Building; (Photo No. IMG_0385)



UCD1-021 Wellhead (Photo No. 5164)



UCD1-021 Wellhead ID Plate (Photo No. 5165)



UCD1-021 Interior (Photo No. 5166)



UCD1-021 Interior ID Plate (Photo No. 5167)



UCD1-023 Wellhead (Photo No. 5160)



UCD1-023 Wellhead ID Plate (Photo No. 5161)



UCD1-023 Interior (Photo No. 5162)



UCD1-023 Interior ID Plate (Photo No. 5163)



UCD1-054 Wellhead (Photo No. 5168)



UCD1-054 Wellhead ID Plate (Photo No. 5169)



UCD1-054 Interior (Photo No. 5170)



UCD1-054 Interior ID Plate (Photo No. 5171)



UCD1-063 Wellhead (Photo No. 5186)



UCD1-063 Wellhead ID Plate (Photo No. 5190)



UCD1-063 Interior (Photo No. 5188)



UCD1-063 Interior ID Plate (Photo No. 5189)



UCD1-068 Wellhead (Photo No. 5151)



UCD1-068 Wellhead ID Plate (Photo No. 5152)



UCD1-068 Interior (Photo No. 5153)



UCD1-068 Interior ID Plate (Photo No. 5154)



UCD1-069 Wellhead (Photo No. 5146)



UCD1-069 Wellhead ID Plate (Photo No. 5147)



UCD1-069 Interior (Photo No. 5150)



UCD1-069 Interior ID Plate (Photo No. 5149)



UCD1-070 Wellhead (Photo No. 5142)



UCD1-070 Wellhead ID Plate (Photo No. 5143)



UCD1-070 Interior (Photo No. 5144)



UCD1-070 Interior ID Plate (Photo No. 5145)



UCD1-071 Wellhead (Photo No. 5172)



UCD1-071 Wellhead ID Plate (Photo No. 5173)



UCD1-071 Interior (Photo No. 5174)



UCD1-071 Interior ID Plate (Photo No. 5175)



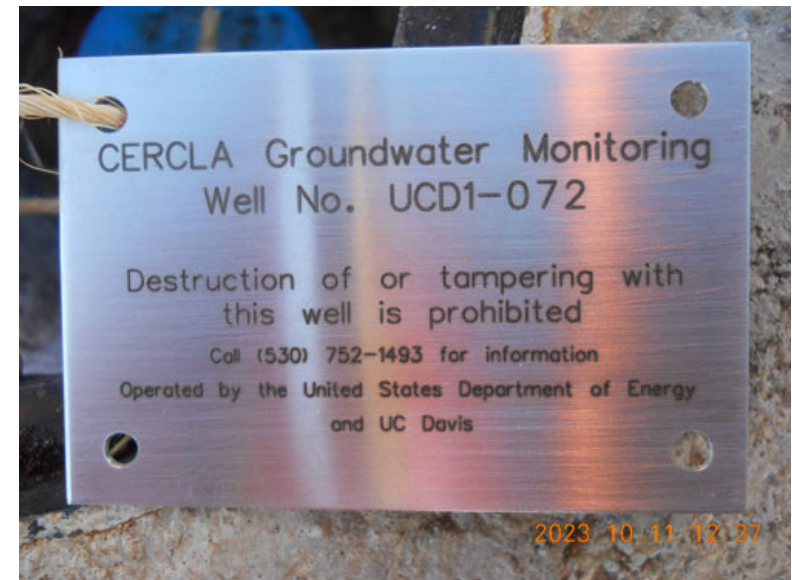
UCD1-072 Wellhead (Photo No. 5155)



UCD1-072 Wellhead ID Plate (Photo No. 5156)



UCD1-072 Interior (Photo No. 5157)



UCD1-072 Interior ID Plate (Photo No. 5159)



UCD1-073 Wellhead (Photo No. 5182)



UCD1-073 Wellhead ID Plate (Photo No. 5183)



UCD1-073 Interior (Photo No. 5184)



UCD1-073 Interior ID Plate (Photo No. 5185)

Appendix E

Vegetation Management Documentation

Appendix E1

Table Showing DOE Areas Trees and Shrubs December 2023

Table E1-1. Catalog of Trees and Shrubs In or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site

Tag No.	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	No. of Stems	SMP Controlled ^a (Y/N)	Condition (Notes)
NA	16192	11/4/2016 ^b	<i>Juglans</i>	<i>bindsi</i>	California Black Walnut	67	5-10	4	N	Poor (dead tree). Removed in 2017
NA	16193	11/4/2016 ^b	<i>Juglans</i>	<i>bindsi</i>	California Black Walnut	64	5-10	4	N	Poor (tree canopy is 95% dead with severe mistletoe). Removed in 2017
NA	16194	11/4/2016 ^b	<i>Juglans</i>	<i>ninosii</i>	California Black Walnut	57	5-10	4	N	Poor (dead tree). Removed in 2017
NA	16195	11/4/2016 ^b	<i>Morus</i>	<i>alba</i>	White Mulberry	126	16-20	4	N	Fair (vigorous growth; history of branch failure; moderate branch decay; excessive canopy weight). Not adjacent to DOE Area
096	16196	11/4/2016	<i>Olea</i>	<i>europaea</i>	Olive	13	5-10	2	Y	Good (minor dead branches; structurally sound, but needs corrective pruning to improve branching structure)
097	16197	11/4/2016	<i>Olea</i>	<i>europaea</i>	Olive	13	5-10	2	Y	Good (structurally sound, but needs corrective pruning to improve branching structure)
098	16198	11/4/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	22	11-15	1	Y	Good (vigorous growth; structurally sound; infested with Hackberry Woolly Aphid)
099	16199	11/4/2016	<i>Olea</i>	<i>europaea</i>	Olive	9	<5	4	Y	Good (structurally sound, but needs corrective pruning to improve branching structure)
100	16200	11/4/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	30	11-15	1	Y	Good (vigorous growth; 5-degree lean toward street; infested with Hackberry Woolly Aphid)
001	16201	11/4/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	24	11-15	2	Y	Fair (vigorous growth; multitunked with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
002	16202	11/4/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	4	<5	11	Y	Good (vigorous growth)
003	16203	11/4/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	2	<5	11	Y	Good (vigorous growth)
004	16204	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	70	16-20	4	Y	Fair (vigorous growth; 15-degree lean toward building; history of large branch failure) Removed in 2023
005	16205	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	79	16-20	1	Y	Fair (vigorous growth; 15-degree lean toward street; excessive canopy weight)
006	16206	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	48	11-15	1	N	Fair (vigorous growth; 30-degree lean toward street; minor decay at root crown)
007	16207	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	66	16-20	4	N	Fair (vigorous growth; 10-degree lean southward; excessive canopy weight) Removed in 2023
008	16208	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	68	16-20	1	N	Fair (vigorous growth; 10-degree lean toward street; excessive canopy weight; conflict with fence and light post)
009	16209	11/4/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	2	<5	11	N	Good (vigorous growth)
010	16210	11/4/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	7	<5	1	Y	Good (vigorous growth)
011	16211	11/4/2016	<i>Morus</i>	<i>alba</i>	White Mulberry	107	16-20	1	Y	Fair (vigorous growth; risk of branch failure due to excessive canopy weight)
012	16212	11/4/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	2	<5	11	Y	Good (vigorous growth)
013	16213	11/4/2016	<i>Prunus</i>	<i>dulcis</i>	Almond	30	5-10	1	Y	Fair (minor dead branches; poor branching structure)
014	16214	11/4/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	20	<5	11	Y	Poor (tree 75% dead; severe trunk decay; major dead branches)
015	16215	11/4/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	22	<5	11	Y	Poor (tree 60% dead; major branch failure)
016	16216	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	55	5-10	1	Y	Fair (vigorous growth; 45-degree lean east; excessive canopy weight)
017	16217	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	96	16-20	1	Y	Good (vigorous growth; excessive canopy weight)
018	16218	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	92	16-20	1	N	Good (vigorous growth)
019	16219	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	68	16-20	1	Y	Good (vigorous growth)
020	16220	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	61	16-20	1	Y	Fair (vigorous growth; 10-degree lean; history of branch failure; excessive canopy weight)
021	16221	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	89	16-20	1	Y	Fair (vigorous growth; codominant trunks with included bark; excessive branch weight)
NA	16222	11/5/2016 ^c	<i>Sambucus</i>	<i>nigra</i>	Elderberry	3	<5	11	Y	Poor (dead tree). Tree dead and fallen as of November 2019
023	16223	11/5/2016	<i>Fraxinus</i>	<i>sp.</i>	Ash species	7	<5	3	Y	Good (vigorous growth)
024	16224	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	60	11-15	1	Y	Good (vigorous growth; codominant leaders; excessive branch weight)
025	16225	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	47	11-15	2	Y	Fair (vigorous growth; 5-degree lean; excessive branch weight; 2 trunks girdling each other; fluxing on trunk)
026	16226	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	28	11-15	1	Y	Good (vigorous growth; codominant leaders)
027	16227	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	21	5-10	1	Y	Fair (vigorous growth; poor branching structure; excessive branch weight)
028	16228	11/4/2016	<i>Prunus</i>	<i>dulcis</i>	Almond	25	<5	11	Y	Poor (tree has toppled due to severe trunk rot; mix of dead branches and new growth)
029	16229	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	28	<5	1	Y	Fair (vigorous growth; 30-degree; excessive branch weight; fluxing from trunk)
030	16230	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	20	5-10	1	Y	Good (vigorous growth)
031	16231	11/5/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	44	5-10	2	Y	Fair (vigorous growth; codominant trunks with included bark; minor dead branches)

Table E1-1. Catalogue of Trees and Shrubs In or Near DOE Areas of Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site (continued)

Tag No.	Tree ID	Assessment Date	Genus	Species	Common Name	DBH (cm)	Height (m)	No. of Stems	SMP Controlled ^a (Y/N)	Condition (Notes)
032	16232	11/4/2016	<i>Prunus</i>	<i>dulcis</i>	Almond	9	<5	2	Y	Fair (codominant trunks with included bark)
033	16233	11/5/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	10	<5	11	Y	Poor (severe trunk decay; major dead branches)
034	16234	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	2	<5	1	Y	Good (vigorous growth; codominant leaders); uppermost section of trunk toppled and dead but not detached as of 2023
035	16235	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	53	11–15	1	Y	Good (vigorous growth; 5-degree lean)
036	16236	11/5/2016	<i>Pinus</i>	<i>halepensis</i>	Aleppo Pine	52	11–15	1	Y	Fair (vigorous growth; codominant trunks)
037	16237	11/5/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	4	<5	5	Y	Good (growing vigorously; minor dead branches)
038	16238	11/5/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	10	<5	11	Y	Fair (vigorous growth; 15-degree lean; minor dead branches)
039	16239	11/5/2016	<i>Sambucus</i>	<i>nigra</i>	Elderberry	20	<5	11	Y	Fair (severe trunk decay; major dead branches; new growth at branch tips)
040	16240	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	51	16–20	1	N	Good (vigorous growth; 5-degree lean)
041	16241	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	64	16–20	1	N	Fair (vigorous growth; codominant trunks with included bark)
042	16242	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	14	5–10	1	N	Good (vigorous growth)
043	16243	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	51	16–20	1	N	Good (vigorous growth; excessive branch weight)
044	16244	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	57	16–20	1	N	Good (vigorous growth; excessive branch weight)
045	16245	11/5/2016	<i>Prunus</i>	<i>dulcis</i>	Almond	10	<5	2	N	Fair (codominant trunks; 10-degree lean; minor dead branches)
046	16246	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	19	5–10	1	N	Good (vigorous growth; scaffold branch with included bark)
047	16247	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	35	11–15	1	N	Good (vigorous growth)
048	16248	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	46	16–20	1	N	Good (vigorous growth; codominant leaders)
049	16249	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	18	<5	1	N	Fair (vigorous growth; leader has 90-degree bend)
050	16250	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	42	11–15	1	N	Good (vigorous growth)
051	16251	11/5/2016	<i>Pinus</i>	<i>canariensis</i>	Canary Island Pine	53	16–20	1	N	Good (vigorous growth; 5-degree lean)
052	16252	11/5/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	2	<5	11	N	Good (vigorous growth)
053	16253	11/4/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	12	5–10	1	Y	Fair (codominant trunks with included bark; minor dead branches; infested with Hackberry Woolly Aphid)
054	16254	11/4/2016	<i>Celtis</i>	<i>sinensis</i>	Chinese Hackberry	45	11–15	1	Y	Good (vigorous growth; minor dead branches; infested with Hackberry Woolly Aphid)
055	16255	11/4/2016	<i>Nerium</i>	<i>oleander</i>	Oleander	3	<5	11	Y	Good (vigorous growth)
056	NA ^d	5/6/2021	<i>Pinus</i>	<i>halepensis</i>	Aleppo pine	20	<5	1	Y	Good (vigorous growth). Uppermost one-third of the trunk toppled and dead but not detached as of 2023

Notes:

Strikethrough text represents changes from the UC Davis baseline survey of trees and shrubs (UC Davis 2016).
^a Trees and shrubs having canopy in DOE Areas subject to soil management (Appendix E2). Trees and shrubs having canopy entirely within remediation support areas are not controlled.
^b Trees documented as removed (DOE 2022).
^c Tree documented as dead and fallen (DOE 2020).
^d Not identified in UC Davis Campus Tree Database (see <https://www.arcgis.com/apps/webappviewer/index.html?id=4bbcb1fb3b7f43fd830d3d2894612eca>); tagged by DOE in 2021.

Sources:

UC Davis (University of California, Davis), 2016. *Survey of Trees and Shrubs with Canopies within DOE Areas at LEHR, Facilities Management, Buildings and Grounds, University of California, Davis*, November 7.
DOE (U.S. Department of Energy), 2020. *2019 Annual Land-Use Covenant Inspection Report for DOE Areas at the Laboratory for Energy-Related Health Research/Old Campus Landfill Superfund Site, University of California, Davis*, LMS/LEH/S28507, Office of Legacy Management, January.
DOE (U.S. Department of Energy), 2022. *Soil Management Plan for the Former Laboratory for Energy-Related Health Research Federal Facility, University of California, Davis*, LMS/LEH/S35365, Office of Legacy Management, August.

Abbreviations:

cm = centimeters
DBH = diameter of the trunk at breast height
m = meters
N = no
NA = not applicable
SMP = Soil Management Plan (DOE 2022)
Y = yes

Appendix E2

Map Showing DOE Areas Trees and Shrubs December 2023

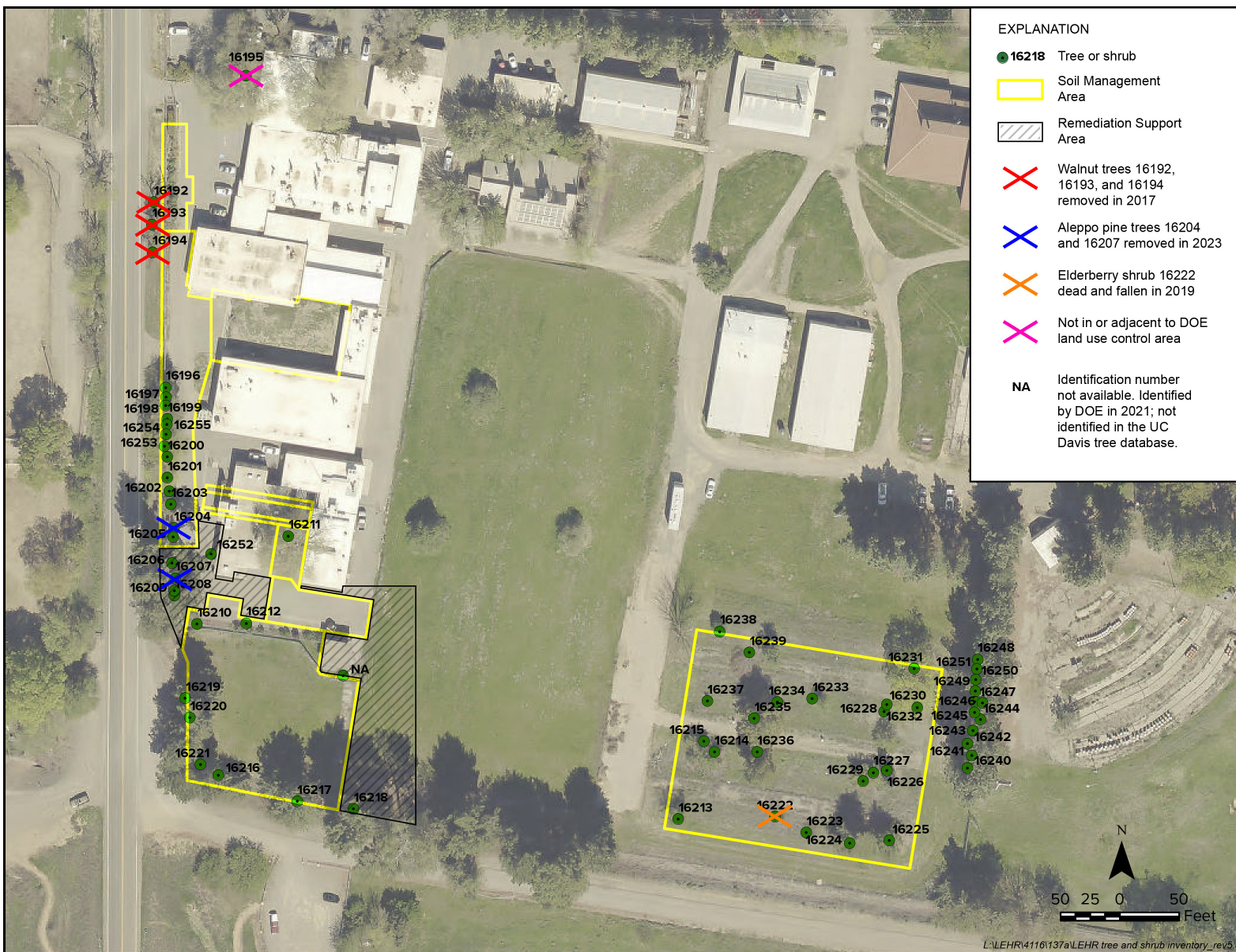


Figure E2-1. Trees and Shrubs with Canopies Within DOE Areas
(Modified from Version Provided by UC Davis Facilities Management to Focus on DOE Areas and to Show the Current Trees and Shrubs)

Appendix F

Maintenance Issue Documentation

Land-Use Covenant (Covenant) maintenance items identified in 2022 and 2023 are documented in Table F1, followed by photographs of repairs completed during the 2023 reporting period. The outstanding maintenance items are planned for completion by early 2024, before the annual water monitoring event. Covenant maintenance items identified before 2022 were completed before this reporting period.

Table F1. Maintenance Log (2022–2023)

Maintenance Item	Date Identified	Description of Completed or Planned Repair	Date Completed	Completion Photo No.
Well UCD1-072: Vault lid bolt hole flanges ruptured	10/6/2022	Repair completed: Well vault replaced	12/22/2022	UCD1-072 #1
Well UCD1-021: Asphalt roadway receding around concrete apron at well head	10/6/2022	Repair completed: Asphalt patch installed surrounding concrete apron	12/22/2022	UCD1-021 #1
Well UCD1-068: Cracks in concrete apron at well head	10/6/2022	Repair completed: Cracks in concrete apron patched using PFAS-free sealing material	12/22/2022	UCD1-068 #1
Wells UCD1-021, -054, -068, -069, -071, -072: Well vault maintenance to prevent storm water entry	10/6/2022	Repair completed: Cleaned seal surfaces, replaced seals, and installed washers and seals on bolts	12/22/2022	UCD1-021 #2, UCD1-054 #2, UCD1-068 #2, UCD1-069 #2, UCD1-071 #2, and UCD1-072 #2
Tree limbs fallen along Old Davis Road	1/10/2023	Repair completed: Installed access controls around fallen limbs	1/12/2023	DSCN4935
Tree 16207 fallen onto Building H-215	1/17/2023	Repair completed: UC Davis Facilities Management staff removed tree	1/17/2023	PXL_20230119_174929258
Unprotected vegetation debris stockpile in Ra/Sr Treatments Systems Area and small vegetation debris scattered in vicinity	1/17/2023	Repair completed: Transferred small debris to stockpile and secured stockpile with tarp and access controls	1/19/2023	PXL_20230119_203637076
Disposal of vegetation debris stockpile in Ra/Sr Treatments Systems Area	1/19/2023	Repair planned: Collect stockpile samples; characterize and dispose of waste according to SMP procedures	TBD	NA
Wells UCD1-013 and UCD1-018: Dedicated pumps and identification plates removed	10/11/2023	Repair planned: Reinstall dedicated pumps and identification plates upon completion of PFAS sample collection program	TBD	NA
Wells UCD1-021 and UCD1-054: Identification plates becoming illegible	10/11/2023	Repair planned: Replace identification plates	TBD	NA
Well UCD1-072 identification plate within vault does not have attachment cable	10/11/2023	Repair planned: Install stainless steel attachment cable to identification plate	TBD	NA
Wells UCD1-068 and UCD1-073: Pump controller port plug missing	10/11/2023	Repair planned: Install new pump controller port plug	TBD	NA

Table F1. Maintenance Log (2022–2023) (continued)

Maintenance Item	Date Identified	Description of Completed or Planned Repair	Date Completed	Completion Photo No.
Almond tree 16232: Missing tag	10/11/2023	Repair planned: Install new tag if UC Davis decides not to remove tree before February 2024 ^a	TBD	NA
Almond tree 16245: Tag becoming illegible	10/11/2023	Repair planned: Install new tag if UC Davis decides not to remove tree before February 2024 ^a	TBD	NA
Oleander shrub 16252: Missing tag	10/10/2023	Repair planned: Install new tag	TBD	NA
Former washdown pad roofing material and box deposited in SWT Area	10/10/2023, 10/11/2023	Repair planned: Request UC Davis to dispose of their deposited items	TBD	NA
Vegetation debris stockpile in Ra/Sr Treatment Systems Area needs new tarp	10/10/2023	Repair planned: Install and secure new tarp material over stockpile	TBD	NA

Note:

^a UC Davis currently plans to remove trees 16232 and 16245 before February 2024.

Abbreviations:

NA = not applicable

TBD = repair completion date to be determined



Photo F-1. Access Controls Installed Surrounding Fallen Tree Limbs on Shoulder of Old Davis Road (DSCN4935)



Photo F-2. Former Tree 16207 Cut and Debris Stockpiled in Ra/Sr Treatments Systems Area (PXL_20230119_174929258)



Photo F-3. Vegetation Debris Stockpile in Ra/Sr Treatments Systems Area Covered with Tarp and Surrounded by Access Controls (PXL_20230119_203637076)



Photo F-4. Well UCD1-072: New Well Vault Installed (UCD1-072 #1)



Photo F-5. Well UCD1-021: New Asphalt Patch Installed Surrounding Concrete Apron (UCD1-021 #1)



Photo F-6. Well UCD1-068: Cracks Patched in Concrete Apron (UCD1-068 #1)



Photo F-7. Well UCD1-021: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-021 #2)



Photo F-8. Well UCD1-054: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-054 #2)



Photo F-9. Well UCD1-068: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-068 #2)



Photo F-10. Well UCD1-069: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-069 #2)



Photo F-11. Well UCD1-071: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-071 #2)



Photo F-12. Well UCD1-072: Seal Surfaces Cleaned, Seals Replaced, and Washers and Seals Installed on Bolts to Prevent Storm Water Entry (UCD1-072 #2)